MASTER PLAN
BEDMINSTER TOWNSHIP
SOMERSET COUNTY, N.J.

JANUARY 2003

As Revised Through January 2005

PREPARED WITH THE AID OF A
SOMERSET COUNTY MUNICIPAL PLANNING GRANT

BY

THE BEDMINSTER TOWNSHIP PLANNING BOARD

IN CONSULTATION WITH

BANISCH ASSOCIATES, INC.
SERGEANTSVILLE, NJ 08557

MASTER PLAN

BEDMINSTER TOWNSHIP
SOMERSET COUNTY, N.J.

Adopted:

JANUARY 16, 2003

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BEDMINSTER MASTER PLAN

GOALS AND OBJECTIVES

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CONSERVATION PLAN

RECREATION AND OPEN SPACE PLAN

CIRCULATION PLAN

COMMUNITY FACILITIES PLAN

WATER AND SEWER UTILITY SERVICES PLAN

HISTORIC PRESERVATION PLAN

HOUSING PLAN

RECYCLING PLAN

FARMLAND PRESERVATION PLAN

BACKGROUND STUDIES

PART 1 GOALS AND OBJECTIVES

101 FOREWORD

Bedminster's continuing planning process has evolved through a series of master plans designed to meet common objectives. The 1965 Master Plan established the dual objectives of managed growth in the State Highway corridor area and preservation of the rural residential character and Bedminster's reputation as a highly desirable place to live, which was described as its chief asset. This plan combined low density zoning (five acre) in the countryside with strategies to contain and buffer commercial development in the State Highway corridor, thereby keeping regional traffic on the major highways and off local roads.

These objectives were further elaborated in the 1977 Master Plan, which broadened the conservation and development objectives to address the regional public welfare issues of protection of potable water supplies and regional air quality, prevention of flooding and provision of Bedminster's fair share of low- and moderate-income housing. The 1977 Plan highlighted the need to protect critical areas and to maintain high environmental quality within the region.

These objectives were reiterated and further refined in the 1982 Master Plan, which acknowledged the dual objectives of accommodating regional growth in a compact node of higher density development along the State Highway corridor, and preventing the spread of suburban development throughout the countryside, as an aid in protecting natural resources, potable water supplies and the open space and farmland that impart the Township's rural and country atmosphere.

When the Planning Board updated the Master Plan in 1991, it adopted a Conservation Plan that dealt substantively with the environmental resources and scenic and cultural character elements, which merit protection. The principal conclusion of the 1991 Plan was that lower residential densities would better serve the Township's objectives to preserve rural and agricultural character and groundwater and surface water quality by "carefully managing the impact of future residential development on the countryside". Following the 1992 adoption of the State Development and Redevelopment Plan (SDRP), the Planning Board revisited the issue of rural residential

densities and substantially altered the scale of permitted residential development in the countryside.

Where five acre zoning in the 1965 Master Plan had been upheld in Fisher v. Bedminster, the Master Plan response to fair share housing obligations resulted in a reduction in minimum lot area to approximately three acres during the 1980's and early 1990's. Recognizing that the R-3% District provided an invitation to suburban sprawl, conversion of farmland and the degradation of the Bedminster countryside, the 1994 Master Plan amendment responded to this challenge by substantially reducing permitted densities throughout most of Bedminster, to a maximum of one unit per ten acres. F.M. Kirby challenged the zoning that implemented the 1994 Master Plan, and Bedminster prevailed in litigation before Superior Court and the Appellate Division, which concluded in April 2000.

Bedminster's Master Plan process continues to be an evolutionary response to changing circumstances and increasing development pressures throughout the region.

102 BEDMINSTER'S VISION

This Master Plan is dedicated to preserving, protecting and enhancing Bedminster's natural and cultural resources, and promoting a sustainable future for the Township and the region. The vision for Bedminster's future is reflected in these key objectives:

Protecting and improving the quality of the air and water that flow through Bedminster, thereby enhancing regional air and water quality

Conserving community character by carefully managing the scale and intensity of new development and retaining farmland and open spaces.

Preserving our cultural landscape by recognizing historic structures and districts, and managing change within the historic villages.

Protecting scenic vistas of the rural countryside and the villages and hamlets that impart the special character of Bedminster.

Providing a balance of opportunities to live, work and play in safe and attractive surroundings.

Maintaining an efficient circulation system that promotes important circulation linkages retains the rural road system and provides for pedestrian, equestrian and bicycle movements.

Expanding the Greenway system linking significant public open spaces along a network of pathways, waterways and significant natural features.

Realization of this vision will require a combination of public actions, such as farmland preservation, open space and development rights acquisition, private conservation efforts and sustainable land use strategies and zoning techniques.

103 GOALS AND OBJECTIVES OF THE MUNICIPAL LAND USE LAW

Statement of Purpose

The purposes of the Municipal Land Use Law articulate the objectives of the State in providing municipalities with the power to plan and zone. These purposes of the enabling legislation, in concert with specific local goals and objectives, guide Bedminster's Master Plan.

Purposes of the Municipal Land Use Law

The purposes of the Municipal Land Use Law (NJSA 40:55D-2) are as follows:

a. To encourage municipal action to guide the appropriate use or development of all lands in this State, in a manner which will promote the public health, safety, morals, and general welfare;

b. To secure safety from fire, flood, panic and other natural and manmade disasters;

c. To provide adequate light, air and open space;

d. To ensure that the development of individual municipalities does not conflict with the development and general welfare of neighboring municipalities, the County and the State as a whole;

e. To promote the establishment of appropriate population densities and concentrations that will contribute to the well-being of persons, neighborhoods, communities and regions and preservation of the environment;

f. To encourage the appropriate and efficient expenditure of public funds by the coordination of public development with land use policies;

g. To provide sufficient space in appropriate locations for a variety of agricultural, residential, recreational, commercial and industrial uses and open space, both public and private, according to their respective

environmental requirements in order to meet the needs of all New Jersey citizens;

h. To encourage the location and design of transportation routes, which will promote the free flow of traffic while discouraging location of such facilities and routes which result in congestion or blight;

i. To promote a desirable visual environment through creative development techniques and good civic design and arrangements;

j. To promote the conservation of historic sites and districts, open space, energy resources and valuable natural resources in the State and to prevent urban sprawl and degradation of the environment through improper use of land;

k. To encourage planned unit developments, which incorporate the best features of design and relate the type, design and layout of residential, commercial, industrial and recreational development of the particular site;

l. To encourage senior citizen community housing construction;

m. To encourage coordination of the various public and private procedures and activities shaping land development with a view of lessening the cost of such development and to the more efficient use of land;

n. To promote utilization of renewable energy sources; and

o. To promote the maximum practicable recovery and recycling of recyclable materials from municipal solid waste through the use of planning practices designed to incorporate the State Recycling Plan goals and to compliment municipal recycling programs.

104 LOCAL GOALS AND OBJECTIVES

The following local goals and objectives supplement the purposes of the enabling statute and represent continuing objectives of Bedminster's Master Plan.

Land Use and Management

a. To exercise stewardship over Bedminster's lands and waters to ensure that these resources are available for the sustenance and enjoyment of present and future generations.

b. To maintain, conserve and enhance the special character of the countryside and historic villages which have made Bedminster Township an attractive place for many generations, and manage future development

to preserve the rural character, including the Township's meandering streams and brooks, open fields and pastures, tree-shaded streets, and rolling landscape.

c. To protect, maintain and enhance Bedminster's unique sense of place, which includes diverse residential neighborhoods, attractive non-residential uses, historic settlement areas and scenic landscapes.

d. To plan for a reasonable balance among various land uses that respects and reflects the goals of the Master Plan.

e. To develop and adopt land use policies that program development at suitable locations and appropriate intensities by directing and limiting the more intense development to the State Highway corridor area, where sanitary sewer service and public water supplies exist, and by discouraging the extension of growth-inducing infrastructure into the countryside.

f. To establish development densities and intensities at levels, which do not exceed the planning capacity of the natural environment and current infrastructure, based on the sensitivities and limitations of these systems.

g. To promote the intent and purposes of the State Development and Redevelopment Plan and the Somerset County Master Plan through compatible planning policies and strategies.

h. To preserve farmland and promote the industry of farming.

i. To establish a system whereby necessary capital improvements can be programmed and planned in advance.

Natural Resources

a. To protect natural resources including, but not limited to, steep slopes, woodlands, ridgelines, pristine watersheds, trout streams, wetlands, stream corridors, groundwater supplies, potable water reservoirs, aquifers, rivers, habitats of threatened and endangered species and unique natural systems

b. To relate the intensity of development, in areas relying on groundwater supplies and on-site sewage disposal, in response to conservative estimates of available water resources and the ability of the soil and ground water to sustain on-lot disposal systems without degrading or impairing surface or ground water quality.

c. To promote the protection of biological diversity through the maintenance of large continuous tracts and corridors of recreation, forest, flood plain and other open space lands.

d. To identify and manage stream corridor buffer areas by maintaining undisturbed vegetation and to maintain and improve water quality, wildlife corridors and opportunities for passive and active recreation.

e. To deter development on steep slopes in order to protect existing natural systems and to prevent soil erosion and degradation of surface water quality.

f. To promote the protection and maintenance of groundwater supply and quality.

g. To continue the acquisition of important natural lands through the use of the Township's open space tax and other sources of funding.

h. To promote land use and management policies that provide for clean air and protection from noise and light impacts.

i. To promote the development and adoption of resource management standards to manage land use activities in a manner that protects and maintains natural resources for the use and enjoyment of future generations.

j. To preserve, protect and enhance water quality in the Raritan River, in part by managing the impacts of development on the headwaters of the North Branch and Lamington Rivers.

k. To protect groundwater supply and quality through the adoption of aquifer management programs, including relevant standards for wellhead protection programs, and standards to protect groundwater recharge areas, such as impervious coverage limitations.

l. To establish a watershed management plan encompassing a regional water quality management perspective, i.e. with particular focus on non-structural solutions to flood control and stormwater runoff.

m. To protect and preserve the dark sky quality and starscape of the Township by promoting well-shielded outdoor lighting designs to minimize glare and sky glow, and by promoting the use of minimal necessary levels of nighttime outdoor luminance.

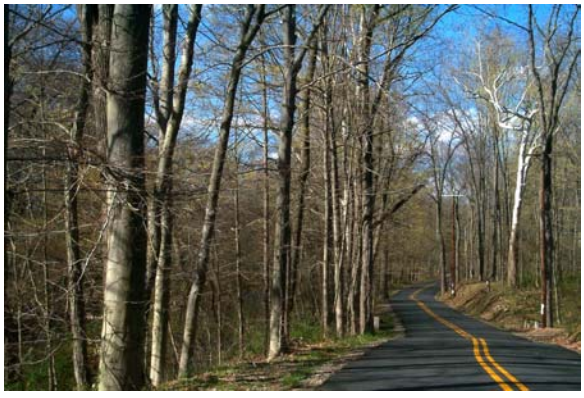
n. To maintain the rural and country atmosphere which prevails throughout most of the Township.

Transportation

a. To establish transportation policies and programs that improve connections among housing, cultural, recreational, public services, employment and commercial uses, including pedestrian and bicycle paths.

b. To discourage further highway development or extension into agricultural or scenic areas.

c. To promote transit alternatives in new and existing development to reduce traffic congestion, including share rides, taxis, car/van pools, dial-a-ride, and flextime.



d. To program limited development in rural areas so that traffic will not exceed the capacity of the existing rural road network to provide safe, efficient and convenient traffic movements during peak traffic periods.

e. To encourage transportation funding for maintenance of existing system, rather than encouraging new systems in rural areas.

f. To manage road access in cooperation with State and County agencies.

g. To promote the development of a highway ramp system in Pluckemin to conserve the historic village and reduce congestion.

h. To recognize that roadways are public lands that deserve aesthetic design consideration as well as efficient movement of vehicles, and to carefully plan the gateway entrances to the Township because they represent a visitor's first impression of the Township.

i. To minimize the impacts of transportation systems on the environment, including air and noise pollution.

j. To identify road standards which merit special consideration for rural areas.

k. To regulate local airport land use so it does not induce growth in Bedminster's countryside.

Recreation and Open Space

a. To assess and provide opportunities for active and passive recreation to meet the needs of all citizens.

b. To promote the provision of appropriate and balanced public open space and recreational facilities through public action and the development review process.

c. To prepare and maintain recreation and open space master plans to establish and enhance recreational lands and public open space;

d. To encourage linkages of public spaces through the use of greenways, blueways, paths and bikeways;

e. To establish as the highest priority for public acquisition, areas of unique recreational or scenic value, or environmental sensitivity.

f. To require the provision of appropriate and balanced public open space and recreational facilities as a condition for approval of major development.

g. To encourage the public acquisition of areas of exceptional recreational or scenic value, or environmental sensitivity, at all levels of government, with priority given to acquisition of land to meet present and future demand for active and passive recreation.

h. To encourage the permanent protection of open space through such techniques as donations of land or easements or through bargain sales that reduce the purchase price of lands and provide tax advantages to landowners.

i. To integrate efforts to preserve farmland in local open space plans.

j. To devise appropriate strategies for the public and private ownership and maintenance of open space and recreation lands.

Housing

a. To maintain a reasonable diversity of housing to serve households of varying size and age, within a reasonable commuting distance of places of employment.

b. To maintain the Township's commitment to providing its fair share of low and moderate-income housing.

c. To prevent the extension of growth-inducing infrastructure into rural areas.

Historic and Cultural Resources

a. To promote public policies designed to preserve and rehabilitate historic resources and districts.

b. To safeguard the heritage of the Township by preserving those resources that have historic, archaeological, social, cultural, economic and architectural significance based on national, state and local importance and criteria.

c. To discourage encroachment on historic structures and sites by uses and buildings that are incompatible or detracts from the historic resource or its setting.

d. To encourage the preservation, rehabilitation or adaptive reuse of historic buildings and structures that protects their architectural integrity and preserves their context within the historic landscape.

e. To encourage the development of land use regulations that acknowledge and permit special treatment for historic landscapes, districts, sites, and structures by providing setbacks, buffers and other design criteria.

f. To promote the conservation and interpretation of archeological resources within the Township.

Community Design

a. To ensure that new development is visually and functionally compatible with the physical character of the Township.

b. To provide for standards and guidelines for physical design and community planning so that land uses interrelate and function compatibly and harmoniously in terms of scale and location.

c. To improve the visual and physical appearance of developed areas while protecting residential neighborhoods from encroachment by incompatible uses.

d. To establish land use policies and design standards that will enhance visual character along existing commercial corridors.

e. To coordinate such items as architectural design, access, landscaping, lighting, signs and similar design features to produce visually and functionally compatible development.

f. To retain wherever possible from public rights-of-way the attractive vistas that make Bedminster special, including views of hills, valleys, ridgelines, woodlands, farmlands, hedge rows, stream corridors, flood plains and other natural areas.

Agriculture

a. To encourage the preservation of agriculture through proactive planning where there are suitable conditions for the continued operation and maintenance of agricultural uses.

b. To retain productive agricultural land for future agricultural use and preserve a large contiguous land base to assure that agriculture remains a viable, permanent land use.

c. To coordinate agricultural preservation activities with the State Agriculture Development Committee (SADC), Somerset County Agricultural Development Board (CADB) and other open space preservation activities in the Township.

d. To recognize agriculture as a significant economic industry in the community and to encourage economic opportunities in this industry.

e. To provide financial incentives, financing mechanisms and enhanced opportunities for agricultural businesses that assist in maintaining agriculture as a viable economic activity.

f. To encourage compatibility between agricultural operations and neighboring non-agricultural development through the right-to-farm ordinance.

g. To encourage equestrian activities as an element supporting continued agricultural viability and maintaining agricultural character.

Community Facilities and Utilities

a. To plan for the expansion of necessary public services, such as utilities, community facilities and recreation, at a reasonable cost in response to the proposals in the land use plan element.

b. To establish a system whereby necessary capital improvements can be programmed and planned in advance, and land can be reserved to meet the future needs for community facilities and open space.

c. To provide facilities for community groups and cultural activities.

d. To ensure that the development process acknowledges and addresses the impact on community facilities and utilities through the payment of the fair share of any off-tract improvements for community facilities to the extent permitted by law.

e. To cooperate with Board of Education in planning for future educational needs.

f. To promote fire protection infrastructure construction as an element in new development.

General Note

In regard to the foregoing, terms such as "promote," "encourage," "support," and "provide" are intended to reflect the intent of the master plan and the recommended policy implementation. Where a plan element includes a recommendation for municipal financial support, it is so noted.

PART 2 LAND USE PLAN

201 INTRODUCTION

This Land Use Plan Element is designed to implement the goals, objectives, principles and assumptions of the master plan in a manner that respects and responds to the capabilities and limitations of the natural conditions - groundwater quantity and quality, surface water resources, agricultural use opportunities, soils, steep slopes, woodlands, wetlands and flood prone areas. The Plan generally depicts the proposed location, extent and intensity of development of land to be used in the future for varying types of residential, commercial and industrial purposes, as shown on the Land Use Plan Map (Figure 1). These land use planning policies become effective land management tools when implemented through the Land Use Management Ordinance.

The Land Use Plan Element is the fundamental unit of the Master Plan, with the broadest scope and most far-reaching consequences. It represents a municipality's basic statement about the future disposition of land and the physical form of the community. Informed by the other plan elements, which play supporting roles, the Land Use Plan and the Conservation Plan have the greatest influence on the Township's future, as they shape local zoning.

The Land Use Plan maintains a conservation emphasis and continues the general policy orientation, which has evolved through Bedminster Township's continuing planning process, and continues the general patterns of land use, which have developed in Bedminster Township. The recommendations of the 2000 Reexamination Report are also reflected in this Land Use Plan.

Recent case law precedents have affirmed the authority of municipalities to use a variety of methods to control the intensity of land use, in addition to typical bulk and area standards, including lot coverage and floor area ratios. The "other ratios and regulatory techniques" permitted in the Municipal Land Use Law, and endorsed by the Supreme Court, include techniques for programming permitted development intensity in response to the character of the land. Such techniques include standards that regulate permitted development intensity in relation to landscape features and natural resource constraints (i.e.-steep slopes, wetlands, floodplains, etc.). Bedminster should incorporate such regulatory techniques as part of the Land Management Ordinance.

202 DISTRICTS ENUMERATED

The Land Use Plan includes nineteen (19) districts. The following chart provides the districts, average density or floor area ratio and total acres within the districts.

Table 1 Recommended Density & Floor Area Ratio Standards

Residential	***Average Density/FAR***	***Acreage***
"R-10" Rural Residential	One-tenth (1/10) unit per acre	13, 525.69
"R-3" Rural Residential	One-third (1/3) unit per acre	129.13
"R-2" Low Density Residential	One-half (1/2) unit per acre	123.46
"R-1" Low Density Residential	One (1) unit per acre	210.88
"R-1/2" Medium Density Residential	Two (2) units per acre	25.39
"SFC" Single Family Cluster	Two (2) units per acre	30.26
"VR-100" Medium Density Residential	Three (3) units per acre	16.46
"VR-80" Medium Density Residential	Four (4) units per acre	16.77
"SFC-RD" Single Family Cluster-Restricted Development	Four (4) units per acre	12.99
"PRD" Planned Residential Development	Eight (8) units per acre	115.81
"MF" High Density Multiple Family Residential	Twelve (12) units per acre	13.23
"SCH" Senior Citizen Housing	Twenty (20) units per acre	2.99
Mixed Residential/Commercial		
"VN" Village Neighborhood	Four (4) units per acre FAR 0.15	69.68
"VN-2" Restricted Village Neighborhood	Two (2) units per acre FAR 0.15	27.86
"PUD" Planned Unit Development	Ten (10) units per acre FAR 0.25	279.69
Commercial		
"OR" Office Research	FAR 0.125 or 0.165	335.87
"OR-V" Office Research–Village	FAR 0.135	38.99
"OP" Professional and General Office	FAR 0.10	15.78
Public		
"P" Public	NA	929.05

Viewed together, the land use districts in Bedminster provide for a wide range of single family and multiple family housing types, retail sales and service uses and a variety of office development opportunities.

203 RESIDENTIAL DISTRICTS

The residential development opportunities in Bedminster's Land Use Plan span a broad spectrum. Multiple Family Districts designed to address diverse housing needs and fair share housing obligations are situated near I-287 in Pluckemin. Medium Density Districts are generally situated in the easterly portion of the Township, along the Route 202/206 corridor. Rural Residential and Low Density Residential Districts occupy the

greatest portion of the Township, and are generally found west of Routes I-287 and Routes 202/206.

"Grandfather" provisions have been included in the Land Management Ordinance to allow the development of undersized lots, which have been made nonconforming by Master Plan and zoning amendments, without an appeal to the Zoning Board. The residential land use districts in Bedminster Township are as follows.

"R-10" Rural Residential

At the time of adoption of the 1991 Land Use Plan and Conservation Plan Elements of the Master Plan, the Planning Board identified a need to revisit the lot size and density within the former R-3% District, following the adoption of the State Development and Redevelopment Plan. The Conservation Plan indicated that many resource protection objectives would be better served by lower density development within most of the former R-3% District. The 1991 Conservation Plan Element specifically identified lower density in the Bedminster countryside as advancing the Township objectives for preserving and/or protecting the following resource values:

1. Agriculture.
2. Forest and native vegetation resources.
3. Groundwater quality.
4. Scenic resources.
5. Steep slopes.
6. Surface water quality.
7. Threatened and endangered species habitats.

Prior to creation of the former R-3% District in 1982, the Township required a five (5) acre minimum lot area throughout the rural residential district. In an October 1975 court order, Judge B. Thomas Leahy found Bedminster Township's Zoning Ordinance to be invalid and directed that the Ordinance be revised to comply with the mandate of the Supreme Court Mount Laurel decision. However, in his October 17, 1975 letter opinion, Judge Leahy in part drew the following conclusion:

"The evidence presented in this case amply supports that existence of strong ecological reasons for preserving much of Bedminster Township in an open, lightly-populated status. The court finds that a substantial and very real danger and impact will

result from development within the Raritan River watershed area that lies within Bedminster Township."

The R-10 District has been created in response to a broad range of local objectives for the "countryside" portions of the municipality. The R-10 District provides for a maximum residential development density of one-tenth (1/10) unit per acre. Lot size averaging is permitted in this district, in an effort to better achieve the goals of resource conservation and rural character preservation. When lot size averaging is employed, the size of some lots may be reduced to six (6) acres, provided that for each lot smaller than ten (10) acres there shall be a lot larger than ten (10) acres. If an accessory dwelling unit is proposed, the minimum lot size is 14 acres.

The major types of activities permitted within the R-10 Rural Residential District include farming, public and private day schools, private boarding schools, outdoor recreational uses, single family dwellings and their accessory structures. An airport, golf course/club or houses of worship are permitted as a conditional use.

Bedminster Township is blessed with a vital agricultural community where farmland assessment acreage continues to represent approximately two-thirds (2/3) of all lands within the Township. Recent trends have shown a reduction in traditional field crop agriculture and a considerable increase in acreage planted to small grains. Additionally, the number of livestock and horses has increased since 1980.

In New Jersey, a parcel cannot qualify for farmland assessment unless it contains at least five (5) acres, and if a dwelling is included on the property, this minimum increases to six (6) acres. However, since some nonproductive lands may not qualify for farm assessment, a six (6) acre minimum will not assure the potential for preferential farmland tax assessment.

Conflicts between farm and non-farm uses can frequently result in a loss of farmland or farm uses. Agricultural retention objectives have prompted many localities to adopt large lot zoning strategies to retain agricultural lands for farm use and to discourage non-farm uses in agricultural areas. The National Agricultural Lands Study (NALS) (Coughlin & Keene, 1981) found that half of the communities surveyed relied on a large minimum lot area as the principal density control in the agricultural zone. Most of these communities were in or adjoining metropolitan areas. Within the communities surveyed by NALS, minimum lot sizes ranged from ten (10) acres to six hundred forty (640) acres.

An update to the NALS, “Saving American Farmland: What Works”, prepared by the American Farmland Trust (AFT) in 1997, examined a range of approaches to retaining

farmland, and recommended “Agricultural Protection Zoning” (APZ) as a zoning technique used to support and protect farming by stabilizing the agricultural land base. AFT defines APZ as ordinances that allow no more than one house for every 20 acres, support agricultural land uses and significantly restrict non-farm land uses.

APZ ordinances specify allowable residential densities and permitted uses, and sometimes include site design and review guidelines. According to AFT, a minimum lot size of 20 acres, combined with other restrictions, may be sufficient to reduce development pressures in areas where land is very expensive.

APZ helps reserve the most productive soils for agriculture. It stabilizes the agricultural land base by keeping large tracts of land relatively free of non-farm development, thus reducing conflicts between farmers and their non-farming neighbors. Communities also use APZ to conserve a "critical mass" of agricultural land, enough to keep individual farms from becoming isolated islands in a sea of residential neighborhoods. APZ also helps promote orderly growth by preventing sprawl into rural areas, and benefits farmers and non-farmers alike by protecting scenic landscapes and maintaining open space.

Subdivision activity since the R-10 District was created indicates that a 20-acre minimum lot area is more consistent with the large lots that have been created than the current 10-acre minimum area requirement. Bedminster’s agricultural heartland may be an appropriate candidate area for the application of Agricultural Protection Zoning.

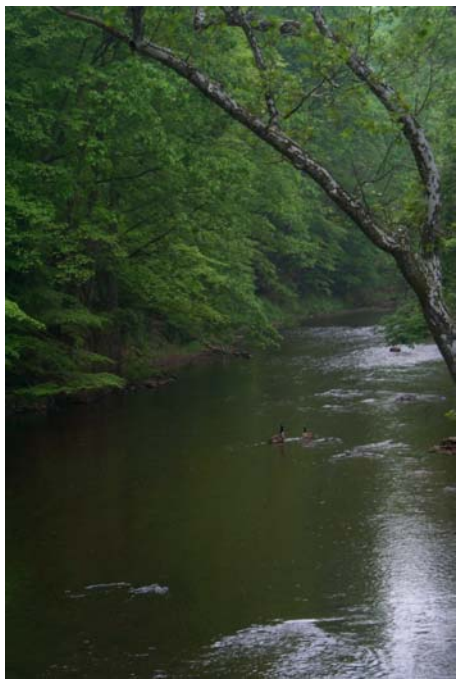
The Township's Master Plan also recognizes the variety of benefits related to forestlands, including recreation, wildlife habitat, reduction of surface run-off, and visual and noise benefits. Air quality improvements also result from retention of forestlands. The Master Plan seeks to provide a comprehensive approach to woodland conservation that promotes preservation of contiguous tracts of undeveloped lands to maintain forest ecology to the greatest extent possible.

Protection of surface and groundwater resources is also an important element of the Bedminster Township Master Plan. The R-10 District responds to the Township's designation in the State Development and Redevelopment Plan (SDRP) within the

Environmentally Sensitive Planning Area (Planning Area 5) throughout most of the countryside. Increasing the minimum lot area and reducing the number of new dwellings that will be developable within the countryside portion of the Township, have also better protected the scenic character of the Bedminster countryside.

The extensive limitations posed by existing soils in Bedminster also argue in favor of a lower intensity development. While a high water table prevails throughout the drainage corridors and floodplains, areas not affected by a high water table are likely to have a shallow depth to bedrock. Most of the R-10 District includes lands which have low suitability for conventional septic system designs.

Surface waters that flow through Bedminster are a potable water source for downstream communities. For this reason, protection of the quality of surface water promotes the interests not only of Bedminster Township but also of the region at large. High quality waters from Bedminster serve to dilute more degraded waters downstream and reduce the cost for treatment of such potable water sources. Northern Bedminster hosts tributary streams that exhibit very high quality. The Lamington River north of Long Lane and its upper tributaries are Trout Production waters, as are segments of the Peapack Brook near Peapack-Gladstone.



The North Branch of the Raritan River north of Bedminster Village, and the Quail Brook and an unnamed tributary to the Lamington, south of Long Lane, are classified as Trout Maintenance waters. While the R-10 District provides a development density which limits the non-point pollution impacts of future development, it may not be sufficient to maintain the high water quality of the upper segment of the Lamington River and its tributaries. This area poses one of the most significant challenges to the protection of surface water quality.

The R-10 District also promotes maintenance and/or retention of terrestrial and aquatic habitats which currently exhibit a high level of environmental quality in supporting threatened and endangered species. Extensive areas of critical habitat, which are associated with the trout waters, are also found throughout the Township, as documented by the NJDEP Landscapes Project.

The R-10 District has created a series of nonconforming lots of less than ten (10) acres, and a grandfather provision has been added to the zoning ordinance that allows development of such undersized lots without an appeal to the Zoning Board, according to reasonable standards for such lots. This permits the construction of a new dwelling on any vacant lot of less than ten (10) acres existing at the time of adoption of the R-10

District, or the expansion of the principal building or the addition of permitted accessory structures on an existing developed lot. However, new lots to be created by subdivision will require at least an average of ten (10) acres per lot.

A conditional use in this district is an airport existing at the time of adoption of the 1946 Zoning Ordinance. The George Walker Field (formerly Somerset Airport) has operated as a permitted use since 1946 with conditions related to tenure, tract delineation, and runway length.

During the Planning Board's development of the master plan during the early 1990's, numerous public comments at a series of public information meetings addressed the issues of aircraft noise and potential environmental hazards associated with airport operations.

The Planning Board recognizes the right of the airport to continue operations, and such rights would exist even for a nonconforming use. The role of the airport as a recreational and education facility has a long history in Bedminster Township. However, the potential for expanded functions (increased business travel, reliever status, and introduction of jet aircraft) has previously prompted concerns over airport plans for runway length expansion and other development proposals.

Conditional use treatment of the airport provides a level of assurance that the conditions that have previously defined this permitted use will be enforceable under the Zoning Ordinance. Failure to adhere to these conditions will require that the expansion plans become the subject of review by the Zoning Board of Adjustment under N.J.S.A. 40:55D-70(d). The proofs required to secure such relief will help to assure that no substantial detriment to the public good will result.

Houses of worship are also conditional uses in this district, where they are only deemed appropriate when located on a State or County road.

Another conditional use in this district is a golf course/club. This use can help retain the open character of the countryside and can be a valuable open space element when managed for the best environmental performance. Conditions defining this use should encourage championship length golf courses, which include a minimum tract area of two hundred (200) acres or more and additional acreage for more than eighteen (18) golf holes. Additionally, overnight accommodations for members are to be permitted on a limited basis, and when residential units are proposed as part of a golf course development, the required area for such lots shall be in addition to the area required for the golf course. Golf course development should not be permitted within subwatershed areas draining to Trout Production or Trout Maintenance waters.

Additional regulatory techniques for the R-10 District should also be explored, in order to provide options and incentives for lower density conservation-based designs and enhanced land stewardship. A "Conservation Overlay" approach, utilizing income tax incentives to induce limited development with conservation easements, could address the needs of landowners who seek to preserve the desirable countryside character and sensitive lands, while providing for a limited number of future home sites.

"SFC-RD" Single Family Cluster Restricted Development

This district includes lands formerly in the CR-10 District, which consisted of Block 59, Lot 1 and Block 43.01, Lot 1. Except for the "SFC-RD" area, the balance of the CR-10 District has been included in the "P" Public District, reflecting its municipal ownership.

This district includes lands, which are not dominated by the steep slopes, which prevail throughout the remainder of Block 59, Lot 1. This area accommodated development in concert with the goals of the Master Plan, permitting a maximum of twenty-five (25) dwelling units to be constructed, provided the extent of disturbance is appropriately limited.

The cluster provision required that all development, land disturbance, and tree removal be located within one hundred (100') feet of the street right-of-way. The minimum lot criteria within the district permit single-family dwellings on lots of at least ten thousand (10,000) square feet. The portion of the residential lots beyond the one hundred (100') foot disturbance limit are restricted against further development and tree removal, by restrictions in the deeds and on the subdivision plat.

"*R-3" Rural Residential*

The R-3 District provides for low intensity development of environmentally sensitive lands located along the North Branch of the Raritan River, Peapack Brook and elsewhere.

Permitted uses within this district include farming, public and private day schools, outdoor recreational uses, public uses, and single family dwellings and their

appurtenances, on lots of at least three (3) acres. Houses of worship are conditional uses when located on a State or County road.

"R-1" and "R-2" Low Density Residential; "VR-80", "VR-100" and "R-1/2" Medium Density Residential

These districts have been established primarily in recognition of the existing densities of residential development within the villages of Bedminster, Pluckemin, and Pottersville and along the Route 202/206 corridor in eastern Bedminster Township.

The principal permitted uses within these district areas are single family detached dwelling units with minimum lot sizes of two (2) acres within the R-2 District, one (1) acre in the R-1 District, one-half (1/2) acre within the R-1/2 District, one-quarter (1/4) acre in the VR-80 District and 0.3 acres in the VR-100 District. Houses of worship are conditional uses when located on a State or County road.

The VR-80 and VR-100 Districts were crafted to replace most of the former R-1/4 District in Bedminster Village. These districts are arranged to reflect common lot and building characteristics, and are intended to maintain the village scale and character.

Public sewer service may be required for any lot smaller than one (1) acre. To the extent public sewer service is not available or planned, lot sizes should be at least two (2) acres.

"MF" High Density Multiple Family Residential

The MF District has been designated to provide for relatively small scale multiple family developments at Bedminster's highest density. The MF District permits garden apartment and/or townhouse residential development on tracts of at least three (3) acres and at a maximum density of twelve (12) dwelling units per gross acre of land.

"SCH" Senior Citizen Housing

This district provides for the construction of senior citizen housing affordable to low and moderate income households on parcels of at least two (2) acres. The bulk of the Township's population growth during the last decade has occurred in the Pluckemin area where a wealth of retail and service uses are situated within the adjacent VN District. Thus, the everyday shopping and other needs of senior citizens can be accommodated in a pedestrian environment, where existing sidewalks provide access to virtually all important services and facilities.

The Senior Citizen Housing District in Pluckemin locates high-density senior housing (twenty (20) units per acre gross density) in a portion of the community where high- density housing is most likely to be compatible with existing neighbors. To reinforce the fabric of the Village of Pluckemin, senior units are permitted in 1-4 units buildings.

The opportunity for direct production of senior housing in Pluckemin has expanded the range of housing opportunities available within the Township and locates senior residents in the portion of the Township best equipped to support their needs and an independent lifestyle.

204 PLANNED DEVELOPMENT DISTRICTS

The Land Use Plan provides areas for planned developments, which have been constructed according to specific criteria, with public sewerage and water facilities. The essential purpose of the planned development concept was to foster the optimum development of an overall tract of land while providing for the preservation of open space and environmentally fragile or aesthetically pleasing site features. Generally, the objectives of the planned development concept are as follows:

1. To provide for greater variety in the type, design and layout of housing;
2. To provide convenient open space and recreational facilities within easy access to all residents within the development;
3. To provide for the necessary community facilities and infrastructure improvements, both planned and executed as part of the overall site design;
4. To provide for nonresidential uses as may be appropriate to the specific planned development;
5. To provide for a harmonious relationship between residential and nonresidential uses, both existing and proposed.

Three (3) types of planned developments have been provided in Bedminster Township, including Residential Clusters, Planned Unit Developments (PUD) and Planned Residential Developments (PRD). The PUD and PRD Districts have accommodated most of the low and moderate income-housing obligation required by court order. The ordinance amendments ultimately adopted by the Township in response to Judge Eugene D. Serpentelli's decision in Allan-Deane v. Bedminster provided an opportunity for the construction of eight hundred forty (840) low and moderate income units, slightly more than the eight hundred nineteen (819) units required by the Court.

A "Supplemental Agreement Governing Second Phase of Township's Housing Obligation," dated December 30, 1991, reduced the original court order obligation from eight hundred nineteen (819) affordable units to six hundred ninety-eight (698) affordable

units. Under its amended rules, the Council on Affordable Housing has assigned Bedminster a fair share obligation of one hundred seventy-seven (177) low and moderate-income units for the 1997-1999 period and credited the Township with full completion of this obligation based on completed units.

To date, six hundred twenty (620) low and moderate income units have been built at The Hills; twenty-four (24) low and moderate-income units have been built at Timberbrooke, and the Township has assisted in development of a fifty (50)-unit senior citizen housing project for low and moderate-income seniors. The Hills, Timberbrooke, and the Pluckemin Park senior citizens community account for all required low and moderate-income units, except four (4) units, which the Township satisfied through rehabilitation.

The New Jersey Supreme Court, in the Mount Laurel II decision, made it clear that when a municipality has affirmatively addressed its fair share obligation, it will not be prevented from adopting land use regulations which promotes the appropriate level of protection of critical lands and valuable resources.

"*SFC" Single Family Clusters*

In addition to the permitted conventional lot-by-lot development, the Single Family Clusters (SFC) District permits single family detached dwelling units, with an average lot area of roughly one-half (1/2) acre.

Within the portion of the former R-1 District designated for single family clusters, an additional development opportunity was achieved by the then existing Senior Citizen Housing Overlay in the Pluckemin Village VN District. This overlay district has provided the opportunity for construction of market-rate housing, where the profit from the market-rate units was used to assist the production of senior citizen housing elsewhere within the overlay district in Pluckemin.

Planned Residential Development - 8 du./ac

The Hills Planned Residential Development (PRD) (8 du./ac) has been fully developed adjacent to Bernards Township, where indicated on the Land Use Plan Map. This development consists of single-family detached dwelling units, townhouse and garden apartment multiple family dwelling units.

Planned Unit Development - 10 du./ac

The Hills Planned Unit Development (PUD) has been fully developed, and includes residential and commercial uses. This district was created to provide sufficient retail and office development to satisfy the needs of the

population within the PUD, as well as the nearby population outside the PUD. Single-family detached dwellings, semi-detached dwelling units, townhouses and garden apartments were constructed, along with community retail and office uses.

205 VILLAGE DISTRICTS

Two (2) Village Neighborhood Districts in Bedminster provide for a mixture of residential and nonresidential uses. These include the VN Village Neighborhood and VN-2 Restricted Village Neighborhood, as follows.

"*VN" Village Neighborhood*

The VN District areas have been established in recognition of the Villages of Pluckemin, Bedminster and Pottersville. These areas of Bedminster Township are unique, both in terms of their historical significance as well as the existing pattern of development. Consisting of many older structures situated on relatively small lots, the Village areas are significant assets to the municipality and should be protected and preserved to the greatest possible extent so that the prevailing architectural themes will remain a part of Bedminster Township and the State of New Jersey.

It is suggested that the symbiotic relationship of the residential and nonresidential uses within the Village areas to be continued, and that the size of buildings be limited to maintain the village scale. This district permits detached dwelling units on lots of at least one-quarter (1/4) acre, and local retail and service activities, restaurants with table service, banks, and professional offices on lots of at least one-half (1/2) acre in area. Houses of worship are conditional uses when located on a State or County road.

"VN-2" Restricted Village Neighborhood

The VN-2 District provides for single-family residential uses on lots of at least one-half (1/2) acre in area as a principal permitted use. This district also includes a conditional use which permits limited retail sales and service uses and professional offices, on lots of at least one-quarter (1/4) acre, not to exceed two thousand (2,000) square feet of commercial use per lot. Houses of worship are conditional uses when located on a State or County road.

This district responds to the changing character of Route 202 with limited nonresidential development opportunities. This area is viewed as a gateway to Bedminster Village, and the Land Use Plan seeks to maintain the character of this area to the greatest extent practicable. Regulations governing this district permit nonresidential development of a low-traffic character, and floor area ratios and coverage limits should be lower than those applicable to the VN District.

206 OFFICE DISTRICTS

In addition to the variety of retail and office uses, permitted in the VN and VN-2 Districts and in Planned Unit Developments as described in Section 2-204, the Land Use Plan Map includes three (3) office districts, as follows.

"OR" Office Research

The OR District areas provide for the development of research and office facilities and include the significant existing development in this land use category. Most lands within the OR District adjoin the interstate highways (I-78 and I-287) and all OR Districts adjoin the state highway system.

The character of existing development in the OR District includes major regional employment facilities, such as the AT&T site adjacent to I-287, as well as smaller scale office uses, such as Executive Quarters, Bell Atlantic, and Bedminster One. The district also includes several undeveloped sites.

The state highways that bisect the easterly portion of Bedminster Township (U.S. 206, U.S. 202) carry significant volumes of regional traffic, a fact that is complicated by incomplete connections to the interstate arterial roadway network. Since traffic poses major quality of life impacts on Bedminster residents, it is important to limit and control the extent of future development in these districts. The use of appropriate low intensity floor area ratio and coverage standards, and other regulatory tools and techniques, should be carefully considered to maintain Bedminster's desirable community character.

"OR-V" Village Office Research

The OR-V District has been designed to respond uniquely to the Township's goals to preserve the character, architectural values, and setting of Bedminster's historic villages to the greatest extent practicable. These areas include parcels, which form a backdrop for these villages, including the pre-Revolutionary Village of Pluckemin and historic Bedminster Village.

Bedminster and Pluckemin Villages are at historic crossroad locations, where mixed-use neighborhoods were once centers of trade for the surrounding countryside. Over time, the villages have been undergoing a transformation to nonresidential use conversions. However, under the guidance of historic district controls, these conversions have generally respected the style and character of the villages, and represent important examples of how change can be managed well.

While major regional office facilities have been constructed to heights of three (3) stories in some locations, such facilities would be clearly inconsistent with the character of the village, which the Township seeks to protect. Thus, the OR-V District is intended to provide for significant development at a scale, which relates favorably with the historic village character. With the proper development intensity, office research type uses at this location can provide a symbiotic relationship with the village.

As the Township attempts to achieve a harmonious transition from the developed village areas to the countryside, the OR-V sites represent an important element of the context or setting of these village areas. While a typical three (3) story office building with a flat roof would dwarf the scale of the village and change the setting dramatically, a combination of two (2) story and three (3) story buildings can serve to ease this transition. Further development in close proximity to the village should respect and relate well with the size and scale of the built elements of the village, and should avoid the monolithic appearance of multi-story buildings with flat roofs.

This calls for a regulatory approach, which requires that significant portions of the parcel, adjoining the existing village, remain largely undeveloped and green. It also requires that buildings be designed at a scale which represents a compatible backdrop to the village area and which respects certain elements of village form, style and character. The visual and other impacts of traffic movements and blacktop areas are another important consideration in shaping the standards that will govern the OR-V District.

The OR-V Districts create transitions between the historic villages of Pluckemin and Bedminster and the arterial highways, which form boundaries to these areas. They provide a unique opportunity to shape development to respect the character of the historic village areas, and also afford the potential to vastly degrade these areas. Limitations on intensity should include both bulk standards (FAR, coverage, setbacks) and the scale of

buildings. While it is not reasonable to require a duplication of this historic streetscape, one intention of the District is to provide for a compatible transition, which respects the scale and character of historic village areas. The historic architectural review procedure, provided for in the Land Management Ordinance, offers a meaningful opportunity for such an accommodation.

"OP" Professional and General Office

The OP District responds to the emerging pressures affecting lots with frontage on Route 206 between Lamington Road and Hillside Avenue.

The intent of the OP District is to afford opportunities for limited professional and general office use of lots with Route 206 frontage in this area, as a strategy to prevent the future evolution of retail strip development. This office district is intended as a transition between the VN District at Lamington Road and the low-density residential areas to the north.

The limitations on office uses in this district will require the lowest nonresidential floor area ratio and lot coverage in Bedminster Township. Additionally, this district should limit the maximum floor area per lot of record on December 17, 1990, to prevent the drastic alteration of the visual character of the Route 206 corridor. Landscape buffer requirements should be designed to provide a "greening" influence along Route 206.

"P" Public

This district provides for active and passive open space uses on lands owned by the State of New Jersey, Somerset County and Bedminster Township. Permitted uses also include public schools licensed by the State of New Jersey and Bedminster Township municipal uses. Any permitted development shall conform to the R-10 District Standards.

Bedminster Township has established open space acquisition objectives, which call for continuing additions to the open space system. Any lands acquired by the Township, the County or the State in the future shall be considered for inclusion in the "P" district, and the Land Use Plan Map should be updated accordingly.

207 RELATIONSHIP OF THE LAND USE PLAN TO OTHER PLAN ELEMENTS

Bedminster's Land Use Plan provides for a compact pattern of higher intensity residential and non-residential uses along the arterial highway corridor in the eastern portion of the Township, and low intensity residential, farm and conservation uses throughout the remainder of the Township The small village of Pottersville and the settlement at Lamington, both along the Lamington River, are not planned for growth. The villages of Pluckemin and Bedminster, located along the growth corridor, have

absorbed most of the permitted higher intensity land uses and have prompted the development or expansion of community facilities and services over the past two decades.

Substantial open space and recreation facilities have been developed to meet the needs of the high-density population in the corridor area, and additional facilities are currently planned. The compact pattern of development in the Pluckemin/Bedminster Village area permits the efficient delivery of services and allows convenient public access to open lands and parks owned by Bedminster in these neighborhoods.

The established pattern of development also prompted the development of a bike/hike trail network that is designed to overcome natural and man-made impediments to provide a bicycle and pedestrian connection between the Bedminster and Pluckemin neighborhoods and the school, library, parks, Post Offices, shops and services.

The Land Use Plan also optimizes the location of traffic generators in relation to the road system. The planned new connection between Routes I-287 and I-78 will promote better local and regional circulation, and reduce the impacts of regional through traffic on Pluckemin.

The patterns of land use that result from this plan provide for the conservation of large contiguous areas of farmland and other open lands throughout most of the township, where a very low density of permitted development will assist the preservation of the desirable features of the countryside.

208 SUMMARY

Bedminster Township's planning process has long expressed the goals of protecting the natural resources and the special character of the countryside while also permitting a broad range of development types to meet local and regional needs.

This Plan recognizes that the rural and agricultural character that has been a principal concern of all prior planning efforts can only be protected by carefully managing the impact of future residential development on the countryside. The reduction of residential density can serve these goals and the goals of groundwater and surface water protection.

Bedminster’s Master Plan provides for a broad array of land uses. Planned developments and the retail and office space to serve their needs have developed in a

compact form at major intersections along the State and Interstate highway system. Construction of these high-density developments has also prompted a fine-tuning of planning policies for the villages and countryside, including reductions in residential density throughout Bedminster's vast countryside, as well as in the village areas.

As Bedminster has refined these local planning objectives, the basic emphasis of the Master Plan and regulations has shifted from land development to land management. As a result of this refined focus, Bedminster's "Land Development Ordinance" was renamed the "Land Management Ordinance".

PART 3 CONSERVATION PLAN

"Conservation is a state of harmony between men and land." Aldo Leopold, 1948

301 INTRODUCTION

The Municipal Land Use Law (*N.J.S.A. 40:55D-1 et seq.*) authorizes municipalities to plan and zone to promote the general welfare. The 15 purposes of the MLUL (*N.J.S.A. 40:55D-2*) articulate the State's rationale for authorizing municipal land use planning and regulation. More than half of these purposes highlight the importance of conserving natural resources and a clean healthy environment, including:

- Public health and safety, which are affected by the use and management of New Jersey's land and water resources.
- Securing safety from floods and other natural and manmade disasters and providing adequate light, air and open space.
- "Preservation of the environment", in part through planning for "appropriate population densities and concentrations".
- Providing sufficient space in appropriate locations for a variety of land uses, according to their respective environmental requirements, to meet the needs of all New Jersey citizens" for a healthy environment.
- Conservation of "open space, energy resources and valuable natural resources in the State and to prevent urban sprawl and degradation of the environment through improper use of land".
- Conservation of energy, through utilization of renewable energy sources, and recovery and recycling of recyclable materials.

Preventing urban sprawl also has long been an objective of New Jersey's planning and zoning law, which is supported by the related objectives of protecting the natural environment and preventing its degradation. Sprawl is energy intensive and resource consumptive, increasing traffic and air pollution and destroying open spaces.

In furtherance of these conservation objectives, the MLUL provides for preparation and adoption of a Conservation Plan Element (*N.J.S.A. 40:55D-28b.8.*), which reads as follows:

"Conservation plan element, providing for the preservation, conservation and utilization of natural resources, including, to the extent appropriate, energy, open space, water supply, forests, soil, marshes, wetlands, harbors, rivers and other waters, fisheries, endangered or threatened species, wildlife and other resources, and which systematically analyzes the impact of each other component and element of the Master Plan on the present and future preservation, conservation and utilization of those resources;"

Bedminster Township is blessed with a wealth of renewable and nonrenewable natural resources. In large part, the special character of the Township's countryside is defined by the natural resources on which the Township's land tenure system is based. This emphasis on resource protection is reflected in the goals and objectives in this Plan, which, include 14 local objectives relating to natural resources. The first of these natural resource objectives summarizes the overriding intent:

"To protect natural resources, including, but not limited to, steep slopes, woodlands, ridgelines, pristine watersheds, trout streams, wetlands, stream corridors, groundwater supplies, potable water reservoirs, aquifers, rivers, habitats of threatened and endangered resources and unique natural systems".

The Background Studies-Characterization of the Resource Base includes a systematic analysis of the Township's natural resources, defined in terms of quantity and quality, and identifies a series of management considerations. This Conservation Plan element incorporates the Background Studies as a reference, and builds upon the description of the resource by offering suggested standards and approaches for the preservation, conservation, and utilization of those resources.

This Conservation Plan outlines Bedminster Township's strategies to meet the statutory purpose to preserve, conserve and utilize natural resources. While it is designed to function in concert with the other plan elements, the most important linkage will be between the Land Use Plan and the Conservation Plan. Together, these plan elements propose the location, scale and intensity of new development and the resource management strategies needed to protect the environment.

The most effective way to protect farmland and natural resource lands is to buy the land or the development rights and manage the preserved resources. This approach permanently preserves these valuable features, and is the most effective means of limiting the effects of development. The continuing New Jersey voter support for open space preservation, most recently evidenced in the approval of the 1 billion Garden State Preservation Trust, bodes well for such acquisitions.

Air, water and soil are the essential resources, which support a healthy biota. The natural ecosystem finds a balance among its organic and non-organic components, where resources are used, not used up, and cyclical changes return to the point of beginning. Development disrupts these cycles, and places a heavy burden on man to reestablish the semblance of a natural balance. The principles of sustainable development demand that resource commitments made during this generation will be sustainable—that is, able to be continued for the benefit of future generations.

Fragmentation and degradation of vegetation, land and water resources have been a byproduct of human activity. Woodlands, initially cleared for agricultural use, have given way to residential neighborhoods easily developed on these high, dry and usable soils. Water quality has been progressively altered and impacted by human activity.

The quality of the air we breathe, the water we drink and the food we eat determines the health of the human organism and all life forms. This Conservation Plan seeks to minimize further degradation of these resources and establish an arsenal of environmental health-building tools for the 21st century and beyond. This plan recognizes the inherent limitations of our ability to disassemble the natural world and put it back together again. It argues in favor of a lighter touch on the land, one that is more respectful of natural systems, and that limits the resource commitments and impacts of human intervention. This calls for a systems approach to natural resource conservation, where interconnected natural systems are viewed as a collective resource, not a series of separate features.

The variety of biological species is an indicator of the health of an ecosystem. Maintaining biological diversity requires protection of critical habitat areas. While habitats of endangered or threatened plant or animal species are of special importance, threatened or endangered status may be transient. For instance, the great blue heron and bald eagle have been removed from the protected list, yet their critical habitats remain essential to their continued survival. Additionally, the eradication of rare species removes elements from the food chain that help maintain ecological balance. The explosive deer population in New Jersey is but one example of the damage that can be wrought when this natural balance is lost.

Protecting biodiversity requires the protection of terrestrial and aquatic habitats that are highly susceptible to degradation. Surface water quality cannot be maintained without protection of the watershed areas that contribute to the streams. Freshwater wetlands play an important role in filtering contaminants from the surface water and groundwater regime and, while protected by state statutes, are not immune from impacts that occur beyond the regulated areas. Similarly, prime forested areas, including mature stands of native species, are easily lost or damaged through fragmentation, a manmade impact that reduces bio-diversity. The scenic wonder of ridgelines, slopes and ravines is only one aspect of the value of these natural features, without which certain species will not remain.

Bedminster is blessed with extensive grasslands and forests that support numerous federally listed rare species. Exceptional grassland habitats, essential to the nesting, feeding and breeding of a variety of grassland bird species, dominate Bedminster's heartland. The effects of agriculture and suburban development have isolated woodland segments, and eliminated or prevented the interconnection of some of the remaining woodlands. Nonetheless, Bedminster's forested stream corridors and Second Watchung Ridge provide habitat that supports a variety of State endangered and threatened species. Land development should be arranged to maximize the conservation of substantial masses of critical habitat areas, by limiting the aerial extent of development and promoting conservation techniques targeted to these resources.

Carrying capacity is a planning technique used to establish the maximum population level of a species based on the availability of natural resources. Carrying capacity had its genesis in ecological studies, used to manage wildlife habitat rangeland for grazing. In the context of land use planning, carrying capacity has been defined as the ability of natural and man-made systems to support a level of population growth and ancillary development while maintaining established standards of performance. When applied to regulating land use, an assessment of carrying capacity is useful in establishing maximum densities or intensities of development. However, sustainability requires that we provide a margin of safety, and not plan for the maximum development that can currently be supported.

The policies and strategies of this Conservation Plan seek to limit the impacts of development and retain the natural terrain and features to the greatest extent practicable. This plan also promotes the restoration of natural systems that have been degraded by past activities. As new regulatory tools or techniques become available, they should be evaluated for their ability to promote the Conservation Plan objectives and adopted where appropriate. In addition to typical bulk and area standards, including lot coverage and floor area ratios, recent case law precedents suggest the appropriateness of utilizing "other ratios and regulatory techniques" to assist in managing the intensity of land use. Bedminster should develop such regulatory techniques, which relate permitted development to landscape features, to better program permitted development in relation to natural resource capabilities and limitations. Conservation easements for critical resources should be expanded, and a program of mapping and monitoring instituted. Additionally, open space and woodlands acquisition priorities should support the goals of the Conservation Plan.

302 AGRICULTURE

With approximately two-thirds (2/3) of the Township's land area under farmland assessment, agriculture continues as a major land use and natural resource in the Township. Recent farmland preservation initiatives have provided "anchors" of preserved land around which protection strategies and policies can be arranged.

Bedminster's Farmland Preservation Plan sets forth ambitious objectives for expanded preservation and has been used to secure a Planning Incentive Grant that will preserve hundreds of acres along the Black River Road corridor. Another project area along Lamington Road is the subject of a pending preservation grant application.

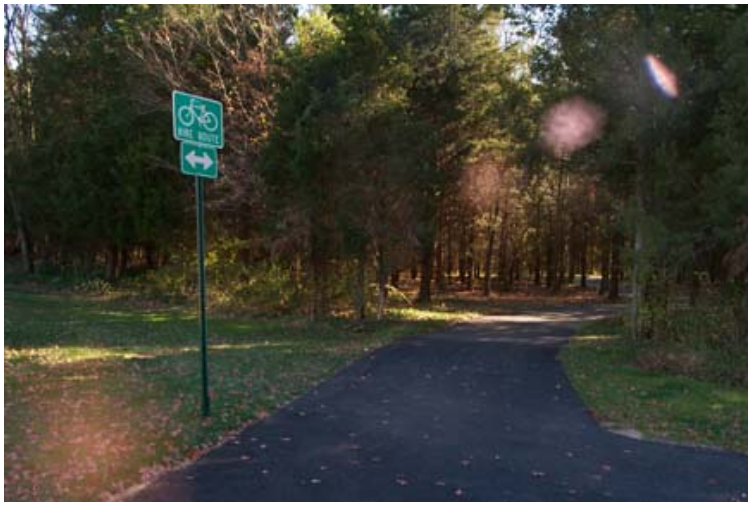
Another technique to promote the retention of agricultural lands is to establish a Municipally-Approved Eight-Year Program at the request of a landowner. The Eight-Year Program in place increases the likelihood that a landowner will be eligible for an easement purchase, protects the landowner from eminent domain, makes available additional soil and water conservation funds, and indicates that the Township supports the agricultural community. The criteria established by the Somerset County Agricultural Development Board for such a program are provided in Part 4, the Background Studies.

To mitigate the potential environmental impacts of agricultural production, the Township should encourage landowners to seek technical assistance from the Soil and Water Conservation District to develop conservation plans and the best management practices to conserve soil and water resources.

303 ENERGY AND AIR QUALITY

Protection of the Township's air quality is, at least partially, dependent on regional, state, national, and even international factors. However, there are some air quality management approaches that the Township can initiate to mitigate air pollution, as follows:

a. Promote alternative means of transit by providing opportunities and access for alternative transportation systems (buses, car and van pooling, bicycling, and walking).



b. Reduce the need for vehicular trips by facilitating better interconnections among residential, commercial, office, and recreational uses.

c. Encourage staggered work hours for large employment centers.

d. Encourage energy conservation through subdivision design, building design, building orientation, and the evaluation of microclimate conditions such as solar access and wind direction.

e. Recommend landscaping standards that provide buildings with maximum solar access, shading, and wind protection.

f. Encourage the maximum recovery of recyclable materials and the use of renewable energy sources.

g. Require air quality assessments at principal intersections for significant developments (three hundred (300) or more vehicle trips per day) to identify problem areas and mitigation strategies.

h. Design bikeways, pedestrian walkways and other routes to maximize opportunities for non-motorized travel in existing and new development.

304 FOREST RESOURCES

Woodlands and other native vegetation perform a series of important functions related to the ecological balance Forests produce oxygen, giving them intrinsic value. They reduce soil erosion and surface runoff, absorb pollutants and promote aquifer recharge, because of the high moisture holding capacity of the forest soils and tree canopy. Forests provide habitats for plants and animals and provide open space and recreation lands. They enhance the visual character of scenic corridors, create a feeling of privacy and seclusion and reduce noise impacts. And they affect local climatic conditions near or within their boundaries, such as the cooling effect on trout streams. Woodlands and other native vegetation also provide visual diversity in the terrain, enhancing the value of property. Removal of trees and other vegetation can result in ecological, hydrological, and economic impacts.

The following approaches are recommended to preserve, protect and improve the forest resources in the Township.

a. A woodland conservation program, including identification of the floodplain, mesic and upland forest stands on the tract should be required as part of any application for development.

b. Performance standards should be established limiting the extent of forest removal, based on the quality of the forest type. Priority wooded areas for preservation include unique forest types, woodlands adjacent to public water supply tributaries, habitats critical for endangered and threatened species, specimen trees, large wooded patches, 100-year floodplains, wetlands, stream corridors, and slopes of 15 percent or greater.

c. Performance standards should encourage the preservation of habitat areas that are as large and circular as possible, gradual and undulating at the edges and connected by wildlife corridors wide enough to maintain interior conditions (i.e. 300’ or more).

d. Hedgerows and forest areas along traveled roadways and established property boundaries should be retained and enhanced, where appropriate, with native species.

e. Woodland areas along open space corridors should be preserved and interconnections among existing woodlands should be promoted.

f. Reforestation and afforestation of open spaces, resulting from cluster designs, should be required to enhance habitat, promote recharge and reduce surface runoff, erosion and flooding through the use of native species.

g. A construction mitigation plan, which minimizes and mitigates construction-related impacts on woodlands, should be required prior to disturbance of more than 10,000 square feet of woodlands.

h. A local permitting process should be developed for isolated lots, to prevent the removal of trees and other vegetation from an area greater than 1,500 square feet unless on- or off-site replacement is provided.

i. Lower residential density standards may promote the retention of forests in Bedminster.

305 GROUNDWATER

The groundwater resources of the Township provide the potable water supply to much of the Township's rural areas. In addition, groundwater provides the base flow to rivers and streams during low flow periods. In order to protect and maintain this critical resource, it is recommended that the Township consider the following activities:

a. A program should be established, or coordinated with an existing County or State program, to ensure that existing septic tanks are regularly pumped and maintained in a manner similar to the revised State Health Code standards for new systems.

b. Ongoing public education should be directed at water conservation and preventing the discharge of toxic and hazardous pollutants to groundwater.

c. The Environmental Commission, in conjunction with the Health Department, could conduct an environmental audit of groundwater quality, including an analysis of existing groundwater samples and an identification of existing facilities, which could adversely impact groundwater. Among the facilities that should be mapped and inventoried are the following:

(1) Underground storage tanks.
(2) Gas, fuel, and sewer line locations.
(3) Large septic systems for commercial/industrial users.
(4) Permitted community septic systems.
(5) Hazardous substance storage areas and facilities.
(6) Permitted NJPDES groundwater or surface discharge facilities.

d. The Township should consider a wellhead protection program to protect community water supply systems and areas in the Township with clusters of residential wells that might be threatened by inappropriate land uses.

e. Reductions in residential densities in unsewered areas can help to protect the portability of groundwater from the impacts of septic systems.

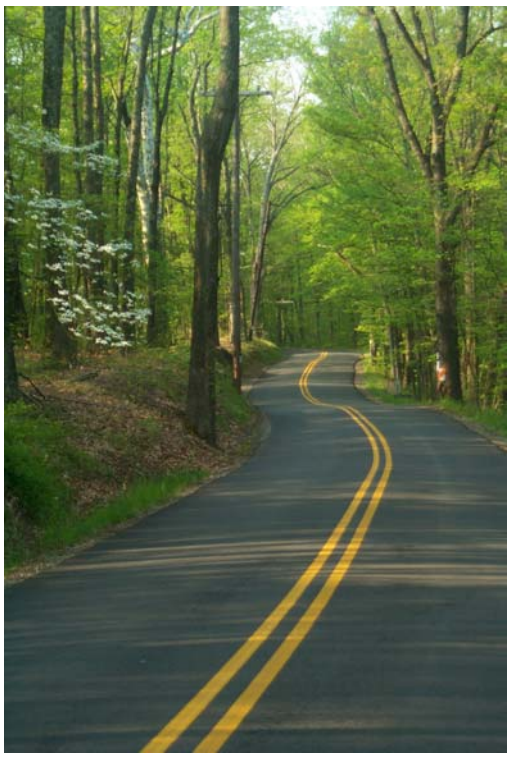
f. Landscaping standards should require the use of native and locally adapted plants, and designs, which minimize irrigation, maintenance and turf areas and require mulches to preserve soil moisture.

g. Irrigation systems for lawns and landscaping should be curtailed or eliminated in new developments and drip irrigation for localized watering should be encouraged.

h. The Township should evaluate alternative well testing methodologies in order to assure that groundwater availability is accurately analyzed. Test wells installed, as part of a groundwater availability analysis should be tested for potability.

306 SCENIC RESOURCES

Scenic resources are an important element in the overall perception of the quality of life in Bedminster. The protection of scenic vistas, particularly those seen from public rights-of-way, will serve to maintain the Township's rural character. Since the local development review process plays a primary role in shaping new land use patterns, local review agencies are the appropriate administrative authority to encourage conservation of scenic characteristics. In order to develop a program for the protection of scenic resources, it is recommended that the Township pursue the following activities:



a. The scenic corridors identified in the Background Studies, should be further categorized in terms of the scenic elements that contribute to their quality.

b. Design standards should be developed for different categories of attractive views, including enclosed roadside views, extended roadside views, and distance views.

c. Design standards should be incorporated into the Township's subdivision and site plan process, in order to guide the location and configuration of development.

307 STEEP SLOPES

Development of steep slopes produces a variety of environmental impacts, including increased soil erosion and sedimentation, decreased surface water quality, decreased soil fertility, increased overland flow, decreased groundwater recharge, and altered natural drainage patterns. In order to reduce the potential for these negative impacts the Conservation Plan recommends:

a. Strict adherence to development standards, which limit the extent of disturbance to critical steep slopes.

b. Strategies, which relate the intensity of development to the occurrence of steep slopes, should be evaluated. These may also include reductions in permitted residential unit yield.

308 STREAM CORRIDORS

Nearly seventy (70%) percent of the Township's boundaries with adjoining municipalities are formed by streams and rivers, including the Lamington River, the North Branch of the Raritan River, and Chambers Brook. These streams drain watershed areas spanning municipal boundaries, prompting a need for inter-municipal cooperation and coordinated strategies. In addition, the Township is laced with a series of tributaries to the major rivers. In order to protect stream corridors from development impacts, the following management approaches are recommended:

a. Vegetated buffers should be maintained along all stream corridors in the Township. Where past land use practices have resulted in the removal of trees along stream corridors, management practices should include the reestablishment of the tree cover. Stream buffers should extend at least one hundred fifty (150') feet from each side of the stream centerline.

b. A stream corridor protection program, modeled after the program established by the Delaware and Raritan Canal Commission, which seeks to protect the stream corridor and adjacent wetlands, floodplains, and contributory uplands with steep slopes, should be developed and implemented by the Township.

c. Management strategies and monitoring standards should be developed for stream corridor areas.

d. Where past land use practices have resulted in the removal of trees along stream corridors, management practices should include the reestablishment of the tree cover.

e. Outreach to neighboring municipalities to develop consistent and/or compatible management strategies along stream or river corridors.

309 SURFACE WATER

Surface water is impacted by both point and non-point source pollution. Non-point source pollution, a major factor affecting Bedminster's surface waters, can be

mitigated by local land use strategies and management approaches. Non-point source pollutants include septic system effluent, agricultural runoff, stormwater runoff, and construction activities. In order to mitigate potential impacts to the Township's surface waters, the following management approaches are recommended:

a. Water quality best management practices should be adopted or refined, to protect the quality of surface waters and promote maximum habitat values. These include:

- Arrange development on the least porous soils, to promote infiltration and reduce sediment and pollutant loading,
- Buffer strips and techniques to maximize overland flow, such as grassed swales and filter strips,
- Regional stormwater management approaches and extended detention facilities,
- Wet ponds (retention basins) and wetland or marsh creation,
- Infiltration practices to detain runoff, including trenches, basins, drywells and other structural solutions, and
- Water quality inlets and oil/grit separators.

b. Reductions in permitted residential densities and impervious coverage can reduce the potential impact to surface waters from non-point source pollution.

310 THREATENED AND ENDANGERED WILDLIFE SPECIES

Threatened and endangered wildlife species are indicators of ecological diversity and environmental quality. The extensive number of species that have been identified in the Township are testament to the historical emphasis on land stewardship. In order to maintain these species, it is recommended that the Township pursue the following actions:

a. An ongoing inventory of the threatened and endangered species should be conducted.

b. Development which will result in adverse impacts on the survival of threatened and endangered species should be subject to strict adherence to all relevant laws and regulations of the Township, County, and State.

c. The Township should develop a list of habitat requirements for endangered species, and critical habitats should be mapped and preserved, either through the planning process or development review process.

d. Reductions in permitted residential density can assist in the preservation of critical habitats.

311 WETLANDS

Since the State and Federal governments regulate wetlands, the Township is preempted from adopting conflicting regulations. However, the management of protected wetlands and transition areas remains an important issue for the Township to address. A system to periodically monitor and enforce conservation easement restrictions should be developed.

a. Wetlands transition areas required by the New Jersey Freshwater Wetlands Protection Act should be included in the definition of critical areas contained in the Land Management Ordinance.

b. Permitted development should be arranged to avoid all significant wetlands, and when road crossings are unavailable, they should be located at the point of minimum impacts.

312 LIGHT POLLUTION

The State Development and Redevelopment Plan recommends that "In the interest of improved safety, energy conservation and maintenance of environmental integrity, outdoor roadway and area lighting should be designed, installed and maintained to minimize misdirected and upward light and optimize the use of the lighting system."

Excessive and misdirected outdoor lighting, "light pollution," is a consequence of not using outdoor lighting only where necessary, when necessary, and of the type most efficient and cost-effective for the task. In addition, controlling light pollution results in astronomical cost savings due to the decrease in energy requirements. Light pollution, particularly from improperly shielded streetlights, is a serious safety hazard to motorists.

Unchecked growth of light pollution in recent years has unnecessarily deprived most residents of the beauty of the starry night sky, while also potentially having serious effects on nocturnal fauna and flora. While the lighting of streets, businesses, and

residences is desirable and necessary for security, it is not desirable or necessary to have lights shining directly and often dangerously into the eyes of motorists, or uselessly and wastefully into the air and off into space. This has led to the adoption of certain anti-light pollution measures with wide public support in several other states, and large cities such as San Diego, San Jose, and Phoenix, which is saving those jurisdictions millions of dollars per year.

This issue led the New Jersey Legislature to form a panel of experts to study the problem of light pollution and to advise the Legislature as to its severity, and to recommend legislative or administrative measures to alleviate the problem.

In 1996 the Light Pollution Study Commission (LPSC) filed its report with the Governor and the Legislature. The LPSC recognizes Light Pollution as a problem and provides the recommendations and actions of its report to the Governor and the Legislature for their information and further consideration. While most of the recommendations pertained to State agencies there are a number of recommendations that are appropriate to local governments and particularly to Bedminster Township in maintaining its rural character.

Some of the recommendations to be considered are:

1. Nationally recognized lighting recommendations for luminance levels and uniformity ratios should be followed, such as contained in the Illuminating Engineering Society of North America (IESNA) Lighting Handbook.

2. Architectural and sign lighting should be designed to minimize light that does not illuminate the target area.

3. Lighting of building exteriors should be minimized or eliminated during those hours when it is not needed. Lighting controls (such as timers, dimmers, motion sensing devices, and photo sensors) should be encouraged.

4. Areas of New Jersey determined to be especially suitable for astronomical observations or which provide nocturnal benefits to flora and fauna should be considered for designation as "dark areas." *[A "dark area" is an area in which lighting is prohibited or limited in order to 1) address concerns regarding Light Pollution which impact the environment and 2) restore a more natural view of the starry sky.]*

In 2001 Clinton Township received the Hunterdon County Planning and Design Award for its “light pollution ordinance.” This was a voluntary action on the part of the Township evolving from a real concern about losing a resource in its community, the “dark night sky”, while at the same time fostering good design and safety. The Township

addressed non-mandatory suggestions from the public and quasi-public agencies such as the New Jersey Light Pollution Study Commission and the New Jersey Astronomical Association and it retained an expert on light pollution.

Bedminster Township shares this resource with communities like Clinton, and should consider instituting an ordinance addressing the night environment.

313 SUMMARY OF THE CONSERVATION PLAN'S RELATIONSHIP TO OTHER PLAN ELEMENTS

Bedminster's Conservation Plan works in tandem with the Land Use Plan, which provides a compact pattern of higher intensity residential and non-residential uses along the arterial highway corridor in the eastern portion of the Township, and low intensity residential, farm and conservation uses throughout the remainder of the Township. The Conservation Plan promotes resource management efforts that will retain ecological function, prevent destruction of sensitive resource areas and provide long-term protection of the natural resource base.

The conservation objectives of retaining large contiguous areas of farmland and sensitive natural lands will be assisted by the Land Use Plan proposals for future land uses. The low density of permitted development throughout most of Bedminster will assist the preservation of the desirable features of the countryside, and permit coordinated conservation and preservation efforts.

The impacts on natural resources from the circulation and utility service plan elements will be minor, since they do not propose significant alterations to the existing road network, with the exception of the new I-78/I-287 ramp, and no new infrastructure and utility services are proposed.

Greenway proposals of the Open Space and Recreation Plan support the objectives of the Conservation Plan, and provide for an evolving network of riparian and wetland corridors and associated open space lands.

PART 4 RECREATION AND OPEN SPACE PLAN

401 INTRODUCTION.

This element of the Master Plan was prepared in accordance with the Municipal Land Use Law, N.J.S.A. 40:55D-28b:

> (7.) A recreation plan element showing a comprehensive system of areas and public sites for recreation.

The recreation plan element includes goals, findings and recommendations. The Background Analysis for the Recreation Plan element is included as an Appendix to this document; it represents the existing inventory of recreation resources offered within the Township by the State, County, Municipality, Board of Education, and private associations (Hills development).

The recommendations contained in this recreation plan result from an extended planning process initiated by the Planning Board. Following the review and analysis of the inventory material, the Board examined a series of planning considerations relating to needs and opportunities for recreation and open space in the Township. From this discussion and public input came the findings and recommendations that constitute this recreation plan.

402 GOALS

Updated goals and objectives prepared by the Planning Board as part of the 2002 Master Plan include numerous policy statements that encourage and promote recreation and open space land use strategies. These policies are substantially the same as those identified in the 1991 Master Plan, and outline a consistent vision to provide Bedminster's residents with adequate active recreation facilities and protect and enhance Bedminster's natural and rural environment. Several of the Master Plan goals and objectives which relate to recreation planning are listed below.

Natural Resources

i. To protect natural resources including steep slopes, woodlands, ridgelines, pristine watersheds, trout streams, wetlands, stream corridors, groundwater supplies, potable water reservoirs, aquifers, rivers, habitats of threatened and endangered species and unique natural systems.

j. To promote the protection of biological diversity through the maintenance of large continuous tracts and corridors of recreation, forest, floodplain and other open space lands.

k. To identify and manage stream corridor buffer areas adequate to maintain undisturbed vegetation and to maintain and improve water quality, wildlife corridors and opportunities for passive and active recreation.

Recreation and Open Space.

l. To assess and provide opportunities for active and passive recreation to meet the needs of all citizens.
m. To promote the provision of appropriate and balanced public open space and recreational facilities through public action and the development review process.
n. To prepare and maintain recreation and open space master plans to establish and enhance recreational lands and public open space;
o. To encourage linkages of public spaces through the use of greenways, blueways, paths and bikeways;
p. To establish as the highest priority for public acquisition, areas of unique recreational or scenic value, or environmental sensitivity.
q. To require the provision of appropriate and balanced public open space and recreational facilities as a condition for approval of major development.
r. To encourage the public acquisition of areas of exceptional recreational or scenic value, or environmental sensitivity, at all levels of government, with priority given to acquisition of land to meet present and future demand for active and passive recreation.
s. To encourage the permanent protection of open space through such techniques as donations of land or easements or through bargain sales that reduce the purchase price of lands and provide tax advantages to landowners.
t. To integrate efforts to preserve farmland in local open space plans.
u. To devise appropriate strategies for the public and private ownership and maintenance of open space and recreation lands.

403 FINDINGS

The Recreation and Open Space Plan Element Background Analysis describes the major components of the recreational and open space system in the Township. These components include State, County, and Municipal open space and recreational lands, as well as sidewalks, bikeways, and greenways. In order to develop recommendations for future recreation planning in the Township, it is first necessary to consider the findings that arise from the Background Analysis.

Recreation Facilities and Standards

The Recreation and Open Space Plan Background Analysis identifies two methods of calculating municipal open space need which are generally used for recreation planning. The Balanced Land Use Guidelines seek to assure that a minimum proportion of its developed or developable land is set aside as open space. The acres/population standard provides a measure of the adequacy of recreation lands in proportion to the local population. The application of these standards to Bedminster Township is briefly outlined below.

The Balanced Land Use Guidelines used to calculate the open space need generated at the local level yields an open space need of 459 acres based on 3% of the developed and developable acreage in the municipality. The current inventory of open space in Bedminster includes a total of 638 acres of land, exceeding the 3% guideline by 239 acres. However, this method of calculating municipal open space demand does not address the facilities required to serve the recreation needs of the resident population adequately.

The "New Jersey Outdoor Recreation Plan" recommends a standard of 8 acres/1,000 persons to calculate the developed open space needed at the local level. This approach yields a municipal open space need of 66.4 acres, acres based on Bedminster's 2000 population of 8,302 persons. Bedminster currently maintains approximately thirty (30) acres of active play areas in its open space inventory. An additional 11 acres are programmed to come on line as a result of the Township's acquisition of parkland on Burnt Mills Road in 1999. The Township is also utilizing approximately 10 acres at River Road Park for new athletic fields. After the Burnt Mills Road Park and River Road Park expansions are complete, in the municipal inventory will achieve 78% of the recommended standard.

Active recreation areas include a range of developed facilities such as tennis, street hockey, and basketball courts, baseball, softball, football, soccer, and open play fields, playground equipment, etc., to serve multiple age groups. Typically these types of facilities are located at parks that range in size from one acre or less (mini parks) up to 25 acres or more (community park). The size, type, mix, and nature of recreation facilities offered at these parks should respond to the needs of the intended users within a defined service radius. A review of the Township's municipal inventory reveals that Bedminster's parks ranges from the 1.5-acre Knox avenue Park to medium sized parks Pluckemin School with 6.63 acres and Miller Lane with 9.8 acres to the large-scale park River Road, with approximately 28 acres set aside for active recreation.

Bedminster's active facility sites are effectively distributed among the Township's densely populated neighborhoods in the easterly portion of the Township with River Road Park centrally located between Bedminster and Pluckemin. The new Burnt Mills Road park will be add a substantial 11-acre active recreation area near The Hills, where Bedminster's greatest demand for active facilities is generated.

As mentioned above, the active recreation facility deficit is expected to be addressed through planned facilities at River Road Park and the new Burnt Mills Road Park. In addition, the Recreation Committee has recommended additional facilities development for Pluckemin

School Park. Among these three parks, the municipal recreation facilities inventory will expand by four baseball fields, three soccer fields, a tennis court and sheltered space for two of the parks.

To ensure an adequate supply of recreation facilities for Bedminster's residents, the Township should continue the interactive process it has established for assessing local needs and develop targets and indicators to determine if and when additional parks facilities are needed. This process includes community surveys, public meetings, and interviews with department heads and league representatives. This practice has proved successful to date and has resulted in a dramatic increase in the amount of parkland and active facilities available to the Township's residents during the preceding 10-year period, which started with just 5 acres of active facilities in the recreation and open space inventory and an open space deficit of 166 acres in 1993.

Planning Areas

The population of Bedminster Township is both widely dispersed over a large lot rural-residential landscape and locally concentrated in suburban residential areas and villages in the easterly portion of the Township. Recreation facility and open space needs vary widely between the rural portion of the Township and the suburban neighborhoods in the east. Recognition of this unique population distribution has guided and should continue to guide capital spending decision-making.

Bedminster and Pluckemin are separated by the physical barriers of the major arterial highways and watercourses. These neighborhoods generate different intensities of recreational needs than the rural neighbors to the west. The physical character and density of Bedminster's population centers varies widely as does the relative demand for a range of recreation facilities. For example, private on-site recreation facilities such as tennis courts and swimming pools are found in many neighborhoods and rural portions of the Township, while community pools and tennis courts are among the recreation facilities operated by the neighborhood associations at The Hills.

Significant physical boundaries separate Bedminster's population centers from one another. State Highway 206 and Interstate 287 divide the two eastern population centers of Bedminster and Pluckemin, not only from each other but also from the rural residential landscape to the west. West of Route 206, within the more rural areas of the Township, large lot residential and farm uses generate recreation and open space demands which are very different from those of the densely settled villages and suburban settlement patterns in the eastern corridor portion of the Township. Municipal recreation development and open space acquisition has been guided by the distinct needs of these two very different planning areas and efforts have been targeted toward addressing the deficits in recreation and open space for the Bedminster and Pluckemin residents.

Recreation and open space planning should remain focused on the needs of the residents of Bedminster and Pluckemin, as the overwhelming majority of Township residents are located in these neighborhoods.

Sidewalks and Bikeways

The Township's updated Circulation Plan includes a Sidewalk and Bicycle System Map, which shows existing and planned sidewalks, dedicated striped bike lanes in The Hills and the Township's bike/hike trail linking the neighborhoods of Bedminster and Pluckemin to River Road Park and to each other. This plan for a comprehensive system of sidewalks and bike paths responds to the concentration of population in the easterly section of the Township and the need to provide safe pedestrian and bicycle linkages among neighborhoods, parks, the school, the library and the commercial services in Bedminster and Pluckemin.

The 1993 Recreation Plan identified the need to establish bicycle and pedestrian linkages to Township parks, and sidewalks throughout Pluckemin and Bedminster Village. In response, the Township developed a plan to traverse US202/206 and I-287 with a bike-hike path linking River Road to Pluckemin and Bedminster. An easterly alignment linking Bedminster to River Road Park is complete and the phase of the project establishing a trail linking Pluckemin to the park on the east side of the highways is expected to be complete in the near future. The bike-hike trail also links with sidewalks that extend from the school to the library.

Bicycling has become increasingly popular over time and the Township's recognition of this reality, in part, prompted the development of the bike-hike trail. The plan for the bike-hike trail also links with the rural road network to the west of the highways. This provides safe access for hikers and cyclists from Bedminster and Pluckemin to the countryside to the west. The Township should continue to identify extensions of the hike-bike trail to the rural scenic corridors of the countryside.

Bicycling ranks highly among the most favored recreation activities of New Jersey residents. The consistent popularity of non-motorized recreational travel (walking, jogging, hiking, and bicycling) suggests that a network of trails for these activities will be a valuable component in any greenways plan. Thus, facilities should be designed to accommodate multiple activities where feasible.

Bicycling is both an on-road and an off-road activity. Thus, planning for bicycle travel should address the need to safely accommodate bikers within public rights-of-way as well as on trails removed from motorized travel.

The National Parks and Recreation Association has provided the following guidelines for development of bicycle trails:

1. General. Trails should be so designed that the rider can have many interesting and exciting visual experiences. In addition, consideration should be given to adding interpretive information along the trail. Bicycle trails should be separate from pedestrian and motor vehicle traffic.

2. Location. There are two basic types of bicycle trails: (1) those within park areas, and (2) those used as access to parks, for commuting and touring. When determining the location of trails, consideration should be given to utilizing abandoned canal towpaths, abandoned railroads, and low-volume

roads. When it is necessary, parallel bikeways to roads can be considered. Close coordination of planning efforts with transportation officials in the various jurisdictions traversed by the trail is a necessity.

3. Length. The average cyclist can easily sustain speeds of 10 mph on level terrain. Trails should be designed with varying lengths and preferably with a loop system. Three to five miles would be a minimum length with trails of 10 to 30 miles desirable. Touring trails can be much longer and can tie into youth hostels and campgrounds for overnight stopovers.

4. Gradient. Bicycle trails should follow the contour wherever possible. Bicycle gradients should not exceed eight percent and pitches from four to eight percent should occur for short intervals only. When long grades are unavoidable, provide frequent, wide, level areas where the less-than-average cyclist can dismount without difficulty and rest.

5. Width of Trails. Care must be taken when laying out trails to avoid sharp angles and short radius curves, particularly in an area where higher speeds might be attained. A bicycle going quite slowly can be turned in a twelve-foot space (a six-foot radius). The recommended minimum turning radius is 10 feet, except in areas where high bicycle speed is expected. Turns should be banked where possible.

6. Drainage. The paved bicycle trail is very similar to a road in construction and the same general conditions and solutions for drainage would apply as for road construction; the better the drainage the longer-lasting the bikeway.

7. Surfacing. The design sections of the bicycle trail are generally the same as sidewalk design sections. The recommended surfacing material is bituminous paving; other acceptable choices are concrete, soil cement, and compacted gravel. A widely used trail section is 4 inches or more of crushed stone checked and rolled with fines (quarry dust).

8. Signing. Utilize standard bikeway markers and signs.

9. Bicycle Concessions. Park trails with heavy use by non-local people should probably include bicycle concession facilities. These can be developed in conjunction with other concession facilities (boat rental, food services) for more economical operation.

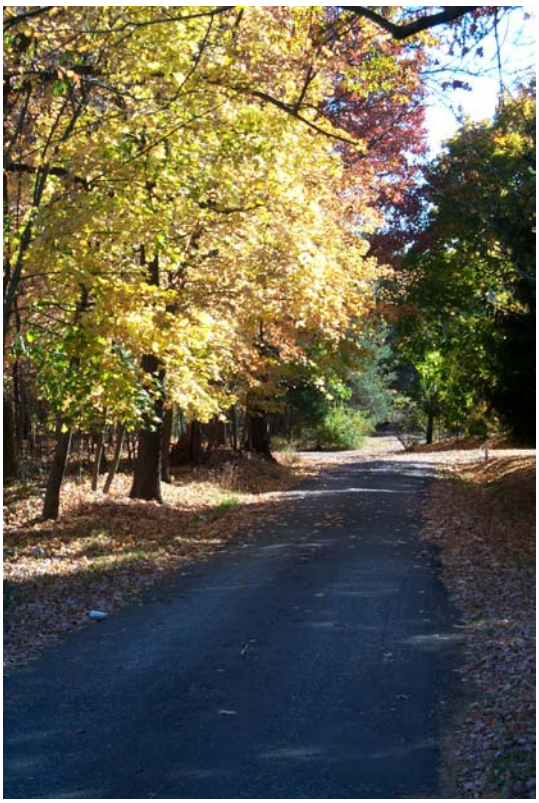
Planning for bikeway development should acknowledge the importance of interconnecting bikeway networks in multiple jurisdictions. Those facilities to be developed within public rights-of-way should avoid conflicts between bicycles and motorized vehicles. Typically, this is accomplished through the designation of bike routes along less traveled roadways, and in areas where an adequate shoulder width is available. However, in Bedminster

the frequency of unpaved roads in the local road network complicates this task, since these roads are generally not suitable for bicycle travel (except by cross country bicycles).

Development of bikeways within a greenway system has implications for cost, environmental impact and safety. In this regard, bicycle trails or multi-purpose trails (jogging, walking, etc.) should be located to create linkages with other elements of the regional bikeway/trail network. Since much of the land in a greenway system is generally constrained by poor drainage, steep slopes, mature forests or other natural limitations, placement of an improved trail network requires careful planning and attention to terrain limitations.

Greenways

The Greenways Plan discusses the rationale for designating greenways, and reviews the components of the North Branch Greenway within which the township has focused acquisition efforts during the last 10 years. Greenways are generally defined as corridors of private and public recreation lands and waters that provide linkage between open spaces. Greenways protect natural vegetation and limit development impacts on steep slopes, floodplains and scenic natural areas. Greenways also maintain wildlife corridors and protect the nesting, breeding and feeding areas of numerous wildlife species, some of which have been classified as "endangered" or "threatened."



These linear open spaces provide valuable buffers between land uses of differing intensity, and the North Branch Greenway now forms an open space "backbone" within the community. The Township has identified a list of priority additions to this Greenway on its Open Space and Recreation System Map, which guides Green Acres-funded and other open space acquisition activity in the Township. Plans include developing a greenways network with both public and private open spaces. Steep slope areas such as the Pluckemin portion of the Second Watchung Ridge, dedicated as open space as part of The Hills, and the AT&T Schley Mountain Road dedication have been substantial additions in this greenways system.

Somerset County, in the aforementioned Background Report for the "Somerset County Parks, Recreation, and Open Space Master Plan," includes greenways as part of its program to provide linkages of open spaces, and provides the following discussion in the section on County Initiatives:

"Linkages - The County is actively planning linear corridors to serve as linkages between open space areas. These linkages will vary in accessibility and use in providing contiguous open space, conservation areas, and recreational opportunities.

They will be created through such mechanisms as greenways planning, conservation easement programs, stream corridor preservation and abandoned rail conversion."

The "State Development and Redevelopment Plan (SDRP)" also highlighted greenways as an important component in the state's open space and recreation planning. The SDRP contains the following policy on greenways:

Greenway/Blueway Public Open-Space Linkages

Through the cooperation of State, regional and local governments, prepare and implement a comprehensive, statewide plan for a network of open-space corridors (greenways) and waterway corridors (blueways) that link recreational and open-space land by way of corridors, paths, river and stream corridors, migratory routes, hiking and biking trails, beaches, abandoned railroad rights-of-way, scenic trails and outlooks, historic areas and other resources and public open spaces." The North Branch and Lamington River are the Primary Greenway corridors, and are priority areas for public and private additions to the greenway system.

Second Watchung Ridge

The Background Analysis of this plan element includes a discussion of the ongoing efforts to establish a regional open space program focused on the Second Watchung Ridge. The County's 2002 Recreation and Open Space Plan update identifies the Second Watchung as a primary greenway in the plan. The plan identifies greenways as an essential feature of the future open space network for the park system and the County Park commission continues to support the concept of acquiring parkland and open space that link natural private and public lands in a regional recreation and conservation network.

Additions to the Second Watchung regional open space project will likely accrue as development constraints limit future development along the ridgeline. Future steep slope, ridgeline and sensitive areas preservation and set asides will expand on existing local inventories which could be collectively linked to the Watchung Reservation and beyond. This regional open space network could better develop through a coordinated acquisition and management strategy, which focuses on connecting the constituent fragments of this resource. Once assembled, a regional Second Watchung Ridge open space park could provide active and passive recreation opportunities throughout the network such as hiking, biking and bridle trails. In Bedminster, passive open space at The Hills and the Schley Mountain Road provide opportunities for passive open space including hiking and nature appreciation.

Coordination of acquisitions and linkages within the project area could assist in the identification and procurement of suitable additions to the network by the County.

404 SUMMARY OF RECREATION AND OPEN SPACE PLAN RECOMMENDATIONS

The goals of Bedminster's Master Plan place a high priority on environmental protection, including critical land features, water quality and quantity, biological diversity and wildlife

habitat. These goals also seek to promote a comprehensive recreation and open space plan which responds to the needs of the residents in harmony with these environmental attributes.

The Recreation and Open Space Plan operates in conjunction with the Land Use Plan and Conservation Plan elements to provide broad protection of environmental resources. The Land Use Plan promotes development which respects the carrying capacity of the natural and man-made systems, and arranges higher intensity development in a compact node proximate to the arterial highway corridor area. The Conservation Plan promotes responsible management of the natural resource base by all landowners, public and private and promotes linear conservation networks such as stream corridor protection areas.

The recreation plan, in providing a comprehensive system of areas and public sites for recreation, can also promote conservation and environmental protection through the identification of important natural areas and the acquisition of strategic open space parcels.

The New Jersey Green Acres program has assisted Bedminster in such acquisitions during the past two decades, and a substantial stream corridor protection area has been acquired along the North Branch of the Raritan between Bedminster and Pluckemin.

The Township's efforts to provide an adequate supply of public recreation lands and opportunities, a principal goal of this plan element, have been largely successful, as the last supply of open space and active recreation facilities in the Township has grown exponentially to address the rapid increase in Township population over the last two decades.

Private recreation facilities are also found throughout the countryside, where tennis courts, swimming pools, basketball backboards and similar features are not uncommon. However, the Recreation and Open Space Plan is designed to respond to public needs, primarily generated within the more compact residential neighborhoods, with a system of public sites for recreation.

The Background Analysis has examined Bedminster's inventory of existing recreation facilities in light of generally accepted standards for such facilities. The findings of this analysis can be briefly summarized as follows:

1. The Township has a nominal shortage of parks and developed facilities including athletic fields when compared to accepted standards. The supply of open space however well exceeds accepted standards.
2. Acquisition and development activity focused in the densely populated neighborhoods in the easterly part of the Township have been well received by Bedminster's residents, however continued monitoring of the effectiveness of the supply and availability should be the guiding principle of capital spending in the future to ensure that these resources best respond to demand for new and expanded active recreation facilities.
3. Existing parks at Pluckemin School, River Road, and the new Burnt Mills Road Park are expected to address facility deficits identified in the background studies.

4. Most Township-owned recreation land is severely constrained in its ability to support active recreation facility development; however the Burnt Mills Road acquisition and expansion of facilities into appropriate, developable areas of the River Road complex appear to provide sufficient land areas to address identified needs.
5. River Road Park is conveniently and centrally located to serve both active and passive recreation needs for the majority of the Township's population. The site is well-configured to support those needs in concert with environmental protection goals. Facilities developed at River Road during the last decade have been well received by the Township's residents, however additional facility needs have been recently identified through an interactive process among Township agencies, residents and organized recreation interests.
6. The lack of pedestrian connections from the villages of Bedminster and Pluckemin to Township parklands has largely been solved with the construction of the bike-hike trail, which promotes safe bicycle and pedestrian travel for citizen of all ages.
7. The paved through roads in the Township are attractive bike routes because of their scenic quality, location, and strategic orientation.
8. Demands for organized league activities for township residents are being addressed through land acquisition and facilities development. The Recreation Committee has suggested a current and future need for the following types of facilities:
    (a) Three additional baseball fields
    (b) Two additional soccer fields
    (c) Tennis court(s)
    (d) Shade shelters at parks with active recreation facilities
    (e) Sheltered space for community events and interpretive programs
    (f) Drinking water at active recreation parks
    (g) Dog walk compounds
    (h) Pedestrian linkages.
    (i) Community Recreation
    (j) Playgrounds including building tot lots.
    (k) Picnic areas.
    (l) Bikeways.

The Recreation Committee has also suggested that facility development plans and program design should respond to the needs of all age groups in Bedminster.

Neighborhood and Community Parks

The Recreation Plan generally proposes to utilize existing public lands to address the need for expanded neighborhood and community recreation. River Road Park centralized in the community is targeted for the most intensive use, additional recreation facilities are provided at Miller Lane in Bedminster and facility additions are planned for Pluckemin School Park and Burnt Mills Road Park in Pluckemin.

1. The recent problems with vandalism at Knox Avenue Park should be analyzed to reveal causes and likely recommendation strategies to provide a unique passive open space element in the Pluckemin neighborhood
2. The Pluckemin School Park provides a diverse offering of recreation facilities. It is the most heavily used park in the municipal system and additional development is planned for this location.
3. The absence of athletic field facilities within The Hills is a major shortcoming of the overall plan for these PUD and PRD developments. Additionally, the availability of the facilities provided at The Hills (generally swimming pools, tennis courts and clubhouses) is limited to use by neighborhood association members, which segregates recreation use by neighborhood and discourages recreational interaction among neighborhoods.
4. The proposed development of athletic fields at the Burnt Mills Road Park will provide additional fields convenient to the residents of The Hills.
5. The Township has identified a need and opportunity for additional athletic field development at River Road Park. The amount of land dedicated as passive open space will remain unchanged, as the new facilities are reoriented away from the Vanderveer Knox House.
6. The Township's hike bike trail will overcome the major recreation and open space connectivity problem by linking the neighborhoods of Bedminster and Pluckemin to River Road Park, the elementary school and the library.
7. At River Road Park the development of programs and access for nature study, fishing, birding, and other low intensity uses should be carefully structured to prevent abuse of land and water resources and to maintain a generally undeveloped natural character to these lands.
8. The long-term preservation of Township parklands in a "natural" state requires a management strategy that addresses such issues as the effects of abandoning agricultural activities and whether natural succession is to be encouraged. The open landscape at River Road Park, for instance, is a direct result of farming activities and the appearance of the site will quickly change from farmland to woodland when farming is discontinued. This management decision has implications for the maintenance of wildlife habitat diversity, future use objectives and the role parklands play in maintaining the rural character of Bedminster.
9. One of the most important management concerns at River Road Park relates to the proper use and management of the Vanderveer (Knox) house. This pre-revolutionary Dutch farmhouse served as the temporary homestead of General Henry Knox when he led the Artillery Corps at Pluckemin and its preservation assumes a high local priority. Active recreation uses at River Road Park should be designed to respect the setting and remains, both above and below ground, of one of the most historically significant sites in the Township.

10. Special care in facilities planning should ensure that adequate separation distances are maintained between active facilities at River Road Park and adjoining residential neighborhoods and uses.
11. Methods to control and limit the potential negative impacts of future active recreational uses include the following:
    (a) Locating active recreation facility development to south-east portion of the site, where soil conditions are most favorable, and separation from neighbors can be maintained.
    (b) Limiting the hours of operation of the facility to daylight hours and controlling access to the site through the use of gates and other control devices.
12. The specific numbers and types of facilities to be developed at the proposed neighborhood and community parks are not dictated by this plan. While the background analysis has quantified the scope of need as it is currently understood, the precise location of specific facilities will be determined by the Township Committee as the responsible agency to oversee capital spending, as informed of need through an interactive process with residents, leagues, the recreation committee and municipal department heads.
13. The Township's practice of soliciting input from stakeholders, including residents, the Recreation Committee, Environmental Commission, organized league representatives, neighborhood associations and the governing body, should be continued to assist the process of consensus building.

Pedestrian, Equestrian and Bicycle Linkages

The Circulation Plan Element identifies the Township's bike-hike trail, existing and proposed sidewalks and striped bike lanes to establish a comprehensive network of pedestrian and bicycle connections from the Bedminster and Pluckemin neighborhoods to parks, the library, and the elementary school. Sidewalks in the villages provide safe pedestrian access to village destinations however a missing segment of sidewalk is on Lamington Road is needed to link Bedminster Village to the library.

Obstacles to pedestrian connections between Bedminster and Pluckemin will be largely overcome as a result of the bike-hike trail development. The villages, separated by the river corridor and by Interstate Route 287, will soon be effectively connected by this trail system to permit safe pedestrian crossing of the busy highway corridor.

Bridle Paths

Bridle paths are also important non-vehicular linkages, generally found on private property. This fragile resource, which has been fragmented by the construction of I-287 and I-78, should be recognized for its historic and truly unique value. However, bridle paths are not typically the subject of formal easements or other arrangements, but rather they exist and continue to function at the will of the property owner.

Bridle paths are an essential element of the rural character of Bedminster, and local policy initiatives should be designed to promote continued equestrian activities. They support continued equestrian agricultural endeavors and thereby promote the agricultural retention goals of the Land Use Plan. However, local regulation is generally not a useful tool in the quest to protect and enhance equestrian trail networks. Rather than protecting the bridle path system, regulatory schemes may actually discourage continued willingness of property owners to permit equestrian use of bridle paths. The Planning Board should further explore methods of identifying these bridle path networks and strategies for their retention and preservation which are sensitive to the concerns of private landowners.

Bikeways

a. The scenic corridors that dominate Bedminster's circulation system provide the opportunity for interesting visual experiences for bicyclists, and these highway and byways are widely used for bicycling.

b. The recreation plan does not propose a specific bikeway routing system, and designation of bikeway locations should involve input from the Township's traffic engineer, County Planning and Engineering staff and concerned local agencies (Recreation Committee, Planning Board, Environmental Commission, etc.). Bicycling is an increasingly popular sport, and any bikeway planning effort should solicit public input from the general public and local and regional cycling organizations to identify frequently traveled routes, safety concerns, bicyclist objectives and desirable bike route strategies.

c. The development of a bikeway system in Bedminster Township should be designed to:
   1. Minimize vehicular/bicycle conflicts, particularly along arterial roadways;
   2. Recognize existing bicycle traffic patterns and safety concerns and develop linkage solutions that respond to these circulation patterns and associated traffic safety issues;
   3. Provide connection between the Township's hamlets and villages and public recreation and school sites;
   4. Provide loop-type bikeway connections, such as connecting Bedminster with Lamington and Pluckemin via local and county roads;
   5. Segregate bicycle traffic from pedestrian and vehicular traffic wherever possible.
   6. Provide linkages with bikeway systems outside the Township; and
   7. Provide signage and dedicated lanes along some rural roadways.

d. Bicyclists can generally be divided into two types or groups: those who cycle as a primary means of transportation (school-age children, commuters) and cyclists that ride

for exercise and recreation. Plans to develop bikeways should recognize that most riders from either group are destination oriented and usually seek the shortest distance between two points, not necessarily the safest route. This factor should not be overlooked in planning and development of these vital transportation and recreation linkages.

e. Bicycle travel promotes energy conservation, clean air objectives and the personal health of bicyclists. New residential and nonresidential developments should include features such as bike racks to promote bicycle travel.

Greenways

As shown on the Recreation and Open Space System Map, the Township has concentrated land acquisition and facilities development within Greenways along the North Branch of the Raritan River and the Second Watchung Ridge. Passive open space acquisitions within these greenway systems have accounted for the substantial increase in open space in the municipal inventory over the last decade. The North Branch Greenway establishes a substantial buffer between the developed sectors of the Township to the east and the rural countryside to the west of the highway corridors. Public access within the North Branch Greenway is provided by a trail system along the River and within the River Road Park. Municipal open space additions are identified within the North Branch Greenway along River Road which will provide additional buffering along the River, however use should be either passive for activities such as hiking or nature appreciation or simply for critical habitat protection. The Greenways Plan (Figure 2) highlights the Primary and Secondary Greenways.

The Township's acquisition of The Hills and AT&T Schley Mountain Road open space at the terminus of the Second Watchung Ridge offer opportunities for trail hiking through these two substantial open space areas that are convenient to the residents of The Hills. A trailhead for one or two cars could be established on Schley Mountain Road which may help residents access the trail by providing vehicular access.

The greenway concept anticipates a sometimes loosely knit network of public and private lands that provides long-term open space protection. In Bedminster and Tewksbury, conservation easements have been granted along the Lamington River which provides a base for expanded greenway connections with Pottersville, Fiddlers Elbow Country Club, Lamington and Burnt Mills. Lands of the Upper Raritan Watershed Association (URWA) at Burnt Mills and Fairview Farm, as well as the URWA conservation easement north of the Fair Grounds in Far Hills, also serve as linkage elements in the evolving greenway system.

A major objective for greenway development in this plan is to establish a long-term strategy to expand stream corridor preservation efforts of both the public and private sector. These efforts frequently become sidetracked when private landowners believe public use of their property will be a by-product of such an evolving greenway. This plan does not seek to invite such public use of private lands, and public access to the natural lands owned by the Township can address a broad range of interests and activities. The Township should open a dialogue with private landowners to determine their interest in greenway initiatives, and the types of incentives that would promote landowner participation in a regional greenway strategy.

Intergovernmental Cooperation and Institutional Arrangements

Recreation and open space planning and development is a function of State, County, and local government, as well as other agencies and organizations. The Township should investigate the opportunities to develop cooperative arrangements with other government agencies, neighborhood associations, private landowners and other interested parties in the development of open space and recreation facilities and opportunities. While the Township has drawn on County and State open space and recreation funding programs for much of its open space acquisition over the past decade. These have been important funding resources and the Township should maintain its participation in these programs for future open space and recreation development.

Some of the goals of this plan can best be achieved by developing these relationships in the near term. Much as the AT&T agreement was needed to permit construction of a portion of the bike-hike trail across their property, an access easement across private property may be needed to complete the westerly alignment of the trail from Pluckemin to River Road Park. Such a linkage could facilitate important features as pedestrian and bicycle connections between Bedminster's neighborhoods and local and regional parklands, as well as contributing to the expanding greenway system along the North Branch and Second Watchung Ridge. Similarly, the on-going involvement of education and recreation interests can help to refine capital spending priorities to better reflect local facility and program needs.

Public input is also a critical component in successful recreation and open space planning, acquisition and development. Competing objectives for development vs. preservation of parklands have been described by the public and the Township should continue to resolve these issues through the process of consensus building. With the need for additional active recreation facilities at River Road, this issue is likely to surface again as passive areas are swapped for active facilities development and active areas are put under passive restrictions. Uncertainties about the Township's long-term commitment to preservation of Township-owned natural lands could be resolved by the delineation of areas to be encumbered by development restrictions and/or easements. With an agency such as the New Jersey Natural Lands Trust as an easement holder, enforceable and clearly defined restrictions could be imposed on parklands slated for natural resource preservation; however this could unduly restrict the Township in the future if additional facilities development is needed.

It should be noted that the impressive amount of land added to the Township's recreation and open space inventory during the last decade has been for passive open space and protection of the environment. The additional land needed at River Road for facilities development is a very small portion of the site, the proposed development in no way diminishes the Township's commitment to preserving open space.

Successful efforts to meet Bedminster's open space and recreation needs will require the cooperation of a variety of public and private agencies and individuals. Objectives ranging from the provision of adequate active recreation facilities, and safe pedestrian and bicyclist access, to protection of stream corridors and natural open spaces will be best realized through a consensus building process. In this way, all of Bedminster's needs, interests, and resources can serve to improve the quality of life in this diverse, growing community.

GREENWAYS

405 INTRODUCTION.

Bedminster has long been prized for its scenic countryside and unspoiled natural places. These features have been a major factor in the selection of land use policies in Bedminster's Master Plan. The purpose of this Greenway Plan is to establish a framework for public and private procedures that will combine to maintain this special character and enhance these features in the future.

A coordinated greenway system requires planning, implementation and management. The vision for the Greenways of Bedminster is to establish a network where public and private cooperation can assure long-term community character and environmental values.

406 WHAT IS A GREENWAY?

"Greenways are corridors of protected public and private land established along rivers, stream valleys, ridges, abandoned railroad corridors, utility rights-of-way, canals, scenic roads or other linear features."

--*The Conservation Fund, American Greenways*

At its core, a greenway is a network of interconnected parts that combines natural and cultural resources. The broader the scope of the network, and the greater its connectivity, the grander the quality of life benefits for the community.

407 SUMMARY OF GREENWAY POLICIES.

The following policies are intended to guide private development actions and complement the specific mapped proposals for Township action.

1. EIS reports should explicitly identify greenway features and assess whether significant detrimental impacts might occur or continue without the institution of mitigating measures. The EIS should identify the nature of restrictions needed to prevent substantial impacts and address whether such measures are contemplated.

2. Development applications should explicitly identify for Board attention planned public areas mapped in the Master Plan. The Planning Board or Zoning Board should inquire as to the Township Committee's position on whether such lands should be subject to reservation per NJSA 40:55D-44. Equivalent alternatives may be recommended by the Boards as appropriate.

3. Scenic roadsides as designated in the Master Plan should be maintained in a natural pastoral condition with natural hedgerows along road frontage.

Open views along roadways should be of farm uses such as crop fields, pastures and livestock paddocks, woodlands or farm and residential structures of pre-20th century architectural style.

4. Scenic vistas are considered to be a public resource. The character and quality of exceptional viewsheds should be maintained and enhanced. Desirable and notable vistas should be identified by development applicants based on observation and reasonable sensitivity to community values. Among the viewsheds of exceptional value in Bedminster are the following:

   (a) The Second Watchung ridgeline as viewed from any place in the township.
   (b) The Rattlesnake Bridge Road corridor as viewed from the heights entering from Branchburg Township.
   (c) The Lamington Road corridor as viewed from the heights entering from Tewksbury Township.
   (d) The Lamington River bridge crossing as viewed entering or leaving the Township via Cowperthwaite Road.

5. Equestrian trails arranged in an unbroken system are a defining feature of Bedminster's character. A public system of trails using scenic roadways is intended to unite and provide continuity for the extensive system of private trails. Preservation of important private trail links should be encouraged through private sector activity.

6. Gateways are considered to be cultural resource opportunities. It is intended that they be treated in a way sensitive to the Township's image and that they provide an enhanced demarcation which conveys a sense of identity and distinguishes the Township from its surroundings.

7. The Rockaway Valley Rail right-of-way is to be considered subject to further study to determine both desirability and viability for possible use as part of a public or private trail system.

8. Unique habitat areas are deemed to be natural resource areas to be protected and enhanced. Unique habitat areas include, but are not limited to, the following:

   (a) The old growth forest - North Branch south of Burnt Mills.
   (b) The Virginia Pine forest - south of Lamington Road in southwestern Bedminster.

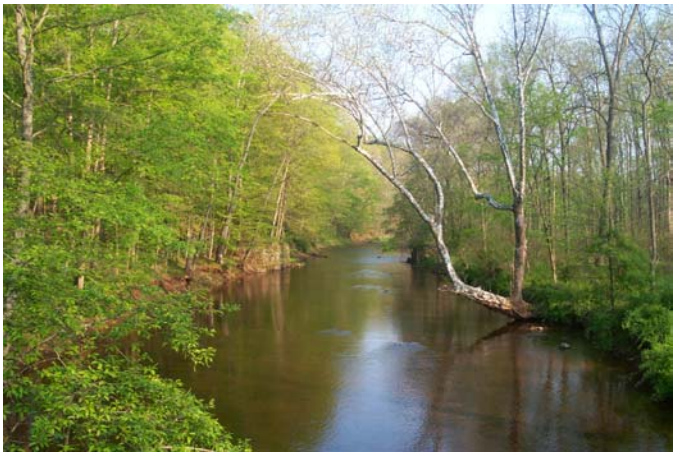
9. Farmland preservation/environmental conservation measures should be applied to all lands west of the judicially defined "growth corridor" with priority given to the largest parcels, gateways, scenic vistas, stream

corridors, and watersheds in order of trout production, trout maintenance, and trout stocked waters.

408 THE BENEFITS OF GREENWAYS

As noted in Bedminster's Recreation and Open Space Plan, greenways combine significant community benefits related to open space and recreation, natural resource conservation, and cultural resource protection.

Greenways protect environmentally sensitive areas. The maintenance of large contiguous corridors of undeveloped land promotes aquifer recharge, and protects and enhances surface water and groundwater. The interconnected network of wetlands, floodplains and woodlands which follow stream corridors provide a wide range of environmental and habitat benefits. Conservation of these areas enhances other values within the community. Greenway corridors also serve to absorb the impacts of natural systems, such as flooding, and offer protection to upland areas. Maintenance of these corridors in their natural state also limits the impacts of siltation and erosion, when they are protected from disturbance or development.



Greenways create areas for passive recreation. New Jersey residents increasingly associate their quality of life with the accessibility of natural areas for passive recreation opportunities. Greenways provide these features, and when publicly-owned, offer extensive opportunities for biking, jogging, walking as well as nature study, bird watching and water sports, including canoeing and fishing.

Greenways preserve local character. Bedminster's prized rural character is intimately connected with its greenway components. Scenic roadway corridors, which transect the Township’s heartland, offer views and vistas of Bedminster's natural qualities and cultural heritage. The protection of stream corridors, prominent ridgelines, historic sites and other scenic features are enhanced by the development of linkages or interconnections among these community assets.

Greenways save tax dollars by controlling development. Limitations on the costs required to service new development, and to remediate environmental impacts of development, combine to enhance the physical and fiscal health of the community.

The community stewardship that engenders an expansive greenway network also brings returns to the developed portions of the community, and will be reflected in the value of homes and other properties.

The greenway concept is not new. Frederick Law Olmstead conceived of networks of interconnected green spaces over 100 years ago. In 1887 he proposed Boston's "Emerald Necklace", a 4.5-mile strip park which arcs around the city, linking Boston Common with Franklin Park, which was once called the Olmstead Parkway.

While the development of a greenway is a long-term effort, which will span generations, its benefits are similarly enduring. It provides opportunities for future generations to know and understand the intricate workings and relationships among natural systems that contribute a special community character and sense of place.

409 GREENWAY PLANNING.

The planning process involves the establishment of goals and objectives, development of an inventory of resources, and the establishment of policies. To assist this greenway planning effort, the Bedminster Environmental Commission contracted with the Upper Raritan Watershed Association (URWA), to prepare a report titled "Environmental and Historical Infrastructure for Greenways - Bedminster Township" (1996).

The URWA report reviewed the Bedminster Master Plan objectives related to Greenways and found extensive references to the need to protect the special character of the countryside by preserving the Township's meandering streams, brooks, open fields, pastures and woodlands. Overarching objectives of the Township's Master Plan combine concerns for community character and natural resource protection. Retaining large contiguous tracts and corridors of recreation, forest, floodplain and other open space lands is a primary objective of this plan, which also serves to promote biological diversity.

The goals of the Master Plan also seek to promote pedestrian and bicycle connections and linkages of public spaces through the use of greenway elements. Public acquisition of recreational, scenic and environmentally sensitive lands receives the highest priority and promotes resource-oriented recreation. The Master Plan also seeks to encourage permanent protection through programs that offer incentives to landowners.

Factors which serve to shape Bedminster's greenway, in addition to public open spaces, include the following:

a. *Environmental*

1. Stream corridors, including water bodies, wetlands and flood prone areas;
2. Steep slopes;
3. Forested areas;
4. Grassland areas;
5. Ridgelines;
6. Threatened and endangered species habitat.

b. *Cultural*

1. Historic sites and districts;
2. Traditional settlement patterns and rural agricultural landscapes;
3. Scenic corridors including unpaved roads;
4. Former railroad rights-of-way;
5. Pedestrian trails;
6. Bikeways and hiking paths and trails.

The Greenway Plan (Figure 22) illustrates the conceptual framework of Bedminster's Greenway and includes primary and secondary greenway elements. Around the skeleton of this conceptual framework, the greenway network can be refined and elaborated.

Greenway Policies

To engender broad public support, a Greenway Plan should provide benefits to the entire community while respecting private property rights. This concept supports an acquisition program which expands the scope of publicly-owned land and the range of public access opportunities and activities. It also combines easements, donations and other less than fee interests to promote a coordinated network of protected lands. Where these lands will not be in public ownership, particular sensitivity should be exercised towards the concerns of landowners regarding public access.

Protection of natural resources is the primary objective of the Greenways of Bedminster. However, an extended greenway network also includes active recreation opportunities, such as are found at River Road Park, Miller Lane and "The Pond".

The primary greenways are consistent with those proposed by Somerset County, including the North Branch of the Raritan River, the Lamington River (or Black River) and the Second Watchung Mountain Ridge. The Raritan River flows from Bedminster's boundary with Peapack-Gladstone and Far Hills, southwesterly across Bedminster's heartland to merge with the Lamington River at Burnt Mills. The Lamington River forms the Township's westerly border from Washington and Chester Townships in Morris County, separating Bedminster from Tewksbury and Readington Townships in Hunterdon County and Bridgewater Township in Somerset County.

Secondary greenway elements include the major tributaries of the North Branch and Lamington River. These include the Bamboo-Herzog Brook, which extends from Chester Township through the Pottersville National Register District where it joins the Lamington River just downstream of Pottersville.

Axel Brook drains the area between Pottersville Road, larger Cross Road and Long Lane, including lands of the Upper Raritan Watershed Association at Fairview Farm. Axel Brook joins the Lamington River in an area of significant wetlands and at the location where the former Rockaway Valley Railroad crossed Black River Road. Significant public open spaces have already been protected in Tewksbury Township, across from the confluence of Axel Brook with the Lamington River.

Middle Brook is the principal north-south drainage corridor through Bedminster's heartland and extends from Chester Township through Hamilton Farm and southward to meet the North Branch at River Road. Chambers Brook flows from Bernards Township along Bedminster's southerly border to join the North Branch at the Township's southernmost point.

In addition to primary and secondary greenway elements, the Greenway Plan also acknowledges the location of certain nodes, gateways and inter-municipal linkages. Nodes occur at places where primary and secondary greenway elements join together. These areas typically have expansive wetland and floodplain components and are important to maintaining high environmental quality. Gateways are essential elements of the Township's scenic character which are experienced by those entering Bedminster Township from neighboring municipalities. These gateways are frequently profound entry sequences where the experience of Bedminster's countryside unfolds for the viewer.

Inter-municipal linkages are indicated where open space exists across municipal borders. Bedminster should explore opportunities for inter-municipal cooperation to build upon these emerging greenway elements. Specific strategies, which may include acquisition or less than fee interests, should be explored to protect and enhance these gateway features and inter-municipal linkage opportunities.

Scenic roadways are also elements in the greenway system and have been identified in Bedminster's Conservation Plan and Somerset County's Scenic Corridor and Roadway Study. Already under public ownership, these are another class of linear resource, which offer insights into the greenway where they intersect the stream corridor elements. They are also greenway elements offering the scenic vistas and viewsheds that merit management to protect community character. A detailed viewshed analysis would assist Bedminster in formulating design controls that would protect the roadside character and preserve and enhance long vistas.

The Rockaway Valley Railroad, sometimes called the "Rockabye Baby", winds a circuitous path through and around the network of protected lands and stream corridors, potentially making it a unique asset in any greenway network. While the railroad was abandoned in 1917 and the right-of-way no longer exists, the route of the railroad is known and portions of this route coincide with the primary and secondary greenways recommended in Bedminster Township. This area merits additional study to determine what type of linkage role this linear feature could provide in an integrated greenway system.

Forest resources are particularly important in Bedminster, where agricultural activities have removed most of the forest cover. Old growth forests such as the floodplain forest along the North Branch, south of Burnt Mills, and the Virginia Pine forest in southwestern Bedminster,

offer unique environmental attributes worthy of protection. Additionally, the riparian forests, which flank significant portions of the primary and secondary greenways, offer extremely high environmental value and benefits. As successional growth is managed in the future, retention or development of forest linkages can be particularly valuable for protection and enhancement of wildlife habitat.

Preserved farmland can also play an important role in connecting Bedminster's open space areas and greenways. Greenways or other conservation easements, which permit public access via equestrian or other trails, should be pursued when acquiring easements on agricultural lands.

Greenway planning should be an ongoing process, which continuously builds on prior efforts. However, a comprehensive Greenway Plan, fashioned to accomplish these community objectives, is the logical starting point for an effort which will span an extended timeframe.

410 GREENWAY IMPLEMENTATION.

Greenways have an inherently regional character. This should prompt municipalities and counties to look beyond their borders. Implementing a comprehensive greenway strategy requires a long-term commitment, since the network will evolve over an extended horizon.

Giving life to the Greenway Plan requires an understanding of the interests of stakeholders, greenway strategies and funding opportunities.

Stakeholders

a. Landowners control the fee-simple rights to use their property. Cooperative efforts to protect greenway resources require respect for the rights of these landowners.

b. Citizens and residents benefit from the greenway in a number of ways. It provides ready access to recreational opportunities close to home, and natural resource benefits. These include protecting water quality, limiting flood damage, retaining wildlife habitats, particularly those of threatened and endangered species and offsetting the pollutant impacts of human occupancy and travel. All of these features provide benefits to the citizens of Bedminster Township, Somerset County and the State.

c. Government (local, County, State) plays an important role in the establishment of a greenway. Public acquisition is the most powerful tool for reserving lands for public use and enjoyment. Government can also coordinate the efforts of other stakeholders and develop public/private partnerships which can leverage local, county and State dollars.

d. Environmental and recreational organizations are generally dedicated to the protection of sensitive environmental resources and the conservation

and preservation of open spaces. They also advocate for active and passive recreation activities, and represent the interests of those who seek to protect and enjoy these resources.

e. Farmers play an important role in maintenance of the scenic character of Bedminster's landscape. The extensive areas in agricultural use and production contribute a distinctive character to the Bedminster countryside. Greenway planning efforts must respect the rights and concerns of agricultural interests, since activities which impair production or hinder efficient farm management can threaten long-term agricultural prospects for the land.

Strategies

Bedminster's greenway system already includes major public open space elements in the highway corridor between Bedminster and Pluckemin. These public open space anchors, largely acquired through the Green Acres Program, already form a network of recreation and open space lands which are readily accessible by most residents of the Township. Continuing acquisitions are the subject of pending Green Acres applications, and future acquisitions should respond to the objectives of the Greenway Plan.

The Township's implementation of the 2-cent open space tax now provides a continuing source of funds to acquire additional recreation and open space lands. The Township's Open Space Advisory Committee has been charged with examining the Township's open space requirements and identifying parcels proposed for acquisition.

Expanded opportunities for public access may also be enhanced by the "Landowner's Liability Act", which provides protection from liability for landowners who permit public access on their private lands. Greenway elements may also be eligible for "Critical Environmental Site" designation, under the State Development and Redevelopment Plan (SDRP).

A variety of options are available to landowners who wish to protect their land. Some involve the transfer of title, while others provide for the retention of ownership. "The Landowner's Options Handbook", prepared by the Nature Conservancy and the New Jersey Natural Lands Trust, outlines a broad range of alternatives, as noted below.

Donations of Property

a. Outright donation involves a transfer of title, typically to a government agency or land conservation organization. It is relatively simple, since no financing or negotiations about price are necessary. Ownership by a land conservation agency should be designed to assure long-term preservation and can convey federal income tax deductions, estate tax benefits and relief from property taxes.

b. A donation can entitle a landowner to retain full use of the property during his or her lifetime and allows the establishment of a plan for the future of this land by a government agency or private conservation organization. The property remains in full control during the owner's lifetime, but removing it from the landowner's estate reduces estate or inheritance taxes.

c. Donation with a reserved life estate allows the transfer to a government or conservation agency but reserves use rights during the life of the owner and the lifetimes of their family members. While less advantageous than an outright donation, Federal income tax deductions are available for the portion treated as a charitable deduction.

Sale of Property

a. Sale at full market value will bring the highest price for the land, but such price may be out of the reach of governmental or private conservation agencies. Additionally, income tax liability on capital gains of the sale of the property can significantly affect the net profit from the sale.

b. Bargain sales occur when a government agency or charitable conservation organization purchases the property for a price below fair market value. This technique increases the likelihood that the property can be acquired for conservation purposes. It provides a charitable contribution deduction for income tax purposes equal to the difference between the bargain price and the fair market value.

c. Installment sales provide for the purchase of property over a period of years. By spreading the sales income and taxable gains over a number of years, the landowner receives financial benefits. The installment sale agreement can also provide that the owner is free from all or part of the responsibility of payment of property taxes until the sale is completed.

Transfers of Title with Conditions

Landowners may also assure future conservation and preservation of their property by imposing conservation easements or other restrictions on the deed prior to sale.

a. Conservation easements allow a landowner to voluntarily restrict the future uses to which the land may be put by subsequent owners. A prior grant of a conservation easement allows the owner to deduct a charitable contribution for income tax purposes, based on reduced value of the land after imposition of the easement. Conservation easements generally require a third party to monitor and enforce the terms of the easement.

b. Deed restrictions vary from conservation easements since they do not involve a third party. The enforceability of deed restrictions may be limited after a land is conveyed, if there is no enforcement agency. However, when title is transferred to a third party through a conservation agency, the agency can impose enforceable restrictions. Typically, such agencies require an endowment or other contribution to offset the costs of future management and enforcement. Deed restrictions are not typically tax deductible, and unless the land is donated to a conservation agency that can subsequently impose the deed restriction, no Federal income tax benefit accrues. Conversely, if title is passed through a conservation agency, which installs a deed restriction, the entire fair market value of the land can be claimed as a charitable contribution.

c. A reverser clause provides a significant enforcement tool for a deed restriction since it empowers the original landowner or their heirs or assigns to regain title to the property in the event that the deed restrictions are violated. Since this is a severe penalty, it provides an owner with a greater likelihood that deed restrictions imposed unilaterally will subsequently be enforceable.

Retention of Ownership

a. Conservation easements and other less-than-fee interests play an important role in the evolution of the greenway network. Owners who wish to retain their land can impose a conservation easement on their property, which limits future development, and requires protection of natural resources and open space. Permanent conservation easements bind future owners, and are granted or sold to a private organization that assumes responsibility for monitoring and enforcement. A charitable deduction may be taken for the difference between the before and after values, when the easement is properly structured.

b. Mutual covenants are agreements between landowners who are interested in protecting the land. Through these agreements, restrictions on future use are mutually imposed by the various parties to the agreement. Such agreements are permanent and enforceable by any of the landowners or future landowners. Like conservation easements, mutual covenants can be designed for a broad range of environmental conservation objectives. However, unlike conservation easements, the loss in market value cannot be claimed as a charitable deduction on income tax returns. They may, however, be used to reduce property taxes and estate taxes.

c. Leases provide an alternative to transfer of title. Rather than selling the property to a conservation agency, a lease allows the agency to rent the property, and permits exclusive use of the land by the agency for a period of time. Use restrictions can be incorporated in the lease and a reverser

clause can be part of such agreement. Such leases do not offer charitable deductions as offsets against Federal income taxes, but could reduce estate taxes if the value of the land was affected by the lease.

d. Management agreements, contracts between landowners and conservation organizations, provide for the management of property according to certain guidelines. This technique is particularly useful to landowners who manage or plan to manage their land for conservation purposes, but do not offer income tax deductions.

Land Development Regulations

Land development regulations can also play a role in implementation of the greenway. Resource protection standards reinforce public and private greenway efforts. Limitations on forest removal, septic management and scenic design, steep slope and stormwater management standards all serve to preserve and enhance the environmental health of the Greenway. Stream corridor conservation techniques should be multi-faceted and recognize the matrix of environmental concerns, which ultimately find their way downstream to potable water supplies.

As development proceeds, stream corridor buffers will result from the Township's current requirement for the imposition of a 50-foot wide conservation easement extending in either direction from the top bank of all watercourses. The Township may wish to reconsider the width of this easement, since the US Forest Service recommends that an adequate riparian buffer would be approximately twice as wide as currently required.

Public Education

A critical part of a viable Greenway Plan involves public outreach. Communicating the objectives of the Greenway Plan in clear, concise terms is critical to the public understanding and acceptance that will encourage private actions in furtherance of the greenway effort. A brochure titled “Bedminster’s Open Space Legacy”, which was prepared in furtherance of this plan element, outlines the primary objectives of the greenway and the role of the various participants. It also outlines the advantages of the greenway to the residents, including those areas where public use is invited, and describes opportunities for landowners to assist in developing the greenway.

The public outreach effort should also provide sufficient information regarding the incentives for private action and identify sources of additional information, such as the above noted "Landowner's Options Handbook", as well as "Saving Family Lands" by Steven Small, Esq., which detail the financial benefits that accrue from conservation based land management practices.

Funding

A variety of funding sources can be used to expand the greenway.

a. Bedminster's Open Space Trust Fund generates 2 cents per $100.00 of assessed valuation annually. These funds should be combined with those of other funding sources to leverage the Township's investment in open space and natural resource conservation.

b. Somerset County's Open Space, Greenways and Farmland Trust Fund provide grants to municipalities which can assist in the acquisition of conservation and other open space lands.

c. New Jersey's Green Acres Program has a long history of assisting municipalities in acquiring land for conservation and open space purposes. Bedminster Township has benefited significantly from this program, which was used to acquire the River Road Park and "The Pond", and is also being used for other pending acquisitions. The Township has applied to the Planning Incentive Grant Program, through which Green Acres provides 25% grants and 75% loans (at 2% interest) to communities with a dedicated open space tax and a comprehensive Recreation and Open Space Plan. The PI Program allows a municipality to identify a series of acquisitions without the need for a specific application for each year's proposed project or projects in any funding round.

d. The Garden State Preservation Trust, New Jersey's newly enacted preservation program provides significant funding for open space and farmland preservation throughout the State.

e. New Jersey's Farmland Preservation Program provides funding for the purchase of development rights and for the fee-simple acquisition of farms. This program combines funds of the State, Counties and municipalities to provide permanent protection of valuable farmland resources.

f. NJDEP also has a series of other funding programs, which assist in creation of trials, provide for tree planting and reforestation.

g. TEA 21 (Transportation Enhancement Act for the 21st Century) provides funding for transportation improvements that can include trails, pedestrian and bicycle routes.

411 GREENWAY MANAGEMENT

As the Township's greenway system evolves, public, quasi-public and private entities will assume a variety of management responsibilities, and continuing public education efforts will be important. Maps, which identify lands available for public access and the extent of lands with conservation-based restrictions or practices, should be updated on a regular basis. Additionally,

public and private forums should be held to explain the benefits of these conservation practices to interested landowners, in cooperation with non-profit conservation groups.

Natural Resource protection and enhancement strategies should be encouraged. The establishment of buffers and stewardship practices for forests and grasslands are particularly important elements of natural resource management. Identification of the habitat of threatened and endangered species and development of appropriate management strategies should be advanced through public policies and landowner education.

Local, County and State governments will all play a role in the management of greenway elements in Bedminster. State parklands currently extend into Bedminster from Chester Township, as do Morris County parklands. The steep slope open space at The Hills (Block 59, Lot 1) represents the westerly terminus of the Second Watchung Mountain Ridge Greenway, a major cross-county Greenway coordinated in part by Somerset County. Additionally, Somerset County has recently acquired roughly 400 acres of open space in southern Bedminster, including 300 acres east of Rattlesnake Bridge Road (south of I-78) and 100 acres between Chambers Brook and the North Branch, south of Burnt Mills.

As the Township's recreational and open space land holdings continue to expand, a comprehensive management approach should be devised which assures adequate maintenance and provides for incremental improvements, such as pedestrian or equestrian trails, which can enhance the open space value of these lands.

Non-profit groups, such as the New York/New Jersey Trail Conference, can assist in trail management, and it may be appropriate to establish an "adopt-a-trail" program, modeled after similar programs for roads and streams. Such an approach could offer students, Scout troops and other civic groups an opportunity to become partners in maintaining and improving the evolving trail network in Bedminster.

Conservation easements and other conservation vehicles adopted or enacted by private landowners will require monitoring and enforcement. While not typically functions of government, a municipality can assist in the establishment of conservation management practices for the benefit of landowners and the community as a whole.

Agricultural management practices can be particularly valuable in protecting or improving environmental quality in and around the greenway, particularly the handling of fertilizers, pesticides and all practices related to livestock. The Township should advance these concepts with local and county agricultural interests, in an effort to promote agricultural stewardship practices and maximize conservation-based agricultural management.

Quasi-public agencies, such the URWA and the New Jersey Conservation Foundation, also play an important role in the long-term management of the greenway. URWA manages Fairview Farm on Larger Cross Road for conservation and education purposes. It also serves as an advisor to Township officials about conservation practices, and advocates for expanded resource conservation efforts. The New Jersey Conservation Foundation has supported the conservation efforts of individuals and government and non-profit agencies around the State and

currently assists Bedminster in securing open space acquisitions and farmland preservation easements.

NJCF has also partnered in important stream corridor conservation programs, coordinating a multi-jurisdictional effort along the Lockatong and Wickecheoke Creeks in Hunterdon County. These efforts should be examined for their role as a model for stream corridor conservation in Bedminster.

Public access issues require careful attention. On one hand, public access to greenway land enhances the local quality of life by bringing outdoor recreation and nature closer to residents. On the other hand, where the limits of public access are not clearly identified, private landowners may be hesitant or refuse to participate in the greenway conservation efforts. Time, place and manner restrictions, which establish by ordinance the ways in which public access is available to public lands, can help to offset these concerns.

412 SUMMARY

The evolution of the Greenways of Bedminster will involve a series of long-term investments that will pay even longer-term dividends. The emerging public greenway spaces in the highway corridor area already provide a wealth of active and passive recreation opportunities. However, they represent only the beginning of a long-term effort.

The greenway should always be viewed as an inclusive network that combines public, quasi-public and private efforts. To the extent that public acquisition is not sought, the voluntary participation of quasi-public and private partners will be a critical component in the evolution of the greenway.

PART 5 CIRCULATION PLAN

501 INTRODUCTION

This section of the Master Plan was prepared in accordance with the Municipal Land Use Law, N.J.S.A. 40:55D-28b:

> (4) A circulation plan element showing the location and types of facilities for all modes of transportation required for the efficient movement of people and goods into, about, and through the municipality, taking into account the functional highway classification system of the Federal Highway Administration and the types, locations, conditions, and availability of existing and proposed transportation facilities, including air, water, road, and rail;

The Circulation Plan Element responds to the proposals outlined in the Land Use Plan Element, as well as the regional context in which Bedminster is located. In turn, the Land Use Plan Element was developed after taking into account other Master Plan elements, which influence land use, including the Circulation Plan Element.

The Bedminster Township circulation system is also heavily influenced by the regional context in which the Township is located. With Interstate Highways 78 and 287 intersecting in the southeastern part of the Township, the Township has ready access to the east, west, north, and south. Conversely, its location proves to be a challenge to the Township efforts to maintain its desirable rural nature. This requires partnership efforts with the state and the county to alleviate the high volumes of traffic that utilize both local and regional roads in the Township.

To address this regional context, the Circulation Plan has been developed with reference to the State Development and Redevelopment Plan (SDRP), the Somerset County Master Plan, the Somerset County Scenic Corridor and Roadway Study (July 1992), Somerset County Circulation Element Update (August 2001), the 1994 Somerset County Master Plan Circulation Update, the 1999 Somerset County Traffic Calming Study, Access & Mobility 2025 (North Jersey Regional Transportation Plan) and Transportation Choices 2025 (New Jersey Department of Transportation Long Range Plan). The SDRP, which seeks to concentrate growth and development in existing centers and compact nodes in order to reduce public investment and infrastructure costs, supports the Township's planning goals. In addition, the County's Scenic Corridor and Roadway Study supports the Township's comprehensive planning program by designating Routes 512, 523, and 665 as Scenic Corridors and Route 620 as a Scenic Roadway. The 1999 Somerset Traffic Calming Study describes a set of transportation techniques to promote traffic speeds and volumes that are more appropriate to the Township’s street environment.

Access & Mobility 2025 and Transportation Choices 2025 provide the programming of the regional solutions needed in the Township to achieve its goals of protecting and improving air quality, conserving community character and maintaining efficient circulation.

502 FUNCTIONAL CLASSIFICATION OF ROADWAYS

This Circulation Plan establishes a functional classification system, which addresses streets under municipal ownership, State highways and County roads. The County system is defined in its Somerset County Circulation Element Update. The functional classification for roadways in the Township is shown in Table 2.

TABLE 2 FUNCTIONAL CLASSIFICATION SYSTEM FOR BEDMINSTER TOWNSHIP

Functional Classification	Designated Roadways	Minimum Right-of-Way
Major Arterial	Routes 202 and 206; Hills Drive through nonresidential section	80'
Minor Arterial	Washington Valley Road and Burnt Mills Road to Crossroads Center, Lamington Road (Route 523) between Route 206 and Tewksbury Twp; Rattlesnake Bridge Road (Route 665) between Lamington Road to Branchburg	66'
Major Collector	(Route 620) Burnt Mill Road west of the Crossroads Center to Rattlesnake Bridge Road (Route 665); Pottersville Road (Route 512) Tewksbury Twp to Peapack Gladstone;	60’
Minor Collector	Hills Drive through residential section	50’
Local	Others	50'

As to the designation of County Routes 523 (Lamington Road), 620 (Washington Valley Road), and 665 (Rattlesnake Bridge Road), the Somerset County Circulation Element 2001 Update identifies these roads as Minor Arterials. These proposed right-of-way widths (minimum of 66 feet) coincide with the Township's Minor Arterial category.

In actuality, most of the County roads in the Township vary from the right-of-way (ROW) standards for Minor Arterial and Major Collector. The existing rights-of-way on County roads, as depicted on the Township's tax maps and referenced in the Circulation Plan Inventory, are as follows:

- Route 523 (Lamington Road) - Predominantly 50' with 58' portions. (Vs. 66’ minor arterial)
- Route 512 (Pottersville Road) - Predominantly 33' with portions to 66'(vs. 60’ major collector)
- Route 620 (Burnt Mills Road) - Predominantly 33' with portions to 50' (vs. major collector).

The function of these roads argues for a lesser classification, such as Minor Collector. While such classification is not consistent with that of the County, it is consistent with the Township's goals and objectives relative to land use and circulation planning.

The Circulation Plan continues the long-standing policy of maintaining a minimum 50-foot ROW for local streets, and most of the rural roads have segments where a 50-foot dedication has been obtained through the subdivision process The requirement for dedication of at least 50 feet of right-of-way for each local road (25 feet from center line) is not intended to advocate any cartway widening, since the current narrow road widths are an essential traffic calming element supportive of the rural character of the area.

503 RECOMMENDATIONS FOR ROAD IMPROVEMENTS

There are two broad categories of road system improvements that have relevance to the Township's circulation planning: those over which the Township controls both policy and implementation; and, County and/or State roads, which the Township does not control but which are important to the Township's proactive planning strategy.

Local Roads

The majority of local roads in the Township are unpaved. These conditions encourage the historical use of the roads by horseback riders, and reflect the Township's policy to improve roads only to the degree necessary to provide safe access to the Township's rural environs. This is a traffic calming policy that assumes increasing importance in the face of mounting volumes of non-local traffic on local roads. The Township recognizes that efforts to further improve these roads will only serve to increase non-local traffic volume; maintaining the rural character of unpaved roads will serve to direct regional traffic to the County and State highways, which are intended to accommodate such traffic.

Managing the rural character of paved roadways is also a priority objective of the Circulation Plan. An illustrative example of the policy implications of alternative strategies is Black River Road. With access to I-78 and Route 22, Rattlesnake Bridge Road from Lamington Road south provides a north/south arterial roadway. Between Pottersville Road and Lamington Road, however, the only paved north/south roadway is Black River Road. This roadway is characterized by narrow widths, sharp curves, and a generally substandard alignment. Although this is the only paved north/south roadway in this area, recorded volumes show more then a 70% decrease in traffic volume between 1997 and 2000. This is consistent with the limited surrounding development, the irregular roadway alignment, and constrained roadway width. The Township has chosen to maintain the road in its present alignment and configuration, supporting its objective of maintaining a rural character in the area.

County and State Roads

The regional road network under County and state jurisdiction, and its multiple intersections in the Township’s eastern corridor area, heavily impact the Township. Congestion

at these intersections puts increased pressure on the Township's local road network as motorists seek alternative routes.

The lack of complete connections for all movements between the State and Interstate highways puts a particularly heavy burden on the Village of Pluckemin, and much of the traffic bound for Routes 202/206 South must traverse the River Road jughandle. The absence of direct connections between Route 287 Southbound and the southbound State highways, forces traffic onto Routes 202/206 northbound and result in the movement through the River Road jughandle.

In the 1993 update to the Circulation Plan, a recommendation called for a ramp from Route I-287 (possibly using I-78) through the AT&T Bridgewater property to serve approved development in Bridgewater Township, so that the Village of Pluckemin would not be further impacted by increased traffic on Routes 202/206 southbound. The Planning Board's traffic engineer studied the situation, and indicated that a fourth ramp to serve Route 202/206 in Bridgewater cannot utilize a portion of Burnt Mills Road for this movement.

In early 2002 NJDOT identified its Initially Preferred Alternative for 206/202 and the Interstates highways. Identified as proposed operational improvements for Routes 202/206 and I-78/287 interchange, this project is designed to improve regional traffic flow through the Route 202/206, I-78, I-287 interchange in the Bedminster and Bridgewater Townships. Enhancements are proposed along Route 202/206 between milepost 29.00 to 29.69 and along I-78 between milepost 30.87 to 31.96. Upgrading to I-287 is anticipated to be restricted to existing ramps with no improvements along the main stem of I-287. Specifically, this project proposes seven new ramps including a relocated ramp from I-287 northbound to I-78 eastbound, six new bridges, widening or replacement of approximately four existing bridges and roadway reconstruction and widening. The project also proposes extension of existing culverts, construction of approximately six retaining walls, two new traffic signals and noise walls. Figure 3 illustrates the Route 202/206, I-78, I-287 Interchange Modifications and Noise Barriers included in the latest NJDOT design scheme. This project is projected for design within the Department’s Capital Improvement Plan for Fiscal Year 2002 (July 1, 2001 to June 30, 2002) and the Regional Transportation Capital Improvement Program for Fiscal Years 2002 to 2004, maintained by the North Jersey Transportation Planning Authority (NJTPA).

In September 2002 NJDOT conducted a community workshop on the Route 202/206, I-78, I-287 interchange modification project. Beyond explaining the process of designing, funding and constructing a major transportation improvement, NJDOT described the anticipated benefits of the project to Bedminster, which included:

1. Reducing the volume of traffic traveling through the Village of Pluckemin destined for the corporate centers along Routes 202/206,
2. Providing the missing movements between Routes 202/206 and I-78 and I-287,
3. Reducing the time delays and vehicle miles traveled between the interstate system and regional destinations and
4. Accomplishing these goals with a minimal impact on the community and environment.
5. Reducing congestion at the River Road jughandle and providing additional capacity for vehicles traveling to other destinations.

In addition NJDOT anticipated that traffic on Routes 202/206 through Pluckemin might decrease by approximately 30%, and there could be substantial improvement to total delay and level of service in both peak periods at the intersections with:

- Burnt Mills/Washington Valley Road,
- Hills Drive and
- River Road.

NJDOT expects direct access between Routes 202/206, I-78 and I-287 to reduce travel time and distance for regional motorists, suggesting it would save 2.5 minutes and 1.5 miles in the A.M. peak period, and 4 minutes and 2.25 miles in the P.M. peak period.

The next immediate steps for the project include updating traffic counts to refine 20-year projections, refining the initially preferred alternative geometry, conducting environmental studies and establish focus groups. The purpose of the focus groups is to bring community issues to the table during the design process, foster communications between NJDOT and the community and to ensure that the development of the project design is achieving the previously expressed goals with minimal community impact. It is projected that construction of the project will be completed in late 2008.

Other programmed projects for fiscal year 2002 includes the existing structure replacement of Old Dutch Road Bridge at a construction cost of $750,000 and the milling and resurfacing of Pottersville Road (CR 512) from Route 206 to the Herzog Brook.

The State Access Code, which was adopted in 1992 and implemented in 1992, anticipates a maximum lane configuration in the future of four lanes, with a median and shoulders. The Township does not endorse the four-lane cross-section for Route 206, but a four-lane section should be viewed as the maximum or upper limit of lane configurations on Route 206.

It should be noted that Route 206 north of Lamington Road is routinely used for pedestrian and bicycle access to Bedminster Village, Peapack, and Pottersville. The neighborhoods along this corridor are also within two miles of the Bedminster Elementary School and subject to courtesy busing. It is therefore essential that any improvements or local decisions regarding modifications to this corridor ensure that provisions for non-vehicular travel

are maintained through sufficiently large shoulders, a walking/bike path, or sidewalks.

The following 1993 Circulation Plan improvements, considered necessary for the safe and efficient movement of people and goods have been completed:

1. The Route 202/Lamington Road/Hillside Avenue intersection was realigned, reconstructed and provided with a new traffic signal.
2. Sidewalks improvements were provided to assure safe access for children walking to the elementary school
3. The Hillside cul-de-sac was completed. Its purpose to reduce the volume of through traffic utilizing Hillside Avenue as a short cut to avoid the Route206/Lamington Road intersection. In this revised arrangement northbound traffic on Hillside cannot enter Route 206, while northbound traffic on Route 206 is permitted access to Hillside Avenue southbound.
4. Intersection improvements at Route 206 and Lamington Road were provided, including a left turn lane to Route 206 northbound from eastbound Lamington Road, Increasing the capacity of the intersection and decreasing the pressure on local roads and resulting displacement of commuters onto rural roads such as Cedar Ridge Road, Larger Cross Road and River Road.
5. Improvements to the River Road jughandle have significantly enhanced traffic capacity and safety.

504 RURAL ROAD STANDARDS

In the early 1980's Somerset County developed a computerized transportation model for the road system assuming full build-out and development of the County according to zoning. The results of that analysis showed that, to accommodate the volumes generated at Level of Service "C", Route 287 in Franklin Township would have to be 80 lanes wide, while Route 206 in Hillsborough would have to be 20 lanes wide. At approximately the same time, the northerly portion of Franklin Township, a densely developed mix of industrial, office, and residential development, was experiencing little or no growth. Announcement by the State of plans to open a new roadway (Somerset Expressway) into this area resulted in a flurry of applications for development of parcels of land.

The key lesson to be learned from these two events is that first; a high quality road system cannot be developed to a point where congestion and delays will not be experienced. Development in an area is likely to continue until the area is fully developed or the capacity of the road system is reached, at which point development is no longer as attractive, due to increased difficulty of access. Second, growth of an area can effectively be managed by limiting the capacity of key points of the roadway system. With complementary zoning for low intensity uses, an effective balance should be achievable.

Application of these concepts to the Bedminster Township Circulation Plan provides support for some of the directions established for the Township and the transportation policy objectives of the State Development and Redevelopment Plan for the Environmentally Sensitive

Planning Area. Transportation objectives for the Township seek to manage and program development in rural areas so that traffic will not exceed the capacity of the existing rural road network to provide safe, efficient, and convenient traffic movements during peak traffic periods, such a rural road network helps to protect the Environs from scattered and piecemeal development and links Centers to each other.

The preservation of the existing system of unpaved roadways in the westerly portion of the township furthers this objective. Restricted widths of traveled way, unpaved road surfaces, and constrained alignments combine to discourage intensive use of the unpaved roadways. Maintenance of the unpaved roadways, coupled with low intensity zoning for the properties served, act together to achieve the aims of the Township in this regard.

As noted previously, the prevalence of unpaved roads in the Township represents a conscious effort on the part of the Township to retain its rural character. According to the Public Works Department, maintenance of unpaved roads includes the following activities:

Scraping and raking approximately 6 times a year, dependent upon weather.[1]
Filling holes during the dry season
Spreading 3/4" road stone in late fall and early spring when the roads are muddy or soft
Cleaning ditches
Cleaning pipe heads in the summer and leaves from ditches in the fall
Applying calcium chloride for dust control

This series of management activities, evolved over a number of years, balances the desire to maintain the rural character of unpaved roads and the needs of the motoring public.

In addition to maintenance practices, a second component of rural roads is the prevailing cartway width. The gravel roads in the rural portions of the Township are maintained at an approximate 16-foot cartway width, a minimum for two-way traffic with no on-street parking.

The typical road profile includes open drainage ditches in low-lying and steeply sloped areas, where the volume of drainage warrants such measures. Most of the rural roads are also cut and banked along the edges, although portions of rural roads in low-lying areas, such as segments of River Road, are more open.

The design principle for rural roads seeks to maintain the natural and man-made elements of the roadways and roadside that contributes to the rural character of the surrounding areas. Generally, this means retaining curves and grades that reflect the natural topography, retaining open drainage ditches and high banks that frame the cartway, and maintaining roadway widths at the minimum necessary to safely convey the anticipated level of use. Recommendations concerning treatment of roadsides and roadside views have been incorporated into the Conservation Plan Element. Road improvement standards for rural roads should also respect the character of these scenic corridors.

[1] According to Public Works if weather is damp scraping and raking. If it is dry, it is not effective to perform.

More elaborate treatment for drainage conditions of some rural roads in the steeply sloped and low-lying portions of the Township may be warranted to reduce washouts and continued maintenance. Spook Hollow Road, portions of Old Dutch Road, portions of Long Lane at its western end, and portions of Cowperthwaite Road are examples of roads with steeply sloped and/or wet areas where wash-outs can occur. Examples of flood-prone roads include Milnor Road, Cowperthwaite Road below Burnt Mills Road, Bunn Road south of River Road, Kline's Mill Road south of River Road, and River Road at the bridge over Middle Brook.

505 TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

Prompted largely by the worsening traffic conditions during the development surge in the mid-1980's, and the enactment of the Clean Air Act Amendments in November 1990, transportation demand strategies (TDMs) have emerged as an important focus for reducing the quantity and impact of automobile traffic. As the name indicates, TDMs are alternative strategies designed to reduce the number of trips between residences and work places. They are typically implemented through a comprehensive traffic reduction ordinance (TRO), which establishes the goals and procedures as well as strategies.

Managing transportation demand is a complex undertaking as it involves not only a concerted administrative effort but also a fundamental change in personal habits. Since TROs involve an attempt to remove trips as well as to spread them, changes to commuting habits are inevitable, including the reduction of single-occupancy vehicles. Quantitative measurements to evaluate compliance with the goals of a TRO include the percent reduction in peak hour trips, percent participation rates, average peak hour vehicle ridership, and vehicle trip reduction to a desired level of service.

TDM strategies that are typically permitted as alternatives in a TRO include the following:

1. Ridesharing-park and ride, vanpools/carpools, vanpool/carpool lots.
2. Flextime/compressed workweeks.
3. Shuttle services.
4. Subsidized transit and ridesharing.
5. Preferential parking.
6. Amenities for bicyclists and pedestrians.
7. Telecommuting.

Bedminster Township is a member of Ridewise of Raritan Valley, which is Somerset County’s Transportation Management Association (TMA). Created in the early 1990’s Ridewise works with municipalities, the county, New Jersey Transit and NJDOT to identify and develop innovative nontraditional types of transit services for its member residents.

For the most part, TDM strategies involve employer-based techniques, since large employers represent a single management entity which can directly implement the agreed upon strategies. In 1995 Congress amended the Clean Air Act Amendments by allowing states to substitute or amend existing Employer Trip Reduction Program with other voluntary measures to reduce trips. The New Jersey's Traffic Congestion and Air Pollution Control Act which required

work places with 100 employees to submit a mandatory traffic reduction plan was amended to allow employers to develop voluntary programs. This action led to the rise of TMAs like Ridewise that work with companies to develop options for employees such as carpools, vanpools, compressed workweeks and other trip reduction programs.

TDM strategies can improve the capacity and offer utility of the circulation network. Fro example, the Township's home office provision is a TDM strategy that promotes telecommuting. The reduction of residential densities in the adopted Land Use Plan may be the most effective strategy for reducing traffic demands throughout most of the Township. However, TDM strategies for nonresidential development in the Township can reduce traffic and lessen impacts on the circulation system.

506 NEW JERSEY STATE HIGHWAY ACCESS MANAGEMENT CODE

Effective September 21, 1992 all property with frontage on the State highway system is subject to the New Jersey Highway Access Management Code (AMC). The AMC provides standards for driveway spacing along State highways and establishes "desirable typical sections" or proposed ultimate design cross sections for these roads.

The AMC provides a vehicle for intergovernmental Access Management Plans, jointly prepared by the State, County and a municipality, for specific roadway segments. The code also provides that municipalities may develop access codes for local roadways, based on the State code.

TABLE 3 ACCESS CODE CLASSIFICATI0N AND DESIRABLE TYPICAL SECTIONS (DTS)

ROUTE	MILEPOST		ACCESS LEVEL*	DTS**	Planning Area
	BEGIN	END			
78	26.72	29.85	1	6A	5
78	29.85	30.81	1	8A	5
78	30.81	31.57	1	8A	2
78	31.25		1	8A	5 -Designated Town Center
202/206	28.11	29.55	3	4A	2
202/206	29.55	29.69	3	4A	2
202/206	29.69	30.02	3	4B	5
202/206	29.69		3	4B	5 -Designated Town Center
202/206	30.02	30.73	3	4A	5
202N/S	30.73	30.75	3	4A	5
202	30.75	31.50	3	4A	5
31.80	31.80	32.13	4	2C	5
202	32.13	32.56	4	2C	5
202	32.32		4	2C	5 -Designated Village Center
206	78.32	79.25	3	4A	5
206	79.25	80.25	2	4A	5
287 N	20.83	21.20	1	1A	2
287S	20.83	21.20	1	1A	5
287N	21.20	22.27	1	8A	2
287S	21.20	22.49	1	8A	2
287	22.49	23.28	1	8A	5

* Access Level
- 1 Fully Controlled
- 2 Accesses along St. or Interchange only
- 3 Rt.-Turn w/Provision for lt. Turn via jughandle
- 4 Driveway w/ Provision for lt. Turn via lt. Turn lane

** Desirable Typical Sections
- 2C 68” 2 lanes without shoulders with 14’ two way left turn lane
- 4A 114’ 4 lanes divided with shoulders
- 4B 90’ 4lanes divided without shoulders
- 6A 148’ 6 lanes divided with shoulders
- 8A 172” 8 lanes divided with shoulders

The AMC provides that newly subdivided lots will only be entitled to State highway access if they conform to the standards. The AMC may also prohibit levels of development, which generate traffic beyond the carrying capacity of the desirable typical section.

N.J.S.A. 40:55D-62d requires that each "zoning ordinance shall provide for regulation of land adjacent to State highways in conformity with the State Highway Access Management Code." Therefore, it is important for municipalities to plan for appropriate land uses and along State highways that can be accommodated by the highway in terms of access and vehicle movement.

507 RECOMMENDATIONS

1. Bedminster should preserve the existing unpaved road network in essentially its existing configuration.

2. Any improvements to rural local roads should be in the form of signing, warning devices, and, where experience indicates the need, street lighting. General widening or realignment is not recommended. Any specific spot improvements should be carefully weighed as to the effect that the spot improvement will have on driver expectations at other points along the road system.

3. A major effort by employers, Township, County and State should be focused on reducing the number of commute trips, which occur in a single occupant vehicle. The means by which this can be addressed may include car-pooling, vanpooling, telecommuting, four-day workweek, shuttles to train service from major employment locations and population centers, such as The Hills.

4. Somerset County in August 1999 conducted a series of case studies on traffic calming for several municipalities in the County. The case studies involved county roads and local streets. Since two State highways function as “Main Streets” in two villages within the Township, and with the designation of both villages as centers by the New Jersey State Planning Commission, which specified that the Township should “promote pedestrian accessibility and safety throughout the Township; with emphasis on Pluckemin Village Town Center and Bedminster Village; coordinate efforts with the Far Hills Village”, it

Traffic calming improvements in Rocky Hill

is recommended that the Township approach the County and NJDOT in exploring traffic calming efforts on Routes 202 and 206 within the center boundaries of the two villages.

5. To summarize, the Township's focus in the future should be on controlling land development by zoning regulation. Road improvement should be focused on the existing corridor system consisting of Route 206 and Route 202, together with key intersections, along these roadways. Roadway improvement efforts should not focus on the existing local or County road system. The primary Township effort should be focused on trip reduction strategies and incorporating traffic calming techniques in the villages of Bedminster and Pluckemin, rather than road expansion strategies.

508 SIDEWALK PLAN

Sidewalks provide important linkages between population centers and activity areas. In Bedminster, the demand for improved pedestrian access is primarily oriented toward the easterly highway corridor area and designated village centers, where most of the services are found and where most of the residents live. Sidewalks along existing public roadways in the Township are depicted on Figure 4.

A four-phase plan to improve pedestrian circulation through providing sidewalks is as follows:

Phase 1:

(1) On the east side of Somerville Road, provide a sidewalk from the entrance to the new Bedminster Elementary School north to Main Street.

Phase 2:

(2) Provide a sidewalk along Lamington Road from Route 202 at Hillside Avenue and Somerville Road to Dillon Library.
(3) Extend the sidewalk identified in Phase I south to Miller Lane.
(4) Complete the sidewalk connection between Burnt Mills Road and Hills Drive.
(5) Extend the sidewalks on the south side of Burnt Mills Road from Routes 202/206 to the old Pluckemin School.
(6) Construct a sidewalk from Lamington Road up to and across the frontage of the Dana Commercial Site (Quick Chek).

Phase 3:

(1) Complete the sidewalk on the south side of Route 202 and Lamington Road from the Far Hills boundary to Somerville Road.
(2) Extend the proposed sidewalk from Miller Lane to River Road on the east side of Somerville Road and Routes 202/206 and along River Road to the Green Acres tract.
(3) Provide a sidewalk along Robertson Drive at Schley Mountain Road to the proposed sidewalk along Routes 202/206 north of I-287.

(4) Develop a new pedestrian and bicycle link along the west side of Route I-287 from Burnt Mills Road to River Road.

Phase 4:

Provide a sidewalk on the east side of Route 206 from Ski Hill Drive to Hillside Avenue.

While the streets at The Hills development are predominantly private roads and the Township has a limited ability to provide for sidewalk improvements in this development, the Planning Board believes that there is a compelling need for a more complete network of pedestrian walkways within The Hills development and, particularly, along Hills Drive. It is suggested that the Township use any and all of its powers, which may include bonding, local approvals, eminent domain, or other powers of the Township, to assist in providing a more complete pedestrian circulation network at The Hills and its environs.

509 BICYCLE PLAN

The Township, in its efforts to implement the State Development and Redevelopment Plan, declares its intention to promote the use of bicycles and pedestrian systems throughout the Township as an alternative means of travel.

In the 1993 Circulation Plan, the Planning Board recognized the importance of bicycling. It was determined to establish transportation policies and programs that improve connection between housing and employment, including pedestrian and bicycle paths. In addition, it recognized that "Black River Road is highly traveled as a bicycle route, and for this reason, it may be appropriate to provide additional signage related to bicycle travel, particularly caution signs at curves or other points of conflict, as well as reviewing the options for controlling traffic speeds through this roadway segment." The Board continues to recognize this route as a recreational bicycle route and proposes that the Township place integrated traffic calming measures for motor vehicles and advisory/warning signs at the entry point to the area.

NJDOT in July 2000 adopted the following policy: "Bicycling and walking are viable and important travel modes and offer untapped potential for meeting transportation needs and providing recreational and health benefits. Provisions for bicycling and walking are important and necessary elements of comprehensive solutions to transportation problems and needs. Opportunities should be actively sought to address transportation needs and deficiencies through the provision of bicycle and pedestrian accommodations. These modes can also supplement transit use and replace motor vehicle trips by serving short trips."

In adopting this policy NJDOT has established guidelines and a number of funding programs to conduct and implement bicycling and pedestrian efforts of counties and municipalities. Bedminster Township has participated in this effort by establishing a comprehensive bike and hike trail to link the villages of Bedminster and Pluckemin, including the school, parks and other services. This effort is utilizing FY 2001 Transportation and Community and System Preservation funding.

The Figure 4 shows the system as it is proposed, identifying the portion that is complete. In addition, the map identifies roads within Bedminster and Pluckemin that have been striped for bicycles.

To keep and maintain the rural and scenic character of Bedminster the Township should work with the County to establish a Comprehensive Bicycle Plan. The Township should also utilize the assistance of the County in securing funding for bicycle related projects through its position on NJTPA. The Township's Circulation Plan can also serve as a tool to secure Transportation Enhancement funding and its center designation for NJDOT's Local Aid for Centers of Place.

510 SUMMARY

The Circulation Plan continues the long-standing policy of maintaining a minimum 50-foot ROW for local streets, and most of the rural roads have segments where a 50-foot dedication has been obtained through the subdivision process The requirement for dedication of at least 50 feet of right-of-way for each local road (25 feet from center line) is not intended to advocate any cartway widening, since the current narrow road widths are an essential traffic calming element supportive of the rural character of the area. In addition, the prevalence of unpaved roads in the Township represents a conscious effort on the part of the Township to retain its rural character. Bedminster should preserve the existing unpaved road network in essentially its existing configuration. Any improvements to rural local roads should be in the form of signing, warning devices, and, where experience indicates the need, limited street lighting. General widening or realignment is not recommended. Any specific spot improvements should be carefully weighed as to the effect that the spot improvement will have on driver expectations at other points along the road system.

It is important for municipalities to plan for appropriate land uses along State highways that can be accommodated by the highway in terms of access and vehicle movement. Bedminster Township commits to work with NJDOT on the I-78/I-287/Route 202&206 interchange proposal to bring the project to fruition in a manner that addresses the concerns of its residents.

A major effort by employers, Township, County and State should be focused on reducing the number of commute trips, which occur in a single occupant vehicle. The means by which this can be addressed may include car-pooling, vanpooling, telecommuting, four-day workweek, shuttles to train service from major employment locations and population centers, such as The Hills.

The Master Plan recommends that the Township approach the County and NJDOT to explore traffic calming efforts on Routes 202 and 206 within the center boundaries of the two villages The Township's focus in the future should be on controlling land development by zoning regulation. Road improvements should be focused on the existing corridor system consisting of Route 206 and Route 202, together with key intersections, along these roadways. Roadway improvement efforts should not focus on the existing local or County road system. The primary Township effort should be focused on trip reduction strategies and incorporating traffic calming techniques in the villages of Bedminster and Pluckemin, rather than road expansion strategies. In

addition, Bedminster should continue to improve pedestrian circulation through the expansion of trails and sidewalks.

Finally, to keep and maintain the rural and scenic character of Bedminster, the Township should work with the County to establish a Comprehensive Bicycle Plan, and also utilize the assistance of the County in securing funding for bicycle-related projects through its position on NJTPA.

The Township's Circulation Plan can also serve as a tool to secure Transportation Enhancement funding, and the center designations for Bedminster and Pluckemin qualify the Township for NJDOT's Local Aid for Centers of Place.

PART 6 COMMUNITY FACILITIES PLAN

601 INTRODUCTION

The Community Facilities Plan Element of the Master Plan is prepared in accordance with N.J.S.A. 40:55D-28b.

The object of a community facilities plan is to identify the existing and proposed location and type of a wide range of public and quasi-public facilities and services, including libraries, fire houses, police stations, municipal buildings and other related facilities. In order to assess the status of these services in a community it is necessary to establish the baseline condition relative to the location of facilities and the provision of services. The following inventory provides the background information on community facilities that provide the basis for subsequent recommendations concerning the adequacy of these facilities and their location.

This Community Facilities Plan responds to the needs identified in the Community Facilities and School Analysis contained in the foregoing Inventory. Existing and proposed locations of community facilities are displayed on the Township's Community Facilities Plan Map (Figure 5).

602 LIBRARY

The Clarence Dillon Public Library underwent an extensive $2.4 million renovation/expansion project in 1992-1993. The old library was enlarged and renovated with a new 10,000 square foot addition, bringing total space to 15,200 square feet. The much-improved library facility features a community meeting room, used by over 6,200 people in year 20010. The number of registered patrons has tripled since mid-1980 to over 8,500 patrons. The library continues to register an average of sixty new patrons every month, ten percent of which are non-residents, who pay for the privilege of using the Clarence Dillon Public Library.

The increased demands for library services, as well as the increased physical size of the library, necessitated an increase in paid staff. There are currently four fill-time professional librarians, two full-time paraprofessionals, and ten part-time paraprofessional staff members, including a part-time custodian. The 10,000 square foot building addition to the library increased the overall maintenance costs associated with the building, including heating, air conditioning, electric and water bills. The library has been able to provide quality service to its patrons through the general appropriations from both municipalities and with the additional assistance of the Friends of the Library and state grant funds.

The library increased service hours in year 2000 to a total of 58 service hours per week. The library is open six days a week, with at least one professional librarian on duty at all times. In the future, the library board will need to exercise continued fiscal restraint in order to provide quality service and to maintain an adequate book stock and library materials for its patrons. The library board expects to conduct a Vision Planning Seminar every five years, with input from various community organizations and the governing bodies, in order to asses ongoing

community needs with respect to library service. The Vision Plan should provide an overview or framework for the more detailed Strategic Plan, which is revised more frequently.

All minutes to public meetings and library documents are subject to the NJ Right to Know Act and corresponding open records statutes. The library further abides by all applicable New Jersey State Library Laws.

603 FIRST AID SQUAD

The Far Hills-Bedminster First Aid Squad, Inc. is a shared service and joint undertaking of the two municipalities, which provides emergency medical services for the two municipalities. The First Aid Squad building is located on a 2.01-acre lot on the south side of Main Street adjacent to the North Branch of the Raritan River, which is the municipal boundary between Bedminster and Far Hills.

The First Aid Squad is supported financially from voluntary donations from the two communities along with fund-raising and contributions by the two municipalities it serves. The Borough provides 20% and Bedminster provides 80% of annual municipal contributions to the Squad. This responds to the Squad's regular replacement schedule for primary and auxiliary equipment and operations.

As with most volunteer emergency services, the Squad has a limited number of members available for providing service Monday-Friday from 6 a.m. to 5 p.m. when most volunteers have employment commitments. In the past, this situation has resulted in the Peapack-Gladstone First Aid Squad responding to calls for the Squad. In fact as recently as 1998, the Peapack-Gladstone First Aid Squad responded to as many as 55 calls on behalf of the Far Hills-Bedminster Squad. However, renewed efforts by the Squad have resulted in a dramatic improvement of volunteer services to the point that this year, the Far Hills-Bedminster Squad covered for Peapack-Gladstone on occasion, demonstrating the degree to which the availability of weekday volunteers and response rate has improved. In fact, of the roughly 700 calls for service per year, the Squad arrives on scene at approximately 90% of its calls within 10 minutes of receiving the call. The Squad arrives on scene at the remaining 10% within 10-16 minutes of receiving the call.

The squad's current membership consists of nineteen individuals. Seventeen are New Jersey State Certified Medical Technicians – EMT's. Two members are drivers, with CPR certification. All are available for day, evening, night and weekend response. A limited number of members are generally available during the daytime, due to employment commitments in other municipalities. The squad has mutual aid agreements with Squads in all surrounding municipalities, including Peapack-Gladstone, Tewksbury, Whitehouse, Branchburg, Green Knoll, Liberty Corner, Bernardsville and Martinsville.

The Far Hills-Bedminster First Aid Squad's current inventory of vehicles includes the following:

2002 Chevrolet – First Responder Truck
1998 Ford Horton – Ambulance
2002 Ford Horton – Ambulance

The First Responder Truck responds directly to the scene to begin emergency patient care. The truck is fully equipped with EMS equipment, which includes a defibrillator, oxygen and oxygen adjuncts, immobilization devices (long board, KED, splints) and onboard lighting. It is a non-patient transport vehicle.

The primary advanced life support unit, MICU, is Somerset Medical Center's 681 and 682. Secondary MICU's are Morristown Medical Center's MICU 11 and 12, and Hunterdon Medical Center's EMS 1. MEDEVAC support is from North Star, South Star and Lehigh Valley MEDEVAC's.

604 MUNICIPAL ADMINISTRATIVE AND EXECUTIVE OFFICES

Rapid growth in the Township during the 1980's and 1990's has resulted in a dramatic increase in demand for municipal services. With the addition of The Hills including new shops, office development and over 3,500 dwelling units, and managed growth in the Route 206 corridor, the demand for modernized and efficient municipal services has become increasingly apparent, highlighting the functional and spatial limitations of the aging municipal building. During this time the Township Committee has continued to manage the size of government and effectively deliver municipal services. However, even with the previous relocation of public works, the police department and municipal court from Hillside Avenue to Miller Lane, the current municipal building is simply not large enough for the municipal offices and functions needed to effectively serve the residents of the community.

The Township Committee has determined that a new municipal building should be located at the Miller Lane complex, and has acquired additional land to expand this campus. This will permit the consolidation of all municipal services at one location in Bedminster Village and will serve Bedminster's residents well into the future, with convenience, accessibility, and proximity to other municipal services, including the police and fire departments, as well as the library, public works, the elementary school and the post office.

Design of the new municipal building is nearly complete, and the project is expected to go to bid in early 2003. The new facility will include 13,433 square feet of office, meeting, and public space and 1,953 square feet of attic storage. The new meeting room for Township Committee and other municipal meetings will seat 90 persons, and the building will provide separate access for offices & public spaces, which will allow for energy efficient management of space heating needs.

An efficient "soft wall" design for multifunction areas will allow reconfiguration and flexible use of workspace, and the new facility will provide for increased storage capacity, critical for compliance with municipal record-keeping obligations. The proposed building will employ 21st century technologies and energy saving efficiencies, and the consolidation of municipal services within one campus generates savings in utility and technology costs and allows maximum efficiency, ease of communication, and improved oversight of all departments

605 PUBLIC WORKS

The construction of the Township's garage and Public Works facility at Miller Lane in 1983 alleviated the space limitations of the Public Works Department, which previously had been housed in a rented garage on Route 206 as well as at the municipal building on Hillside Avenue. The development of the Miller Lane facility, combined with a marked decrease in the rate of growth in the Township, indicates that the Public Works' space needs remain adequately addressed at its current location. The Department foresees no need for expanded facilities in the immediate future and during the six-year planning horizon.

During the last six years the Department has maintained the current staffing level of eight persons (manager, secretary and six full-time employees). With the expansion of municipal parkland areas and an increase in active recreation facilities in the Township during the last six years, the Department has identified the need to increase staffing from the current level of one summer part-time employee to supplement recreation facilities operation and maintenance to a year-round employee to respond to the need to maintain these new facilities. Future increases in staffing levels and space needs can be addressed on an incremental basis, as the needs of the community emerge and the responsibilities of the Public Works Department are further expanded and defined.

606 FIRE PROTECTION

The location of the Pottersville Volunteer Fire Company (PVFC) in the northwestern part of the Township and the Union Hook and Ladder Company #1 (UHLC) in the southeastern part of the Township provides good area coverage for the people and property of Bedminster. In addition, mutual aid agreements with the surrounding municipalities provide increased coverage when necessary.

Each of the fire companies has prepared a capital program to address its needs over the next ten (10) years. The recommended program for the PVFC involves the following major expenditures listed in priority order:

1. Enlarge the building in Pottersville so that the Company's vehicles and future apparatus purchases can be stored inside.

2. Purchase one multi-function Fire Engine to replace the 1980 Pierce Pumper and the 1985 Chevrolet Tanker.

The recommended program for the Far Hills-Bedminster Fire Department (Union Hook and Ladder Co.) is focused on the construction of a new 5-bay firehouse at Miller Lane in Bedminster to replace the existing two-bay Station No. 2, which is no longer safe garaging for the Departments fleet of fire-fighting apparatus. When the firehouse is complete, the Department will purchase a rescue/support vehicle that cannot fit within the existing station. A vehicle replacement program for the entire fleet is currently being prepared.

The Township provides the majority of annual funding that supports both the Pottersville and Far Hills-Bedminster Volunteer Fire Companies. The remainder of their annual budget is provided by local contributions, fire company fundraising activities and Tewksbury Township (Pottersville) and Far Hills Borough (Far Hills-Bedminster). Major capital expenditures, such as facility construction, building additions and equipment replacement outlined above, require an intensive fund-raising effort by the companies and municipal assistance. The Township should investigate strategic approaches to supporting the fire companies in maintaining their volunteer base, as retaining existing and attracting new membership is a priority to maintain these volunteer companies and avoid the cost of a paid fire department.

In addition, the Township should recognize and support the training needs of the fire departments. This is not only documented in the dramatic number of calls handled by the departments, but also the multi-faceted types of responses they are required to handle in the Township.

In response to limited daytime availability of the Pottersville Volunteer Fire Company, the Company entered an agreement with the Far Hills-Bedminster Fire Department to dual response in the Pottersville area during daytime hours, which has successfully benefited the fire protection needs within the area of the Township for the last 3 years. Personnel shortages during the week, along with reliance on an aging fleet of vehicles which require additional personnel to dispatch, highlights the need to expand the Pottersville Volunteer Fire Company membership and upgrade the current fleet.

Water supply for areas with out fire hydrants can be met by having a large underground water storage tank, swimming pool or a pond accessible for Fire Department Use. Design of the system should be in accordance with recognized standards.

607 POLICE PROTECTION

The relocation of the Police Department to the new facility on Miller Lane has provided the Department with a modern headquarters situated in a good location relative to the regional road network access. One hindrance to the Department's operation, however, is the difficulty in accessing the regional road network during peak hour traffic. Patrolmen are forced to take circuitous routes to avoid the traffic tie-ups, which occur on Route 206/Washington Valley Road/Burnt Mills Road in Pluckemin, and on Lamington Road/Route 206/Route 202 (Main St. and Somerville Road) in Bedminster.

In 1982, the Department had 7 full-time police officers serving an estimated population of 2,700; in 1992 the Department had 13 full-time officers serving an estimated population of 7,200. In 2002, the Police Department staff reached a level of 17 full-time sworn officers serving a 2000 Census population of 8,302. This twenty-year increase in police staffing has not kept pace with population growth during the same period. General standards for police staffing levels are 2.2 to 2.5 officers per 1,000 population. Applying these standards to the existing population yields a staffing level of 18 to 24 officers. Current staffing levels, while slightly less than the 2.2 officers per 1,000 population standard, equates to a current ratio of 2.0 officers per thousand, which appears to be within acceptable staffing levels for a municipality with Bedminster’s

population. However, the Township should periodically evaluate whether staffing levels remains adequate to respond to future growth and emergent municipal needs.

608 SCHOOLS

The September 1992 enrollment in the Bedminster Township Elementary School was 421 students. Enrollment for the 1999-00 school year was 609 students. This is an increase in enrollment of 44% in seven years, however this growth in student population is the result of new residential construction at The Hills during this time period and additional residential growth of this magnitude is not anticipated in the future. The 99,000 square foot Elementary School, which opened in September 1993, had a capacity for 666 students in its core facilities (gym, cafeteria, kitchen, offices, etc.) and a classroom capacity of 550 students. These capacities have been increased substantially with the addition of the third floor to the elementary school in 2000, which increased the functional capacity of the school to 842 and a maximum capacity of 939.

The Board of Education's five-year Long Range Facilities Plan has indicated the need for no construction or changes in the physical plant of the elementary school. Comparing enrollment to school capacity indicates that in 1999, the enrollment accounted for approximately 72% of capacity. When viewed in the context of potential residential growth opportunities in the municipality, it appears that the current facility will remain adequate during the current 6-year municipal planning horizon. High School students in the Township Public School District attend the Bernards High School in Bernardsville on a tuition basis.

609 SUMMARY

While the primary focus of the Township's population has historically been located in Bedminster and Pluckemin Villages, the advent of The Hills has brought about a dramatic population increase in the Pluckemin area. Substantial demands have resulted from this new development and the Township has responded to these demands with additional public facility development as needed. These needs will merit an ongoing monitoring and evaluation process that involves all departments and agencies to adequately meet the needs of community in the future. Although the explosive growth in the Township that occurred in the previous 15 years is not likely to be repeated in view of the Township's managed growth land use policies it is recommended that the Township collectively develop a series of targets and indicators as a means of monitoring and evaluating its future capital needs

Targets could be set by various horizons, such as short term (six years), intermediate (10 to 15) and long term (30 years). Indicators would be simply the means of measuring progress in reaching the targets identified. For example, instead of simply setting a standard for a feature's future (number of people per item), an indicator could be the increasing of the need for that item (rise in crime rates = additional police, decrease in scholastic achievement tests = smaller class sizes). Both targets and indicators would engage individuals involved in providing the services as well as the public.

PART 7 WATER AND SEWER UTILITY SERVICES PLAN

701 INTRODUCTION

The Water and Sewer Utility Services Plan Element provides an inventory of the existing water and sewer infrastructure elements reviews the need for, and future locations of, water supply and sewage treatment facilities and service areas.

702 WASTEWATER TREATMENT

A range of wastewater management facilities serves Bedminster, including centralized sewers, package treatment facilities and on-site septic systems. The centralized sewers in the eastern highway corridor area serve most residences and businesses in the Township. However, most of the land area within the Township is beyond the range of these sewer systems, and on-site septic systems prevail throughout central and western Bedminster.

Centralized Wastewater Treatment Facilities

Bedminster Township is currently served by one centralized wastewater treatment facility, owned by the Environmental Disposal Corporation (EDC). In 1994 the Bedminster Township Wastewater Treatment Plant on Miller Lane was converted to a pumping station that diverted wastewater flows to the EDC facility in Pluckemin. The EDC now provides wastewater treatment for Bedminster and Pluckemin Villages, Far Hills, Peapack and Gladstone, and AT&T. EDC began operations at the Route 206 treatment plant in 1983, in conjunction with the development at The Hills.

EDC operates an advanced wastewater treatment facility on a 3.9-acre site just north of Pluckemin. This facility was constructed with an original design capacity of 0.85 million gallons/day (MGD), which was expanded to 1.5 MGD in 1989 and then to 2.1 MGD with the construction of a fourth process train.

The Somerset County/Upper Raritan Watershed Wastewater Management Plan (March 1999) encompasses all or parts of 15 municipalities including Bedminster. It notes that the EDC service area serves the eastern portion of Bedminster, while several private sewage treatment plants serve other portions of the township (see Private Treatment Plants below). The WMP also notes that the remainder of Bedminster will continue to be served by individual subsurface sewage disposal systems, consistent with Township Committee Resolution 94-39. The WMP also changed areas in Bedminster that were previously proposed for on-site disposal systems with design flows of less than 20,000 gallons per day to a 2,000 g.p.d maximum system size. The following table represents the sewer capacity allocations between EDC and the municipalities:

TABLE 4 EDC SEWER CAPACITY ALLOCATIONS

	Purchased Capacity(GPD)	3 Month Average (GPD)	3 Month Average as % of Purchased Allocation
Far Hills	54,350	43,867	80.7
Bedminster	192,000	89,567	46.6
Peapack/Gladstone	350,000	188,100	53.7

The Hills in Pluckemin and Bernards Township are part of the EDC franchise area and not metered separately. EDC estimates that the total population currently served is approximately 19,100 people, using an average of 75 gallons per day per capita. EDC does not have plans for future expansion or additions since the current service area is already highly populated with little room for future developments.

Each EDC process train has a design capacity of 0.52 MGD. The office, laboratory, storage and control facilities are housed in a 5,200 square foot building, which is served by 20 parking spaces. Applied Water Management Inc. serves as the operator of the EDC plant.

NJDEP EFFLUENT LIMITATIONS

The EDC effluent is discharged into a tributary to the North Branch of the Raritan River. EDC effluent limitations and monitoring requirements are displayed below. EDC maintains effluent standards within the limits established by the NJDEP.

Parameter	Units	Final Limits (Monthly)	DAC Limits (Monthly)
Flow	mgd	1.75 (Daily)	2.1 (Daily)
TSS	mg/l	20.0	20.0
CBOD (Composite)	mg/l	49.7	59.6
Phosphorus (Composite)	mg/l	0.5	0.5
Fecal Coliform	#/100	200	200
Dissolved Oxygen	mg/l	6.0	6.0
Oil and Grease	mg/l	10	10
Temperature	C	2	2
pH	su	6.0	6.0
TDS	mg/l	2	2
Ammonia	mg/l	1.2	1.2

Package Treatment Plants

Three (3) privately owned package treatment plants currently operate in Bedminster. These include Cowperthwaite Wastewater Treatment Facility, Fiddler's Elbow Wastewater Treatment Facility and Hamilton Farms. The operating characteristics of the three package plants are detailed below.

a. Cowperthwaite. This small system, owned by Lamington Farm Club, L.L.C. and operated by Garco Research Company provides secondary wastewater treatment. This system serves a total population of 8 persons and processes roughly 1600 gallons of wastewater per day. Permitted flow from the Cowperthwaite plant is 840 gallons/day, which is discharged to the Middle Brook and groundwater. The treatment facility includes a septic tank and sand filter. Attempts to reconcile the difference between the allowable and actual flows are being conducted by Somerset County. This system will be closed upon completion of the Golf Course which will than take over wastewater treatment at this facility.

b. Fiddler's Elbow. The Fiddler's Elbow Wastewater Treatment Plant, operated by Garco Research Company, provides advanced wastewater treatment to the Fiddler's Elbow Country Club. This facility includes a package activated sludge plant and sand filter, and discharges to the Lamington River. The facility has a design capacity of 45,000 gallons/day, and service is limited to the Country Club. Current flows range between 10,000 gallons/day (winter) and 30,000 gallons/day (summer).

c. Hamilton Farms. The Hamilton Farms Treatment Plant, operated by the Beneficial Management Headquarters, Inc., provides service for the Hamilton Farms employee and guest buildings. The buildings are serviced by a treatment plant with discharge to groundwater using a modified disposal field. The total population served by the facility is unknown but the site does house the U.S Equestrian team headquarters, a guesthouse, an athletic building, and other minor structures. The facility has a nominal treatment capacity of 7,000 gallons/day, although the plant has the ability to treat up to 10,000-12,000 gallons/day. The actual permitted wastewater flow is 6,696 gallons/day, and average monthly flows during 2002 ranged from 2,000 gallons/day to 8,375 gallons/day.

703 FUTURE WASTEWATER TREATMENT

Given the current dense population and the capacity of the present plant and EDC service area, there are no plans at this time to expand wastewater facilities. Future Service Areas are depicted on Figure 6.

On-Site Septic Systems

The centralized wastewater treatment capacity within Bedminster Township has been confined to the highway corridor area, and will not affect the prevalence of septic systems throughout most of Bedminster Township. Septic systems have been the primary method of

wastewater treatment in all areas except the Routes 202/206 - I-287 corridor area, and will continue to perform this function.

Septic systems are regulated according to N.J.A.C. 7:9A and Township Board of Health standards. Conventional septic systems may be installed in areas where soil conditions are not restrictive, but areas with slow permeability, a high seasonal water table or bedrock limitations may require the use of alternative systems. Since most soil series found in Bedminster pose severe limitations to the use of conventional systems, alternative systems are widely used, and may include the following:

1. Soil replacement, bottom-lined disposal field.
2. Soil replacement, fill-enclosed disposal field.
3. Mounded disposal field.
4. Mounded soil replacement disposal field.

Mounded systems must adhere to the natural grades of the property or in a way which corresponds with the existing property.

The Upper Raritan Watershed Wastewater Facilities Plan (1980 201 plan) outlined the following areas of the Township as requiring septic system performance monitoring:

1. Burnt Mills
2. Lamington
3. Pottersville
4. Union Grove

The Township Engineer has indicated that recent experience has shown 10-15 cases of septic system failure per year. Thus, of the 32 applications for septic system permits in 2001, roughly half were for repairs. Locations cited in the 201 plan for further investigation, have demonstrated relatively little evidence of failures in these hamlets, although it is likely that older seepage pits or cesspools may transmit inadequately treated wastewater into the groundwater. This problem is likely in many locations where older systems are located in areas with high water tables.

The area including Route 206 north of Quick Chek, Old Dutch Road and Ski Hill Drive has seen the greatest frequency of septic repairs.

The Country Club Subdivision near Burnt Mills Road, which was witnessing a high incidence of system replacement (5 systems in the last 2-3 years) in 1993, has more recently seen the need for fewer repairs.

Typical septic system failures occur when older trench-type drain fields, installed in shale bedrock, clog the shale pore spaces and result in septic overflow. High groundwater poses a

serious problem for older systems, although the requirements of the revised State Health Code should limit this problem as it affects new systems.

Groundwater and stream monitoring can also be useful in identifying existing problem areas, and the Township should seek to coordinate such efforts among other public and private agencies.

704 WATER DISTRIBUTION SYSTEMS

Bedminster Township is provided potable water supplies from three primary sources, including the New Jersey American Water Company, Elizabethtown Water Company and private wells. Public water distribution systems (See Figure 7) are generally oriented toward the villages of Pluckemin and Bedminster in the State highway corridor area and Pottersville Road. Private wells provide water supplies throughout the remaining portions of the municipality.

The New Jersey American Water Company (formerly Commonwealth) provides direct service to roughly 2,831 customers. This service area is generally limited to Bedminster and Pluckemin village including The Hills, and some of this water is supplied to New Jersey American by the Elizabethtown Water Company, through an interconnection at Chambers Brook.

New Jersey American has developed a 250,000-gallon storage tank near The Hills development, at a site on Mt. Prospect Road. An additional 660,000-gallon storage tank in nearby Bridgewater also serves the Pluckemin area.

Elizabethtown Water Company provides service to the Pottersville Road area and Pottersville, as well as areas south of Pottersville along Black River Road. Elizabethtown serves 80 customers in this area. (The consumption data, provided by Elizabethtown Water, is determined via pressure zones and not by municipality. Bedminster Township is served via a 514' HGL Pressure Zone which also served Peapack and Gladstone Boroughs, and Tewksbury Township. In addition this zone served the New Jersey American Water Company through meter connection on Main Street in Peapack-Gladstone and on Route 206 in Bedminster. This zone receives its water supply from the 319' HGL Pressure Zone through the Bedminster Booster Station. The tables below, provided by Elizabethtown Water, depicts the flows into and out of Pressure Zones for the region.

Transfer from 319' HGL to 519' HGL

Facility	Capacity	Peak Day Production July 18, 1999 (mgd)	Average Day Production Oct. 2001 (mgd)
Bedminster Booster	2.592	1.691	1.163
Pottersville Well (Tewksbury)	Not in Service	0	0
Total Water Supply	**2.592**	**1.691**	**1.163**

Transfer out of 514' HGL

Description	Peak Day (July 18, 1999): Pumpage (mgd)	Average Day Oct. 2001 (mgd)
To 671' HGL (Chester Road Booster)	0.295	0.155
Total Transfer out of 514' HGL	0.295	0.155
Total S.O.S. Meters (NJA)	0.4430	0.896
Total Consumption within 514' HGL	**1.3960**	**0.112**

Elizabethtown also serves as a purveyor of water to New Jersey American, the ultimate supplier of water to most Bedminster customers. Elizabethtown maintains a 1.2 million gallon storage tank near Pottersville Road on Hamilton Farm.

Water distribution facilities range in size from the 16" lines located along Route 206 to the 1 1/2" lines serving the south end of Somerville Road, and includes distribution lines of 2", 3", 4", 6", 8" and 12" diameter.

Water service is provided in the following areas (with water line diameter noted in inches):

The Hills (various sizes)
Routes 202/206 (4", 6", 16")
Bedminster Village (4", 6")
Deer Haven Road (4")
Old Dutch Road east of Route 206 (6")
Old Stonehouse Drive (6")
Ski Hill Drive (6", 8")
Peapack Road (8")
Pottersville Road (8")
Black River Road - North end (8")
Old Farm Road area (1 1/2", 2", 3")

Remaining portions of the Township are served by private wells. Since most lots served by private wells are also served by septic systems, septic failures pose serious threats to these

potable water sources. In this regard, the Township should explore options to develop a program to monitor the water quality of private wells.

Watershed Management Area 8 and Water Budget

The Raritan River Basin includes a number of major watersheds, comprising approximately 1,100 square miles. The New Jersey Department of Environmental Protection (NJDEP) has aggregated these watersheds into three Watershed Management Areas (WMAs), within the Raritan Basin; Bedminster Township is located in the Upper Raritan Watershed Management Area (WMA 8). The other areas within the Raritan basin are the Lower Raritan WMA (WMA 9) and the Millstone WMA (WMA 10).

"Water budget" is a term for the quantification of precipitation, runoff, recharge, evaporation, transpiration and human uses of water within a watershed. A water budget is used to understand how water arrives, flows through and leaves a watershed, and is valuable in understanding how human activities modify the natural flow of water. Precipitation is the sole natural source of water in a watershed. Of the total precipitation, some evaporates from the land or water surfaces of the Basin or transpires from vegetation (the two are usually combined in the single term "evapotranspiration"), and the remainder either infiltrates to become ground water or runs off the land surface to be surface water during storm and snowmelt periods. Ground water eventually becomes stream flow, contributing to the flow of streams during both wet and dry periods. Human activities within the Basin may add to or subtract from infiltration, evapotranspiration and runoff.

The analysis conducted on the Raritan River Basin shows that the Basin benefits from a moderate climate with well over 40 inches of precipitation per year, on average. Geologic and soil differences among the watersheds of the Basin result in wide differences regarding rates of infiltration/recharge and runoff. Evapotranspiration, on the other hand, is relatively constant around the Basin.

Here are a wide variety of impacts that human activity (e.g., land development, movement of water and wastewater between watersheds, consumptive uses of water such as irrigation) can have on the natural water budget. The Raritan Basin has both significant water imports (through the Delaware and Raritan Canal) and significant inter-watershed exports (e.g., from the Basin to the Raritan Bay, from the Basin to other river basins). Increased impervious surfaces will tend to increase runoff and decrease infiltration/recharge to ground water, resulting in higher storm flows and lower dry weather flows in watershed streams.

A review of the components of the Water Budget and the general conclusions demonstrates that the only tool that local governments can use to mange this issue is through its planning policies. In particularly, the Township's ability to set the intensity of development in terms of density and lot coverage is of vital importance. This reinforces the Township's policy of

respecting the limitations of the local topography and soils in designing and location septic systems along lot coverage requirements.

705 SUMMARY

This Utility Services Plan supports the Land Use Plan with infrastructure capabilities designed to meet the demands of the designated villages, but cautions against the extension of growth-inducing infrastructure into the countryside. Regional wastewater treatment will be limited to the villages of Bedminster and Pluckemin, The Hills development and the retail and office facilities along the State highway corridor.

Existing on-site package treatment facilities at Cowperthwaite, Fiddler's Elbow and Hamilton Farms are not proposed for expansion. The remaining portions of the community will continue to be served by conventional on-site septic systems, which should be designed to respect limitations of the local topography and soils in the Township.

The Township's Land Use Plan as adopted will not require the extension of public water beyond those areas where service is currently provided. Confining this infrastructure within the growth corridor, and the designated villages of Bedminster and Pluckemin, remains a primary objective of this plan.

PART 8 HISTORIC PRESERVATION PLAN

801 INTRODUCTION

The Historic Preservation Plan Element of the Master Plan is prepared pursuant to N.J.S.A. 40:55D-28b (10), which reads as follows:

> (10) A historic preservation plan element: (a) indicating the location and significance of historic sites and historic districts; (b) identifying the standards used to assess worthiness for historic site or district identification; and (c) analyzing the impact of each component and element of the master plan on the preservation of historic sites and districts.

802 HISTORIC RESOURCES INVENTORY

The Municipal Land Use Law (MLUL) defines an "historic district" as "one or more historic sites and intervening or surrounding property significantly affecting or affected by the quality and character of the historic site or sites." (N.J.S.A. 40:55D-4)

"Historic site" means "any real property, man-made structure, natural object or configuration or any portion or group of the foregoing of historical, archaeological, cultural, scenic or architectural significance".

N.J.S.A. 40:55D-65.1 provides that "a zoning ordinance may designate and regulate historic sites or historic districts and provide design criteria and guidelines therefore. Designation and regulation pursuant to this section shall be in addition to such designation and regulation as the zoning ordinance may otherwise require."

The MLUL also requires that after July 1, 1994, all historic sites and historic districts designated in the zoning ordinance shall be based on identifications in the Historic Preservation Plan Element of the Master Plan, unless the governing body adopts an inconsistent ordinance by majority vote of its full membership and records its reasons in the minutes and a resolution.

Bedminster Township contains an impressive display of historic resources, which provides modern day evidence of a past way of life in north central New Jersey. It is the purpose of the Historic Preservation Plan Element to identify the historic sites within Bedminster Township and indicate their significance to the history, architecture, archeology, and culture of New Jersey.

The wealth of historic resources within Bedminster Township highlights the importance of the Historic Preservation Plan Element of the Master Plan. Formal recognition of these

historic resources in the Master Plan assists the effort to protect and conserve the resources in a comprehensive manner, including the formulation of appropriate ordinance regulations.

Historical Background

The Township of Bedminster, located in the Somerset Hills of New Jersey, was chartered in 1749 by King George II and settled by Dutch, German, and Scotch-Irish immigrants.

The lands of the Township are the greater part of the Peapack Patent, the original grant from the Lord Proprietors of East New Jersey to George Willocks and John Johnstone, two 18th century land speculators. In the Patent, the area is described as follows:

> *"Beginning on a mountain at the head of a small brook that emptieth itself into the North Branch about half a mile or less above where the house of John Chambers stood, and from thence running on a straight line to the uppermost end of an old Indian field on the easternmost rivulet of the North Branch, and so running over the land to the land of the Machopoickon, and from thence along said Machopoickon's land north west up to the mountains above the Pechpeck Towne and from thence along the top of the mountain easterly to the ridge of mountains called the Blew Hills, and so along the top of said Blew Hills to the place where it began."*

In years unnumbered, the Lenni-Lenape (the Original People) passed through the Township in their migrations between the Delaware River and the shore. The Narraticongs (hence Raritan) and other sub-tribes of the Delaware Indians found their way through the First and Second Watchung (the high hills) Mountains, then north along the Alametunck (Lamington) River to its falls. Another trail followed the Peapack River through the rift valley of the Ramapo fault.

Seventeenth Century Dutch and Germans tracked the Indian paths. They cleared the fields for their crops and built their mills by the streams. Footpaths became county lanes.

After 1700 the English Colonial government laid out proper roads. Where two roads crossed, a village formed.

Pluckemin was an early trading center at the junction of the roads from Bound Brook, Peapack, and Bullion's Tavern (Liberty Corner). There was a German Lutheran Church on Pigtail Mountain east of Pluckemin as early as 1720, and a tavern in the village by 1750.

The Scots and Irish settled Lamington. A Presbyterian Meeting House was built in 1740. Farmers and millers came to worship here where four roads met.

Another settlement was at Greater Crossroads, where the road from Vealtown (Bernardsville) met Larger Cross Road. The village of Lesser Crossroads (Bedminster) did not develop until years later.

By the time of the American Revolution, the road network of Bedminster Township was in place. There were no significant additions for 150 years.

During the Revolutionary War, Somerset County was corridor and crossroads for Washington's Army. After the Battle of Princeton in 1777, the Continental Army marched to Pluckemin and camped overnight. A British spy map shows the rebels close by Chamber's Brook. Several hundred captured British soldiers were quartered in the Pluckemin Church, which had been damaged by British raids in 1776. A British officer, Captain William Leslie, is buried in the Pluckemin churchyard.

During the winter of 1778-1779, General Henry Knox and the Continental Artillery encamped for six months on the slope of the Second Watchung Mountain northeast of Pluckemin Village. Here Knox constructed what was intended to be a permanent installation for the training of artillerists.

On February 8, 1779, Knox and his officers played host at a gala ball and fireworks display celebrating the first anniversary of the alliance between the French government and the American colonies. More than 300 persons attended, including General and Mrs. Washington.

The focus of the war after 1779 shifted away from New Jersey, but local militia continued to train at Pluckemin. The Knox camp became a military hospital and was in use through 1780. The Continental Army marched near Pluckemin again in 1781 en route to the Battle of Yorktown.

Eighty-three men from the Lamington Church congregation fought in the Revolution, and fourteen are buried in the Church's cemetery. Among them is John Honeyman, Washington's spy who assured victory at the Battle of Trenton.

Township records in 1782 provide a profile of rural Bedminster in the young republic: 18,817 acres of improved land, 461 horses, 638 horned cattle, 372 hogs, 56 householders, and 37

slaves. Also, six merchants in trade, two sawmills, seven grist mills, eight taverns, two tanyards, 10 single men with horse, 23 single men, and 13 riding chairs and sulkies.

19th century Bedminster was an agrarian community, beyond the pale of the metropolitan area. The fertile land yielded wheat, oats, corn, and hay. Beef and dairy cattle, hogs and sheep grazed the fields. Orchards were everywhere - this was peach country.

Attempts to bring rail transportation to the area failed. Farmers made the journey to markets in Somerville and Morristown on washboard roads more than a century old. Churches vied among the sparse population for their congregation. The town sent its sons to fight in the War of 1812 and in the Civil War. Growth was indiscernible.

Population of the Township in 1830 was 1,453. The Village of Lesser Crossroads counted a hotel, a store, and a score of houses.

Gordon's Gazetteer of New Jersey described Pluckemin in 1843 as having one tavern, two stores, and 20 or 25 buildings; Pottersville with a store, a tavern, and some dwellings; and Lamington with a Presbyterian Church, a tavern, and three or four dwellings ... descriptions not inaccurate today.

By 1880, the Township's population had inched up to 1,812 persons; 728 were school age children. The average daily enrollment at the twelve public schools was only 255 - most of the young people were kept out of school to work the family farm.

Events near the turn of the century were the seeds of future growth and change. The Rockaway Valley Railroad, providing freight and passenger service from Whitehouse to Pottersville, began operating in 1889. The Passaic and Delaware line from Hoboken to Bernardsville was extended to Gladstone in 1890.

The Kenilworth Inn in Pluckemin invited city people out to take the country air. The "hotels" at the crossroads in Pottersville, Gladstone, Peapack, and Lesser Crossroads were simple inns offering a respite from the heat and hurry of the city.

Bedminster was becoming accessible. The sprawling green Township with its farmland and pasture, trout streams, and villages with ascending church spires lured new people with money generated from utilities, railroads, pharmaceuticals, finance, and manufacturing.

In the decades between 1890 and 'Black Friday', the Township donned a new mantle. Wealthy men purchased thousands of acres of land in Bedminster. Grant B. Schley was the first. In 1889 he bought 1,500 acres, which he intended to divide and sell as country estates for his city friends. He died before the plan was realized. Today, The Hills Development Company has developed his Second Watchung Mountain property.

Charles Pfizer, the pharmaceutical magnate, brought the hounds of the Essex County Hunt to Gladstone, where he purchased a 200-acre farm on Old Chester Road. The farm barns were converted into stables and kennels. In 1913 the Essex Fox Hounds were formed, and a farm near Peapack was fixed up as a Club House.

Financier James Cox Brady began to buy up farmland in 1911. His Hamilton Farm extended across 3,000 acres in Bedminster and another 2,000 acres in adjoining Townships. During the 1920's, investment banker Clarence Dillon assembled a 1,000-acre estate adjoining Brady's.

The super-imposition of the rich and powerful transformed the Township. The farmer became the tenant on his own land. There was an immeasurable boost to the local economy. Employment was provided for all in constructing palatial homes or working on the estates. Local merchants prospered through endless orders for materials and supplies.

The paternal benevolence of the estate owners was so all-persuasive that the community was nurtured through the lean years of the 1930s and the hard war years of the 1940s.

The coming of the automobile precipitated improvements to the ancient road system. The dirt track from Somerville to Morristown was paved during the 1920s. A new hard surface highway, now Route 206, was constructed in 1930, linking Andover on the north to Princeton. The new artery merged with Route 202 below Bedminster Village.

Merchants in Peapack and Gladstone vainly protested the alignment. Highways should go through villages to foster business, they declared; not bypass them. The new road cut through Hamilton Farm and severed Brady's farm road to the Peapack Station. The State Highway Department built him one of the few private bridges in New Jersey that spanned a public road. Beneficial Management Corporation took down the bridge in 1980.

The country roads were next to be upgraded. Pottersville Road was paved during the 1930s; then Lamington, Burnt Mill, and Black River Roads during the 1940s.

The Township's own roads remained unpaved: a deterrent to through traffic on country lanes leading only to a scattering of houses; and easier on horses' hooves. Today in Bedminster, where there are blacktop private drives a mile or more in length, 17 of the 53 miles (nearly 1/3) of the roads under Township jurisdiction are still stone and dirt.

The Township population in 1940 was 1,600 - a gain of 11 persons in 100 years. The Township had shrunk by six square miles when the Borough of Peapack and Gladstone seceded in 1912. Village dwellers had objected to paying the high taxes required to maintain and patrol the long miles of rural roads.

The advent of the interstate highway network had a dramatic impact on the eastern portion of the Township. Interstate Route 287 was opened through the Township in 1966 and I-78 in 1970. Major corporate development was attracted to Bedminster when the AT&T Long Lines facility was developed between I-287 and the North Branch of the Raritan River. Mount Laurel housing litigation resulted in the approval of a 3,300 unit planned development at The Hills in Pluckemin. In the wave of development occurring during the 1980's, major office and retail developments were approved and most were constructed.

The 1980 US Census recorded the population of Bedminster Township at 2,469. Evidence of the impact of The Hills planned developments is seen in the 1990 Census, where the Township population was recorded at 7,086.

Historic Resources in Bedminster Township

This historical and architectural survey of the Township of Bedminster was compiled by Anne O'Brien, former Local Historian, with the professional advice of James S. Jones, AIA, and the collective personal recollections of the following long-time residents of the area:

Ethel Anderson
Leslie and Martha McLaughlin Apgar
Henry Beekman
Malcolm Belcher
Alfred and Viola Burd
John K. Cowperthwaite, Jr.
Lida Orts Eastman
Col. Fred H. L. Field
Anderson Fowler
Arthur Hall
Ben Henderson
Vernon Hoffman
Nelson Wortman
Charles Howard
Fred Huyler
Harry Lisk
James and Dorothy Metzler
Mildred Harsell Rowe
Raymond Schapley
Reeve Schley
R. Earl Smith
Mabel Duyckinck Eick Stryker
Carrie Metzler Sullivan
Abran and Irva G. Ten Eyck
Albert Winkler

Other sources were:

Historic Sites Inventory," Somerset County Planning Board, 1977;
Inventory of Historic Sites for the New Jersey Department of Environmental Protection, Office of Historic Preservation," Upper Raritan Watershed Association, 1981;
Architectural and Historic Inventories of Pluckemin Village (1981) and Lamington (1982), Heritage Studies, Inc., for the Bedminster Township Planning Board;
The Story of an Old Farm, Andrew D. Mellick, Jr., 1889, reprinted by the Rutgers University Press, 1948;

History of Hunterdon and Somerset Counties, James P. Snell, 1881;
The Wycoff Family in America, Tuttle Publishing Co., Rutland, Vermont;

"Recollections of the Essex Hunt," Frederick W. Jones, Jr., 1967;
Somerset County Historical Quarterlies, 1914-1919;
Lane family papers;
Frederick Walter's papers and personal research;
Histories of the Bedminster Reformed Church, the Lamington Presbyterian Church, the Pottersville Reformed Church, and the Pluckemin Presbyterian Church;
The Rock-A-Bye-Baby," Thomas T. Taber, III, updated;
1914 Farm and Business Directory of Hunterdon and Somerset Counties;
1850 Map of Somerset County;
1873 Atlas of Somerset County;
1919 Somerset Bridle Path Association Map;
1925 Map of Hamilton Farm;
The Somerset County Cultural Resource Survey Phase 1.

The assistance of Township Historian Dutzie Robbie in updating this information for the Historic Preservation Plan Element is also gratefully acknowledged.

As indicated in Appendix A titled – "DESCRIPTION OF HISTORIC RESOURCES," and Figure 8 entitled "Historic Points and Districts ", approximately one hundred fifty (150) historic buildings, structures, and areas are located throughout Bedminster Township. The Pluckemin, Pottersville, and Lamington Historic Districts and Kline's Mill are included on both the State and National Registers of Historic Places. This inventory provides the basis for continued efforts to preserve the visible evidence of Bedminster Township's historic past, so that the historic resources of the municipality may be maintained for all the residents of New Jersey.

Historic Districts and Sites

The villages, which have emerged at the major crossroads within Bedminster Township, continue to be historically and culturally significant places. The four (4) historic districts designated in this Historic Preservation Plan Element, shown on Appendix B-1*, should receive particular attention in the Land Management Ordinance.

Because of continuing pressures for further development, Bedminster Township should assure that it possesses the tools to preserve the rich historical heritage that is one of its most important resources. This will involve managing changes to historic sites and structures, as well as the lands and buildings, which contribute to the historic context. Where the historic districts in Bedminster extend beyond the documented historic resources, new development and redevelopment should be guided by the visual compatibility factors outlined in the Land Management Ordinance.

A detailed description of each of the four (4) historic districts, Kline's Mill and the Vanderveer/Knox House is included in the Inventory-Nomination forms prepared to demonstrate

eligibility for registration in the National Register of Historic Places. A brief description of these resources follows.

Pluckemin Village Historic District

The Pluckemin Village Historic District has been identified as an early rural center in New Jersey. The district area contains approximately thirty-three (33) buildings reflective of the area's architectural and historical past including the Pluckemin Presbyterian Church, the Burd House, the Boylan House and the former manse (minister's house). The district also includes adjoining lands and buildings, which significantly affect or are affected by the historic resources in the district.

During the development of The Hills, the Pluckemin Artillery site was the subject of archaeological investigation. Hundreds of artifacts of the early occupation of this site were recovered and catalogued.

The Pluckemin Historic District was placed on the New Jersey Register of Historic Places on February 22, 1982 and on the National Register of Historic Places on July 26, 1982. The National Register is the Federal Government's official list of historic places worthy of preservation.

Placement of the Pluckemin Historic District on the National Register is important because the Pluckemin area continues to experience significant development and increasing traffic volumes. Of particular concern is the need to reduce the impact of the substantial traffic volumes, which currently burden the village. Regional through traffic currently traverses the village as a result of incomplete connections in the interstate highway network. Rerouting of this regional traffic is a primary objective of the Circulation Plan, which has a direct bearing on the protection of the historic character of the village. Any widening of Routes 202/206 should be avoided because it would destroy the interaction between the historic buildings, and pull apart the historic fabric which is essential to the village character.

Lamington Historic District

Lamington is a rural settlement of seven houses, a store and barn, the Lamington Presbyterian Church (1826), schoolhouse and cemetery, a Black cemetery (1857), and site of the meetinghouse barn (1740). As identified in the Historic Preservation Plan Element, the district also encompasses residential and agricultural lands surrounding this crossroads hamlet.

Lamington is on Lamington Road at its intersections with Black River and Rattlesnake Bridge Roads. Although settled in 1740 (when the first church was built), the architectural appearance of the village is mid-to-late nineteenth century in character. The area has survived as an identifiable example of a rural trading and meeting place surrounded by open lands. Preservation and protection of Lamington, including the surrounding open lands, is deemed an important objective for historical and cultural purposes.

The Lamington Historic District was listed on the State Register on May 7, 1984 and on the National Register of Historic Places on June 21, 1984.

Bedminster Village Historic District

The Bedminster Village Historic District encompasses lands historically referred to as "Lesser Crossroads" and includes an assortment of buildings located along Lamington Road, Somerville Road, Main Street and Hillside Avenue. Among the historic structures included within the Bedminster Historic District are Willie's Tavern, Bedminster Reformed Church and numerous houses, including many of which have been converted to commercial and office uses. The district also includes surrounding properties significantly affecting or affected by the quality and character of the historic resources in the village.

The linear orientation of the village district suggests that this district is susceptible to intrusion by inappropriate new development, as noted by the Historic Preservation Commission. For this reason, the Historic Points and Districts map (Figure 8) includes lands not identified in Appendix A, "Description of Historic Resources" but which nonetheless play a significant role in maintaining the character and ambiance of the historic resources of the district.

Vanderveer/Knox House

Jacobus Vanderveer constructed this house, located on the grounds of the River Road Green Acres tract, in 1772. Originally a one and one-half story Dutch-framed dwelling, the building was 3 bays wide and 2 bays deep.

During the Revolutionary War General Henry Knox and his wife occupied the home in 1778 and 1779. General Knox commanded the operations of the Pluckemin Artillery School. The site was listed on the National and State Registers of Historic Places.

Kline's Mill Historic Site

Kline's Mill, an "up and down" or reciprocating saw mill with the mill drive intact, is situated in the floodplain lands of the North Branch of the Raritan River in Bedminster Township. The mill and its accompanying hydrosystem are sited on an east/west axis between the south bank of the river and several river islands. The hydrosystem includes the millpond, dam, intake gate, waste weir, head race, and tail race. It extends from the head of the mill pond west some 2,000 feet to the Kline's Mill Road Bridge when the tail race rejoins the main course of the river.

The mill is a one story board and batten sheathed frame building approximately 64' x 20' with a pitched roof. It has been extensively restored since its listing on the New Jersey and National Historic Registers. It is privately owned.

Kline's Mill was listed on the State Register of Historic Places on November 20, 1986. Listing on the National Register occurred on March 9, 1987.

Pottersville Village Historic District

Pottersville spans the Lamington River (the main tributary of the North Branch of the Raritan River) just below the junction of Hunterdon (west), Morris (north), and Somerset (east) Counties in north central New Jersey. Although the river runs through a steep gorge just north of the village (and is known at that point as the Black River), in general the topography of the immediate area is characterized by rolling hills and valleys. The wandering course of the river, the configuration of the intersecting valleys, and the pattern of the roads that serve them, most of which were laid out during the 19th century, have been the primary factors in determining the irregular, linear shape of the village. While Pottersville has been a mixed industrial, commercial, and residential center, newer development has been entirely residential and the surrounding region has remained rural in character.

The Pottersville Historic District was listed on the State Register on August 9, 1990 and on the National Register on September 19, 1990. The Pottersville Village Historic District takes in virtually the entire historic core of the village; the major portions of the district lie in Bedminster (southeast) and Tewksbury (southwest) Townships, but it also contains related property in Washington (northwest) and Chester (northeast) Townships. Properties in the district are on Pottersville Road (Route 512), Black River Road, McCann Mill Road, Fairmount Road East (also Route 512), Hill Street, and Hacklebarney Road. A modern bridge carries Route 512 across the Lamington River and connects the eastern area of the village and district (sometimes referred to as "downtown" Pottersville) with the western section ("uptown" Pottersville). Within this multi-jurisdictional historic district are some 53 major buildings, 3 structures, and 4 sites. Of these, only 9 buildings (8 residential and 1 commercial) and 1 structure (the bridge) are considered noncontributing; 1 building has been substantially altered, and the remaining 9 properties were constructed outside the period of significance for the district.

The Pottersville Historic District, within Bedminster Township, as shown on Attachment B, includes those lands and buildings listed on the National Register as well as adjoining and intervening lands and buildings, which are important to protecting the character of the village.

Historic Rural Bedminster

The survey of historic resources recognizes more than 150 historic sites outside the historic districts, in the rural areas of the Township. Collectively, these sites form the historic backdrop of the Township.

Individually, these sites are the thread of history, which, woven together, tells the story of a once-remote farming community.

Rockaway Valley Railroad

The Rockaway Valley Railroad, a New Jersey short line constructed between 1888 and 1892, reached Pottersville in 1889. This line was quickly dubbed the "Rockabye Baby" alluding to its rough dirt bed, heavy grades and curves. The Rockaway Valley Railroad was constructed primarily to bring the peach crop from Hunterdon and Somerset County to market via a connection with the Central Railroad of New Jersey.

Farmers in Hunterdon and Somerset had turned to peach growing after the Civil War. By 1889 there were 2,000,000 peach trees in Hunterdon and another 500,000 east of the Lamington River in Somerset. Peach growers put up the money to construct a railroad linking the orchards to the New York market.

The Rockaway Valley Railroad provided passenger and freight service from Peapack through Pottersville to Oldwick and Whitehouse. The line carried coal, iron, lime, and cement, but primarily peaches. The "Rockabye" met the New York train at the New Jersey Central Station in Whitehouse.

When the Rockaway reached Pottersville, the peach crop was failing, but for nearly a decade, the peach industry was a major user of the line. In 1891, the Rockaway carried 140,000 baskets of peaches, which rose to over 400,000 by 1897. However, by 1904-1905 the peach orchards were past their prime and infected by blight, and peach growing was largely over in the region.

The Rockabye Baby carried both passenger and freight business through Pottersville handling both raw materials and finished products to and from the mills and foundry.

While rail service was initially expected to expand the industrial base in Pottersville, this did not occur. However, passenger service did lead to significant growth in Pottersville. An early amusement park along Black River called "The Glen" capitalized on the scenic character of the

gorge area and included hiking trails, boating and a horse-drawn merry-go-round with wooden swing seats. J.E. Mellick, the engineer who laid out the Rockaway Valley line and developed The Glen as a recreational destination, operated charter trips to Pottersville that were capable of handling large groups. Passengers on the Rockaway Valley line disembarked behind the Parkside Hotel and visitors found a shorter route to Pottersville Road through the bar at the hotel, than by walking around the building. The hotel provided meals for day-trippers as well as overnight accommodations.

The peach industry was as fragile as its luscious fruit. Despite record crops in 1891 and 1894, peach production was declining. Growers were not settling out any new trees. The San Jose scale, a tiny destructive insect, first appeared in the orchards in 1900, and killed thousands of peach trees in succeeding years. The last peach train ran in 1901. By 1904 the peach industry was gone.

In spite of the rail lines ability to move the peach crop and later attract tourists to Pottersville, the Rockaway Valley line was never a financial success and in 1912 went into receivership. Due to a lack of repairs to the track and road bed, in 1913 the New Jersey Public Utilities Commission declared the line unsafe and ordered it closed. The tracks were removed in 1917. The track, train and engine were shipped to France, where a new railroad was constructed. Today, vestiges of the original roadbed can be seen in the Bedminster section of Pottersville.

803 STATE AND NATIONAL REGISTERS OF HISTORIC PLACES

Criteria; Process for Nomination

The New Jersey Register of Historic Places and the National Register of Historic Places are the official State and federal listing of the historic and cultural resources of the respective levels of government. New Jersey has developed a process whereby nomination of the State Register is an integral part of the National Register nomination process and New Jersey administers both the State and National Registers. The following criteria are used to evaluate sites and districts for inclusion in both the State and National Registers of Historic Places:

a. Those districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

    1. That are associated with events that have made a significant contribution to the broad patterns of our history; or
    2. That are associated with the lives of persons significant in our past; or
    3. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master builder, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

4. That has yielded, or may be likely to yield, information important in prehistory or history.

The State Historic Preservation Officer (SHPO) administers the federal historic grant-in-aid program to fund acquisition, restoration and preservation of public and private properties listed on the National Register.

No federally aided project can be approved which will endanger a register-listed historic building or district without review by the SHPO. Inclusion on the Registers however, has little impact on actions, which are privately funded by the property owner. Owners can sell, alter or remove such structures and are not required to open the building for public inspection. However, the register listing acknowledges the historic or cultural significance of a structure or district, and this public recognition may enhance the value of such properties.

Federal and State Review

The National Historic Preservation Act of 1966, as amended, provides for the review of actions by any federal agency, which may affect these resources. Such review affects properties, which are listed on the National Register, as well as those, which are eligible for National Register listing. Under this review process, the SHPO is provided an opportunity to comment on proposed actions, based on information provided by federal officials.

The New Jersey State Register law (N.J.S.A. 13:1B-128 et seq.) provides for review of State, County or municipal action affecting State Register properties. Government sponsored projects, which would impact on State Register listed properties are reviewed by the Commissioner of the New Jersey Department of Environmental Protection in consultation with the New Jersey Historic Sites Council. Any project which encroaches on a State Register property requires authorization by the Commissioner.

Nomination forms for the State and National Registers of Historic Places are available from the State Historic Preservation Office, Division of Parks and Forestry, and the NJDEP.

Certified Local Government Program

The Office of New Jersey Heritage offers a local government certification to assist municipalities in increasing local participation in State and federal historic preservation programs. The Certified Local Government (CLG) program offers municipalities the opportunity to receive Historic Preservation Fund matching grants for a variety of educational and preservation activities.

Information on participation in the CLG program or technical assistance in identifying and protecting historic resources can be obtained from the Office of New Jersey Heritage, CN404, Trenton, NJ 08625.

804 IMPACT OF OTHER PLAN ELEMENTS ON HISTORIC RESOURCES

Land Use Plan

The low intensity of permitted use throughout the Rural Residential Districts is important in the preservation of historic resources. For example, the higher intensity of permitted development in Bedminster Pluckemin and Pottersville has resulted in adoptive reuse of many historic structures as well as the importance of the open surroundings and low intensive development.

Conservation Plan

The Conservation Plan includes an identification of "scenic corridors" - roads or waterways that reflect the unique scenic character of Bedminster's natural and man-made landscape elements. Most of the historic roadways and footpaths, which have traversed Bedminster for centuries, are among the roads designated as scenic corridors.

The management recommendations of the Conservation Plan pose no threats to historic resource preservation. Scenic resource management recommendations should help to conserve historic resources.

Recreation and Open Space Plan

The Recreation and Open Space Plan serves to protect some of the historic resources identified in this element. The Pluckemin Artillery Park site is included in Block 59 Lot 1 and a portion of the Four Oaks neighborhood, where permanent open space is planned.

The Township's Green Acres open space acquisition at River Road Park includes the Jacobus Vanderveer House (sometimes called the "Knox House"). Appropriate buffers should be maintained between this historic structure and planned active recreation areas.

Circulation Plan

The thrust of the Circulation Plan seeks to retain the unpaved character of local roadways throughout most of the Township, posing little or no threat to historic structures throughout the countryside. Arterial highways, including interstate and state highways, pose potential conflicts with some historic resources.

The most significant threat relates to potential expansion of Route 202/206 in Pluckemin Village, where historic structures would likely be lost or substantially compromised. The Circulation Plan places a high priority on the development of circulation connections which reduce the impacts of regional through traffic on the Pluckemin Historic District.

Community Facilities Plan

None of the proposals of the Community Facilities Plan pose threats to historic resources.

Utility Services Plan

The Utility Services Plan provides for water and sewer infrastructure to support higher intensity development in the easterly highway corridor area of Pluckemin and Bedminster Villages. While such higher intensity development has resulted in substantial adaptive reuse in these village areas, the Utility Services Plan limits this infrastructure to a narrowly defined area. As a result, higher intensity development will not be induced in the countryside, serving to limit threats to historic resources in the rural countryside.

805 REGULATORY CONSIDERATIONS

The Municipal Land Use Law provides that a municipality may create a "Historic Preservation Commission" by ordinance and such commission shall consist of 5, 7, or 9 regular members and up to 2 alternate members in three membership classes. N.J.S.A. 40:55D-107 details these membership categories and voting requirements. When such a commission has been created, it shall have the responsibility to:

a. Prepare a survey of historic sites of the municipality pursuant to criteria identified in the survey report;

b. Make recommendations to the Planning Board on the historic preservation plan of the plan element and on the implications for preservation of historic sites of any other Master Plan elements;

c. Advise the Planning Board on the inclusion of historic sites in the recommended capital improvement program;

d. Advise the Planning Board and Board of Adjustment on applications for development pursuant to section 24 of P.L. 1985, c. 516 (C. 40:55D-110);

e. Provide written reports pursuant to section 25 of P.L. 1985, c. 516 (C. 40:55D-111) on the application of the zoning ordinance provisions concerning historic preservation; and

f. Carry out such other advisory, educational and informational functions as will promote historic preservation in the municipality.

N.J.S.A. 40:55D-110 provides for referrals by the Planning Board and Board of Adjustment to the Historic Preservation Commission of an informational copy of every application submitted to either board for development in historic zoning districts or on historic sites designated on the zoning or official map or in any component element of the Master Plan. Failure to make the informational copy available shall not invalidate any hearing or proceeding. The Historic Preservation Commission may provide its advice at the hearing on the application and explain any written report, which may have been submitted. If the zoning ordinance designates and regulates historic sites or districts, the governing body shall by ordinance provide for reference of applications for issuance of permits pertaining to historic sites or property in historic districts to the Historic Preservation Commission for a written report on the application of the zoning ordinance provisions concerning historic preservation (N.J.S.A. 40:55D-111).

Bedminster Township has created a Historic Preservation Commission according to the provisions of the Municipal Land Use Law. The Bedminster Township Land Management Ordinance has been amended to require referral to the Historic Preservation Commission of applications for new buildings or alterations within any designated Historic District.

806 SUMMARY

Bedminster Township has a rich cultural heritage and an extensive historical legacy. The map and description of Bedminster Township historic resources includes roughly 150 historic sites and four historic districts, three of which are listed on the State and National Register of Historic Places.

It is important to identify the historic resources of Bedminster Township as part of the municipal Master Plan, so that appropriate methods for their protection and conservation can be pursued, consistent with the requirements of the Municipal Land Use Law. Bedminster Township has created a Historic Preservation Commission, which conforms to the Municipal Land Use Law requirements, as recommended in the 1995 Historic Preservation Plan Element. Participation in the Certified Local Government (CLG) program should be further pursued by the Historic Preservation Commission and implemented.

Bedminster Township is dedicated to preserving its historic resources, in part through adherence to the US Secretary of Interior's standards for historic preservation projects. The Township should continue its efforts to assure that historic preservation standards in the Land Management Ordinance provide adequately for the preservation of historic districts and sites and prevent intrusion by incompatible new development.

*Note: The "Historical Background" section of this report is taken from a monograph entitled "From Primitive Man to Planning Master - A Tale of the Township of Bedminster," authored by Anne O'Brien, former Bedminster Township Committeewoman and Local Historian, dated September 1981. ART 10

PART 9 HOUSING PLAN

901 INTRODUCTION

Bedminster Township was a defendant in a "Mount Laurel" lawsuit (Allan-Deane Corporation v. Township of Bedminster and Planning Board) and in 1984 received a "Final Judgment of Mount Laurel II Compliance and Six Year Repose". This final judgment came in response to the Township's agreement to rezone sufficient lands to permit the construction of at least 819 low- and moderate-income units, which the court found to be Bedminster's fair share obligation for the 1980-1990 period.

The court modified the 1984 Final Judgment in 1992 to reduce the Township's fair share obligation to 698 units and extend the period of repose until December 31, 1995. The 1992 order also required the Township to submit a Petition for Substantive Certification to the Council on Affordable Housing (COAH) before the expiration of the extended period of repose.

The Housing Element and Fair Share Plan provides a detailed analysis of the demographic, housing and employment characteristics of Bedminster Township and identifies the Township's fair share responsibility to provide low- and moderate-income housing according to rules promulgated by COAH.

The Township's pre-credited need is 177 low- and moderate-income dwelling units. The Township's affordable housing production, including allowable credits is 816 units. The Township seeks COAH's formal agreement to credit the excess of 639 affordable dwelling units (including credits and reduction) against any future fair share obligation.

902 DETERMINATION OF FAIR SHARE

The total affordable housing need estimate for the Township consists of indigenous need, reallocated present (indigenous) need, prospective need for 1993-1999, prior cycle (1987-1993) prospective need, and demolition. From this total are subtracted dwelling units made available through filtering, residential conversion and spontaneous rehabilitation; the resulting sum is termed pre-credited need. In the following chart the items, which comprise need are positive values, and those, which reduce need are shown as negative values:

	Dwelling Units
Indigenous Need	+ 28
Reallocated Present Need	+ 17
Prospective Need (1993 - 1999)	+ 99
Prior Cycle Prospective Need	+ 67
Demolitions	+ 3
Filtering	- 30
Conversions	- 3
Spontaneous Rehabilitation	- 4
Pre-credited Need	**+177**

The Township's pre-credited need is further broken down into the rehabilitation component of 24 units (indigenous need minus spontaneous rehabilitation) and the new-construction component of 153 units.

The pre-credited need for affordable housing represents the starting point in the municipal determination of fair share. From the pre-credited need municipalities may adjust for credits and reductions in order to arrive at the calculated need for the municipality. Bedminster's past housing activities have resulted in the following eligible credits and reductions.

New Construction (Sales Units)

The Township's inclusionary zoning sites have yielded 542 low- and moderate-income sales units that have been constructed. Of the 620 low- and moderate-income units provided in the Hills development, 518 of the units are sales units. The remaining 24 low- and moderate-income sales units were constructed in the Timberbrooke development.

New Construction (Rental Units

The Hills development has also produced 102 low- and moderate-income rental units. Since rental units are subject to a rental bonus credit of two units for each rental unit available to the general public, the Township is eligible for a credit of 204 lower income units.

Developer's Agreement

As part of the Supplemental Agreement dated December 30, 1991 to the 1984 Court Order which provided the Township with its Court approved judgment of repose, the Township entered into a developer's agreement whereby a developer received land from the Township in exchange for providing 50 low- and moderate-income units restricted to occupancy by age-restricted households. The Township Planning Board approved this project and the units currently are under construction. Thus, the Township is eligible for a reduction of 66 lower income units (50 units for senior citizens with 1.33 units of credit per rental unit).

Rehabilitation

As an additional part of the 1991 Supplemental Agreement to the Court Order, which provided the Township with its Court-approved judgment of repose, the Township indicated that it would establish a rehabilitation program for four substandard housing units. The Township initiated the rehabilitation program and has qualified four eligible households/units, and the rehabilitations are underway and/or completed.

Summary

Bedminster's production of low- and moderate-income housing (actual and adjusted for credits/reductions) through May 1995 is as follows:

Non-Adjusted (actual) Units

	The Hills	Timberbrooke	Senior Housing	Rehabilitation	Total
Rental	102	0	50	0	152
Sales	518	24	0	4	546
Total	620	24	50*	4*	698

*Completion expected during third quarter of 1995.

Adjusted (credits/reduction) Units

	The Hills	Timberbrooke	Senior Housing	Rehabilitation	Total
Rentals	204	0	66	0	270
Sales	518	24	0	4	546
Total	722	24	66	4	816

Based on the above analysis, the Township is eligible for credits of 750 units, and reductions of 66 units, for a total of 816 low- and moderate-income units against its pre-credited need of 177 units, resulting in an excess of 639 units of lower income housing. Thus, the Township's calculated need is zero. Since these units have been constructed or approved as part of a Court Order, the Township is seeking credit for all 816 units. A summary of the Township's inventory of low- and moderate-income housing by neighborhood, including the year affordability deed restrictions were imposed and the duration of these restrictions, is included in Appendix B.

903 THE HOUSING PLAN

As indicated in the previous section, the Township has established that its fair share obligation for 1987-1999 is 177 lower income units. The Township has addressed far in excess of its fair share in the following manner:

	Credits/Reductions (Units)
Credits for Sales Units	542
Credits for Rental Units (102 rental units for the general public with two units of credit per unit)	204
Reductions for Developer's Agreement for Age-restricted Units (50 rental units for Senior Citizen with 1.33 units of credit per unit)	66
Rehabilitation	4
	816

Including rental credits, the Township has produced more than four and one half times the number of lower income units currently required. Since these units are largely credits, or units actually built under COAH's definition, the Township proposes that all low- and moderate-income units be applied to its fair share. The Township formally seeks to credit its surplus of affordable housing to any future fair share obligation. The Planning Board also believes that affordable units are available in Bedminster Township, in addition to those identified above, and reserves the right to identify and seek credit for such units in the future.

904 INVENTORY OF MUNICIPAL HOUSING STOCK

The primary source of information for the inventory of the Township's housing stock is the 1990 Census.

There were 3,757 housing units in Bedminster in 1990, of which 3,447 were occupied. Table 5 identifies the units in a structure by tenure (owner vs. renter occupancy). The Township largely consists of multi-unit structures, with only 1,007 units situated in single-family detached structures, and 146 units classified as "Other". Despite the low proportion of single family detached housing units, only 20.2% of the occupied units are renter-occupied, fewer than both Somerset County (24.5% renter-occupied), and the State (35.1% renter-occupied).

TABLE 5 Units in structure by Tenure

Units in Structure	Vacant Units	Occupied Units			Total Units
		Total	Owner	Renter	
1, detached	70	937	790	147	1,007
1, attached	152	1,329	1,109	220	1,481
2	11	65	0	65	76
3 or 4	0	104	84	20	104
5 to 9	29	317	243	74	346
10 to 49	41	556	414	142	597
Other	7	139	112	27	146
Total	310	3,447	2,752	695	3,757

Source: 1990 U.S. Census, Summary Tape File 3, Profile 22, May, 1992.

The Township has a relatively new housing stock, as reported in the 1990 census, with 2,930 units (78% of total units) constructed between 1980 and March 1990. Table 6 presents the data concerning the year housing units were built by tenure, while Table 7 compares Bedminster to Somerset County and the State relative to newer (1980-1990) and older (pre-1940) units.

TABLE 6 Year Structure Built by Tenure

Year Built	Vacant Units	Occupied Units			Total Units
		Total	Owner	Renter	
1989-March 1990	83	241	208	33	324
1985-1988	154	1,961	1,555	406	2,115
1980-1984	24	467	407	60	491
1970-1979	5	137	73	64	142
1960-1969	0	143	143	0	143
1950-1959	10	123	96	27	133
1940-1949	0	40	40	0	40
Before 1940	34	335	230	105	369
Total	310	3,447	2,752	695	3,757

Source: 1990 U.S. Census, STF 3, Profile 22, May 1992.

TABLE 7 Comparison of Year of Construction for Township, County and State

Jurisdiction	Pre-1940 Units (%)	1980-1990 Units (%)
Bedminster	9.8	78.0
Somerset Co.	15.9	28.3
New Jersey	24.6	14.8

Source: 1990 U.S. Census, STF 3, Profile 22, May 1992.

Information reported in the 1990 Census concerning occupancy characteristics includes the number of persons in occupied housing units by tenure (Table 8), and the number of bedrooms per unit by tenure (Table 9); Table 8 indicates that renter-occupied units generally house somewhat smaller households, with 92% of renter-occupied units having 3 persons or less compared to 88% of owner-occupied units.

TABLE 8 Number of Persons in Occupied Housing Units by Tenure

Household size	Total Units	Owner Occupied Units	Renter Occupied Units
1 person	1,236	980	256
2 people	1,357	1,061	296
3 people	464	378	86
4 people	279	222	57
5 people	88	88	0
6 people	12	12	0
7+ people	11	11	0
Total	3,447	2,752	695
Average person/unit	2.1	2.2	1.7

Note: The universe for these factors is housing units
Source: 1990 U.S. Census, STF 3, Profile 21, May 1992.

Comparing the data in Table 8 to the profiles for New Jersey and Somerset County, it is interesting to note that the Township's average household sizes for all units, owner-occupied units and renter-occupied units were considerably lower than recorded for New Jersey as a whole and Somerset County. In Somerset County, the average persons per unit for all units was 2.7, while the average for owner-occupied was 2.8 and 2.3 for renter-occupied units. The corresponding averages for New Jersey were 2.7 for all units, 2.9 for owner occupied units, and 2.4 for rental units. Table 9 indicates that renter-occupied units generally have fewer bedrooms, with 69% having 2 bedrooms or fewer, compared to 64% of owner-occupied units.

TABLE 9 Number of Bedrooms per Unit by Tenure

Number of Bedrooms	Total Units	%	Vacant Units	Occupied Units Total	Owner	Renter
No bedroom	16	0.4%	0	16	16	0
1 bedroom	708	18.8%	59	649	487	162
2 bedrooms	1,728	46.0%	143	1,585	1,265	320
3 bedrooms	770	20.5%	79	691	508	183
4 bedrooms	305	8.1%	17	293	293	0
5 bedrooms	230	6.1%	17	213	183	30
Totals	3,757	100%	310	3,447	2,752	695

Source: 1990 U.S. Census, STF 3, Profile 21, May 1992.

The distribution of bedrooms per unit is considerably different in the Township than in the State or County. Table 10 provides a comparison of the percentage of total units with none or one bedroom and four bedrooms or more for the Township, County and State. Bedminster has a substantially higher proportion of small units than found in Somerset County, and a lower proportion of larger units.

TABLE 10 Percentage of All Units by Number of Bedrooms

Jurisdiction	None or One	Four or More
Bedminster	19.2	14.2
Somerset Co.	12.7	30.0
New Jersey	17.9	21.0

Source: 1990 U.S. Census, STF 3, Profile 21, May 1992.

In addition to data concerning occupancy characteristics, the 1990 Census includes a number of indicators, or surrogates, which relate to the condition of the housing stock. These indicators are used by the Council on Affordable Housing (COAH) in calculating a municipality's indigenous need. The surrogates used to identify housing quality, in addition to age (Table 6), are the following, as described in COAH's rules:

Persons per Room. 1.01 or more persons per room is an index of overcrowding

Plumbing Facilities. Inadequate plumbing is indicated by either a lack of exclusive use of plumbing or incomplete plumbing facilities.

Kitchen Facilities. Inadequate kitchen facilities are indicated by shared use of a kitchen or the non-presence of a sink with piped water, a stove, or a refrigerator.

Heating Fuel. Inadequate heating is use of coal, coke, wood, or no fuel for heating.

Sewer. Inadequate sewer services are indicated by a lack of public sewer, septic tank, or cesspool.

Water. Inadequate water supply is indicated by a lack of either city water, or drilled well, or dug well.

Telephone. Inadequate telephone is indicated by the absence of a telephone in a unit.

Table 11 compares the Township, County and State for the above indicators of housing quality. While the Township has proportionally fewer inadequacies compared to the County and State, for six of the seven indicators the percentage of units with "inadequate sewer" exceeded the County and State averages.

TABLE 11 Housing Quality for Township, County and State

Condition	Bedminster (%)	Somerset Co. (%)	New Jersey (%)
Overcrowding[1]	0.5	1.8	3.9
Inadequate plumbing[2]	0.0	0.2	0.5
Inadequate kitchen[2]	0.3	0.4	0.6
Inadequate heating[1]	0.0	0.9	1.4
Inadequate sewer[2]	0.7	0.2	0.5
Inadequate water[2]	0.0	0.1	0.1
No telephone[1]	0.3	1.0	3.1

NOTES: [1] The universe for these factors is occupied housing units.
[2] The universe for these factors is all housing units.

Source: 1990 U.S. Census, Summary Tape File, Profiles 23 and 27, May, 1992.

Additional factors used to describe the municipal housing stock are the purchase and rental values for owner-occupied and renter-occupied units, shown in Tables 12 and 13, respectively. With regard to purchase values, the data reported in the 1990 Census covers 1,666 of the 2,752 owner-occupied units, or 61%, and therefore may not be representative of the true range of values in the Township. Table 12 indicates that nearly half of the reported units are in the $150,000 to $249,999 range, with a mean value of $239,199 and a median value of $195,500.

TABLE 12 Value of Owner-Occupied Housing Units[1]

Value	Number of Units	%
$30,000 - 34,999	24	1.4
$35,000 - 39,999	11	0.7
$40,000 - 44,999	19	1.1
$45,000 - 49,999	14	0.8
$50,000 - 59,999	15	0.9
$60,000 - 74,999	71	4.3
$75,000 - 99,999	12	0.7
$100,000 - 124,999	70	4.2
$125,000 - 149,999	106	6.4
$150,000 - 174,999	251	15.1
$175,000 - 199,999	292	17.5
$200,000 - 249,999	207	12.4
$250,000 - 299,999	173	10.4
$300,000 - 399,999	221	13.3
$400,000 - 499,999	57	3.4
$500,000 or more	123	7.4

Mean value	$239,199
Median value	$195,500

Note: [1] Specified owner-occupied units total 1,666 of the 2,752 owner-occupied units in the Township.

Source: 1990 U.S. Census, STF-3 for Township, Profile 22, May 1992.

With regard to renter-occupied units, the Census data is somewhat more complete, with 604 of the 695 renter-occupied units (87%) covered in the data on rental values. The data in Table 13 indicates that 25% the specified renter-occupied units rent for $750/month or less; the figure of $750/month, if utilities are included, is the maximum permitted rent for a one-person, moderate-income household in Somerset County.

TABLE 13 Gross Rents for Specified Renter-Occupied Housing Units[1]

Monthly Rent	Number of Units
$350 - $399	36
$400 - $449	32
$450 - $499	11
$500 - $549	16
$550 - $599	23
$600 - $649	10
$650 - $699	12
$700 - $749	0
$750 - $999	80
$1000 or more	311
No cash rent	73
Median Gross Rent	$1,001

NOTES: [1] Specified renter-occupied housing units total 604 of the 695 renter-occupied units in the Township.
Source: 1990 U.S. Census, Summary Tape File 3, Profile 24, May, 1992.

The data in Table 14 indicate that there are 153 specified, renter households making less than $20,000 annually, which is the approximate income threshold for a one-person, lower-income household in Somerset County. At least 131 of these 153 households are paying more than 30% of their income for rent; the 30% figure is considered the limit of affordability for housing costs. However, at the lower end of the income spectrum there is typically a higher proportion of households paying in excess of 30% than at higher income levels. At least 68 of 175 renter households with incomes between $20,000 and $49,999 are also paying more than 30% of their income for rent.

TABLE 14 Household Income in 1989 by Gross Rent as a Percentage of Household Income in 1989[1]

	Number of	----------Percentage of Household Income----------					
Income	Households	0-19%	20-24%	25-29%	30-34%	35+%	Not computed
<$10,000	46	0	0	0	0	35	11
$10,000-19,999	107	0	0	0	12	84	11
$20,000-34,999	99	22	10	11	20	39	0
$35,000-49,999	76	0	0	16	9	0	51
$50,000+	273	141	74	50	8	0	0

NOTE: [1] The universe for this Table is specified renter-occupied housing units.
Source: 1990 U.S. Census, Summary Tape File 3, Profile 24, May, 1992.

905 PROJECTION OF MUNICIPAL HOUSING STOCK

As part of the mandatory contents of a housing element, the Township is required to produce "a projection of the municipality's housing stock, including the probable future construction of low and moderate income housing, for the next six years, taking into account, but not necessarily limited to, construction permits issued, approvals of applications for development, and probable residential development of lands." [N.J.S.A. 52:27D-310b] In the Township's case, inclusionary developments totaling roughly 3,500 units have been approved and are built or under construction. This development resulted in a 500% increase in the Township's housing stock between 1980 (607 units) and 1990 (3,757 units). As shown in Table 15, between 1980 and May 1995, inclusive, the Township issued the following building and demolition permits which resulted in either the creation or elimination of a dwelling unit.

TABLE 15 Building and Demolition Permits (1980 - May 18, 1995)

Year	Number of Building Permits	Number of Demolitions
1980	4	1
1981	1	0
1982	43	0
1983	256	0
1984	830	0
1985	48	2
1986	742	2
1987	635	2
1988	295	3
1989	229	1
1990	33	0
1991	33	1
1992	13	0
1993	155	0
1994	101	2
1995 (January 1 to May 18)	61	0
Total	3,479	14

Source: State of New Jersey, Department of Labor, "Residential Building Permits." (1980-1993); Bedminster Township Construction Code Office (1994, 1995).

The data in Table 15, when viewed in conjunction with the 1980 census total of 607 dwelling units, indicates that in May 1995 the total housing stock in Bedminster Township included approximately 4,100 dwelling units.

The Somerset County Planning Board has estimated that the Township's population will increase to 7,459 by the year 2000. This represents a 373-person increase (5.3%) over the 1990 population. Based on the Township's average household size of 2.1 persons per unit, this would represent an increase of 178 units during the 1991-1999 period. Since 363 units were authorized by building permits between 1991 and May 1995, the County's population estimate would suggest that only 10 additional units could be constructed during the remaining 1994-1999 period (2.2 units/year) to reach the County's year 2000 projection of a population of 7,459.

Development of the 82 remaining units in Long Meadow by K. Hovnanian and 50 senior housing units at the Gessler Kaplan development in Pluckemin is underway with all 132 permits expected to be issued during 1995. Additionally, 162 units are being constructed at Four Oaks by the Hills Development Company with a late 1996 completion expected. These three projects will generate 294 additional units when completed. Further development at The Hills will be limited to 25 units, while 20 units were approved in the Sammis R-1 cluster and 17 units were approved in the Gessler single-family cluster project. Thus, the combined total of approved or expected development will result in 356 units at these larger scale developments, in addition to "background" construction of new homes on individual lots.

Assuming that no lands will be rezoned to permit new large scale developments, a realistic "background" estimate would be 30-40 units per year, excluding the developments noted above, producing approximately 135 to 180 additional units during the remaining 1995-1999 period. The combined background and approved or expected development would result in a year 2000 housing supply of roughly 4,600 units, for a 22% increase over the 1990 housing stock. Assuming a constant ratio of persons per household at the 1990 level (2.1), the total population in year 2000 would be between 9,600 and 9,700.

906 ANALYSIS OF DEMOGRAPHIC CHARACTERISTICS

As with the inventory of the municipal housing stock, the primary source of information for the analysis of the demographic characteristics of the Township's residents is the 1990 Census. The data collected in the 1990 Census provides a wealth of information concerning the characteristics of the Township's population.

The 1990 Census indicates that the Township had 7,086 residents, or nearly three times the number of residents in 1980. During the same time period, Somerset County's population grew by approximately 18%, and New Jersey's grew by approximately 5%. Bedminster's 1980 - 1990 growth rate was only exceeded in New Jersey by Tavistock in Camden County which tripled in population, from 9 to 35 persons.

The age distribution of the Township's residents is shown in Table 16; more than half of the Township's 1990 residents were 25-44 years of age. Table 17 compares the Township to the County and State for the same age categories. Compared to both the County and State, the

Township had less of its population in the school-age category (5-17 years) and more of its population in the 25-44 year-old category. The Township also reported a lower proportion of its population is in the 65+ year-old category than for Somerset County or the State.

TABLE 16 Population by Age and Sex

Age	Total Persons	Male	Female
0-4	488	247	241
5-17	692	312	380
18-24	489	232	257
25-44	3,577	1,616	1,961
45-64	1,324	671	653
65+	506	229	287
Total	7,086	3,307	3,779

Source: 1990 US Census, STF-3, Profile 2, May 1992.

TABLE 17 Comparison of Age Distribution for Township, County, and State (% of persons)

Age	Township	County	State
0-4	6.9	7.0	6.9
5-17	9.8	15.0	16.4
18-24	6.9	8.5	10.1
25-44	50.5	37.0	33.1
45-64	18.7	21.6	20.2
65+	7.1	10.8	13.4

Source: 1990 US Census, STF-3, Profile 2, May 1992.

Table 18 provides the Census data on household size for the Township, while Table 19 compares household sizes in the Township to those in Somerset County and the State. The primary differences between the Township and the County and State occur in the smaller household sizes, with the Township having a considerably higher proportion of 1- and 2-person households, and in the 4-7 person households where the Township had a substantially lower portion than the County or State.

TABLE 18 Persons in Household

Household Size	Number of Households
1 person	1,210
2 persons	1,362
3 persons	478
4 persons	290
5 persons	88
6 persons	7
7 or more persons	14
Total Households	3,449

Note: The universe for these factors is households.
Source: 1990 US Census, STF-3, Profile 6, May 1992

TABLE 19 Persons in Household for Township, County, and State (% of Households)

Household Size	Township	County	State
1 person	35.1	20.6	23.1
2 persons	39.5	33.5	30.5
3 persons	13.9	19.4	18.2
4 persons	8.4	16.6	16.4
5 persons	2.6	6.8	7.4
6 persons	0.2	2.1	2.7
7 or more persons	0.4	1.1	1.7
Persons per household	2.05	2.67	2.70

Source: 1990 US Census, Summary Tape File 1, Profiles 3 and 4, June 1991.

Table 20 presents a detailed breakdown of the Township's population by household type and relationship. There were 2,009 family households in the Township and 1,440 non-family households; a family household includes a householder living with one or more persons related to

him or her by birth, marriage, or adoption, while a non-family household includes a householder living alone or with non-relatives only.

TABLE 20 Persons by Household Type and Relationship

	Persons 65+	Total persons
In family households:		
Householder	186	2,009
Spouse	48	1,635
Child:		
Natural or adopted	NA	1,553
Stepchild	NA	44
Grandchild	NA	0
Other relatives	32	76
Non-relatives	0	98
Total persons in family households	266	5,395
In non-family households:		
Male householder:		
Living alone	33	486
Not living alone	8	133
Female householder:		
Living alone	101	724
Not living alone	0	97
Non-relatives	8	251
Total persons in non-family households	150	1,691

Source: 1990 US Census, STF-3, Profile 2, May 1992

Table 21 provides 1989 income data for the Township, County, and State. The Township's per capita income was approximately 60% higher than the county, while the household median income was only 13% higher. Township per capita income was more than double that for New Jersey and household income in Bedminster exceeded the State by over 50%.

TABLE 21 1989 Income for Bedminster Township, Somerset County, and New Jersey

Jurisdiction	Per Capita Income	Median Income		
		Households	Families	Non-family Households
Bedminster	$39,780	$62,545	$76,061	$41,835
Somerset County	$25,111	$55,519	$62,255	$33,472
New Jersey	$18,714	$40,927	$47,589	$22,287

Source: 1990 US Census, *Summary Social, Economic, and Housing Characteristics for New Jersey*, CPH-5-32, May 1992; 1990 US Census, STF-3, Profile 15, May 1992.

Table 22 addresses the lower end of the income spectrum by providing data on poverty levels for persons and families. The determination of poverty status and the associated income levels is based on the cost of an economy food plan and ranges from an annual income of $6,300 for a one-person family to $21,300 for an eight-person family (three-person family is $9,900). In 1990, the Township had half as many persons in poverty status as did the County, and the percentage of Township residents in poverty status was far lower than found statewide. However, older residents in Bedminster displayed a higher rate of poverty than the Township population as a whole, with nearly 6% of residents over 65 and 9% of residents over 75 in poverty status in 1989.

TABLE 22 Poverty Status for Persons and Families for Township, County, and State (% with 1989 income below poverty)

Jurisdiction	Persons	Families
Bedminster	1.3	0.8
Somerset County	2.6	1.4
New Jersey	7.6	5.6

Source: 1990 US Census, STF-3, Profile 17 & 19, September 1992; 1990 US Census, CPH-5-32, May 1992.

The US Census includes a vast array of additional demographic data that provides interesting insights into an area's population. For example, Table 23 provides a comparison of the percent of persons 5 years old and over who live in the same house as in 1985; this is a surrogate measure of the mobility/stability of a population. The data indicate that the percent of Bedminster residents residing in the same house as in 1985 exceeds that of both the County and the State.

TABLE 23 Comparison of 1985 and 1990 Place of Residence for Township, County, and State

Jurisdiction	Percent living in same house as in 1985
Bedminster	71.8
Somerset County	55.5
New Jersey	60.1

Source: 1990 US Census, CPH-5-32, May 1992.

Table 24 compares the educational attainment for Township, County, and State residents 25 years old or older, and indicates that Bedminster residents exceed the other two jurisdictions for both high school and college graduates. Bedminster's near total high school graduation rate is considerably higher than the State average, and the proportion of college graduates is more than twice the State average. It is interesting to note that among the State's 21 Counties, Somerset had

the highest percent with bachelor's degrees or higher, and the second highest percent of high school graduates or higher, behind Morris County's 87%.

TABLE 24 Educational Attainment for Township, County, and State Residents (Persons 25 years and over)

Jurisdiction	Percent high school graduate or higher	Percent with bachelor's degree or higher
Bedminster	96.1	54.6
Somerset County	86.3	38.3
New Jersey	76.7	24.9

Source: 1990 US Census, CPH-5-32, May 1992; 1990 US Census, STF-3 for Township, County, and State, Profile 9, May 1992.

The 1990 Census also provides data on the means of transportation which people use to reach their place of work. Table 25 compares the Census data for the Township, County, and State relative to driving alone, carpooling, using public transit, and using other means of transportation. The Township had a high percentage of those who drive alone and a low percentage of those who use public transit or who carpool. Of the workers who reside in the Township and use other means of transportation to reach work, approximately two-thirds work at home and one third walk to work.

TABLE 25 Means of Transportation to Work for Township, County, and State (Workers 16 years and over)

Jurisdiction	Percent who drive alone	Percent in carpools	Percent using public transit	Percent using other means
Bedminster	83.0	5.9	3.5	7.7
Somerset County	81.4	9.4	3.9	5.3
New Jersey	71.6	12.4	8.8	7.2

Source: 1990 US Census, CPH-5-32, May 1992; 1990 US Census, STF-3, for Township, County, and State, Profile 8, May 1992.

The average travel time to work for Bedminster residents was 31.1 minutes, compared with 25.5 minutes for County residents and 25.3 minutes for all State residents.

907 MUNICIPAL EMPLOYMENT CHARACTERISTICS

As part of the mandatory contents of a housing element, the Township is to provide "an analysis of the existing and probable future employment characteristics of the municipality." [N.J.S.A. 52:27D-310d] This information had more relevance when COAH used employment data, in terms of how many people worked within a municipal border, as an allocation factor for its affordable housing need allocations. Since COAH is proposing to change this allocation factor to the value of non-residential ratables, information on place of work employment by municipality assumes less importance.

The 1990 Census recorded occupations by type for employed Bedminster residents over 16 years of age, shown on Table 26. In Bedminster, these 4,764 employed persons were engaged in the following occupations:

TABLE 26 Occupation of Bedminster Employed Residents over 16 years of Age

Occupation	Total Employed
Executive, Administrative, Managerial	1,577
Professional Specialty	868
Technicians and Related Support	219
Sales	814
Administrative Support, including Clerical	596
Private Household	54
Protective Service	58
Service	146
Farming, Forestry and Fishing	89
Precision Production Craft and Repair	146
Machine Operators, Assemblers, and Inspectors	37
Transportation and Material Moving	123
Handlers, Equipment Cleaners, Helpers, and Laborers	37
Total	4,764

Source: 1990 US Census, STF 3, Profile 11.

The State Data Center records "covered employment" by municipality, representing the number of private sector jobs within a municipality for which unemployment insurance was paid in September. For Bedminster, covered employment for the years 1982-1993 is shown on Table 27:

TABLE 27 Covered Employment in Bedminster

Year	Number of jobs	Increase or (Decrease) #	%
1982	3,974		
1983	3,817	(157)	(3.9%)
1984	4,853	1,036	27.1%
1985	5,003	150	3.1%
1986	4,296	(707)	(14.1%)
1987	4,490	194	4.5%
1988	4,340	(150)	(3.3%)
1989	4,254	(86)	(2.0%)
1990	4,112	(142)	(3.3%)
1991	4,629	517	12.6%
1992	5,313	684	14.8%
1993	4,891	(422)	(7.9%)

Source: New Jersey Department of Labor

These data indicate a record increase in covered jobs in 1984 (1,036 additional jobs representing a 27% increase over 1983). Job growth peaked in 1985, and then declined by nearly 900 jobs between 1985 and 1990. Substantial job growth (1,200 jobs) occurred again between 1990 and 1992 before an 8% decline in covered jobs in 1993 from 1992 levels.

Except for 1992, covered employment was higher in Bedminster in 1985 than in other reported years, and followed record job growth in 1984. This is likely a response to high levels of construction employment, particularly at The Hills, and it is noteworthy that the highest number of residential building permits since 1980 was issued in 1984. While only 48 residential permits for new dwelling units were issued in 1985, the permits issued in 1984 probably influenced the 1985 covered employment total. Similarly, the low level of residential permit issuance in 1985 may be reflected in the loss of roughly 15% of the covered jobs (700 jobs) between 1985 and 1986. It is interesting to note that covered employment levels were nearly identical in 1984 and 1993, although a substantial drop in covered jobs occurred during the recession of the late 1980's.

Future private sector employment will be limited by the near build-out of non-residentially zoned lands in Bedminster. The major undeveloped non-residentially zoned parcels and their potential floor area and job creation are as follows:

Block/ Lot	Acres	Status	Potential Additional Floor Area	Potential Jobs *
41/16.02	23.5	Approved Sammis Office Building	275,000 square feet	825
33/12	17.2	Forbes Office Building	111,000 square feet	333
71.01/1& 2	34	AT&T Resource Management Corp.	258,000 square feet	772

* Assumes three (3) jobs per 1,000 square feet.

While these potential development sites could yield nearly 2,000 additional jobs, no additional development has been approved or applied for at any location except for the Sammis Office Building. Assuming that this facility is constructed during the next few years and that a background growth rate of 1-2% is seen in the interim, the year 2,000 private sector employment could reach record levels of over 6,000 jobs.

908 CLOSING COST/DOWN PAYMENT ASSISTANCE PROGRAM

As a result of a "Mount Laurel" lawsuit (Allan-Deane Corporation v. Township of Bedminster and Planning Board) Bedminster Township in 1984) received a "Final Judgment of Mount Laurel II Compliance and Six Year Repose". This final judgment, before the Fair Housing Act and the Council on Affordable Housing, came in response to the Township's agreement to rezone sufficient lands to permit the construction of at least 819 low- and moderate-income units, which the court found to be Bedminster's fair share obligation for the 1980-1990 period.

The deed restriction imposed on 102 rental units within a portion of The Hills development was unique. Coming before the creation of the Council on Affordable Housing, and establishment of its rules, the 30-year deed restriction provided that for the first 15 years, the units would be low-income rentals, and for the remaining 15 years, the rentals would become low-income for sale units. After December 2002, 54 units at Parkside will no longer be rental units, and after 2003, 48 units at Cortland will no longer be rental units.

In order to assist the renters currently living in these units when the rental period expires, Bedminster Township is proposing a Closing Cost/Down Payment Assistance Program. This program will be administered by the Bedminster Hills Housing Corporation (BHHC), an experienced non-profit agency that currently administers the low- and moderate-income units in Bedminster.

Initially, the Program will be available for eligible renters residing in the Parkside and Cortland units. After they have been assisted, the Program will be open to all prospective purchasers of low and moderate-income units in Bedminster Township.

Bedminster Township will utilize funds from developer fees in its Housing Trust Fund to support the Program. The Township will commit $300,000 initially to fund the Closing Cost/Down Payment Assistance Program. If additional funds are required for eligible purchasers at Parkside and Cortland, then the Township may commit additional funds. The maximum loan amount per purchaser will be $8,000.

Low-income housing units which are sold to eligible purchasers with the aid of Bedminster's Closing Cost/Down Payment Assistance program shall be subject to a new 30-year deed restriction that restricts the resale of these units to qualifying low-income households, as defined in the COAH rules. Subject to COAH approval, such units shall also be subject to Power of Attorney, Recapture, Index (to determine annual appreciation) and Foreclosure requirements substantially similar to those found in Article VII of the original deed restriction, as recorded August 20, 1987 in Deed Book 1648 Pages 662-711. Said recapture requirement, if approved by COAH, shall provide that the seller of a low-income unit purchased with the aid of Bedminster's Closing Cost/Down Payment Assistance shall be required to repay to BHHC a sum equal to 20% of the resale price (less the value of improvements and costs of sale) minus the purchase price. Funds received from the pay back of Closing Cost/Down Payment Assistance shall be deposited into Bedminster Township's Affordable Housing Trust Fund.

909 SUMMARY

The Housing Element and Fair Share Plan provides a detailed analysis of the demographic, housing and employment characteristics of Bedminster Township and identifies the Township's fair share responsibility to provide low- and moderate-income housing according to rules promulgated by COAH.

The Township's pre-credited need in round 2 was 177 low- and moderate-income dwelling units. The Township's affordable housing production, including allowable credits was 816 units. In the anticipated round 3 the Township will seek COAH's formal agreement to credit the excess of 639 affordable dwelling units (including credits and reduction) against its future fair share obligation.

PART 10 RECYCLING PLAN

1001 INTRODUCTION

The New Jersey Source Separation and Recycling Act, P.L. 1987, C.102, mandates the recycling of solid waste materials for the purpose of reducing the amount of solid waste requiring disposal, conserving valuable resources and energy, and increasing the supply of reusable waste materials for New Jersey's industries. The act calls for the recycling of at least 60 percent of all solid waste generated in the State within five years. The goal was increased to 65% to be achieved by December 31, 2000.

To achieve these goals, the State, counties and municipalities were directed to serve as models for other public and private entities in the areas of source reduction and recycling so that the reduction of solid waste and recovery of reusable materials will be promoted to the greatest extent possible to fulfill this role, municipalities are required to:

1. Designate a recycling coordinator;

2. Provide for a collection of recyclable materials:

3. Adopt a municipal ordinance and Recycling Plan Element;

4. Review the municipal Master Plan and development regulations at least once every 36 months and revise, if necessary, the provisions for the collection, disposition and recycling of recyclable materials;

5. Revise the Land Use Ordinance requiring site plans and subdivisions to conform with the recycling ordnance;

6. Permit commercial and industrial facilities to be exempt from the source separation requirements of the ordinance if other provisions for recycling are arranged;

7. Submit a recycling tonnage report to the New Jersey Office of Recycling on or before July 1 of each year; and

8. Notify all persons occupying residential, commercial and institutional premises at least every six months of recycling opportunities and source separation requirements of the ordinance.

The Planning Board has the following responsibilities:

1. Prepare and adopt a Recycling Plan Element;

2. Review the municipal Master Plan and development regulations at least once every 36 months; and
3. Provide comments to the governing body before it adopts a municipal recycling ordinance.

The requirements of New Jersey Source Separation and Recycling Act are found within the Municipal Land Use Law (MLUL). The Municipal Land Use Law, N.J.S.A. 40:55D-28(12) provides guidance to the Planning Board on the preparation of the Recycling Plan element designed to:

- incorporate the State Recycling Plan goals,
- include provisions for collection, disposition and recycling of recyclable materials designated in the recycling ordinance, and
- provide for the collection, disposition and recycling of recyclable materials within any development proposal for the construction of 50 or more units of single-family residential housing or 25 or more multi-family residential housing and any commercial or industrial development proposal for the utilization of 1,000 square feet or of land.

In addition the MLUL (N.J.S.A. 40:55D-38b(9)) specifies that an ordinance requiring approval by the Planning Board of either subdivisions or site plans must include a provision-ensuring conformance with the municipal recycling ordinance. N.J.S.A. 40:55D-41 requires that site plans must conform to the standards and requirements relating to recycling of designated recyclable materials, and the periodic approval of municipal plans and regulations, and N.J.S.A. 40:55D-89(c) requires that the Periodic Reexamination contain a statement of significant changes in the assumptions, policies and objectives of the Master Plan including the collection, disposition and recycling of designated recycling of designated recyclable materials.

The State Development and Redevelopment Plan statutory requirements established the following waste management and recycling policies established the following policies.

1. Promote waste stream reduction at the source through product design by eliminating or reducing the weight or volume of packaging materials by decreasing the toxic components contained within products and packaging and by increasing product durability, reuse, refillability and repair.

2. Conserve resources and promote the economic reuse of materials by fostering programs to recycle and reuse waste and by creating markets for recyclable materials.

3. Promote the development of markets for recycled goods by:

- Providing incentives for private industry to accept recyclable material and products manufactured from recycled goods;
- Expanding the state's capacity for demanufacturing and remanufacturing; and
- Encouraging government agencies to maximize their use of goods that incorporate recycled materials.

The policies recognize that private industry, government and residents all play a role in waste stream reduction.

1002 SOMERSET COUNTY SOLID WASTE PLAN'S SOURCE SEPERATION/RECYCLING ELEMENT

In accordance with State regulations and mandates, Somerset County has adopted a Source Separation/Recycling Element to its Solid Waste Management Plan. The Plan establishes a purpose, scope, standards, and responsibilities of the County-wide recycling program in an effort to standardized residential and non-residential recycling programs for the county and all municipalities within its jurisdiction. The County has set forth a 60% solid waste reduction goal by 2004.

The purpose of the Somerset County Solid Waste Management Plan is to:

1. Enable the Somerset County Board of Health to efficiently enforce and administer the Plan as it exists now and may be amended in the future.

2. Establish minimum standards of performance for both residential and non-residential generators of solid waste and recyclable materials in order to provide for effective source separation and recycling management strategy.

3. Remove the amount of recyclable materials from the County solid waste system.

4. Aid in the conservation and recovery of valuable resources.

5. Standardize responsibilities for residential generators of solid waste.

6. Standardize responsibilities for non-residential generators of solid waste.

7. Standardize performance responsibilities for all County Municipal Recycling Coordinators.

8. Standardize performance responsibilities for the Somerset County Recycling Coordinator.

9. Provide mechanisms of enforcement of the Plan and to provide penalties for those found non-compliant with the Plan and to fix fees for compliance monitoring activities.

The County Plan has set separate standards for residential generators and non-residential generators. The County's primary area of direct influence is found in the residential sector, providing curbside pick up for County residents at the price of $23.85 a year. The County delegates non-residential recycling pick up to the local municipalities and private waste haulers in order to more adequately meet local ordinances and needs.

Standards for residential solid waste generators:

1. All residential generators of solid waste within Somerset County must source separate all recyclable materials as designated in the Somerset County District Solid Waste Management Program.

2. Disposition of the source separated recyclable materials by the residential generator shall be as prescribed in the Somerset County District Recycling Plan contained within the Somerset County District Solid Waste Management Plan.

3. Failure to comply with either Plan will result in penalties outlined in Section 18 of the Solid Waste Management Plan.

Standards for non-residential solid waste generators:

1. All non-residential generators of solid waste shall source separate for disposition at a minimum, the recyclable materials listed in Section 8 of the Source Separation/Recycling Element of the Solid Waste Plan.

2. Disposition of the non-residential generator to comply will result in penalties listed in Section 18 of the Solid Waste Management Plan.

According to the New Jersey Department of Environmental Protection, Division of Recycling and Planning, the percentage of total recycled solid waste for Somerset County is lower than the County goal of 60% reduction by 2004 and has been declining over the past 3 years. The following Table shows the recycling rate, in tons, for the past five years in Somerset County as available from NJDEP Recycling and Planning Division:

			Disposal			Recycling			
Year	**Population***	**Generation**	**MSW****	**Bulky**	**Total**	**MSW**	**MSW %**	**Total ***Recycled with Add-ons**	**Total % Recycled**
1996	244,200	436,498	117,612	60,373	177,985	79,028	40.29	258,513	59.2
1997	244,200	489,698	117,264	58,765	176,029	110,871	48.6	313,668	64.1
1998	244,200	409,687	145,681	73,160	218,841	72,543	33.2	190,846	46.6
1999	244,200	606,394	223,030	112,693	335,724	95,708	30	270,671	44.6
2000	297,490	574,946	223,404	112,882	336,286	82,400	26.9	238,660	41.5

Source: NJDEP, Bureau of Recycling and Planning, March 13, 2002
** Population based on census data for that particular decade.*
*** MSW is Municipal Solid Waste*
*** Add-ons include tonnage from remediable sites, NJDOT and Class B recycling centers (Class B material may include tree parts, leaves, brush, tires and construction waste).

1003 MUNICIPAL RECYCLING EFFORTS

The Township of Bedminster is striving to achieve the goals laid out by the County and the State in order to increase the amount of recycled material and reduce the total amount of solid waste produced in the Township. The Township has appointed a recycling coordinator, adopted a recycling requirement ordinance and has submitted yearly tonnage reports to the County. These steps help to coordinate local, County and State efforts to reduce solid waste and increase recycled materials.

The appointed recycling coordinator for the Township is responsible for reporting to the County and State on the various activities and amounts of waste recycled on a yearly basis. The Township has also adopted recycling requirements in its Land Management Ordinance (§13-517). The ordinance calls for all new residential subdivisions, commercial and industrial facilities to comply with three recycling elements:

1. Submit a recycling plan that is compliant with the Township, County and State recycling requirements. The applicant is required to provide source separated and provide private collection of materials. All leaf collection from the site will be transported to an approved composting facility within the County as designated by the County Plan.

2. Provide written notification to all purchasers or lessees of the property, which will include all requirements for source separation together with the method of collection and nature of the recycled materials.

3. Submit an annual written document to the recycling coordinator of the total tonnage recycled and the location or locations of the deposit of materials.

The County, through a bi-weekly pick up program, conducts the Township's residential recycling program. The residential recycling rates for these bi-weekly pick-ups are as follows:

2001 Residential Recycling Tonnage Rates

Material	Tonnage
Corrugated	159.40
Newspaper	1041.00
Glass Containers	320.60
Aluminum Cans	18.90
Steel Cans	44.20
Plastic Containers	63.50
Concrete/Asphalt/Brick/Block	110.00
Petroleum Contaminated Soil	1841.20
Textiles	510
Totals	3603.90

Source: 2001 Recycling Tonnage Summary Form as prepared by Twp. Recycling coordinator Hilary Steele

Bulky waste recycling rates for 2001, as reported by Bedminster Public Works, are as follows:

MONTH	**BULKY WASTE**		**LOGS**	**ASPHALT**	**CONCRETE**	**WASTE OIL**	**LEAVES**	**CHIPS**
	dumpsters	30 cu yd each	cu yd	tons	tons	gal	cu yd	cu yd
January	4	120						
February	3	90	30	1.5				
March	5	150						
April	7	210	16					
May	8	240		22.5	21	250		
June	7	210						
July	8	240			15.5			
August	10	300	10	40				
September	7	210	10					
October	8	240		4.5	28.5	200	460	
November	7	210		210	21		1110	
December	7	210					190	
	81	**2430**	**66**	**278.5**	**86**	**450**	**1760**	**0**

The Township does not maintain a recycling center but uses a recycling center in Bridgewater Township. The recycling centers in Bridgewater are classified as Class B facilities. Class B facilities are able to recycle the following material:

1. Source separated, non-putrescible, waste concrete, asphalt, brick, block, asphalt-based roofing scrap and wood waste;

2. Source separated, non-putrescible, waste materials other than metal, glass, paper, plastic containers, corrugated and other cardboard resulting from construction, remodeling, repair and demolition operations on houses, commercial buildings, pavements and other structures;

3. Source separated whole trees, tree trunks, tree parts, tree stumps, brush and leaves provided that they are not composted;

4. Source separated scrap tires; and

5. Source separated petroleum contaminated soil.

On May 1, 2002 the Township instituted a new program for bulky and vegetative waste. Residents now are required to register to use the Public Works Facility for the disposal of bulky and vegetative waste. The facility will be open on the 1st and 3rd Thursday from 8am to 11am and on the 2nd and 4th Saturday from 8am to 1pm.

Commercial and industrial facilities are required to have recycled material hauled by private waste haulers, and are required to report the tonnage of recycled material to the Township on an annual basis.

1004 PLAN REQUIREMENTS

Adoption of this Recycling Plan Element addresses the Bedminster Township planning responsibilities. The Planning Board should review this element and its adopted regulations within 36 months of the adoption of this element. The Township has adopted requirements regarding recycling in its Land Management Ordinance addressing subdivisions and site plans.

1005 SUMMARY

It is recommended that the Township recycling coordinator enforce the regulation, which requires industrial and commercial facilities to report annual tonnage of recycled material. Currently, only one commercial property, Kings Grocery Store, supplies the Township with a yearly tonnage report. The incomplete tonnage reports by industrial and commercial facilities have resulted in a grant

reduction payback from the State for recycling efforts. Thorough reporting of tonnage rates can result in higher grant funding, which could be used for other alternative waste reduction approaches beneficial to the Township.

PART 11 FARMLAND PRESERVATION PLAN

1101 EXECUTIVE SUMMARY

Bedminster Township's Master Plan has been designed to arrange the more intensive forms of development within the easterly highway corridor area, and retain the substantial countryside character, which pervades most of the Township.

Much of the unique character of Bedminster's countryside results from agricultural and equestrian activity and use of land. The Township has a solid agricultural land base, including many large parcels in common ownership. Bedminster's heartland is dominated by a variety of agricultural uses and the proprietors of these lands in many cases have tended these farms for generations.

The purpose of the Farmland Preservation Plan is to provide a blueprint for maintaining Bedminster's agricultural character, and preserving and promoting the vitality of the agricultural industry in the Township. This concept seeks to preserve the agricultural heartland through a combination of strategies, including the acquisition of development rights through purchase or other means, including donations by landowners.

Bedminster's farmland preservation efforts are not limited to the central portion of the community. Attractive and viable farms still exist around the margins of the community, in some cases adjacent to more intensive development in neighboring municipalities. The focus of this Farmland Preservation Plan is to develop a cohesive strategy which preserves the most productive agricultural lands for continued agricultural use, encourages the expansion of agricultural pursuits and a diversification of agricultural activities and maintains the scenic character of the Township, particularly at the gateways where residents and visitors enter the Bedminster countryside.

1102 INTRODUCTION

This farmland preservation plan is prepared pursuant to Paragraph (13) of section 19 of P.L. 1975, c.291 (C.40:55D-28). This section provides that a farmland preservation plan element shall include:

1. an inventory of farm properties in the entire municipality and a map illustrating significant areas of agricultural lands;
2. a detailed statement showing that municipal plans and ordinances support and promote agriculture as a business; and,

3. a plan for preserving as much farmland as possible in the short-term by leveraging monies made available by the Garden State Preservation Trust Act, N.J.S.A. 13:8-1 et seq., P.L. 1999, c. 152 through a variety of mechanisms including but not limited to utilizing:
   i. Option agreements;
   ii. Installment purchases; and
   iii. Encouraging donations for permanent development easements.

1103 INVENTORY OF FARM PROPERTIES

The land area of Bedminster Township is largely devoted to agriculture. Of the 17,088 acres, which comprises Bedminster Township, 11,218 acres are currently under farmland assessment, as shown on Appendix 1. A review of Appendix 1 indicates that farm properties span a wide range of sizes, from the minimum permitted by law (five acres) to lots as large as 900 acres.

It is interesting to note that Bedminster has substantial blocks of large lots, many in common ownership, which continue in agricultural use. While many rural communities have seen continuing erosion in the size of farm parcels, Bedminster Township's unique history has resulted in an accumulation of farm properties. Specifically, during the early part of this century, Bedminster witnessed an accumulation of multiple farms in single ownership by wealthy industrialists, financiers and businessmen. These actions helped to provide the Somerset Hills area with an expansive, contiguous farmland mosaic, which still prevails today.

Figure 9 illustrates the locations of farmland-assessed properties in Bedminster Township as listed on the 1999 Assessor's Tax Duplicate. Some parcels only qualify for farmland assessment on a portion of the lot. The most notable example is Hamilton Farm (Block 9, Lot 1) where 215 acres of this 535-acre parcel remain farmland assessed, following approval and current construction of a golf course.

1104 MUNICIPAL ORDINANCE SUPPORT FOR AGRICULTURE AS A BUSINESS

Bedminster Township values farming as an important aspect of the local economy. Local ordinances dating back decades have been designed to limit suburban sprawl throughout the community. Bedminster enacted five-acre zoning throughout most of the community over fifty years ago, at a time when one-acre zoning was considered large-lot zoning. In the case of Fisher v. Bedminster Township, the Court upheld the Township's five-acre zoning as an appropriate mechanism to address community concerns.

The current Master Plan and Land Manegement Ordinance include most of the farmland in Bedminster Township within the "R-10" Rural Residential District. This district employs several strategies to promote continuing agricultural use.

"R-10" permitted uses

Section 13-401A.1 identifies the permitted uses within the R-10 District. At the top of the list are farming uses, including agriculture, agronomy, animal husbandry, horticulture and silviculture. Other permitted uses also provide support for agricultural activity, including open air clubs (13-401A.1f), which may be structured to provide for equestrian activities among other outdoor sporting activities. Permitted uses also include "residential agriculture" (13-401A.2h), where owners of small lots (two acres or more) may conduct agricultural activities. This permitted use encourages smaller lot owners to participate in agricultural pursuits, improving the compatibility between larger agricultural enterprises and smaller residential home sites.

1105 "R-10" DENSITY AND LOT SIZE REQUIREMENTS

One of the instruments supporting continued agricultural activities in Bedminster Township is Section 13-401A.4, which provides "Lot Size, Area, Yard and Building Requirements" for the R-10 District. These include the maximum dwelling unit density (0.1 units per acre), and the minimum lot area (ten acres).

Since residential neighbors frequently object to agricultural activities, Bedminster's ordinance standards promote compatibility among new residential uses and existing or future agricultural uses. The density standard limits the number of new dwellings which will be constructed within the R-10 Zone. The ten-acre minimum lot area for conventional subdivisions provides a suitable opportunity for residential development, which can provide its own buffers to neighboring properties, and may

provide opportunities for agricultural pursuits. Of course, larger agricultural parcels generally have greater agricultural utility, but R-10 lots are highly compatible with farming.

The R-10 District also permits lot size averaging (Section 13-401A.7). This technique, which permits the reduction in area of some lots and the increase in area of other lots, allows for residential development on lots as small as six acres (13-401A.7d). It requires that for each lot smaller than ten acres, one or more lots larger than ten acres shall be provided (13-401A.7e) and requires deed restrictions on all lots larger than ten acres, to prevent further subdivision and reserve these lands for agricultural use in the future.

Using lot size averaging, design considerations are intended to preserve sensitive environmental features and retain agriculture (13-401A.7c). As some lots in a lot averaging subdivision increase beyond ten acres, they also increase in agricultural utility.

When viewed together, both the conventional subdivision option (ten-acre lots) and the lot size-averaging alternative provide for the creation of new lots which are of sufficient size to permit agricultural activities and likely qualify for farmland assessment. However, these minimum criteria may not be sufficient to minimize incompatibilities between agricultural activities and residential uses. In this regard, a minimum lot area requirement greater than 10 acres should be examined for its potential role in retaining Bedminster's highly productive agricultural soils for continuing agricultural use.

1106 RIGHT-TO-FARM PROTECTION

New Jersey has enacted a strong right-to-farm statute, which applies statewide. New Jersey's Right-to-Farm Act provides commercial farm owners or operators with certain protection from restrictive municipal ordinances and public and private nuisance actions. Protected agricultural activities include production, processing and packaging of agricultural products, farm market sales and agriculture-related educational and farm-based recreational activities. Commercial farms are also protected from unduly restrictive municipal regulations and public and private nuisance lawsuits.

These protections are available to commercial farms which:

- Are operated in conformance with federal and state laws, agricultural management practices recommended by the New Jersey State Agricultural Development Committee (SADC) or site specific agricultural management practices;
- Are not a direct threat to public health and safety; and
- Are located in an area where agriculture was a permitted use under municipal zoning ordinance; or
- Were operating as of December 13, 1997.

Bedminster Township has long been a proponent of the right-to-farm, with the first right-to-farm ordinance adopted in 1982. The right-to-farm ordinance puts the public on notice that agricultural activities are a priority within the Township.

1107 BEDMINSTER'S AGRICULTURAL SETTING

As seen on Figure 9, Bedminster is composed of a tapestry of farm parcels, which extend from its northern to its southern boundaries and dominate all but the easterly highway-corridor portion of the Township. Despite the intervention of Route 78, which forms a functional barrier to contiguity of parcels, the area to the south of Route 78 remains dominated by productive agricultural land in agricultural use. Bedminster's regional location, at the intersection of two major interstate highways, poses unique challenges to maintaining the Township's agricultural land base and its attendant countryside character.

The SADC seeks to preserve agricultural viability, an individual parcel's ability to sustain "a variety of agricultural operations that yield a reasonable economic return under normal conditions. . ." However, to maintain the agricultural viability of a region or sector, smaller agricultural parcels, which may continue in agriculture through hobby-farming or other forms of household subsidy, remain an important part of the fabric of the agricultural landscape. Both the SADC and the State Planning Commission seek to retain large masses of viable agricultural land. SADC policies recognize that agricultural parcels may become less viable if reduced in size. Thus, the substantial large-lot land mass, which characterizes north and central Bedminster, is particularly valuable to the agricultural future of the region.

All of rural Bedminster is included within an Agricultural Development Area, as designated by the Somerset County Agricultural Development Board (CADB). The CADB has identified three major areas within the County where continued agriculture is viewed as viable and to be encouraged. Apart from Bedminster, the other two areas are situated in the southern portions of the County, disconnected from Bedminster's agricultural area by a band of relatively intense development. However, Bedminster's regional setting locates it adjacent to Tewksbury Township in Hunterdon County and Chester Township in Morris County, both communities with a continuing agricultural land base. Thus, Bedminster's ADA is part of a larger agricultural region where farming has remained viable.

Table 31 "Agricultural Production Units" identifies the extent of crop and animal farming in 1983, 1988 and 1997, the latest year for which these figures are available. A review of this information reveals several interesting facts:

- Total crop harvested acreage remained relatively constant during the period at roughly 3,500 acres. However, there has been a considerable decrease in soybeans and corn harvested for grain or silage since 1983. During that period, "other field crops" have declined from 285 acres in 1983 to 0 acres in 1997. However, cover crops as well as rye, alfalfa hay and other hay have witnessed increases in acreage harvested over that period.

- Acres planted in trees and shrubbery has decreased considerably over the period (1983-136 acres, 1997-57 acres).

- The most notable change in animal units occurred in the increase in livestock from 695 head in 1983 to 1692 in 1997 (140% increase). During this same period, equine animals increased in numbers between 1983 and 1988 but saw an overall decline by 1997, from 477 in 1983 to 360 in 1997. The category of "other livestock" which numbered 1,118 in 1988 was reduced to 21 units by 1997. Other declines in animal units included sheep (30% drop), swine (93% drop) and bee colonies (75% drop), as well as a significant reduction in the number of egg chickens from 581 in 1983 to 104 in 1997 (82% drop).

- Forestry activities also showed decreasing yields during the period, with cord wood dropping from 343 cords to 88 cords over the period (75% drop) and timber wood production dropping from 3362 board feet in 1983 to no reported yield in 1997.

1108 IMPROVING THE CLIMATE FOR AGRICULTURE AS A BUSINESS

Bedminster's agricultural statistics are not uncommon in their representation of changing agricultural trends over time. Decreases in row crop agriculture and increases in animal husbandry represent one trend. At the same time, the potential economic viability of small farms has increased, as high value crop production has been expanding in scope. Densely populated markets, easily accessible by the interstate and state highway network, will inspire continued innovation and evolution of the agricultural landscape.

Municipalities can be proactive in improving the economic viability of agriculture by understanding agricultural trends and the dynamics of emerging agri-business. Planning and zoning can enhance opportunities and minimize deterrents to agricultural retention. Although Bedminster has placed priority to farm owners that express an interest in participating in the farmland Preservation Program, the Township continues to expand its range of agricultural support strategies, including the following:

1. Promote participation in the 8-year municipally approved farmland preservation program. The 8-year program can be established by municipal ordinance and approved by the CADB. Participation in the 8-year program increases a landowner's eligibility for easement purchase, protects the landowner from eminent domain and provides access to soil and water conservation funds, which can improve the agricultural viability of lands. Establishment of an 8-year program also demonstrates the Township's support for the agricultural community, and offers an opportunity for smaller farms to combine and participate in this program.

2. Bedminster's agricultural base study has been cited by the State Planning Commission as a model for other municipalities. This study should be updated, to examine business strategies to support agricultural viability, and to identify the most productive agricultural lands.

3. Agriculture dominates the rural character of Bedminster Township and attracts cyclists and other visitors to the area. The beneficial aspects of tourism, which can support agriculture and be supported by agricultural sales and activities, should be explored.

4. Land use regulations should be reviewed and updated to minimize deterrents to agricultural activity, and provide increased opportunities for agricultural expansion. This may include expanded opportunities for direct marketing, such as small farm stands for locally grown produce and other vehicles for eliminating the middleman, which make agricultural activities more rewarding to the farmer.

5. The Farmland Preservation Plan seeks to encourage agricultural pursuits that support the equestrian activities, which play an important role in maintaining the countryside character.

6. An outreach initiative should be structured to communicate directly with local farmers. This provides an opportunity to develop a clearer understanding of agricultural trends and objectives, and farmers perceptions of current and future business opportunities.

Expanding the range of farmland preservation initiatives will help provide a permanent home for agriculture in Bedminster. Bedminster has seen limited participation in the farmland preservation program to date. At present the former Doyle farm (97 acres) and a 4-acre island in the North Branch are currently under farmland preservation easement.

It is important to recognize that zoning doesn't preserve farmland, as it is subject to change. Permanent preservation can only be achieved through retirement of development rights.

1109 BEDMINSTER'S PLAN TO PRESERVE FARMLAMD

Farmland preservation and open space conservation are related objectives which Bedminster's master plan addresses in several ways. "The Greenways of Bedminster", the 1999 Greenway Plan, acknowledged the interaction of farmland preservation and open space conservation and highlighted the importance of maintaining large contiguous parcels. It also cited an objective of maintaining the scenic character of the Township, particularly at the "gateways" to the Bedminster countryside.

Agricultural preservation in these gateway areas is important to protecting the fabric of agricultural lands and helps to maintain rural character. In some cases, lands in Bedminster are considerably different from the land uses just beyond the township's borders. This situation is nowhere more evident than the southernmost portion of the township, where Bedminster adjoins Bridgewater. In this area, a prevailing pattern of one-acre or smaller single family lots contrasts sharply across the river from Bedminster's large contiguous mass of active farmland. In this regard, no gateway entry is a more intriguing study in contrasts to the traveler than the experience of crossing Chamber's Brook from Country Club Road, Meadow Road or Airport Road.

Bedminster's agricultural retention strategy will involve a range of preservation options for the landowner. However, at is core it includes a short-term, an intermediate-term and a long-term component.

Short-Term Plan

The short-term objective is to establish farmland preserves in two locations, to help fortify the long-term viability of agriculture. The Black River Corridor project area is proposed from Pottersville, where the Purnell School, State-owned lands and Fairview Farm (Upper Raritan Watershed Association) provide public and private open space anchors, to Lamington. This project area brackets an area deemed important to preserving the cultural setting of Pottersville Village and the hamlet of Lamington, and maintaining the long-

standing relationship between village and farmland. The Lamington Road East project area is located along Lamington Road, between Larger Cross Road and the Village of Bedminster.

Funding under the SADC Planning Incentive Grant (PIG) program has been awarded to Bedminster for the initial project area, and the PIG application for the Lamington Road East project area is currently under review by the SADC. These project areas are identified on Figure 10, along with existing easements, pending farmland easement purchase applications and open space and recreation areas

Intermediate-Term Plan

The intermediate-term plan for farmland preservation seeks to preserve farmland around the scenic gateways of the Township, where residents and visitors enter the Bedminster countryside.

Long-Term Plan

The long-term plan for farmland preservation seeks to retire development rights to as many farms as possible, and build a critical mass of preserved farmland. This preservation objective will require a series of farmland preservation techniques, including financing alternatives and other opportunities to retire development rights. Among those recommended are the following:

- Option agreements provide an opportunity to reserve the right to acquire farmland at some time in the future. Such agreements can provide valuable assurances for both the Township and the property owner that preservation can and will occur at some time in the future, based on agreed pricing and terms.

- Installment purchases leverage public funds by extending the horizon for payment over a period of years. Rather than requiring a front-end commitment of cash to acquire all development rights at the outset, installment purchases allow the municipality and the owner to devise a payment strategy, which meets their mutual objectives and needs.

- Donations of permanent development easements can be particularly valuable to both the farmland preservation effort and the landowners involved. Donations of all or part of the development rights can provide substantial Federal income tax deductions, particularly for high-income landowners. Such donations also offer estate tax benefits, reducing the estate taxes, which frequently force the sale of farm properties in order to pay the tax. Property owners and the Township can structure donation plans, which minimize the tax consequences to landowners and increase the effectiveness of farmland preservation funds.

A coordinated outreach effort, identifying the goals of the farmland preservation plan and soliciting participation, should be initiated. This could be a joint effort of the Planning Board and the Farmland Advisory Committee. Such an effort could establish a database that identifies the future ambitions of current farmland owners, and key elements affecting their ability to retain agricultural lands in agricultural use. Methods of educating the public may include targeted mailings as well as informational town meetings. A farmland preservation brochure would be a useful tool for this purpose.

1110 SUMMARY

Bedminster Township has long prized its agricultural heritage, and the fruits of this enterprise. At present, most of Bedminster's land area is in farmland assessment and agricultural production. The objective of this Farmland Preservation Plan is to preserve as much viable farmland as possible, as part of Bedminster's enduring legacy.

Farmland preservation pays dividends for all involved. It limits municipal service costs of new development and can provide high-quality, locally grown produce. Additionally, it allows farm families to continue a tradition of local agricultural production, and expand and diversify for the future. Recommended agricultural management priorities play an increasingly important role in balancing the priorities of agricultural retention and environmental protection.

BACKGROUND STUDIES

NATURAL RESOURCES

LAND USE/LAND COVER AND BUILD-OUT

REVIEW OF OTHER AGENCY PLANS

RECREATION AND OPEN SPACE

CIRCULATION

COMMUNITY FACILITIES

APPENDICES

PART 12 NATURAL RESOURCES

1201 AGRICULTURE

Trends

Bedminster Township has maintained a stable agricultural land base over the past two decades. Since 1980, the total farm acreage, including lands occupied by farmhouses, has showed a slight decline, from 12,147 acres in 1980 to 11,687 acres reported in 2000 (See Table 28). Total farm acreage represented seventy-one (71%) percent of the land area in 1980. By year 2000, 459 fewer acres were farmland assessed, and sixty-eight (68%) percent of the total acreage in the Township was under farmland assessment. The map titled "Land Under Farmland Assessment or Conservation Easement" (Figure 9) graphically depicts land under farmland assessment. In addition to identifying lands under farmland assessment, this map also depicts the location of lands encumbered by Agricultural, Wildlife, or Conservation easements. This information was gathered from township tax records, the Upper Raritan Watershed Association, and the Township Environmental Commission.

The extent of farm activity is a reflection of the high quality farmland found throughout the Township, as seen on the map of "Farmland Capability" (Figure11).

The land devoted solely to agricultural or horticultural uses (excluding buildings) in 2000 accounted for sixty-four (64%) percent of the total tax district area (see Table 29). This land area of 10,989 acres represents the land classified as 3B by the Tax Assessor's office. 2000 farmland tax income represented fourteen (14%) percent of all the tax monies collected in Bedminster Township, compared with twenty (20%) percent in 1980.

An analysis of the agricultural uses reported on FA-1 forms required under the Farmland Assessment Act of 1964 reveals that cropland harvested, pasture lands, and woodland/wetlands categories each accounted for roughly one-third (1/3) of the agricultural lands reported in both 1980 and 2000 (see Table 30). While each of these categories shows some fluctuations over the past twenty (20) years, Year 2000 totals are less than two (2%) percent below 1980 totals for cropland harvested and woodland/wetlands, and permanent pasture lands have increased by 397 acres (21%).

Table 31 provides more detailed information on the specific types of agricultural activity in Bedminster. Data from the New Jersey Agricultural Statistics Service Reports for the years 1983, 1988, 1993 and 1998 provides detailed information on crop acres planted and the number of animal units.

These data reflect various production trends in Bedminster Township, which are summarized below.

Cropland

Traditional field crops, including corn for grain, and soybeans, have shown a significant reduction in acreage planted, down from 378 acres (1983) to 59 acres in 1998. The acreage planted to small grains, including sorghum, oats, rye, wheat, and alfalfa hay, has increased by 99 acres (21%). These trends reflect the declining economics of field crop production, where the profit margin on corn and soybeans has steadily declined while the market price for small grains has remained relatively stable.

Deer damage to all field crops remains a major factor. The loss of custom farm operators who are willing to harvest the corn and soybean fields has also reduced the attractiveness of these crops, while demand for hay crops has remained relatively stable.

Fruit and Ornamental Trees

The acreage planted with fruit trees, Christmas trees, and other fruit and nursery crops remains a minor component of Bedminster Township's agricultural acreage. This category, which included 186 acres in 1983, was reduced to 108 acres in 1998. Trees and shrubbery, with 144 acres in 1988, and 59 acres in 1998, made up the majority of the acreage in this category. Apple trees (24 acres) and Christmas trees (14 acres) were the other major tree categories. The labor intensive needs of these types of agriculture suggest little expansion.

Animals

The number of livestock and animals classified as other livestock (llamas, miniature horses, specialty pigs, etc.) increased substantially over the 1983 to 1988 time period, along with equine animals. Small animals, including sheep, swine, goats, and various poultry, as well as equine animals, have declined in total numbers during this period.

Forestry

The amount of forest products harvested has shown a significant decrease in the 1983 to 1998 period. In 1983, there were 343 cords of fuel wood harvested, while in 1998 only 84 cords were cut. Declining interest in alternative fuel sources may account for this decline; however, recent surges in oil prices may rekindle interest. The number of board feet of timber harvested has shown a similar decline, with 3,363 board feet of timber wood in 1983 and none in 1988.

Agricultural Preservation Activity

The strengthening of the agricultural industry and the preservation of farmland is a policy of the State, Somerset County and Bedminster Township. The State's policy is formally expressed in the Farmland Preservation Bond Act of 1981 (P.L. 1981, c. 276), the Agricultural Retention Act of 1983 (P.L. 1983, c. 32), the Garden State Preservation Trust Act of 1999 (P.L.) and through the delineation of agricultural areas (PA-4 - Rural Planning Area) in the State Development and Redevelopment Plan.

The intent of defining agricultural areas in the SDRP is to encourage the retention of farmland areas. It is well recognized that in order to retain farmland, agriculture must be supported so that it remains an economically viable activity. Bedminster Township recognizes the importance of protecting and preserving large contiguous tracts of farmland and other open lands. While nearly all of Bedminster Township is designated within the Environmentally Sensitive Planning Area (PA-5), substantial areas are devoted to farming.

The Agriculture Retention and Development Act established the program structure and method for the disbursement of State Bond funds. The Act recognizes that the strengthening of the agricultural industry and the preservation of farmland are important to the present and future economy of the State. Farmland preservation efforts are carried out locally by the Somerset County Agricultural Development Board (CADB) as well as by municipalities and the State Agricultural Development Committee (SADC) cultural development activities.

Participation in CADB Programs requires that the parcel of land be first located within the County-defined Agricultural Development Area. ADA's encompass productive agricultural lands, currently in production or with a strong potential for future production, where agriculture is a permitted use under current municipal zoning. For a parcel of agricultural land to be considered an Agricultural Development Area, it must be eligible to qualify for Farmland Assessment and be reasonably free of suburban and/or conflicting commercial development. Woodland owners following forestry management plans are eligible for inclusion in Agricultural Development Areas.

These program criteria are somewhat expansive and allow the majority of the farmland-assessed land in Bedminster Township to qualify as an ADA.

The formation of a Municipally-Approved Eight-Year Program requires CADB approval conformance to the requirements of an Agricultural Development Area and adoption of a municipal ordinance indicating approval. It also requires a minimum twenty-five (25) acres comprised of one or more farms, although smaller areas may be allowed based on specific operations and viability.

The Purchase of Development Rights through the Farmland Preservation Program, coordinated through the CADB, has secured preservation of a 99-acre farm situated just south of River Road along the Lamington River. The Township is currently pursuing farmland preservation easements through the SADC Planning Incentive Grant (PIG) Program. Bedminster secured a funding award during the first PIG round (PIG I) and is currently working with landowners to acquire development easements to local farms. Farmland Preservation efforts have also been advanced by the direct state acquisition program, instituted after the enactment of the Garden State Preservation Trust. The State's direct acquisition program allows the SADC to purchase development easements on farms separate and apart from the County Easement Purchase Program and the Planning Incentive Grant Program. To date, several property owners have negotiated to sell easements to the SADC, although none of these sales have been completed to date.

Managing Environmental Impacts of Agricultural Production

Non-point source pollution has become the major focus of watershed and water quality management efforts. Agricultural activities contribute to the deterioration of surface and groundwater quality by nutrient and sediment loading and the application of pesticides and chemical fertilizers.

Various programs are available to landowners to assist in the management of agricultural lands. The USDA Natural Resource Conservation Service (NRCS), through the cooperating Soil and Water Conservation Districts, provides free technical assistance to landowners in the proper management of agricultural activities. NRCS personnel will develop a conservation plan, which evaluates the landowners' method of operation and recommends the best management practices to protect and conserve the property's soil and water resources.

Benefits of Agricultural Retention

An effective farmland preservation program will:

1. Continue the sustainable use of economically viable farmland for agricultural production,

2. Preserve large, contiguous and economically viable tracts of agricultural land,

3. Minimize conflicts with adjacent and nearby agricultural, natural resource based, and rural activities,

4. Maintain and enhance the viability of surrounding agricultural areas, considering:

   (a) The profitability of farms,

   (b) Landownership patterns,

   (c) Investments in farmland and farm equipment, and

   (d) Agricultural and rural support facilities and services;

5. Preserve and enhance the historic, cultural, recreational, and open space resources of the surrounding area,

6. Focus the need for or improve access to urban services and facilities,

7. Preserve and enhance environmentally sensitive areas and natural resource areas,

8. Provide compatibility with the scale, mass, intensity of use, height, and character of the rural landscape,

9. Preserve and protect existing vegetation,

10. While densely populated areas make attractive markets for agricultural products, states and municipalities have found the need to enact Right to Farm protections to prevent nuisance or other public actions from restricting agricultural activities. Bedminster's first Right to Farm Ordinance was enacted in 1982, and New Jersey has enacted a strong Right to Farm statute.

Right to Farm laws generally protect commercial agriculture from nuisance laws and actions when they are conducted in accordance with recommended agricultural management practices.

TABLE 28 - FARMLAND ASSESSED ACREAGES

Year	Total Land Devoted to Agricultural or Horticultural use (3B)	Land with Farm house (3A)	All other land not devoted to Agricultural or Horticultural use (3A)	Total farm acreage from approved FA-1 forms (3A&B)	Total acreage Taxing District	Total farm acreage as % of total acreage
2000	10,989	532	166	11,687	17,088	68.4%
1999	10,413	586	234	11,233	17,088	65.7%
1998	11,063	525	178	11,766	17,088	68.9%
1997	10,742	510	193	11,445	17,088	67.0%
1996	11,068	475	297	11,840	17,088	69.3%
1995	10,417	539	251	11,207	17,088	65.6%
1994	11,052	477	233	11,762	17,088	68.8%
1993	9,373	577	204	10,154	17,088	59.4%
1992	10,944	492	294	11,729	17,088	68.6%
1991	10,737	518	289	11,544	17,088	67.6%
1990	10,486	463	382	11,331	17,088	66.3%
1989	10,641	537	327	11,505	17,088	67.3%
1988	10,981	517	408	11,906	17,088	69.7%
1987	10,671	479	375	11,525	17,088	67.5%
1986	11,433	530	391	12,354	17,088	72.3%
1985	10,964	582	583	12,129	17,088	71.0%
1982	10,910	658	603	12,171	17,088	71.2%
1980	10,872	683	591	12,146	17,088	71.1%

Source: State of New Jersey, Division of Taxation Form FA-1

TABLE 29 - PERCENTAGE OF LAND AND VALUE OF ASSESSED LANDS UNDER FARMLAND ASSESSMENT

Year	Percent of 3B acres to total tax base acres	Assessed value 3B	3A Farmland Percentage to total assessed value of all classes	3B Farmland Percentage to total assessed value of all classes
2000	64.31	$3,636,413	13.76%	.26%
1999	60.94	$3,732,779*	12.88%	.28%*
1998	64.74	$3,421,914	11.63%	.28%
1997	62.86	$3,369,299	10.96%	.28%
1996	64.77	$3,603,320	10.90%	.31%
1995	60.96	$3,034,636	11.05%	.26%
1994	64.68	$2,913,834	10.99%	.26%
1993	54.85	$2,834,965	11.01%	.25%
1992	64.04	$2,679,569	10.06%	.24%
1991	62.83	$2,958,366	12.03%	.26%
1990	61.36	$2,820,756	10.81%	.23%
1989	62.27	$4,848,717	12.12%	.43%
1988	64.27	$2,173,835	11.66%	.74%
1987	62.45	$2,023,724	11.88%	.79%
1986	66.91	$2,090,504	13.99%	.94%
1985	64.16	$1,953,990	16.79%	1.06%
1982	63.85	$1,845,559	20.68%	1.22%
1980	63.63	$1,932,900	20.32%	1.30%

*The Division of Taxation reported these values as $37,327,792 and 2.87% in 1999, which is apparently the result of a misplaced decimal point in the information reported. Therefore, the data reported in this table has been adjusted based upon this assumption.

Source: State of New Jersey, Division of Taxation Data Form FA-1

TABLE 30 - FARMLAND ASSESSMENT DATA
Acreage by Types of Agricultural Uses

Year	No. Of FA-1 Forms	No of lines items 33 Farm Q	Cropland harvested	Cropland pasture	Permanent Pasture	Total woodland and wetland
2000	235	270	3,328	1,670	2,293	3,549
1999	226	263	3,184	1,440	2,030	3,476
1998	221	263	3,331	1,092	2,424	4,117
1997	214	249	3,126	966	2,539	4,032
1996	216	242	3,218	1,353	2,321	4,176
1995	193	233	3,449	989	2,076	3,903
1994	194	224	3,431	1,044	2,590	3,987
1993	186	219	3,316	1,192	1,924	2,941
1992	190	215	3,326	1,217	2,446	3,956
1991	186	207	3,340	1,352	2,357	3,688
1990	179	206	3,455	1,274	2,095	3,663
1989	174	201	3,591	1,322	2,081	3,648
1988	177	212	3,599	1,463	2,061	3,858
1987	174	199	3,540	1,390	2,011	3,728
1986	186	215	4,050	1,381	2,104	3,860
1985	142	201	3,335	1,550	2,235	3,844
1982	136	196	3,256	1,776	2,317	3,559
1980	135	191	3,383	2,002	1,896	3,589

Source: State of New Jersey, Division of Taxation Data Form FA-1

TABLE 31 – AGRICULTURAL PRODUCTION UNITS

	1983	1988	1993	1998	% Change – 83-98	
					Acres/Units	%
Crop Acres Harvested						
Corn-grain	151	129	178	59	-92	-61%
Corn-silage	218	120	51	158	+60	-23%
Alfalfa hay	298	664	336	371	+73	+25%
Other hay	2,314	2,268	2,558	2,537	+223	+10%
Oats	98	123	77	55	+43	-43%
Rye	18	94	44	98	+80	+444%
Sorghum	40	45	0	0	-40	-100%
Soybeans	227	10	0	0	-227	-100%
Wheat	20	52	62	49	+29	+145%
Other field crops	285	35	62	0	-285	-100%
Acres Planted						
Cover crop		6				N/A
Rye	12	8	10	0	-12	-100%
Barley	5	9	0	0	-5	-100%
Other cover	-	7	5	15	+15	(+15 acres)
Acres Planted						
Apples	19	15	15	24	+5	+20%
Grapes	2	5	4	4	+2	+100%
Peaches	2	2	1	1	-1	-50%
Tree & shrubs	136	144	98	59	-77	-57&
Christmas trees	15	0	0	14	-1	-6%
Other nursery	1	0	0	1	0	N/A
Other fruit crop	3	0	1	5	+2	+67%
Irrigated fruit crop	8	4	4	0	-8	-100%
Animal Units						
Livestock/cattle*	695	850	1,291	1,756	+1061	+153%
Equine	477	490	337	430	-47	-10%
Sheep	153	131	190	121	-32	-21%
Swine	81	47	23	6	-75	-93%
Bee colonies	21	16	24	9	-12	-57%
Ducks	12	16	8	49	+37	+308%
Goats	8	5	0	5	-3	-38%
Meat chickens	50	10	15	0	-50	-100%
Egg chickens	581	137	47	129	-452	-78%
Turkeys	2	137	0	0	-2	-100%
Other livestock	-	1,118	6	326	+326	+100
Total Acres in Vegetables	5	7	2	18	+13	-260%
Forestry						
Cords fuel wood	343	148	106	84	-259	-75%
Bd. Ft. timber wood	3,362	2,119	25,030	0	=3362	-100%

Source: State of New Jersey, Agricultural Statistics Reports
Note: - indicates information not available due to changes in reporting categories.
* - Dunwalke Farm sale (2000) significantly reduced cattle total.

1202 AIR QUALITY

Statement

Protecting and improving New Jersey's air quality presents a formidable challenge that affects all residents of the state. Since the adoption of the clean air act in 1967, New Jersey's continued failure to meet National Ambient Air Quality Standards statewide for ozone, and in some locations for carbon monoxide, underscores this concern. However, New Jersey's efforts to improve air quality in the State have begun to show results. According to the NJDEP Bureau of Air Monitoring, air quality in New Jersey has been improving. Unhealthy ratings were recorded on less than one day in thirty over the 1995-1997 period, compared to ten years before that, when unhealthy ratings were recorded on about one day in eight. Nevertheless, New Jersey's air pollution problem is also a regional dilemma that affects the entire northeast region of the United States. Despite the state's efforts to curb air pollution, the air quality violations continue because of our dependence on motor vehicles and the effects of wind-borne pollution from other states.

The State's continued violations of ozone and to a lesser extent, carbon monoxide standards primarily are attributed to motor vehicle emission. Ozone, a regional pollutant and the principal component of photochemical smog, results when the nitrogen oxides of vehicular emissions and other sources react with warm temperatures and sunlight (ultraviolet light). Carbon monoxide is a localized pollutant whose levels depends upon the number of vehicle trips, trip times and distances, and travel speeds.

Air pollution generates a number of negative impacts that degrade our quality of life. It significantly affects public health, reduces visibility, interferes with aquatic and plant life and damages agricultural production. Also, continued violations of the National Ambient Air Quality Standards could trigger federal sanctions that could ultimately constrain future development in New Jersey.

Current Air Quality

Bedminster's air quality monitoring region includes Middlesex, Morris and Somerset counties. The New Jersey Department of Environmental Protection (NJDEP) Bureau of Air Monitoring monitors air quality readings for individual pollutants throughout the state. No state monitoring stations operate in Somerset County, and the closest stations to Bedminster are Chester and Morristown in Morris County. The air quality data obtained from the closest monitoring stations as compared to NJDEP air quality standards is shown in Table 32. The table presents data for 1987 through 1998.

Consistent with the statewide trend, a comparison of the data over the twelve (12) year period indicates that air quality is generally improving in the region. . This trend is evident for each of the pollutants measured, with the most significant improvement being the number of violations of the ozone standard for which there have been recorded only 4 days exceeded (in 1995) during the 1993-1998 six year period. Prior to that, a total of 33 days the ozone standard was exceeded during the previous six-year period (1987-1992),

with the highest number of violations (18) occurring in 1988. Since Ozone depends upon certain meteorological conditions, it is likely that 1988 weather was more conducive for ozone formation than the other years. Meteorological conditions may contribute to similar results or even more unhealthy days in the future.

TABLE 32 AIR QUALITY DATA

Pollutant	NJ Ambient Air Quality Standard (ppm)		YEAR / NUMBER OF VIOLATION - EXCEEDANCE OF STANDARD DAYS										
			1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Sulfur Dioxide	.5 .14 .03	3 hr. 24 hr. 12 mo. avgs.	.092/0 .049/0 .007	.253/0 .066/0 .008	.087/0 .050/0 .008	.081/0 .042/0 .008	.089/0 .033/0 .007	.166/0 .060/0 .006	.050/0 .028/0 .005	.054/0 .040/0 .006	.055/0 .036/0 .005	.066/0 .034/0 .005	.049/0 .031/0 .005	.062/0 .026/0 .005
Carbon Monoxide	35.0 9.0	1 hr. 8 hr. avgs.	15.6/0 8.3/0	12.6/0 7.3/0	17.2/0 7.9/0	13.8/0 8.6/0	18.2/0 8.5/0	10.2/0 5.9/0	8.4/0 5.1/0	8.9/0 6.4/0	7.2/0 5.5/0	8.5/0 5.8/0	9.1/0 5.7/0	12.0/0 3.4/0
Ozone	.12	1 hr. avg./# days w/hrs. above std.	.162/4	.186/18	.158/2	.138/3	.139/5	.133/1	.122/0	.124/0	.130/4	.125/0	.116/0	.121/0
Nitrogen Dioxide	0.05	12 mo. avg.	.015	.016	.016	.015	.014	.014	.014	.014	.013	.012	.011	.012
Nitric Oxide	(None)	12 annual avg.	.005	.006	.006	.004	.004	.005	.004	.005	.003	.004	.003	.003

Notes: 1. Carbon monoxide monitored in Morristown. All others monitored in Chester.
2. No exceeding data provided for Sulfur Dioxide-12 mo. Average; Nitrogen Dioxide and Nitric Oxide2)
Sources: 1987-98 Air Quality Report, NJ DEP, Division of Environmental Quality

New Jersey and the nation will soon be required to meet a new air quality standard for ozone that the EPA adopted in 1997. EPA's adopted standard was challenged in the US Circuit Court of Appeals for the District of Columbia in 1999. In February of 2001, the Supreme Court held the new more stringent 8-hour standard valid along with a stringent standard for fine particulates, which include airborne soot from sources such as diesel trucks and power plants. Smog is caused by emissions from cars, power plants, chemical plants, petroleum refineries and a variety of other sources. Together these new standards represent the strictest air quality standards imposed by the EPA to date, which promise to significantly improve regional air quality and the quality of life for people susceptible to breathing disorders.

The new standard calls for the use of a more stringent regional standard to measure ozone levels, which includes phasing out the existing 1-hour primary ozone standard of .12 ppm, and replacing it with a new 8-hour standard of .08 ppm. According to the EPA, the 0.12-ppm 1-hour standard will not be revoked in a given area until that area has achieved 3 consecutive years of air quality data meeting the 1-hour standard. The NJDEP Bureau of Air Quality Monitoring reports that in 1998, there were 47 days that did not meet the new 8-hour ozone standard in New Jersey, but only 4 were over the old 1-hour standard.

Following the 1998 ozone season, the only areas of New Jersey, which met the 1-hour standard, and would no longer be subject to it are Atlantic, Cape May and Warren counties. The remaining counties in New Jersey are considered as not meeting the 1-hour standard since Congress grouped counties into metropolitan areas for the purposes of measuring and controlling ground level ozone, and levels over the standard in even one monitoring location within the metropolitan area cause the entire area to be rated as not meeting the standard. Thus, even as monitoring in Chester and Morristown suggest improved air quality in the reporting region, it appears that increased efforts will be required to improve air quality in the metropolitan area.

The only air quality data available for Bedminster Township consists of carbon monoxide levels recorded for a proposal to construct ramps from Route 202/206 to I-287 and to Burnt Mills Road from southbound I-287. Edwards & Kelcey prepared the Draft Environmental Assessment in June 1988 for the project, which will facilitate further AT&T development in Bridgewater Township. The locations monitored by Edwards & Kelcey included one intersection in Bedminster Township at Route 202/206 and Burnt Mills Road. The data indicates a one-hour maximum carbon monoxide level of 21.9 ppm and an eight-hour level of 15.5 ppm. Compared to the State standard, the eight hour level exceeds the 9.0 ppm standard. Evidently, the traffic volumes at this intersection heavily contribute to an existing air quality problem.

Besides motor vehicles, industrial facilities contribute to the State's air pollution problem. These operations generate a wide range of pollutants, including toxic air pollutants, which are regulated under the National Emission Standards for Hazardous Air Pollutants. According to the NJDEP Division of Environmental Quality, there are no facilities having air quality permits in Bedminster Township.

Management Considerations

Numerous variables affect air quality in Bedminster Township, some of which cannot be controlled. Winds transport air pollution from the surrounding area and the Northeast region to Bedminster Township. The Township circulation network accommodates large traffic volumes through the Township bound for other municipalities. However, there are some land use-related air quality management strategies that can be implemented within Bedminster Township, including:

1. Air quality assessments at principal intersections for all significant developments (300 or more vehicle trips per day) directly impacting these locations.

2. Development regulations to reduce air pollution emissions through energy conservation efforts which

    a. Encourage cluster design and other design alternatives to reduce road lengths for shorter vehicular trips.

    b. Promote infill development and redevelopment.

    c. Encourage energy conservation through subdivision design, building orientation, and building design.

    d. Encourage evaluation of microclimate conditions such as solar access and wind direction in the selection of building orientation.

    e. Recommend landscaping that provides structures with maximum solar access, shading, and wind protection.

    f. Reduce the need for vehicular trips and facilitate better interconnections between residential, commercial, and recreational uses.

    g. Provide opportunities and access for alternative transportation systems (buses, car pooling, and van pooling).

    h. Encourage the maximum practical recovery of recyclable materials and use of renewable energy sources.

3. Actively promoting alternative means of transit such as car pooling, bicycling, and walking, and encouraging staggered work hours for large employment centers.

1203 FOREST RESOURCES

Description

The predominant forest type present in Bedminster Township is representative of the upland mesic woodland located throughout northern New Jersey. According to Robichaud and Buell in Vegetation of New Jersey, variations in land relief and soil materials, with the resulting differences in environmental conditions, create distinctive plant habitats in northern New Jersey. Woodlands in Bedminster Township are associated with wetlands and flood plain areas and mesic plant habitats as well as forest habitats located on drier sites. Habitats classified as mesic uplands represent an idealized midpoint on the soil moisture gradient, with no standing water on the plants, but with a good supply of moisture in the soil.

The past actions of man have had a significant influence on the vegetation communities present today. These influences include fire, timbering practices, and the use of land for agriculture and settlement, all of which leave a distinctive impact on the woodland resources.

A summary of the three (3) major forest habitats and the forest types which grow in these communities is presented in Tables 33 through 35. Table 34 describes the three forest types found in the Mesic Upland Habitats in northern New Jersey. The mixed oak forest type is the most prevalent community in Bedminster Township, according to the New Jersey Bureau of Forestry.

Forest communities located on drier habitats are described in Table 35. The "1995 Forested Areas" map (Figure 12) illustrates the distribution of forest cover by type based on NJDEP interpretation of 1995 aerial photographs. The wetland forest communities located along floodplains and where saturated soil conditions prevail are described in Table 36.

The Virginia Pine forest is a unique forest type present in Bedminster Township. This dense stand of pine is in Bedminster near the northern limit of its distribution in central Pennsylvania, northern New Jersey, and Long Island.

Another significant forest stand in Bedminster is the floodplain forest situated between the North Branch of the Raritan River and Somerset Airport. The New Jersey Natural Heritage Program identifies this resource, which is one of the oldest and largest floodplain forest stands in the Raritan River Basin. Table 33 illustrates the GIS derived summary of forested areas by type.

FORESTS IN 1900

The loss of wooded areas in recent times has resulted from major developments, although forest cover in 1995 was far more extensive than a century earlier when agricultural activities had cleared nearly all the Township's forests. The forest cover map from 1900 provides a guide to the remaining old growth forests and can assist in their identification and protection.

Deciduous forests account for more than half of the forested areas in Bedminster, and deciduous upland forest accounts for roughly 1/3 of forest cover. 11% of Bedminster's forested areas are coniferous forest areas. The breakdown of Bedminster's 7,200 forested acres by type is shown on Table 33.

TABLE 33 BEDMINSTER TOWNSHIP FOREST COVER – 1995

Type	Acres	Percent
Coniferous Brush/Shrubland	999.14	13.89
Coniferous Forest (>50%Crown Closure)	348.20	4.79
Coniferous Forest (10-50% Crown Closure)	64.22	0.91
Coniferous Wooded Wetlands	5.01	0.07
Deciduous Brush/Shrubland	42.65	0.60
Deciduous Forest (>50%Crown Closure)	2,400.75	33.29
Deciduous Forest (10-50% Crown Closure)	602.87	8.33
Deciduous Wooded Wetlands	811.37	11.26
Mixed Deciduous/ Coniferous Brush/Shrubland	732.25	10.14
Mixed Forest (>50% Coniferous with >50% Crown Closure	415.24	5.79
Mixed Forest (>50% Coniferous with 10%-50% Crown Closure	18.35	0.27
Mixed Forest (>50% Deciduous with >50% Crown Closure 10%-50% Crown Closure	155.84	2.16
Mixed Forest (>50% Deciduous with	82.64	1.17
Mixed Forest Wetlands (Coniferous Dom)	7.49	0.10
Mixed Forest Wetlands (Deciduous Dom)	1.62	0.02
Old Field (<25% Brush Covered	496.64	6.91
Plantation	22.50	0.31
Total	7,206.78	100

Importance of Protecting Forests

While the extent of forest cover has rebounded during the past century, modern development impacts on forested lands prompt continuing concerns. The rational nexus for requiring woodlands protection relates to the benefits of woodland areas, which:

a. Modify local climatic conditions near or within their boundaries;
b. Create a feeling of privacy and seclusion;
c. Serve as recreational areas;
d. Provide habitats for plant and animals;
e. Reduce surface runoff because of the high moisture holding capacity of the forest soils and tree canopy;
f. Enhance the visual characteristics of the scenic corridors;
g. Reduce noise impacts;
h. Produce oxygen.

Forest Management and Protection

Tree preservation efforts often deal with protecting those trees which remain after site development. This strategy often tries to protect trees from such factors as construction equipment, grade changes, excavation, and site improvements. Often a proper evaluation of the woodland resources has not been completed prior to the development of a protection plan.

An integrated approach to woodland protection is found in "A Technical Manual for Woodland Conservation with Development in Prince George's County".

The Prince George's County method recommends a hierarchical woodland protection approach, where priority areas for preservation include:

Wooded 100-year floodplains;
Wooded non-tidal wetlands;
Wooded stream corridors;
Wooded slopes over 25%.

Other areas, which merit protection include:

Hedgerows and forest areas along traveled roadways and established property boundaries,
Unique forest types (i.e. Virginia pine forest),
Wooded slopes along scenic corridors,
Woodlands adjacent to public water supply tributaries, which protect water quality,
Woodland habitats critical for endangered and threatened species and
Woodland areas along open space corridors.

The Township should develop a similar method to protect and preserve woodland resources as development occurs. The Township should also refine the methods for forest conservation and tree protection that limit tree removal in the absence of development, since unrestricted clearing can result in substantial losses of topsoil, sedimentation of water courses and loss of important habitat areas.

TABLE 34 – MESIC UPLANDS HABITATS IN NORTH JERSEY

Community Structure	Mixed Oak	Sugar Maple-Mixed Hardwoods	Hemlock-Mixed Hardwoods	Successional Vegetation Stages of Succession
Tree Dominants	Red Oak	Sugar maple and many of the trees listed below	Hemlock (Dominant) and only a few of the trees listed below	<u>Annual Herbs</u> Ragweed Foxtail grass Wild radish Yellow rocket <u>Perennial herbs</u> Aster Goldenrod Little bluestem <u>Initial woody invaders</u> Red cedar or Gray birch Large-toothed aspen and some Wild cherry Sassafras Red maple Shrubs <u>Young Woodland</u> Mixed oak or tulip tree stand
	White Oak			
	Black Oak			
Other Typical Trees	Chestnut Oak	Sweet birch	Sweet birch	
	Scarlet oak	Yellow birch	Yellow birch	
	Hickories	Basswood	Basswood	
	Red maple	Beech	Beech	
	Sugar maple	Ash	Ash	
	Ash	Red maple	Red oak	
	Beech	Red and white oaks	Sugar maple	
	Tulip tree	tulip tree	Red maple	
Tree Understory	Dogwood (Dominant)	Hop hornbeams	Few	
	Sassafras	Dogwood		
	Hop hornbeams	Ironwood		
	Ironweed	Sassafras		
Shrubs	Viburnum	Viburnum	Few	
	Spicebush	Spicebush		
Herbs	Many spring & fall herbs	Many spring & fall herbs	Few	
			Partridge berry	
			Mosses	

Source: Vegetation of New Jersey, Beryl Robichaud and Murray F. Buell

TABLE 35 - DRIER HABITATS OF NEW JERSEY

Community Structure	Plants of the Steep Slopes & Ridges		Plants Growing on Rocks
	Chestnut Oak Forest	Pitch Pine-Scrub Oak Forest	Successional Stages of Vegetation
Common Trees	Chestnut oak (Dominant) Red oak White oak Scarlet oak Sweet birch Pitch pine	Pitch pine (Dominant)	<u>Lichen Moss Invasion</u> Crustose Lichens (Rinodina) Foliose Lichens (Rock Tripes) Mosses (Pin Cushion) <u>Herb Invasion</u> Hair grass Cinquefoil Sedges & grasses Ferns <u>Shrub Invasion</u> Blueberry Huckleberry Laurel <u>Tree Invasion</u> Pitch pine Chestnut oak Sweet birch White birch
Other Typical Trees	Black oak	Red oak	
	Red maple	Sweet birch	
	Hickory	Gray birch	
	Black cherry	Chestnut oak	
	White pine	White & scarlet oaks	
Understory	Chestnuts sprouts	Scrub oak (Dominant)	
	Laurel	Blueberry	
	Blueberry	Huckleberry	
Herbs	Few	Few	
	Wintergreen	Bracken fern	
	Wild sarsaparilla	Wild sarsaparilla	

Source: <u>Vegetation of New Jersey</u>, Beryl Robichaud and Murray F. Buell

TABLE 36 - SWAMP AND FLOOD PLAIN

Community Structure	North Jersey Lowlands	
	Plants of North Jersey Lowlands	
	Central N.J. Piedmont	More Northern N.J.
Typical Trees	Pin oak	Yellow birch
	Red maple	Red maple
	Ash	Ash
	Elm	Basswood
	Swamp white oak	Tulip tree
	Black gum	Black gum
	Silver maple	
	Also on Floodplains	
	Willow	Box elder
	Sycamore	River birch
Typical Shrubs	Spicebush	Alder
	Witch hazel	Willow
	Arrowwood	Buttonbush
	Viburnums	Spicebush
	Others	Witch Hazel
		Others
Typical Herbs	Skunk cabbage	Skunk cabbage
	Spring herbs	Spring herbs
	Sedges & mosses	Sedges & mosses

Source: Vegetation of New Jersey, Beryl Robichaud and Murray F. Buell

Introduction

Bedminster Township lies within two (2) physiographic provinces. The area north of Pottersville is in the Highlands, the southernmost division of the Appalachian Province. Almost all of Bedminster is south of the Highlands, in the Piedmont Plateau. The Highlands area consists of gently sloping to steep upland areas that are underlain by quartzite, gneiss and limestone rock. The broad, rounded or flat-topped ridges rise 300 feet above the lowland areas to the south.

The Piedmont Plateau is mainly a lowland area of gently rounded hills separated by wide valleys. The lower reaches of the Lamington River, the North Branch of the Raritan, and other smaller tributaries traverse piedmont lowland.

The New Jersey Geologic Survey (NJGS) has mapped the bedrock geology (see "Geology" map, Figure 13) and described the sedimentary and volcanic rocks of the Newark Supergroup (6-30-99) as follows: "Jp Preakness Basalt (Lower Jurassic) – Basalt, course-crystalline, very dark greenish gray to black. Texture is subophitic, plagioclase and augite crystals are nearly equal in size; no fine-grained groundmass. Plagioclase (An_{55-60}) is subhedral, mostly 0.2 to 0.3 mm (0.008-0.012 in) long, with a few crystals up to 2 mm (0.08 in) long. Clinopyroxene and orthopyroxene grains are equal, mostly anhedral, 0.3 mm (0.012 in) average diameter). Iron-titanium oxides are mostly interstitial, 0.2 to 0.5 mm (0.008-0.02 in) in diameter. Thickness of unit is unknown in Sand Brook syncline.

Jf Feltville Formation (Lower Jurassic)

Mostly fine grained, feldspathic sandstone, coarse siltstone, and silty mudstone, brownish-red to light-grayish-red. Fine-grained sandstone is moderately well sorted, cross laminated, and contains 15 percent or more feldspar; interbedded with mudstone, indistinctly laminated, bioturbated, and calcareous in places. A thin bed (0-2 m (0-7 ft) thick) of black, microlaminated carbonaceous limestone and gray calcareous mudstone occurs near the base and contains fish and plant fossils, and thermally mature hydrocarbons. Thickness of unit in the Sand Brook syncline is about 155 m (509 ft).

Jo Orange Mountain Basalt (Lower Jurassic)

Basalt is fine-grained to aphanitic, dark-greenish-gray, composed mostly of calcic piagioclase and augite; crystals smaller than 1 mm (0.04 in). Unit consists of three major tholelitic lava-flow sequences, each about 80 m (262 ft) thick. Lowest flow is generally massive with widely spaces curvilinear joints; middle flow is massive or has columnar joints; lower part of uppermost flow has pillow structures and upper part has pahoehoe flow structures. Thickness in map area is about 160 m (525 ft).

JTrp, JTrpg Passaic Formation (Lower Jurassic and Upper Triassic)

Predominantly red beds consisting of argillaceous siltstone; silty mudstone; argillaceous, very fine-grained sandstone; and shale; mostly reddish-brown to brownish-purple, and grayish-red. Upper Triassic gray lake deposits (Trpg) consist of gray to black silty mudstone, gray and

greenish- to purplish-gray argillaceous siltstone, black shale, and medium- to dark-gray, argillaceous, fine-grained sandstone and are abundant in the lower half of the Passaic Formation. Red beds occur typically in 3- to 7-m (10- to 23-ft-)-thick, cyclic playa-lake-mudflat sequences and fining-upward fluvial sequences. Lamination is commonly indistinct due to burrowing, desiccation, and paleosol formation. Where layering is preserved, most bedforms are wavy parallel lamination and trough and climbing-ripple cross lamination. Calcite- or dolomite-filled vugs and flattened vacities, mostly 0.5 to 0.2 mm (0.02-0.08 in) across, occur mostly in the lower half. Sand-filled burrows, 2 to 5 mm (0.08-0.2 in) in diameter, are prevalent in the upper two-thirds of the unit. Desiccation cracks, intraformational breccias, and curled silt laminae are abundant in the lower half. Lake cycles, mostly 2 to 5 mm (7-16 ft) thick, have a basal, greenish-gray, argillaceous siltstone; a medial, dark-gray to black, pyretic, carbonaceous, fossilferous, and, in places, calcareous lake-bottom fissile mudstone or siltstone; and an upper thick-bedded, gray to reddish and purplish-gray argillaceous siltstone with desiccation cracks, intraformational breccias, burrows, and mineralized vugs. Gray lakebeds occur in groups of two to five cycles, although they also occur as single cycles in some parts of the formation. Several lakebed sequences consisting of one or two thick groups of drab-colored beds as much as 30 m (98 ft) thick or more can be traced over tens of kilometers. Many gray-bed sequences are locally correlated within fault blocks; some can be correlated across major faults or intrusive rock units. Thickness of the formation between Sourland Mountain and Sand Brook syncline is about 3,500 m (11,483 ft)."

The NJGS also discusses the Piedmont Rocks of the Trenton Prong including: "Yg Gneiss, granofels, and migmatite (Middle Proterozoic) – Gneiss and granofels range in composition from felsic to intermediate to mafic; intermediate compositions predominate. Contains a wide variety of rock types including graphitic schist and marble. Many rocks were injected by a granitoid that has blue quartz and augen of potassic feldspar and are arteritic migmatites. One body of gneiss contains a 1 m by 0.5 m (3 by 2 ft) phacoid of gabbro that is interpreted to be an oilstolith. Unit probably represents a sequence of metasedimentary and metavolcanic rocks that have been heavily injected and migmatized by felsic magma."

Groundwater Protection

Groundwater protection efforts should address both past and future impacts of human activity. Prior discharges of toxic substances continue to require remediation. Non-point (runoff) pollution has become a primary concern, affecting both surface and groundwater. Sanitary waste disposal using subsurface septic disposal systems, contributes contamination based on the density of permitted development.

Groundwater quality surveys throughout New Jersey have identified areas where the past discharge of toxic and hazardous chemicals has caused the pollution of potable groundwater supplies to the extent that they are unusable. .

An important aspect of groundwater protection concerns the maintenance of septic systems. Poor maintenance of septic tanks results in poor operation and eventual groundwater and surface water pollution. Public outreach should advocate regular pumping of septic tank.

An assessment of existing groundwater conditions, through an environmental audit of groundwater quality, could include an analysis of existing groundwater samples, and logging and mapping of existing facilities or improvements which could adversely impact groundwater quality, if structural failures occur. Among the facilities that should be identified are the following:

1. Underground storage tanks.
2. Gas, fuel and sewer line locations.
3. Large septic systems for commercial/industrial users.
4. Permitted community septic systems.
5. Hazardous substance storage areas and facilities.
6. Permitted N.J.P.D.E.S. groundwater or surface water discharge facilities.

According to information supplied by the NJDEP Bureau of Underground Storage Tanks, 18 Bedminster Township facilities have permits to discharge treated water into the groundwater aquifers, as listed in Table 37.

TABLE 37 NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF UNDERGROUND STORAGE TANKS

Facility Name	Case ID	UST Registration #	Address	Status
AT&T Communications	92-07-061641	N/A	Rt. 202/206 North	No Further Action – Closed April 10, 1996
EDC Lift Station	N/A	0220349	Rt. 202/206 North	No Further Action – Closed August 27, 1999
EDC Schley Mountain	N/A	0220330	Schley Mountain Rd	No Further Action – Closed August 27, 1999
Hamilton Farm	97-10-030845-18	N/A	Pottersville Rd	No Further Action – Closed May 14, 1998
Bedminster School	96-10-24-1304-20	N/A	350 Main Street	Closed July 27, 1997
Texaco Station	89-03-31-1742-	01159401	151 Route 206/ Lamington Rd	Active – Remedial Action Work Plan Approval Progress Reports: Current Case Manager: Jill McKenzie
Bedminster One	N/A	00162434	135 Rt. 206/202 North	Awaiting Assignment – Notice To Close 1998
Grace Fellowship Chapel	95-10-05-1549-14	N/A	Main Street	Closed July 16, 1996
Lamington Farm	00-05-08-1416-19	N/A	576 Lamington Rd	Active – Awaiting report Case Manager: Mike Cowen
Bedminster DPW	94-07-06-1517	N/A	Miller Lane	Close March 11, 1996
Amoco	95-11-01-1609-02	N/A	Rt. 202/206 North	Closed January 17, 1997
Bedminster Post Office	N/A	0248213	Lamington Ave.	Closed June 6, 1995
Somerset Airport	91-10-2212-11	N/A	291 Airport Rd	Closed April 16, 1992
Exxon (abandoned)	89-10-1714-04	N/A	Block 22, Lot 38	Closed December 5, 1991
NJ American Water	93-04-0613-22	N/A	Mt. Prospect Rd	Closed September 27, 1994
Bedminster State Police Garage	N/A	0156314	Old US Rt. 206	Awaiting Assignment – Notice to Close – 2000
Meadow View Farm	N/A	0315614	1151 Rattlesnake Bridge Road	Closed April 5, 1997
Exxon #3-3480	94-11-30-1557-	0079608	Rt. 206/Washington Valley	Active – Remedial Action Work Plan Approval Progress Reports: Current January 24, 2001 – No response no response from the Department

Geology and Groundwater Implications as Carrying Capacity Determinants of Minimum Lot Size

When sanitary sewerage is not available, residential carrying capacity relates to the ability of aquifers to supply potable water and assimilate wastewater.

The LORDS estimates of recovery rates of groundwater for normal and dry years for the geological formations found in Bedminster are shown in Table 11 below.

TABLE 38 RECOVERY RATES FOR GROUNDWATER AQUIFERS

Geologic Formation	Normal Year	Dry Year
Brunswick Formation[1]	350,000	225,000
Triassic Basalt	250,000	170,000

Notes:
[1]The Brunswick formation is used as a surrogate for the Passaic formation and Conglomerates of the Border Fault area based on the recommendation of the New Jersey Geologic Survey.

The above figures provide a relative comparison of the water supply potential of geological formations found within of the Township. In reality the yield within a formation is highly variable. Withdrawal of groundwater at a rate approaching the maximum yield can result in the loss of base flow to surface water bodies, and can produce other hazardous impacts.

Groundwater supplies are recharged, or resupplied, through the infiltration of precipitation through the overlying layers of soil. Groundwater recharge is contingent on the maintenance of open areas where precipitation can percolate to the geological formations below.

Aquifer recharge can be accomplished through a number of planning and zoning activities. The maintenance of open areas and the retention of forests, both Township-wide and on individual lots, will promote aquifer recharge. On individual lots where impervious surface coverage is low, techniques such as overland flow to open areas, trenches, drains, shallow ponds and dry wells can provide additional recharge to maintain groundwater supply. As the proportion of impervious coverage increases, more elaborate recharge measures, such as detention and retention ponds, infiltration trenches and basins, and porous pavement, will be required in the site design.

The quality of groundwater and surface water is dependent on the quality of the water which infiltrates the soil, and the quality of water which flows overland or is directly discharged. Since the base flow of streams in periods of low flow primarily is provided by groundwater, and surface water can supply geological formations, the two systems are interlinked, and the other can impact either system.

Much attention has been focused on the contribution of septic systems to groundwater pollution. Mathematical models, which quantify the impact of septic effluent on groundwater have been developed to assess this relationship. These models evaluate the impact of nitrate levels from septic systems on groundwater supplies. This information is then utilized to establish recommended lot sizes. Since nitrate-nitrogen is highly mobile and stable in shallow aquifer conditions, its presence is often monitored as an indicator of overall groundwater quality.

A good practical example of the use of a current planning capacity analysis, based on a nitrate dilution model and water quality standards, is found in the N.J. Pinelands Comprehensive Management Plan (Pinelands Commission, 1980). To determine the level of population that could be supported with on-site wastewater systems in undisturbed portions of the Pinelands, the Commission initiated a study to describe the water quality conditions in the target area, and then utilized a nitrate dilution model to establish the maximum level of development that could be permitted without degrading the water quality. This level of development was then translated into maximum densities and minimum lot sizes through local zoning.

A nitrate dilution model was developed for the State Planning Commission in 1988 to establish densities in unsewered areas. The 3 mg/l nitrate standard was intended to apply in environmentally sensitive areas, while the 5 mg/l was recommended for use in other areas. The normal and conservative columns in Table 39 represent the expected infiltration of rainwater into the groundwater in wet and dry years, respectively. These standards were recommended, rather than the 10 mg/l nitrate standard for safe drinking water, in order to prevent frequent violation of the 10 mg/l standard; to be consistent with the State's anti-degradation policy for groundwater contained in the State's water pollution control regulations; to account for existing nitrate contamination from development or agriculture; and, to provide increased protection for high quality watersheds.

Planning for residential densities designed to protect the quality of potable water in the underlying aquifers responds to the ecological objectives of this planning process. In this regard, the nitrate dilution model provides a useful tool as one indicator of an appropriate development density. Residential development capacity based on the nitrate dilution model is outlined in Table 39. Other such indicators will relate to the other goals of the Master Plan.

TABLE 39 RESIDENTIAL DEVELOPMENT CAPACITY (ACRES/DWELLING UNIT) BASED ON NITRATE DILUTION MODEL[1]

	Acres/Dwelling Unit			
Geological	3 mg/l Nitrate Standard		5 mg/l Nitrate Standard	
Formation	Normal	Conservative	Normal	Conservative
Brunswick Foundation[2]	6.2	6.9	3.5	3.9
Triassic Basalt	15.5	31.1	8.8	17.6

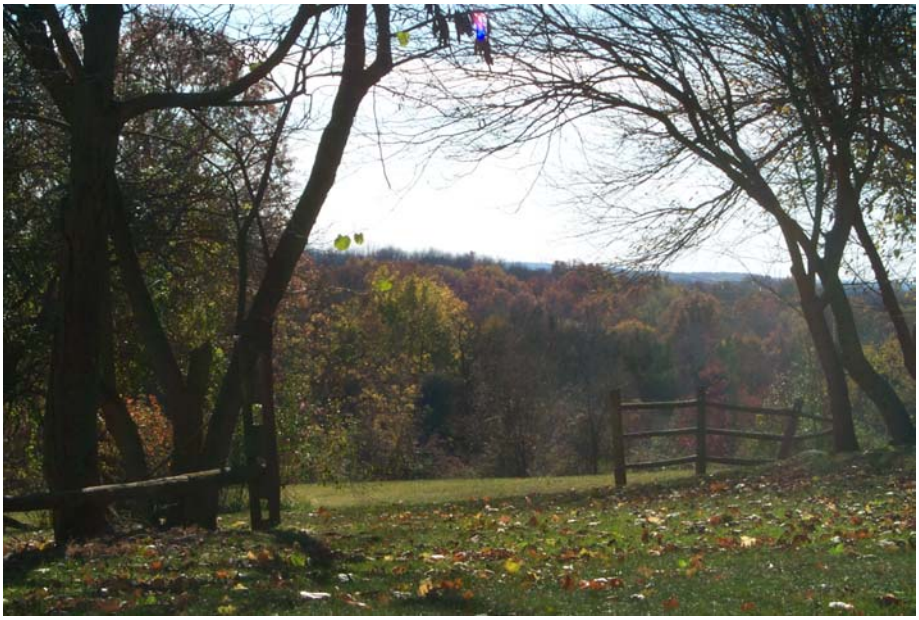
[1]Development of a Nitrate Dilution Model for Land Use Planning in the State of New Jersey, report by Rogers, Golden & Halpern for the State Planning Commission, December, 1988.

[2]Brunswick Formation aquifer data is representative of the yields expected from the Passaic Formations (JTrpst, JTrpm and JTrps) and Conglomerates of the Border Fault area (JTrcsh and JTrel).

1205 SCENIC CORRIDORS AND RESOURCES

Protection of Scenic Resources

The identity of a place, for both residents and passersby, is inextricably linked to the views experienced from roadways and rivers. Since the typical mode of travel is by motor vehicle, roadside views shape our perception of a place to the greatest extent.



It is in large measure the perceptual experience of landscape that people reference when they comment on an area's "quality of life." The landforms and landscape that have evolved make Bedminster a particularly attractive place, well characterized by the Township's first Advisory Committee for Cross Acceptance when it noted that "Bedminster Township has winding country roads, many of them unpaved; it has meandering streams and brooks, open fields and pastures, white colonial era churches with their graceful spires, tree-shaded streets, and a gently rolling countryside, interspersed with occasional gorges and ravines."

These components of Bedminster's landscape are typical of a rural area. The building booms of the 1980's and 1990's have hastened concerns for the protection of the natural and cultural landscapes that remind us of an earlier, simpler era. Bedminster is blessed with a wealth of such images and places.

The issue of scenic resource protection is highlighted in the State Development and Redevelopment Plan (SDRP). The SDRP, with its emphasis on urban revitalization, village and hamlet planning, and open space retention, suggests center-based settlements that retain the open "Environs" as a preferred alternative to suburban sprawl. As early as 1980, the Pinelands Comprehensive Management Plan included a program to manage scenic resources, which were highly valued along with resources such as wetlands, water quality, and air quality. The SDRP continues to advance scenic resources management strategies.

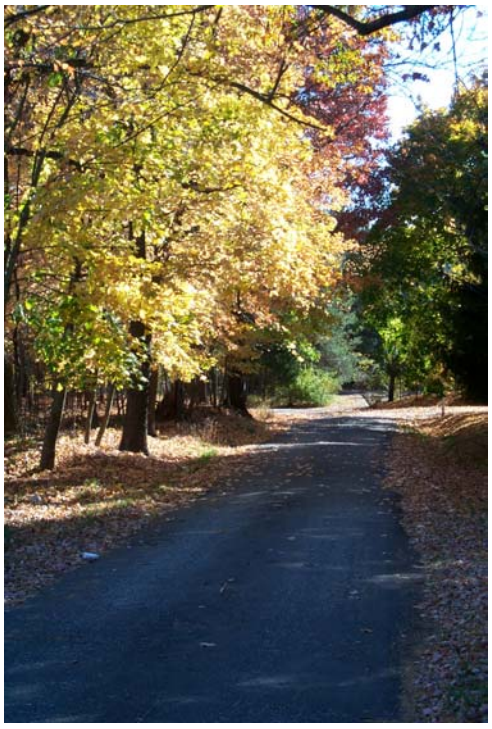
The Municipal Land Use Law (N.J.S.A. 40:55D-1 et seq.) provides a basis for such scenic character concerns, within the purpose, "to promote a desirable visual environment through creative development techniques and good civic design and arrangements" (N.J.S.A.

40:55D-2i). This purpose has particular relevance in subdivision and site plan review.

Identification of Scenic Resources and Corridors

Landscapes are composed of groups of natural and man-made elements that combine to create a specific landscape character. The natural elements of landscape include:

1. Physical features:
   Valley
   Hills
   Plains
   Ridgelines
   High points
   Elevation changes
2. Hydrographic features:
   Ponds
   Lakes
   Streams
   Swamps
   Marshes
3. Vegetative features:
   Fields (natural, agricultural, cultural open spaces)
   Forests
   Hedgerows along fields



Cultural, or man-made, elements also imbue a landscape with character. These include:

Roads (paved/unpaved; primary/secondary)
Structures (buildings and monuments)
Stonewalls and fences
Land use patterns

The observer's position in the landscape shapes the interaction with the scenic resource, which in turn shapes the perception of visual beauty. In general, the distance to the landscape scene increases the observer's visual focus shifts from details and particular features to forms and patterns.

Scenic vistas can result from both roadside views and distance views.

1. Roadside views involve a series of enclosed open areas, either natural or cultivated, surrounded by woodlands, or with forest as a backdrop to frame the view. While roadsides adjoining forests allow limited visual penetration, they create a sense of intimacy and mystery. The management of roadside vegetation (establishing or clearing vegetation) either allows visual penetration beyond the roadside or not.

2. Distance views are those that allow visibility of the landscape over a distance greater than one mile. These views are typically from hillsides or high points along roads and allow views of hills, valleys, forests, fields, and settlement patterns. Often, these views exhibit features in the foreground, midground, and background which, depending on the location of proposed development, can be adversely impacted by incongruous development.

3. The map of "Scenic Corridors" (Figure 14) identifies the corridors that have been identified during the Master Plan process.

The landscape character and views vary considerably along these corridors, with some areas providing enclosed, canopied corridors and others providing more extended roadside views and expansive distance views. All are important to Bedminster's visual character.

Management Considerations

Standards should be established for the review of subdivisions and site plans that take into consideration the features that establish roadside and distance views. The following issues should be considered.

a. Roadside Views:
   - Vegetation management
   - Clearing to promote visual penetration.
   - Planting to shield development.
   - Selective cutting to maintain corridor.
   - Access points for local streets
   - Utilize natural breaks.
   - Subdivision configuration
   - Maintain stone rows and hedgerows.
   - Utilize forested areas as backdrops.
   - Shield development via street design.
   - Arrange home sites to protect open fields.

b. Distance Views:
   - Location of development
   - Foreground or midground of hillsides, away from ridge lines.
   - Behind visual barriers.
   - No higher than tree line.

Street alignment
Follow hedgerows and stone rows.
Screening material consistent with existing topography and native vegetation.

The Township's management approach to scenic resources will be detailed in a manual of Scenic Corridor Design Guidelines, to be developed during 2003 through the Somerset County/Municipal Planning Partnership.

1206 SOILS

Soil Descriptions

Soils reflect the geologic past of a region. The soils in Bedminster Township are formed in either residual material weathered from the underlying rocks or transported material deposited by water, glacial ice, wind or gravity. For example, the Neshaminy and Mount Lucas soils are examples of soils that formed in residuum weathered from basalt rocks that form the Watchung Mountains. Penn soils formed in residuum weathered from red Triassic shale and siltstone.

Soils form through the interaction of five major factors: climate, plant and animal life, parent material, topography, and time. The relative influence of each factor varies from place to place. The parent material is the unconsolidated mass from which a soil forms. It determines the mineralogical and chemical composition of the soil and to a large extent the rate of the soil-forming process.

As mapped and described by the U.S.D.A. Soil Conservation Service and published in the Soil Survey of Somerset County, the soils of Bedminster Township fall into five general soil associations formed from three groups of parent materials.

The soil associations in Bedminster Township are described below.

a. Soils Formed Mainly in Glacial Till or Material Weathered from Granitic Gneiss, Diabase, or Basalt.

1. Edneyville-Parker-Meckesville Association. The soils in this association are located in the rolling and hilly uplands around the Pottersville area of the Township. They are dominantly steep, gravelly and very stony. The minor soils found in this series are Califon, Fluvaquents, and Udifluvents and Ochrepts.

Edneyville soils are deep, well drained gravelly loams that have a moderately high content of gravel. They are gently sloping to steep and are subject to erosion if cultivated.

Parker soils are gently sloping to very steep, deep, somewhat excessively drained sandy loams. They are very gravelly, rocky or very stony. Parker soils are not mapped in

Bedminster Township.

Meckesville soils are greatly sloping to strongly sloping, moderately well drained gravelly loams. They have a slowly permeable fragipan.

The moderately well drained to somewhat poorly drained Califon soils are on uplands. The poorly drained Fluvaquents and somewhat poorly drained to moderately well drained Udifluvents and Ochrepts are found along streams.

Steep slopes, stoniness, and slow permeability and seasonal high water table are the principal limitations for community development.

2. Neshaminy-Mount Lucas-Amwell Association. Located along the Watchung Mountains, the soils in this association reflect the relief of the underlying basalt and diabase bedrock material.

Neshaminy soils are well drained or moderately well drained silt loams or very stony silt loams that are deep over bedrock. They are gently sloping to very steep.

Mount Lucas soils are deep, moderately well drained to somewhat poorly drained silt loams, gravelly silt loams, or very stony silt loams. They are gently sloping to strongly sloping.

Amwell soils are deep, moderately well drained to somewhat poorly drained loams and gravelly silt loams. They are gently sloping to strongly sloping.

The minor soils included in this association are Riverhead, Norton, Lawrenceville and Watchung. The Riverhead and Norton soils are well drained, the Lawrenceville soils are moderately well drained and the Watchung soils are poorly drained.

Steep slopes, stoniness and a seasonal high water table are limitations for community development common for these soils.

b. Soils Formed in Material Weathered Mainly from Shale, Siltstone or Sandstone but Partly from Conglomerate and Argillite.

1. Arendtsville-Penn-Pattenburg Association. This upland association is located in the northern third of the Township, where the landscape is undulating and rolling. These shaley soils are underlain mainly by quartzite conglomerate and red shale on the uplands.

Arendtsville soils are deep, well-drained gravelly loams. They are gently sloping to strongly sloping.

Penn soils are moderately deep, well-drained silt loams or shaley silt loams. They are nearly level to strongly sloping.

Pattenburg soils are deep, well-drained gravelly loams. They are strongly sloping to moderately steep.

The minor soils included in this association are Meckesville, Klinesville, Rowland, Fluvaquents, and Udifluvents and Ochrepts. The well-drained, deep Meckesville soils and the well-drained, shallow Klinesville soils are on uplands. The moderately well-drained and somewhat poorly drained, deep Rowland soils are on flood plains and are subject to frequent flooding. Other soils on flood plains in this association are Udifluvents and Ochrepts and Fluvaquents which are also subject to annual flooding.

Slopes, rapid permeability and depth to bedrock are limitations for community development in this association.

2. Norton-Penn-Lansdowne Association. This association dominates the central and southern portion of the Township where the landscape is undulating and rolling.

Norton soils are deep, well-drained loams that formed in glacial till. They are nearly level to strongly sloping.

Penn soils are moderately deep, well-drained silt loams or shaley silt loams that formed in material weathered mainly from shale. They are nearly level to strongly sloping.

Lansdowne soils are deep, moderately well-drained to somewhat poorly drained silt loams that formed in glacial till. These soils are in slight depressions. They are nearly level to gently sloping, are slowly permeable and have a subsoil that is high in clay content.

The minor soils are Reaville, Croton, Meckesville, Birdsboro and Raritan. Reaville soils are moderately well-drained or somewhat poorly drained soils on uplands. They are moderately deep over shale bedrock. Croton soils are deep, poorly drained soils on uplands. Meckesville soils are deep, moderately well-drained soils on uplands. Birdsboro and Raritan soils are on stream terraces and are underlain by strata of sand and gravel. Some low-lying Raritan soils are subject to stream flooding.

Slow permeability, depth to bedrock and a seasonal high water table are the main limitations for community development in this association.

c. Soils Formed in Recent Alluvium and Old Alluvium.

1. Rowland-Birdsboro-Raritan Association. The soils in this association are along major streams throughout the Township.

Rowland soils are moderately well-drained to somewhat poorly drained soils on flood plains. They have a seasonal high water table and are subject to frequent flooding. These soils are deep silt loams that formed in recent alluvium washed from uplands.

Birdsboro and Raritan soils formed in old alluvium. Birdsboro soils are deep, well-drained silt loams. They occupy the higher positions on the stream terraces and in the lowest areas are subject to infrequent flooding. Raritan soils are deep, moderately well-drained to somewhat poorly drained silt loams. They have a seasonal high water table and are slowly permeable. They are on stream terraces and only the lowest areas are subject to flooding.

The minor soils in this association are Bowmansville and Lamington soils, Fluvaquents, and Udifluvents and Ochrepts. The poorly drained Bowmansville soils are on the lower flood plains. Although both the Rowland and Bowmansville soils are subject to flooding, the Bowmansville soils tend to become flooded more frequently. Fluvaquents, Udifluvents and Ochrepts occupy the flood plains in the Highlands and are subject to frequent flooding.

Frequent flooding and a perched seasonal high water table are the limitations present in this association for community development.

Soil Limitations for Community Development

Proper land use planning relies on a clear understanding of the capabilities and limitations of soil present in a community. Extensive information on such factors as depth to bedrock, depth to seasonal high water table, permeability, water capacity, pH and shrink-swell potential are included in the Soil survey for Somerset County.

Given the reliance upon on-site septic systems throughout most of Bedminster, this information has been evaluated to determine soil limitations for various uses. The most important limitation relates to the soils' ability to support septic system disposal fields, shown on the map titled “Limitations for On-site Disposal of Effluent” (Figure 15).

A rating of slight means soil properties are generally favorable for septic disposal and limitations are minor and easily overcome. Ratings of moderate means that some soil properties are unfavorable but can be overcome by careful planning, design and management. A severe rating means soil properties are so unfavorable and difficult to correct or overcome so as to require special design. Soil conditions on some properties are so unfavorable as to prevent development.

Seasonal high water table and a high potential for frost action are the two main reasons listed for a severe rating for local roads and street construction. Soils rated moderate were noted as having a moderate potential for frost action. Frost action potential relates to the soil permeability where a slow permeability yields high frost action potential. A seasonal high water table also produces a severe rating for roadway construction.

Most of the soils in Bedminster Township are rated severe for the installation of septic disposal fields, largely due to high seasonal high water table, shallow depth of bedrock or, slow permeability in the subsoil or rapid permeability, which creates the threat of groundwater pollution. The “Depth to Seasonal High Water” map (Figure 16) depicts areas with limitations

due to the high water table, while the map titled "Depth to Bedrock" (Figure 17) illustrates the other major limiting factor for septic disposal.

State standards governing individual subsurface sewage disposal systems require detailed soil profile pits and permeability testing of the soil horizons. The type of system permitted on each soil is based on the most limiting zone identified in the soil profile, such as a fractured rock or excessively coarse substratum; massive or hydraulically restrictive rock or a regional zone of saturation or a perched zone of saturation.

A suitability class, assigned to each limiting zone based on the depth of occurrence, is utilized to determine the type of disposal field installation permitted.

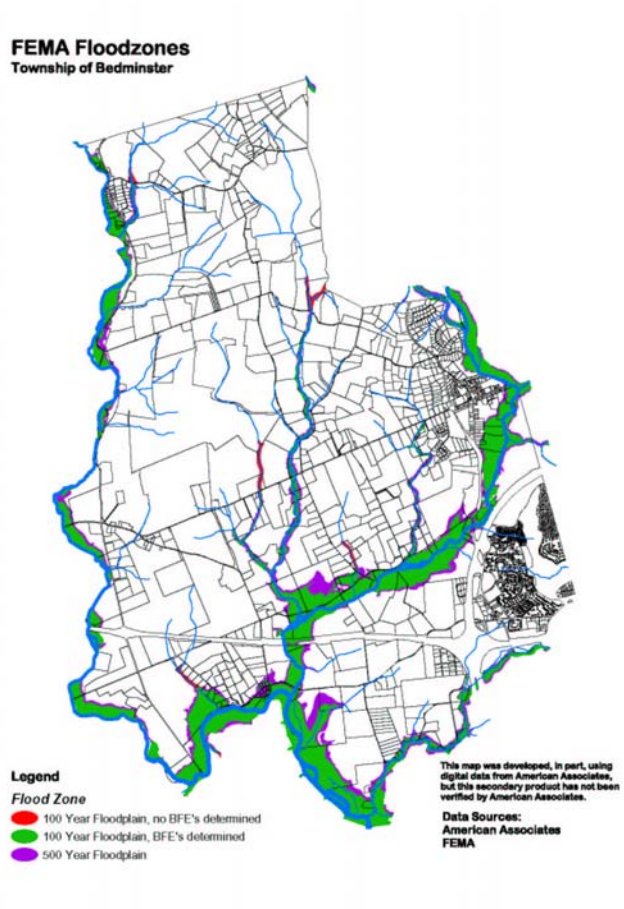
The design of the disposal field requires both a zone of treatment, which purifies the septic effluent, and a zone of disposal, which assures the hydraulic disposal of the clarified effluent.

Limiting soil characteristics determine the type of disposal field installation permitted. If multiple restrictions are identified in a soil profile, the system design is based on the most restrictive feature. For example, Croton soils have a bedrock depth at three and one-half (3 1/2) to five (5) feet and a regional seasonal high water table at 0 to 1 feet. The regulations identify this type of soil as unsuitable for the installation of a septic disposal field based on the seasonal high water table.

It is likely that the most common types of septic disposal field installation will be soil replacement; bottom-lined installation, soil replacement; fill enclosed installation and conventional systems. Conventional installations, with interceptor drains to remove the perched zone of saturation, may also be widely used, although mounded systems may be required to raise the zone of treatment above the groundwater level.

The NJDEP has adopted amendments to the Statewide Water Quality Management Planning Rules (NJAC 7-15-B), which affect the planning and environmental assessment requirements for projects or activities that generate 2,000 gallons or more of wastewater per day and whose facilities or treatment works discharge to groundwater. The amendments, which affect any development of 6 or more residential units utilizing individual or other subsurface sewage disposal systems, are being implemented to enhance and further protect the water resources in the State.

1207 STREAM CORRIDORS



The national focus on watershed management has brought increasing attention to the land use practices affecting stream corridors. Stream corridors include the channels and associated landforms, which comprise the network of surface waters including swales, intermittent streams, perennial streams and rivers. Maintaining the integrity of stream corridors protects the quality of rivers and streams and their water supply and recreational values. While State regulations governing freshwater wetlands and the flood hazard area offer some protection from development, not all stream corridors have associated wetlands and/or floodplains. And since floodplains are not generally buffered from development, there are important land areas adjacent to streams that currently receive limited regulatory protection.

Local regulation can help to maintain or provide a vegetated buffer along the stream to filter surface water pollutants and sediments, thus preserving water quality. Vegetation reduces raindrop compaction of the soil and reduces overland flow, facilitating water percolation and groundwater recharge. Mature vegetation, particularly trees, also shades streams, preventing solar radiation from dramatically increasing water temperature and affecting fish habitat potential.

Undeveloped lands allow floodwaters to overflow the stream bank, rather than become more concentrated and contribute to downstream flooding. Finally, preserving the stream corridor habitat protects the ecology established adjacent to the stream and preserves corridors for wildlife movement.

All of Bedminster drains to the North Branch of the Raritan River via a dendritic pattern of tributaries. The North Branch flows in a southwesterly direction from the Borough of Peapack and Gladstone to its confluence with the Lamington River, and continues in a southeasterly direction where it forms the municipal boundary between Bedminster Township and Branchburg Township.

The Lamington River, the major tributary of the North Branch, forms the Township's westerly boundary and drains the westerly portion of the Township. The confluence of the two

rivers occurs at Burnt Mills.

The definition and protection of stream corridors should seek to protect not only the stream corridor and adjacent wetland and floodplains but also adjoining uplands, with particular emphasis on adjacent steep slopes. These combined components of stream corridors merit protection in a comprehensive stream corridor conservation strategy.

Watershed Management Area #8, as identified by NJDEP, includes the North Branch watershed. Ongoing watershed management activities have characterized water quality in the basin and will soon define total maximum daily loads (TMDL) of various pollutants, an important consideration in future land use planning.

1208 TOPOGRAPHY AND SLOPE

Identification Landforms and erosional processes have shaped the present topography of Bedminster Township, where surface elevations range from 70' MSL to 588' MSL

The majority of Bedminster's steep sloped area, shown on the "Steep Slope" map (Figure 18), is found in the Pluckemin area, where the Watchung Mountain rises nearly 600 feet above sea level, and its westerly slope consists of slopes, well in excess of 25%.

Some isolated steep slope areas occur along drainage ways and streams, where the down cutting action of moving water has created steep embankments.

For the purposes of the Master Plan, the 20-foot contours shown on the USGS quadrangle maps adequately portray the topography (see "Topography" map, Figure 19). However, to better identify the localized impacts of steep slopes, it is useful to measure the gradient across a tighter contour interval, such as a six (6) foot change in elevation.

Protection of Steep Slopes

Steep slopes are critical areas that require protection from alteration. Construction on steep slopes removes vegetation and exposes the soil to climatic conditions. The resulting soil instability can produce the following deleterious effects:

a. Increased soil erosion and sedimentation.
b. Decreased surface water quality.
c. Decreased soil fertility.
d. Increased overland flow and decreased groundwater recharge.
e. Altered natural drainage patterns.

Management Strategies

The Township's Land Management Ordinance includes areas with a slope in excess of 15% in the definition of "Critical Area," and prohibits the disturbance of steep slopes except for roadway and utility improvements, which are permitted when there is not a better location for the improvements.

Summary

Bedminster generally slopes gradually from the northern Highlands region to the riparian lowlands of the North Branch, and the critical slope areas away from the Watchung Ridge generally follow eroded stream corridors. The most severe slopes in the Township, along the Second Watchung Ridge, are found in Township lands in Pluckemin.

Protecting steep slopes constitutes sound environmental policy. Thus, it is important to recognize reduced development capacity in steep slope areas and limit the negative impacts of development (vegetation removal, alteration of natural drainage, erosion, etc.) by controlling the type and extent of disturbance.

1209 SURFACE WATER

Bedminster Township's streams discharge either into the North Branch of the Raritan River, or the Lamington River, which joins the North Branch at Burnt Mills. Both rivers are part of the Upper Raritan Watershed, which encompasses portions of Morris, Somerset, Hunterdon and Union Counties. Eventually, the North Branch and South Branch meet at their confluence located at Branchburg and Bridgewater Townships, Somerset County.

The Raritan River watershed provides recreational and water supply opportunities which depend upon high quality river water. Management strategies for existing and future land uses should be designed to maintain and to improve river water quality.

Impacts to Surface Water Quality

Water pollution sources are categorized as either point or non-point source pollutants. A point source pollutant emanates from an identifiable source such as a wastewater treatment plant discharge pipe or an industrial plant outfall.

Non-point source pollutants enter rivers and streams by non-specific means such as septic system effluent, agricultural runoff, stormwater runoff and construction activities. Both point and non-point sources of pollution affect Bedminster Township's surface water quality.

New Jersey's Surface Water Quality Standards (SWQS) (N.J.A.C.7:9B) establish the water quality goals and policies that guide the management of the state's water quality. These standards designate the use or uses of the water and establish protective policies and criteria.

Water Quality Goals:

National water quality goals, established in the Federal Clean Water Act, provide that surface waters should be fishable, swimmable and potable (after reasonable treatment). The national goals are reflected in the designated uses of waters established in New Jersey's Surface Water Quality Standards (SWQS) and the water goal statement developed under the National Environmental Performance Partnership Agreement (NEPPA).

Designated uses:

The designated uses in freshwaters are: primary and secondary contact recreation (i.e., swimmable); maintenance, migration and propagation of the natural and established biota (i.e., fishable), agricultural and industrial water supply, and public potable water supply, after such treatment as required by law or regulation (i.e., potable). These uses were established based on physical, chemical, biological, and hydrological characteristics of the waters and the economic considerations related to attaining various uses. Designated uses that apply in NJ are listed in the SWQS and are evaluated periodically.

Water Classifications

*New Jersey's s*urface waters are grouped into classifications, which include:

- **FW1:** Fresh Water 1: Fresh surface waters that are to be maintained in their natural state and not subjected to man-made wastewater discharges or increases from runoff from anthropogenic activities.

- **FW2:** Fresh Water 2: General fresh surface water classification applied to fresh waters that are not FW1 or Pinelands Waters.

- **FW- TP:** Fresh Water - Trout Production waters are designated for trout spawning/nursery during their first year.

- **FW- TM:** Fresh Water - Trout Maintenance waters are designated for the support of trout throughout the year.

- **FW- NT:** Fresh Water - Non Trout: fresh surface waters that have not been designated TM or TP. These waters are generally unsuitable for trout because of their physical, chemical, or biological species, but are suitable for a wide variety of other fish species.

- **ND:** Nondegradation waters are waters set aside for posterity because of their clarity, color, scenic setting, and other characteristic of aesthetic value, unique ecological significance, or exceptional water supply significance. These include all waters designated as FW1 in this report.

- **C1:** Category 1 waters are designated for implementation of antidegradation policies for protection from any measurable change in water quality. C1 may be applied to any surface water classification except those designated as FW1 or PL. Note: the Department is currently proposing a clarification between the definition of ND and C1 antidegradation policies.

- **C2:** Category 2 waters are waters that are not designated as Outstanding Natural Resource Water (i.e., FW1 or PL) or C1 for implementation of antidegradation policies.

According to the New Jersey 1996 Water Quality Inventory Report**,** all surface waters in Bedminster are included in the classification of FW2. The FW2 classification is subdivided into three sub-categories: FW2-TP (trout production), FW2-TM (trout maintenance), and FW2-NT (non-trout). The water quality standards for suspended solids, dissolved oxygen, temperature, and un-ionized ammonia are more stringent for FW2-TP and FW2-TM waters than they are for FW2-NT waters. In addition, the Surface Water Quality Standards identify all FW2-TP waters (and other upstream from these waters) as Category One Waters for purposes of antidegradation

policy. The water quality classifications for the surface water in Bedminster Township are shown on the "Water Quality Designations" Map (Figure 20).

Although both the North Branch and Lamington Rivers generally exhibit good water quality and support healthy fish communities, the North Branch exhibits more signs of degradation. The NJDEP classifies the North Branch through most of Bedminster as non-trout.

In the 1996 Water Quality Inventory Report, the North Branch water quality sampling station at Burnt Mills reported a slight to moderately elevated fecal coliform count. At Burnt Mills, sanitary quality was unacceptable, with approximately 40% of the samples taken at Burnt Mills exceeding the fecal coliform criterion. However, compared to the previous water quality assessment performed in 1992, water quality has improved in the North Branch at Burnt Mills as evidenced by notable reductions in phosphorus and fecal coliform levels. Water quality for the Lamington River varies throughout its course in Bedminster. Flowing from Chester Township to Pottersville, the NJDEP classifies the river as trout production, Category 1. Between this area and the Lamington Road bridge, water quality slightly diminishes to a trout maintenance classification. From the bridge to its confluence the Lamington River rates as non-trout.

Two (2) water quality monitoring stations located on the Lamington provide indications of water quality. The Pottersville and Burnt Mills stations report acceptable levels of inorganic nitrogen and fecal coliform and mildly elevated levels of phosphorus. However, the sanitary quality at Burnt Mills was marginally acceptable. Throughout the river, its temperature in the summertime can approach 20 degrees Centigrade near Pottersville. Temperatures run about the same at Burnt Mills, however there the waters are classified as non-trout, thereby allowing for higher in-stream temperatures. No violations of the upper criterion for non-trout waters were observed at Burnt Mills. Maintaining lower water temperatures promotes higher dissolved oxygen, which is critical for aquatic life.

The Lamington River sampling stations report good quality. However, warm stream temperatures may threaten the trout production portions of the river from Chester Township to Pottersville. The Lamington River has also shown some improvement in water quality at the Pottersville and Burnt Mills sampling stations as compared to conditions recorded near the end of the 1980's. This is especially noted in the improved sanitary quality.

The map entitled "Water Quality Designations" (Figure 20) depicts the rivers and streams in Bedminster, according to water quality standards established by the NJDEP.

Point Source Pollution

Water quality degradation occurs immediately downstream of point source discharges on both the North Branch of the Raritan River and Lamington River. Further downstream from these sources, biological action, settling of suspended particles and dilution from tributaries enable the rivers to recover from point source water pollution impacts.

Bedminster Township contains five facilities, which require a New Jersey Pollution

Discharge Elimination System NJPDES permit. Table 40 provides a list of all NJPDES permitted discharges in Bedminster Township.

TABLE 40 NJPDES PERMITTED DISCHARGES IN BEDMINSTER TOWNSHIP

Name of Facility	1996 MGD Wastewater Flow	Discharge to	Receiving Waters
Star Enterprise	*	Surface Water	Tributary of North Branch
Fiddlers Elbow Country Club Wastewater Treatment Plant	.012 MGD	Surface Water	Lamington River
Environmental Disposal Corporation Wastewater Treatment Plant	1.119 MGD	Surface Water Groundwater	Tributary of North Branch Brunswick Formation Aquifer
Lamington Farm Club Sewage Treatment Plant	.0016 MGD	Surface Water	Middle Brook
Hamilton Farm Wastewater Treatment Plant	.0067 MGD	Groundwater	Groundwater of the State

* Underground storage tank cleanup.

Non-Point Source Pollution

NJDEP considers non-point pollution to be a major factor affecting Bedminster Township's surface waters. Non-point source pollution originates from countless urban, suburban and rural sources, none of which have a specific discharge or outflow mechanism. The watershed's rural/suburban land uses generate non-point pollution runoff that flows to streams and rivers.

Non-point pollution sources that impact the surface water tributaries generally can be grouped into four categories: septic system effluent, agricultural runoff, urban stormwater runoff and construction activities. DEP has evaluated the impact of each of these factors on the North Branch of the Raritan River and the Lamington River as follows:

1. Septic System Effluent. Septic system effluent contains pathogens, nutrients and any household products disposed in the wastewater. The septic system design depends upon biological renovation and chemical activities within the soil to remove or alter the chemical constituency of the effluent's contaminants. A septic system improperly maintained, constructed or sited will not function properly. The result may be the overland flow of septic effluent to surface waters or a discharge of improperly treated effluent to surface waters via groundwater systems.

   NJDEP reports that septic system effluent from malfunctioning systems is contributing to surface water degradation on the North Branch of the

Raritan River and Lamington River.

2. Agricultural Runoff. Runoff waters remove sediments from croplands and pasture that become deposited within waterways. The sediment reduces stream capacity, increases flooding and disrupts biological systems. Pesticides, fertilizers, nutrients and heavy metals attached to sediment particles are transported to rivers and streams thus degrading their water quality.

   Agricultural runoff from cropland and pasture is a significant non-point pollution source in the Lamington River watershed.

3. Urban Stormwater Runoff. Urbanization increases pollutant loadings by at least 100% over the pre-development levels. Urban runoff consists of oils, greases and other automobile-related by-products, pesticides, fertilizers, animal waste, and road deicing agents.

   Rainfall flushes these contaminants into stormwater management facilities which direct the runoff to surface waters. The initial rainfall, or first flush, removes most contaminants from impervious surfaces.

   According to NJDEP, urban runoff significantly affects both the Lamington River and the North Branch of the Raritan River. Improved stormwater control is responsible for reducing the urban runoff contribution to the North Branch.

4. Construction Activity. The construction phase of development produces the greatest amounts of sediment loads to water bodies. Suspended sediments increase turbidity (the limiting of light penetration through water), affects fish and aquatic invertebrate respiration, reduces spawning and juvenile fish survival and smothers the benthic community (attached to the stream bed). Construction activity increases sediment loads by two to ten times over pre-development conditions. The NJDEP attributes sedimentation from land clearing as a non-point source pollutant to the Lamington River and the North Branch of the Raritan River.

Water Supply Uses

Although no water purveyor directly withdraws from the North Branch of the Raritan River, the North Branch does supply good quality water for downstream watershed communities. Elizabethtown Water Company withdraws and treats Raritan River water at a facility in Bound Brook, Somerset County.

In the early 1990's the NJDEP prepared a water supply feasibility study for the entire Raritan River watershed. The purpose of the study was to determine the future water supply needs and the potential water supply sources for the Raritan River watershed. The study

determined that a reservoir at the confluence of the North Branch and the South Branch of the Raritan River in Bridgewater and Branchburg Townships in Somerset County would be infeasible. The results of the study were compiled into the September 2000 Water Supply Availability Report for the Raritan Basin. The Water Supply Availability Study identifies two water supply projects, the Kingston Quarry Reservoir and the Confluence Pumping Station. These projects have been identified as cost-effective solutions that can meet the Raritan River Basin future water supply demands, with relatively limited environmental impacts. Assuming that projections continue to hold steady and water conservation is effective in mitigating future demands, the Statewide Water Supply Plan anticipates that one of these projects will be built after 2030 to supply future needs.

Maintaining future river water quality will depend upon incorporating management strategies for the entire watershed. In Bedminster these strategies can be particularly useful in the headwater tributaries to the Lamington River and the North Branch of the Raritan River, which help to protect downstream water quality. Ultimately, all pollutants discharged into the rivers and their tributaries contribute to the degradation of the Raritan River water quality. All water purveyors such as the Elizabethtown Water Company treat the river water prior to its distribution and pass the treatment cost onto the water users. Further degradation of river water quality will only increase the cost of water treatment for current and future purveyors and customers.

Management Strategies

Best management practices provide varying levels of water quality enhancement, environmental and community amenities. While the choice of water quality best management practices depends on the type of activity, all developments should incorporate water quality practices to protect the present and future quality of our water resources. A summary of these practices is outlined below.

Buffer Strips

A buffer strip represents a "natural" technique to maintain water quality and enhance site characteristics. The buffer strip consists of the preserved natural vegetation adjacent to a water body. Typically, its width varies from 25 to 300 feet although 300 feet may be inadequate for the protection of some water supply watersheds. The buffer strip intercepts sediments and other non-point source pollutants from overland runoff before reaching a water body. The buffer strip also provides wildlife habitat and protects aesthetic qualities.

Various site parameters must be evaluated to determine the appropriate buffer strip width. The parameters include land cover, land use, impervious surface area, the speed of runoff toward the waterway, topographic slope, soil type, parent material, and soil permeability.

Overland Water Flows

Overland flows of stormwater through vegetated areas will reduce the amount sediment and other non-point pollutants entering the dry detention facilities. Vegetative Best Management Practices (BMP's) such as grass filter strips, grassed swales, and shallow marsh creation, will all

provide water quality enhancement. These BMP's can be utilized prior to the stormwater flows entering the stormwater network system.

Regional Stormwater Management

Somerset County has taken a watershed management approach to stormwater management. Regional or shared stormwater management facilities are constructed wherever possible. The benefits of a regional or watershed-wide stormwater management system include:

1. Better basin-wide flood control.
2. Water quality enhancement.
3. Better long-term maintenance of stormwater management facilities.
4. Increased recreational opportunities. If constructed as a wet basin or pond storage facility.
5. Wildlife habitat creation and enhancement.

If regional basins are not possible, the use of multiple small basins on an individual project should be avoided, since water quality protection tends to be minimal in such arrangements.

Detention Basins

Most municipalities and counties have adopted stormwater management standards which regulates the increase in runoff that results from development activities. These ordinances control the rate or speed at which stormwater flows leave a development site such that the post development rates are equal to or less than the pre-development rates. These ordinances do little if anything to reduce the total increase in the volume of runoff generated by development activities. Normally stormwater management is achieved by the interception of storm flows by surface inlets and conveyance to a stormwater management facility.

To be consistent with State regulations, Bedminster Township's ordinance also requires water quality enhancement for the stormwater generated. In conventional dry detention basins this is accomplished by the retention of the frequent small rainfalls that flush non-point pollutants into the stormwater network. Water quality enhancement is accomplished by the physical settling out of sediments, the attachment and absorption of chemicals onto the soil particles and the uptake of these chemicals by the basin vegetation.

The smallest pipe allowed in the basin to drain these storms is a three-inch pipe. What happens in reality is that because of the use of multiple small basins on projects, the one-year water quality storm is of such a small total volume that it is able to pass through the three-inch pipe without achieving any water quality enhancement. This highly polluted first flush of water negatively impacts the receiving water and associated wetland water quality. Impaired water quality leads to reduced biological diversity in the surface water tributaries and wetland ecosystems.

DEP also allows the use of wet basins or permanent ponds to satisfy the water quality

requirements. Wet basins provide multiple benefits beyond water quality enhancement. The creation of a pond provides wildlife and aquatic habitat creation, offers visual enhancement of the site, recreation opportunities and reduced annual maintenance.

While positive drainage through detention basins is necessary to prevent water from pooling, the use of concrete low flow channels to accomplish this drainage has negative water quality implications. Concrete low flow channels act to convey the low volume storms from the detention basin inlet pipe directly to the detention facility outlet structure. Little if any contact between the stormwater and vegetation material occurs. These channels also accelerate the speed at which the water flows through the basin and thus less settling of sediment occurs. Rip-rapped or stone-lined channels are also used to convey the storm flows in the detention basin. The use of rip-rap low flow channels can retard the flow of water through the basin but natural vegetation is still needed to trap and absorb the non-point pollutants.

Wetland or Marsh Creation

Conventional dry basin designs can be modified to create a depression in front of the outlet structure. This low area should be sized to hold the water quality storm. The collection area will allow some of the sediments and associated non-point pollutants to settle out of the water prior to exiting the detention facility. When planted with native wetland species these areas will help remove the soluble pollutants that are not removed by conventional settling. Wetlands also provide wildlife habitat and reduce the management needs in this area. If a basin is designed in this manner, then it is acceptable to utilize a low flow channel to convey storm flows to the wetland area.

Infiltration Practices

Infiltration practices such as dry wells, infiltration basins, infiltration trenches, buffer strips and wetland buffer areas may also be used to provide water quality enhancement. To comply with NJDEP water quality storm design standards, these practices must be able to produce zero runoff from the water quality design storm and allow for complete infiltration within 72 hours.

Porous Pavement

Porous pavement can remove soluble and fine particulate pollutants carried in urban runoff. By allowing runoff to penetrate through the pavement, it also facilitates groundwater recharge, low flow stream augmentation, and stream bank erosion control. In general, porous pavement functions well in low volume parking areas and can accept rooftop storage and miscellaneous impervious coverage such as sidewalks. Its use applies only to sites of gentle slopes, permeable soils, and relatively deep water table and bedrock levels and is not recommended where high clay content will clog the pore spaces.

The use of porous pavements reduces land consumption and preserves natural water balance. Their use reduces or eliminates curbs, gutters, and downstream conveyance systems and provides a safer driving surface by reducing skid resistance and hydroplaning.

The use of porous pavement requires extensive feasibility tests and inspections, and groundwater contamination can also occur with these systems. The fairly high risk of premature clogging and the difficulty and cost involved to rehabilitate porous pavement are major disadvantages of porous pavement. Avoiding premature clogging requires the prevention of contact with sediment before, during, and after construction.

Water Quality Inlets

Water quality inlets or oil/grit separators remove sediment and hydrocarbons from parking lot runoff before conveying runoff further within the stormwater management system. The inlets can be expected to remove moderate amounts of coarse sediment, oil/grease and debris. Limited removal can be expected for finer materials, and soluble pollutants more than likely pass through the inlet. Their installation is most useful on sites anticipating substantial vehicular traffic or petroleum spillage (e.g., gas stations, service roads, and loading areas).

Summary

At present, non-point source pollution is the major source of water pollution to the North Branch watershed. Non-point source pollutants include septic system effluent, agricultural runoff, and urban stormwater runoff and construction activities. Future development may decrease agricultural runoff non-point source pollution; however, increases in the three sources would likely offset this reduction.

It is in the best interest of the Township to mitigate non-point source pollution and to encourage the reduction of point source pollution. The degradation of river water quality from water pollution will result in several deleterious effects. Aquatic ecology will be degraded, thus supporting less desirable wildlife species. Additional costly water quality measures will be required to provide an acceptable potable water supply for downstream purveyors. Recreational uses such as swimming, boating, and fishing will become limited or will be eliminated as a result of decreasing water quality. Finally increased water pollution will affect the rivers' aesthetics from both a visual and an olfactory standpoint.

Responsible land use planning practices will be imperative to maintain and improve the Township's surface water quality, and appropriate surface water management strategies should be required of all residential, commercial and industrial development.

Another option may be to decrease permitted residential densities. Decreasing the density will reduce the number of dwellings, thereby decreasing the potential for non-point source pollution (i.e., fewer septic systems, less construction). However, surface water quality should not be the sole indicator for reduced residential density. Any rationale for decreased density to improve surface water quality should be integrated within a strategy addressing all of the goals of the planning process.

1210 ENDANGERED AND THREATENED SPECIES

The distribution and diversity of wildlife in Bedminster depends upon the availability of extensive land areas and varied habitat types to support wildlife species. The majority of land in the Township consists of extensive, contiguous agricultural and very low-density residential lands. Within these areas Bedminster possesses numerous habitat types including upland woodlands, wetland woodlands, open fields, grasslands, and emergent wetlands.

Past land clearing practices to accommodate agricultural and residential uses also contributes to species diversification. The juxtaposition of woodland and open land can produce a beneficial effect on wildlife through the creation of ecotones. Ecotones are transitional zones between two biological communities or habitats, which contain species characteristic of both areas as well as species, which only occur within the zone. Ecotones therefore have greater species' diversity than do other areas. Wildlife biologists term these enhanced conditions the edge effect.

The wildlife community in Bedminster includes numerous endangered and threatened species. The NJDEP defines endangered species as those whose prospects for survival in the State are in immediate danger because of a loss or change of habitat, over-exploitation, predation, competition, disease or contamination, where immediate assistance is needed to prevent extinction. Threatened species are those, which may become endangered if conditions surrounding the species begin or continue to deteriorate.

Sources of Information

A number of sources were consulted to prepare a comprehensive list of endangered and threatened species identified or possibly occurring in the Township, including:

a. NJDEP Endangered and Non-game Species Program (ENSP) NJ Landscape Program
b. NJDEP Natural Heritage Program.
c. NJDEP Division of Fish, Game and Wildlife, Endangered and Threatened Wildlife of New Jersey, updated March 28, 2000.
c. Upper Raritan Watershed Association.
d. Steve Sobocinski, local birdwatcher.
e. North and South Branch Raritan Watershed Management Plan
f. Endangered and Threatened Reptiles and Amphibians Known to Occur in the General Vicinity of the Proposed Hazardous Waste Land Emplacement and Incinerator Complex in Somerset and Hunterdon Counties, New Jersey, Herpetological Associates Inc., April 30, 1986.

Wildlife and Critical Habitat

In 1993, the New Jersey Department of Environmental Protection Endangered and Non-game Species Program (ENSP) initiated a move to a landscape level approach for endangered species protection. With suburbanization and development occurring in all areas of the State, an

increasing amount of habitat that could potentially support threatened and endangered species was being lost daily.

In order to address habitat loss, ENSP set out to document the extent and suitability of remaining resources in the State. To accomplish this, they partnered with the Center for Remote Sensing and Spatial Analysis (CRSSA) at Cook College, Rutgers University. Utilizing LandSat Thematic Mapper satellite imagery, CRSSA mapped land cover for the entire State of New Jersey, broken down into 20 different habitat/land cover types. After generalized cover types were classified, detailed methodologies were developed to address the habitat suitability issues for each focus category, including beach/dunes, emergent landscapes, forested wetlands, forested areas and grasslands.

After reclassifying data based on standards developed for each category, the habitat data was intersected or combined with the Natural Heritage Program's Biological Conservation Database (BCD). This database is a Geographic Information System (GIS) coverage that provides information on the sighting of threatened and endangered species, based on the fieldwork of ENSP scientists and sightings reported by members of the public. It is the most comprehensive data available in digital form on the location of threatened and endangered species. Two maps (Figures 21 and 22) of Critical Habitat Data illustrate the extensive portions of Bedminster where critical habitats occur.

The Landscape Program data provides users with scientifically sound, peer reviewed information on the location of critical habitat based on the conservation status of the species that are present. Habitats are ranked on a scale of 1 to 5, based on the following criteria:

TABLE 41 NJ LANDSCAPE PROGRAM RANKING SYSTEM

Rank	Indication
1	Suitable habitat, no special concern, threatened or endangered species sighted
2	Habitat patch with species of special concern present
3	Habitat patch with State Threatened species present
4	Habitat patch with State Endangered species present
5	Habitat patch with Federal Threatened or Endangered species present

Bedminster Township is rich in habitat that supports populations of threatened and endangered species. In fact, there isn't much of the Township that isn't suited as habitat for these species. Four of the five Landscape Project categories are represented in the Township including forested wetland, emergent, forest and grassland habitat. Most of these habitat types have documented presence of State Threatened and Endangered species. Species include the wood turtle, bog turtle, barred owl, timber rattlesnake and the Cooper's hawk.

The central portion of Bedminster Township contains significant amounts of contiguous grassland habitat where the presence of Federal Threatened and Endangered and State Endangered species has been documented. The grassland areas extend from Lamington Road to Pottersville Road. North of Long Lane, the grassland habitat with Federal Threatened and

Endangered species is laced with endangered species forest habitat, which runs parallel to the Lamington River.

South of the Lamington Road, large contiguous patches of grassland habitat with State Endangered species stretch from Cowperthwaite Road to Cedar Ridge Road, and south across Interstate 287 to the Township's boundary with Bridgewater.

Much of the critical grassland habitat coincides with the presence of farmland mostly used for hay production and the keeping of horses. This type of agricultural operation is uniquely suited to and compatible with the management of habitat for nesting and migrating birds. Often, the time of harvest for hay crops are just before or after the period when bird species utilize grassland for nesting and reproduction. Also, a number of territorial birds that roam a large expanse searching for food require habitat that is reasonably contiguous and largely homogenous. A low residential density, generally large lots and hay production serve to minimize manmade interference for nesting or migrating birds.

Many of the Township's river and stream corridors are also home to threatened and endangered species that require wetland and emergent habitat. Wetland habitat provides the nesting and reproduction areas that many reptile and amphibian species require in order to successfully mate and reproduce. Emergent habitats are unique in that they appear in the early spring, providing a unique type of niche that many species require for reproduction. Emergent habitats are generally adjacent to wetland habitats, but disappear later in the spring and into summer.

The Lamington River corridor in the western part of the Township has a number of areas with both forested wetland and emergent habitat, with Federal Threatened and Endangered species present in some patches, primarily south of Pottersville. There are also a number of patches along the Lamington that have State Endangered species present.

The North Branch of the Raritan River has a number of patches that are coincident to the presence of State Threatened and Endangered species. A large patch of both forested wetland and emergent habitat exists along permanently preserved land in the North Branch greenway corridor. Township open space acquisition priorities include parcels south of the river that would retain this large contiguous critical habitat intact.

The Landscape Program data was intended to aid municipalities, County and State governments, conservation agencies and citizens in determining the extent of critical habitat within their respective jurisdictions and communities. After identifying critical habitat, a variety of means can be employed to protect it, including:

- Prioritizing open space acquisitions based on the presence of habitat for threatened and endangered species.
- Adopting regulations aimed at protecting critical habitat.
- Adopting management policies for open space that promote the protection of critical habitat.
- Permitting flexibility in development techniques to protect critical habitat.

- Promoting land stewardship practices that protect critical habitat.

New Jersey Natural Heritage Program

The New Jersey Natural Heritage Program provided a listing of endangered and threatened plants and animals that have been sighted in the Township. The Natural Heritage Program does not provide specific locations for these sightings, as there is a concern that identifying site-specific locations could result in their degradation. Undoubtedly there are other specimen plant and animal species (e.g., unusually large or old trees, rare or endangered plants, etc.) that exist in the Township.

The Natural Heritage Program also provided Natural Heritage Index Maps, using U.S.G.S. quadrangles as the base, which depict general areas, which contain documented occurrences of endangered and threatened species. The maps are meant to be used as tools to "red flag" areas, which may be of significance for the biological diversity of endangered species. However, the maps are highly generalized, identifying a 330 acre cell if an endangered or threatened species or ecosystem has been documented anywhere within the cell.

Endangered and Threatened Species

According to the NJDEP Division of Fish and Game, several species listed in the 1990 Master Plan have either been removed from the Endangered and Threatened Species list or have changed their status from threatened to endangered as noted in Section 410.2 Species' Identifications. The Brook Trout and the Great Blue Heron have been removed from the Threatened Species list, while the American Bittern and Northern Goshawk moved from Threatened to Endangered Status.

Upper Raritan Watershed Association and Steve Sobocinski

The Upper Raritan Watershed Association and Steve Sobocinski, a recognized local bird watcher, supplemented the bird sighting data received from the Natural Heritage Program. Their information added a number of bird species to the overall inventory, and they identified the approximate location of the sightings.

North and South Branch Raritan Watershed Management Plan

The New Jersey Water Supply Authority is overseeing a major watershed study for the Raritan River. Bedminster is in the portion of the study covering the North and South Branches. In 2001 this project completed the Characterization & Assessment Phase. This background report identified not only water quality for surface and groundwater, but is also addressed land uses, land cover and habitats. It summarized for the area key issues regarding natural resources and development, land use/land cover, impervious surfaces, critical habitats and management recommendations of existing plans. This effort is specifically concerned about the impact of land use on water quality and critical habitat, primarily aquatic.

An important aspect of this study is the development of TMDL **(**A TMDL is the total maximum daily load or the maximum amount of a specific pollutant that can be assimilated by a stream without causing impairment or violating water quality standards)**,** which is the process of modeling water quality impacts and levels and establishing objectives so that all surface water quality standards are met as required by the Clean Water Act. The overall Plan should be completed in 2004.

As a result of southern Bedminster's selection during the 1980's as a potential incinerator site, Herpetological Associates prepared a report investigating the likelihood of endangered and threatened reptiles and amphibians in this area. Although no field work was conducted, their literature search indicated that several reptile and amphibian species are likely to occur in the Township. Only extensive fieldwork would verify the presence of these species.

Species' Identification

An extensive number of species have been identified in the Township. Most species have been sighted; however, a few species that have not been sighted may be present because suitable habitats exist in the Township. Those species that may occur are marked below with an asterisk *.

Endangered	**Threatened**
*Bog Turtle	Cooper Hawk
Northern Harrier	Wood Turtle
Upland Sandpiper	*Long Tailed Salamander
Vesper Sparrow	Barred Owl
Bald Eagle	Bobolink
Short-Eared Owl	Savannah Sparrow
Peregrine Falcon	Grasshopper Sparrow
American Bittern	Osprey
Northern Goshawk	Red-Shouldered Hawk

Only breeding population considered endangered or threatened
Federally endangered or threatened only

The Upper Raritan Watershed Association retains records of unique wildlife sightings throughout the Township. Repeated sightings include wild turkey, black bear, Mississippi kite, and eastern coyote.

In addition to these animal species, the New Jersey Natural Heritage Program lists Ledge Spike-Moss, Frank's Sedge, and Floodplain Forest on its database, but does not denote these as endangered or threatened. Data regarding endangered and threatened plants is limited because of the lack of comprehensive investigation and identification in the field.

In addition to the identification of unique vegetative and wildlife species in Bedminster and other data sources, the investigation of endangered and threatened reptiles and amphibians,

the proposed incinerator brought attention to a Virginia pine forest located in the southern portion of the Township. According to a May 21, 1986, letter from John E. Kuser, Rutgers University, Assistant Professor of Forestry, "This stand ranks with the Pine Plains, the Sandy Hook holly forest, and the Tillman's Ravine hemlock - yellow poplar forest as one of our State's most distinctive and unique forest types."

Management Practices

As shown above, the endangered and threatened animal species identified or likely to occur in Bedminster Township include fish, reptiles, amphibians, and birds. The considerable number of animal species and the number of animal groups emphasizes the ecological diversity and high environmental quality of the Township. The Township's wildlife diversity corresponds to the relative stability of its meadows, woodlands, wetlands, and agricultural lands. The NJDEP Landscape Program identifies Bedminster as and area of confirmed or likely critical habitat.

While a natural balance has in the past prevented the proliferation of "pest" and "suburban" wildlife species from upsetting the ecological stability, control of deer populations has become a major concern. Besides maintaining ecological stability, wildlife diversity provides recreational opportunities such as hunting, fishing and nature study. People value wildlife for its aesthetic qualities, and bird watching, wildlife observation, and environmental education are popular activities.

Habitats of threatened and endangered, and unique or desirable, plant and animal species occur in both wetland and upland areas. Wetlands species receive a level of protection through State wetlands development prohibitions, but the disturbance of upland habitats for these species should also be avoided or, at least, minimized. The maintenance of habitat will ensure the survival of plant and animal species in the Township and, in so doing, will help maintain the environmental quality of Bedminster. The loss of rare, endangered, unique, or desirable plants and animal species and habitats is an indication of a general diminution of environmental quality and a lack of land stewardship. Lower residential densities and conservation subdivision design techniques, such as lot averaging, can protect the habitat areas essential to the survival of these species.

Protecting endangered and threatened species enhances the Township's ecological diversity and stability. To maintain diversity and stability, land use management practices should be adopted or encouraged for landowners and for future development. For example, grassland management, requiring only the timing of mowing, affords protection for such endangered and threatened species as the bobolink, vesper sparrow, savannah sparrow, grasshopper sparrow, and the upland sandpiper. Maintaining the ecological integrity of woodlands and wetlands benefits such species as the red-shouldered hawk, barred owl and Cooper's hawk.

Furthermore, many of the Township's current land use policies are highly compatible with the goals of protecting critical habitat. These include:

- Low intensity of development in areas where critical grassland habitat exists.
- Limitations on impervious surface cover in agricultural areas.

- Acquisition of open space and open space easements along critical wildlife corridors.
- Acquisition of development easements on farmland parcels.
- Promotion of stewardship to landowners.
- Lot size averaging, which can promote the preservation of critical areas.

In the future the Planning Board in and/or the Environmental Commission should undertake a project to coordinate investigations of areas that are not identified as suitable to confirm their exclusion. In addition, areas identified as suitable but lacking sightings should be targeted for field observations.

Applicants for development should map important habitat areas so that they can be avoided when site plans and subdivisions are designed. Specimen species are uniquely valuable ecological resources and are deserving of protection. They are indicators of past natural and cultural processes, and they reflect the record of man's tenure on earth.

1211 WETLANDS

Introduction

The Freshwater Wetlands Protection Act authorizes the NJDEP Division of Coastal Resources to regulate freshwater wetlands in New Jersey. The NJDEP defines a freshwater wetland as "an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation. . . ." The wetland definition encompasses various wetland characteristics such as the water table relative to the ground surface, the duration of surface water occurrence, soil types formed under permanently or temporarily saturated conditions, and plant and wildlife communities adapted to this environment.

A variety of environmentally, ecologically and economically significant functions are performed by wetlands, which:

a. Facilitate groundwater recharge.
b. Retain and delay flood waters.
c. Reduce the effects of erosional processes.
d. Trap sediments.
e. Remove and retain nutrients, particularly nitrogen and phosphorus.
f. Support the food chain.
g. Provide wildlife habitat.
h. Support low-intensity active recreational opportunities.
i. Provide passive recreational opportunities and significant visual qualities.
j. Contribute to base flow in streams.

Hydric Soils

The Fish and Wildlife Service defines hydric soils as either: "(1) saturated at or near soil surface with water that is virtually lacking free oxygen for significant periods during the growing season" or "(2) flooded frequently for long periods during the growing seasons."

The Fish and Wildlife Service classifies hydric soils into three categories based on the degree to which they exhibit hydric conditions. Group 1 soils nearly always display consistent hydric conditions. Group 2 soils exhibit consistent hydric conditions in most places, but additional verification is needed. Group 3 soils display hydric conditions in few places and additional verification is needed. A description of the Group 1, 2, and 3 hydric soils as presented in the "Wetlands of New Jersey" is as follows:

a. Abbottstown Series
The Abbottstown series is comprised of a somewhat poorly drained, loamy soil with a fragipan developed in the lower subsoil. It occurs in nearly level to gently sloping areas. These soils are saturated within 1.5 feet of the surface in fall, winter, and early spring due to the presence of a seasonally high perched water table.

b. Amwell Series
The Amwell series consists of moderately well drained and somewhat poorly drained soils with a firm fragipan developed below 21 inches. These soils occur on gentle and strong slopes. They have a seasonal high water table perched at a depth of 1 to 4 feet from winter until early spring. The somewhat poorly drained groups of these soils are occasionally associated with wetlands.

c. Bowmansville Series
The Bowmansville series consists of poorly to somewhat poorly drained, clayey silty, loamy soils. These soils have formed in glacial till and granitic gneiss. They occur in depressions and on floodplains, where they are subjected to very frequent flooding. In some locations, Bowmansville is found at higher levels, which are seldom flooded, yet water does pond there. Most of the flooding takes place in spring, with occasional summer or fall flooding due to heavy storms.

d. Cokesbury Series
Cokesbury soils are poorly drained, loamy soils with a moderately well-developed fragipan at 21 to 32 inches. In some areas, these soils are very or extremely stony. They occur in waterways and depressions as well as in gently sloping areas. A perched water table is within 1 foot of the surface from September to June.

e. Croton Series
The Croton series includes poorly drained, loamy soils with a fragipan present at 19 to 33 inches. It forms in hillside seepage areas, in slight depressions on upland flats and along drainages, where it remains wet until late in the spring. A perched water table is within 1 foot of the surface in winter and spring.

f. Fluvaquents

Fluvaquents consist of poorly and very poorly drained soils of variable composition that occur on lower floodplains. They are formed in glacial till, granitic gneiss and limestone washed from adjacent uplands. The water table is within 1 foot of the surface from late fall through early spring. Flooding from stream overflow takes place several times each year.

g. Lamington Series

Lamington soils include poorly drained, clayey and silty loam soils with a well-developed fragipan at a depth of 23 to 45 inches. They occur on stream terraces in old ox-bows and stream meanders. Water may temporarily pond on the surface in places. A seasonal high water table is perched above the fragipan during the winter and early spring.

h. Parsippany Series

Parsippany soils are poorly drained, silt loam soils that formed in stratified glacial lacustrine deposits. Where located along major streams and rivers, these soils are often subject to flooding. The water table is at or near the surface from winter through early spring and falls to 3 to 4 feet in summer. Ponding is likely to occur during heavy rain periods.

i. Rowland Series.

Rowland soils are deep, moderately well drained and somewhat poorly drained soils. They occur on floodplains of rivers and major streams. Due to this position, they are subject to frequent flooding. In lower positions, they may be flooded long enough to support wetland vegetation.

j. Watchung Series.

The Watchung series includes poorly drained, loamy soils. In some areas, these soils are very or extremely stony. These soils are found in low places and on gentle slopes. They are wet most of the year, with a seasonal high water table at or near the surface from late fall through early spring.

The Soil Conservation Service (SCS) further expands the hydric soils list by determining those soils having inclusions of hydric soils. Table 42 lists the hydric soils and the soils exhibiting hydric soil inclusions.

The NJDEP maps and the SCS maps depicting hydric soils are valuable resources in developing land use management strategies, although only a field investigation can substantiate the presence of wetlands. Both mappings indicate substantial areas in Bedminster displaying environmentally sensitive wetland characteristics.

TABLE 42 HYDRIC SOILS OF BEDMINSTER TOWNSHIP

MAP SYMBOL	MAPPING UNIT	HYDRIC SOIL	HYDRIC SOIL GROUP NUMBER	HYDRIC SOIL COMPONENT	LOCATION
Aba	Abbottstown silt loam, 0-2% slopes	---	3	Croton as inclusions	Depressions
AmB, AnB	Amwell gravelly silt loam Bowmansville silt	Whole map unit 2-6% slope	3	---	N/A
Bt		Whole map unit	1	---	N/A
CpB	Cokesbury very stony loam, 0-8% slopes	Whole map unit	1	---	N/A
CrA	Croton silt loam, 0-2% slopes	Whole map unit	1	---	N/A
Dw	Dunellen sandy loam, moderately well drained variant	---	---	Unnamed very poorly drained inclusions	Depressions
Fl	Fluvaquents	Whole map unit	1	---	N/A
La	Lamington silt loam	Whole map unit	1	---	N/A
LbA	Lansdowne silt loam, 0-2% slopes	---	---	Unnamed poorly drained inclusion	Depressions
Ph	Parsippany silt loam	Whole map unit	2	---	N/A
RbA	Raritan silt loam, 0-4% slopes	---	---	Lamington as inclusions	Depressions and swales

TABLE 42 HYDRIC SOILS OF BEDMINSTER TOWNSHIP

MAP SYMBOL	MAPPING UNIT	HYDRIC SOIL	HYDRIC SOIL GROUP NUMBER	HYDRIC SOIL COMPONENT	LOCATION
ReA	Reaville silt loam, 0-2% slopes	---	---	Unnamed poorly drained inclusions	Depressions and Seeps
Ro	Rowland silt loam	---	3	Bowmansville as inclusions	Depressions
Wc	Watchung silt loam	Whole map unit	2	---	N/A

NJDEP Mapping

NJDEP has prepared wetland maps from interpretations of color infrared aerials photographs. The "Wetland Areas" map for Bedminster (Figure 23) indicates a pattern of wetlands vegetation that generally follows the river and stream corridors and other depressions.

Watershed Planning

A watershed is the area of land that drains into a body of water such as a river, lake, stream or bay. It is separated from other systems by ridgelines, a series of high points such as hills or slopes. It includes not only the waterway itself but also the entire land area that drains to it. For example, the watershed of a lake would include not only the streams entering the lake but also the land area that drains into those streams and eventually the lake. Drainage basins generally refer to large watersheds that encompass the watersheds of smaller river and streams.

Humans have an impact on the watershed in a number of ways. One is by changing where stormwater flows. By changing the contour of the land and adding stormwater systems, people change how and where the water drains. The storm drains and catch basins you see along the sidewalks and streets lead to a system of underground pipes that drain directly into local waterways. So where the melted snowflake from your sidewalk goes may be down the storm drain through stormwater pipes and out to the local river.

How people use the land in a watershed has a direct impact on the water quality of the watershed. People affect a watershed by their land use practices, often adding pollution. When it rains, stormwater drains the land into local waterways. As rain washes over a parking lot, for instance, it picks up litter, road salt and motor oil and carries these pollutants to a stream. On a farm, rain washes fertilizers and soil into a pond or stream. Snowmelt and flooding wash fertilizers and pesticides from suburban lawns.

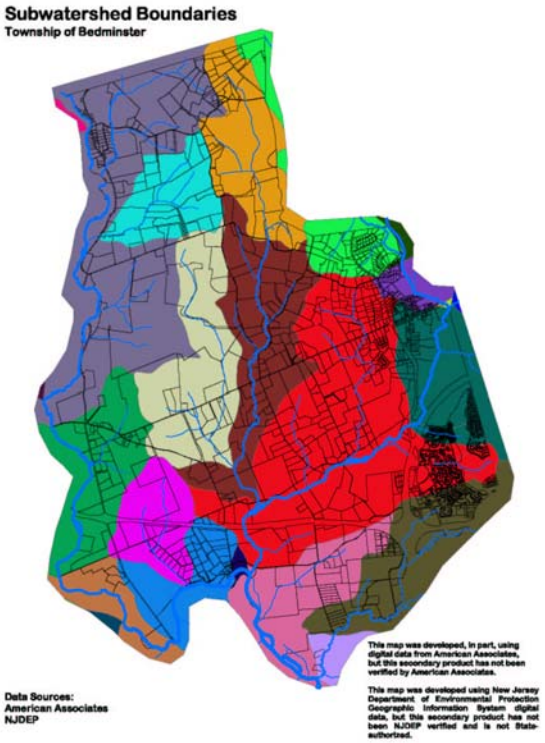
The New Jersey Department of Environmental Protection (NJDEP) created a statewide watershed management process to address issues of watershed pollutant loads, water withdrawals and land uses that cannot be addressed by regulatory programs alone. In the Raritan River Basin, NJDEP has developed a partnership with a number of agencies and organizations to address watershed planning and management. The partnership includes the New Jersey Water Supply Authority as the lead agency for the project

The Characterization & Assessment Phase of the Watershed Management Plan began in February 1999 and was completed in August 2001. That phase characterized water resource conditions in the Basin, assessed the gaps between current and desired conditions and identified issues to be addressed through a management planning process. The Phase 1 Characterization and Assessment Report will serve as the foundation for stakeholder education, issue identification and management plan development. The

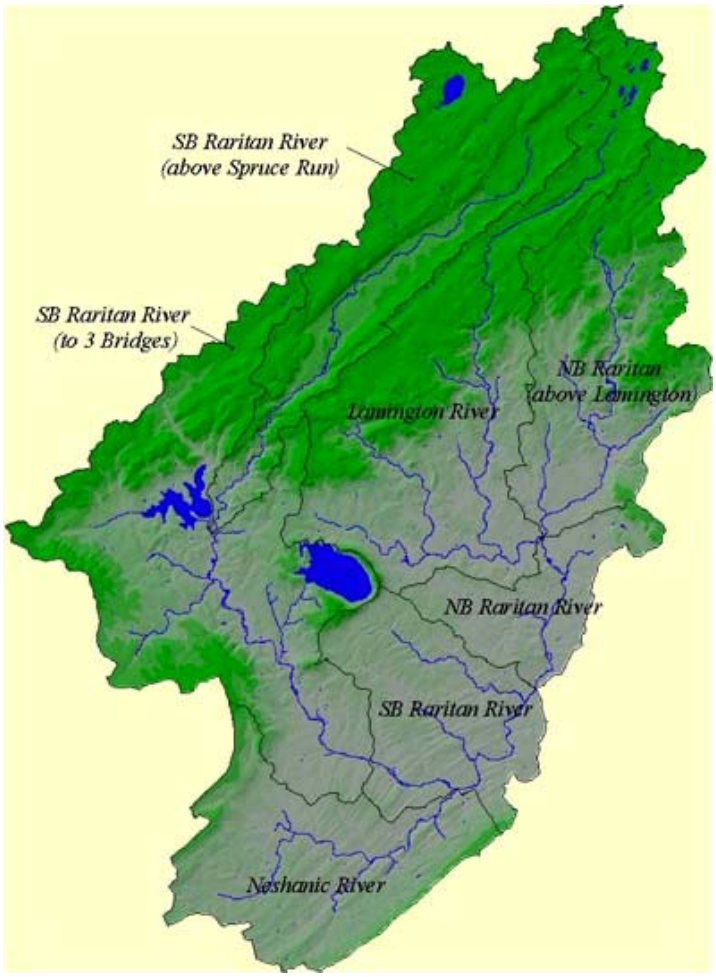
Planning Phase began in October 2000, and will result in a Basin Management Plan to be adopted in 2003 or 2004.

Bedminster Township is totally within the North and South Branch Watershed Management Areas (WMA). (See Figure 24) Identified as Watershed Management Area 8, it includes the North and South Branches of the Raritan River and their tributaries in Somerset, Hunterdon, and Morris counties. The North and South Branch Raritan WMA includes 468 square miles, which in 1995 was characterized as Agriculture (25.1%), Barren Land (0.7%), Forest (36.2%), Urban (26.8%), Water (2.0%) and Wetland (9.1%).

The major drainage feature in Bedminster Township is the North Branch of the Raritan River. The North Branch is 23 miles long, flowing from northwestern Morris County through Somerset County to the confluence with the South Branch, between the towns of Branchburg and Raritan. Major tributaries include the Peapack Brook, Rockaway Creek, Middle Brook and the Lamington River. The only major impoundment is Ravine Lake in Far Hills. Land use in the North Branch Raritan River Watershed is a mix of rural, woodland, and agricultural lands with scattered commercial and residential areas, with the most intense development found along the major road corridors. There are over 20 NJPDES permitted discharges and 51 biological monitoring stations in this watershed.



Watershed Management Area 8



Urbanization (or development) has a significant effect on local water resources, changing how water flows in the watershed and carrying pollutants into both surface water and groundwater. As a watershed becomes developed, trees, shrubs and other plants are replaced with impervious surfaces, roads, rooftops, parking lots and other hard surfaces that do not allow stormwater to soak into the ground. Without vegetation to store and slow the flow of stormwater, the rate of runoff is increased. As less stormwater is able to soak into the ground, because sidewalks, roads, parking lots and rooftops block infiltration, a greater volume of water reaches the waterway faster, and less water is able to infiltrate and recharge to ground water. This, in turn, leads to more flooding after storms and reduced flow in streams and rivers during dry periods. Reduced infiltration lowers ground water levels and stresses local waterways that rely on steadier flows of water to maintain ecosystem balance.

In the stream, erosion of stream banks and scouring of channels will occur as a result of volume increases. This degrades the habitat for plant and animal life that depend on clear water. Sediment from eroded stream banks clogs the gills of fish and blocks light needed for plants. The sediment settles to fill in stream channels, lakes and reservoirs, increasing flooding and the need for dredging for boating.

The 1987 Amendments to the Clean Water Act mandated a nationwide Stormwater Permitting Program. USEPA promulgated Phase I rules that primarily affected industry and municipal stormwater systems serving large populations. NJDEP administers the program in New Jersey under federal rules.

EPA's Phase II Rules, which are governed by the Clean Water Act Section 402(p)(6), were published December 8, 1999. These rules mark the second phase of the NJDEP

Stormwater Permitting program and will address pollutants entering waterways from publicly owned and operated separate storm systems. These rules require Stormwater Pollution Prevention Plans designed to use best management practices (BMP's) to remove pollutants from contact with stormwater. Regulated entities are required to apply for New Jersey Pollution Discharge Elimination System (NJPDES) permits by March 2003.

Local planning and zoning have a controlling influence on the changes that occur within a watershed. Although improved wastewater treatment facilities have substantially reduced the contamination from these point sources, non-point runoff has become the major concern in recent years. Non-point pollution occurs as overland flow of runoff washes contaminants into waterways. In addition to the increased stormwater flows caused by urbanization, the increased runoff also contains increased contaminants. These include litter and debris from sidewalks and streets, motor oil, heavy metals from brake linings, settled air pollutants from car exhaust and pesticides and fertilizers from lawn care. These contaminants reach local waterways quickly after a storm.

Controlling non-point pollution will become increasingly important as development proceeds into the less developed areas, particularly subwatersheds drained by headwater streams. Significant water quality impacts can occur even from low-density development, as high quality waters, like the trout production streams in northern Bedminster, are exposed to sedimentation and nutrient loading, and the clearing of vegetation that shades stream corridors.

1212 RURAL CONSERVATION

Introduction

Most of Bedminster Township is dominated by a rural ambiance, with a landscape rich with farms, pastures, grasslands, forests, meadows, and very low-density residential development. Surprisingly, the Township's rural character exists in an increasingly suburban county, which continues to experience strong economic growth. In 1988, 49% of Somerset County lands (excluding Bedminster Township) consisted of vacant and agricultural lands. On the other hand, 1995 Township land use data indicates that 83% of the Township is comprised of these undeveloped lands.

A myriad of cultural resources and sensitive and environmentally important characteristics abound throughout the Township. These include prime agricultural lands, woodlands, scenic resources and corridors, threatened and endangered species habitat, steep slopes, stream corridors, and wetlands. Protecting these features will require a high level of vigilance to preserve, protect, and enhance the environmental quality and ecological diversity of the Township.

Rural Residential Land Use Policy

Bedminster's Rural Residential district, which extends throughout most of the Township, permits low-density (0.1 unit/acre) residential development, along with agriculture and open space uses. A ten-acre lot size is required for conventional subdivision, while lots as small as six acres are allowed using lot size averaging.

Bedminster's Rural Residential zoning was sustained by the Appellate Division of Superior Court, in the matter of F.M. Kirby v. Bedminster and forms the backbone of Bedminster's rural conservation regulatory approach.

Bedminster has also promoted rural character through an aggressive public open space acquisition program, pursuing farmland preservation easements through a combination of State, county and local funds.

Agricultural Protection Zoning (APZ) is a land use regulatory technique advanced by the American Farmland Trust (AFT), a nationwide nonprofit organization dedicated to protecting agricultural resources, founded by a group of concerned farmers in 1980. AFT's mission is to stop the loss of productive farmland and to promote farming practices that lead to a healthy environment.

As described by AFT[2], APZ is a zoning technique used to support and protect farming by stabilizing the agricultural land base. APZ designates areas where farming is the desired land use, generally on the basis of soil quality as well as a variety of locational factors. Other land uses are discouraged. APZ ordinances vary in what activities are permitted in agricultural zones. The most restrictive regulations prohibit any uses that might be incompatible with commercial farming. The density of residential development is limited by APZ. Maximum densities range from one dwelling per 20 acres in the eastern United States to one residence per 640 acres in the West.

APZ ordinances establish procedures for delineating agricultural zones and defining the land unit to which regulations apply. They specify allowable residential densities and permitted uses, and sometimes include site design and review guidelines. Some local ordinances also contain right-to-farm provisions and authorize commercial agricultural activities, such as farm stands, that enhance farm profitability. Occasionally, farmers in an agricultural protection zone are required to prepare conservation or farm management plans.

The definition of APZ varies with jurisdiction and by region of the country. A minimum lot size of 20 acres, combined with other restrictions, may be sufficient to reduce development pressures in areas where land is very expensive and farming operations are relatively intensive. Several county APZ ordinances in Maryland permit a maximum density of one unit per 20 acres. In areas where land is less expensive and

[2] Source: American Farmland Trust, *Saving American Farmland: What Works* (Northampton, Mass., 1997).

extensive farming operations such as ranches predominate, much lower densities may be required to prevent fragmentation of the land base. In Wyoming and Colorado, counties are not permitted to control subdivision of lots that are larger than 35 acres. The 35-acre provision has led to the creation of hundreds of 35-acre "ranchettes" in both states, fragmenting ranches into parcels that are too small for successful commercial ranching.

Many towns and counties have agricultural/residential zoning that allows construction of houses on lots of one to five acres. Although these zoning ordinances permit farming, their function is more to limit the pace and density of development than to protect commercial agriculture. In fact, such ordinances often hasten the decline of agriculture by allowing residences to consume far more land than necessary. AFT defines APZ as ordinances that allow no more than one house for every 20 acres, support agricultural land uses and significantly restrict non-farm land uses.

The courts first validated zoning as a legitimate exercise of police power in the 1920s, giving local governments broad authority to regulate local land use. Rural counties in California, Pennsylvania and Washington began using zoning to protect agricultural land from development during the mid-1970s. In 1981, the National Agricultural Lands Study reported 270 counties with agricultural zoning. In 1995, an informal AFT survey found nearly 700 jurisdictions in 24 states with some form of APZ.

APZ helps reserve their most productive soils for agriculture. It stabilizes the agricultural land base by keeping large tracts of land relatively free of non-farm development, thus reducing conflicts between farmers and their non-farming neighbors. Communities also use APZ to conserve a "critical mass" of agricultural land, enough to keep individual farms from becoming isolated islands in a sea of residential neighborhoods.

APZ can also limit land speculation, which drives up the fair market value of farm and ranch land. By restricting the development potential of large properties, APZ is intended to keep land affordable to farmers. A strong ordinance can demonstrate to farmers that the town or county sees agriculture as a long-term, economically viable activity, instead of an interim land use. APZ also helps promote orderly growth by preventing sprawl into rural areas, and benefits farmers and non-farmers alike by protecting scenic landscapes and maintaining open space.

Conservation Easements and Donations

The most effective methods to preserve environmentally sensitive and important lands pertain to land ownership and the right to use land. Unlike land use controls, these strategies only result from public intervention and are assisted when landowners are interested in the utilization of these methods. In some cases, landowners may donate their property to a non-profit organization or governmental agency, to be maintained in its natural state. In other cases the landowner may sell one or more rights inherent to property ownership.

a. Conservation Easement

Land ownership involves what has been referred to as a bundle of rights. The landowner may relinquish some of these rights with a conservation easement, but still own the land. For example, an easement may prevent the landowner from the right to subdivide, the right to remove vegetation and the right to develop the land, while allowing agriculture or limited residential use.

A well-designed conservation easement is permanent and applies to all future landowners. It may be granted or sold to a government agency or non-profit organization.

Reducing the future use of the property will likely decrease the land's resale value. Under appropriate circumstances, this reduction of value may be deducted as a charitable deduction for income tax purposes.

Generally, a conservation easement allows the landowner to continue to use the land, subject to the conditions established with the easement. The easement conditions can be structured to encourage proper land management measures.

1. Advantages. The conservation easement provides a less expensive option for purchasers than a fee simple purchase. The landowner retains ownership and the property remains on the tax rolls although often at a lower rate, because of restricted use. An easement may be structured to allow limited development. The seller can realize potential income and significant estate tax benefits from the donation.
2. Disadvantages. Public access is generally permitted only upon the landowner's approval. Enforcement of the easement may be difficult and the restricted use will likely lower resale value, by reducing development potential.

b. Donation

There are a number of ways that land donations can protect natural resources. After a landowner evaluates the method best suited to his/her needs and the requirements of the receiving agency the landowner generally benefits by acquiring a tax deduction.

Three methods of donations are available to landowners. An outright donation to a nonprofit organization or a government agency eliminates

financing and price negotiation while providing an opportunity for tax benefits. A donation will permit ownership during the property owner's lifetime, while reducing estate or inheritance taxes. A donation with a reserved life estate permits the landowner or family members to retain use of all or part of the land during their lifetimes. This alternative can eliminate real estate and income taxes on the property.

1. Advantages - Outright Donation. Permanent protection occurs without direct public expenditure. Tax benefits are available to the seller since the property's fair market value is considered a charitable contribution.
2. Advantages - Other Donations. A donation by will defers the management responsibility for acquiring the land until the donor's death. The reserved life estate donation enables the landowner to retain use of the property but also receives tax benefits from the donation.
3. Disadvantages. For all donations, a receiving agency must be willing to accept the donation and be capable of administering management responsibilities. The donations by will and reserved life estate have uncertain dates of acquisition. The donor of a donation by will does not benefit from income tax deductions.

Design Recommendations

Community design standards can protect the village and rural character and provide for compatible forms of development. Such standards can help to maintain the Township's visual character, retain farmland and other open parcels and preserve critical environmental features.

Design standards can help to protect village character when designed to:

1. Require new development to reflect the existing settlement pattern and architectural scale of the village.
2. Allow variable lot sizes and setbacks to better relate to existing villages and permit variable lot size (lot averaging or clustering) to preserve open space and maintain a rural ambiance.
3. Require screened parking areas located behind buildings.
4. Require strict lighting controls to prevent glare and over-illumination.
5. Maintain existing road alignments, widths and surface treatment.

Appropriate rural conservation strategies can also permit future development in the open countryside while preserving the Township's environmental and aesthetic qualities by:

1. Coordinating open space dedications and easement acquisitions.
2. Encouraging construction on the edge of fields to preserve agricultural lands and maintain views of open lands.
3. Orienting driveways along hedgerows and woodlands to minimize intrusion on agricultural lands.
4. Requiring road designs that conform to the topography.
5. Preserving prime woodlands and hedgerows.
6. Encouraging planted buffers using native species arranged to resemble existing woodland patterns.
7. Maintaining significant views and vistas and the landscape's rural character.
8. Encouraging common driveways, particularly on wooded or sloped terrain to minimize vegetation removal and interruptions to traffic flow.

While future development will certainly impact the environment and visual character of Bedminster Township, the degree of development impacts can be significantly reduced by the application of appropriate zoning, subdivision and community design standards.

PART 13 LAND USE/LAND COVER AND BUILD-OUT

1301 EXISTING LAND USE/LAND COVER

A rural and agricultural character dominates the central and western portions of Bedminster, which have remained largely unchanged by post-war suburban expansion.

The "1995 Land Use/Land Cover" map (Figure 25) illustrates the extent to which major development has reshaped the eastern sector, where arterial highway access and inclusionary housing development have been major influences on land development. A summary of 1995 land cover characteristics (see Table 43) illustrates that over three-quarters of Bedminster is farmland or forest, with 10 percent residential land cover and 6 percent wetlands. Commercial and industrial uses occupy less than 2 percent of the Township land area.

TABLE 43 SUMMARY OF LAND COVER CHARACTERISTICS

CATEGORIES	ACRES	PERCENT
Agriculture	6,292.12	38.9%
Athletic Fields	161.75	1.0%
Barren Land	32.35	0.2%
Commercial	210.28	1.3%
Forest	6,098.02	37.7%
Industrial	0.00	0.0%
Residential	1,617.51	10.0%
Urban	582.30	3.6%
Water	145.58	0.9%
Wetlands	1,035.21	6.4%
TOTAL	16,175.12	100.0%

The major developed uses in Bedminster occur along the State Highway corridor area, with Routes 202/206 as a focus. The most densely populated residential neighborhoods occur at The Hills development in Pluckemin where a combination of single-family dwellings, townhouses and condominium apartments were constructed during the 1980's and 1990's. Compact neighborhoods are also found in Bedminster Village, where a near continuous residential subdivision pattern extends along Route 206 to the Peapack-Gladstone border. Pottersville, in northwestern Bedminster, is also a compact neighborhood, and other pockets of residential development are scattered around the Township, primarily south of I-78.

Major commercial development has occurred in Pluckemin, both as part of The Hills PUD and in a complex of Class A office space west of Route 202/206. North of I-287, along the North Branch, AT&T has developed a major facility, which includes its Global Network Operation Center (GNOC). Significant office development is also found along Route 206 west of Bedminster Village, where the Lamington Road intersection has been dramatically expanded to accommodate regional traffic and major local developments (Advance, Sammis).

Retail and service uses are found in the historic village core areas of Bedminster Village and Pluckemin. Other retail is located at "The Village Shops" at The Hills. These villages have historic core areas where the scale and architecture of buildings retain the village ambiance. And while, recent developments have expanded the scope and massing of development in or near these village areas, targeted regulations and sensitive development have been able to maintain a village scale, as new development, like the Advance Somerville Road offices and redevelopment (Jessica Associates. School House) has responded to local objectives.

Apart from these developed areas, Bedminster exhibits a predominant rural character. Extensive forest cover occurs north and south of the hamlet at Lamington, and is found along the riparian corridors of the North Branch and Lamington River. Extensive woodlands are also found in the area north of Long Lane, particularly between the Morris County boundary and Pottersville Road. The remainder of Bedminster's heartland is dominated by sparse residential development, widely spaced among active farmland, grasslands and successional fields. The wooded and farm characteristics throughout most of Bedminster Township convey a unique rural character, which is particularly noteworthy at this location, near the crossroads of two interstate highways which are a focus for major regional traffic.

1302 LAND USE BY PROPERTY TAX CLASSIFICATION

In New Jersey the local tax assessor is required to use a uniform property tax code to identify the use of property. This system of coding provides another means of examining the use of land within Bedminster Township. Table 44 provides a summary of land use in the Township by property tax class.

TABLE 44 SUMMARY OF LAND USE BY PROPERTY USE CLASSIFICATION

CATEGORY	ACRES	PERCENT
No Data	249.1	1.5
Vacant	555.29	3.4
Public School	30.91	0.2
Other School	79.94	0.5
Public	668.1	4.1
Church and Charitable	35.06	0.2
Cemetery	85.32	0.5
Other Exempt	274.48	1.7
Residential	1,932.46	11.9
Farm Regular	26.06	0.2
Farm Regular & Farm Qualified	8,668.16	53.6
Farm Qualified	2,866.14	17.7
Commercial	703.98	4.4
Total	16,175.12	100.0

As found in the land cover mapping, the most significant category in the Property Tax Classification System is farmland (See Figure 26). Farm-qualified lands account for approximately 11,560 acres or almost three quarters of the Township's land area.

The property tax classification method provides a richer detail of developed categories, distinguishing churches and charitable property, and schools. Additionally, land cover totals are less expansive compared to property tax class totals. For instance, 39% of the Township has agricultural land cover, while over 70% of Bedminster lands receive farmland assessment. Similarly, while only 1.3% of the Township has the land cover classification of "commercial", 4.4% of the land in Bedminster is taxed as commercial property.

1303 BUILD-OUT ANALYSIS

A build-out analysis was conducted for Bedminster Township utilizing tax record information provided by the Assessors office. Based on the current density or FAR standards in the Bedminster Ordinance, this information was used to calculate the build-out for each tax lot in each zone in the Township. The build-out calculation, including the adjustment factor is shown in Table 45.

TABLE 45 BUILD–OUT ANALYSIS

Zone	R-10	R-3	R-2	R-1	R 1/2	SFC	SCH	VN	VN-2	VR-80	VR-100	OR-V	OP	OR	Totals
Res. Units	494-825	12	6	31	7	0	0	24	10	1	9	-	-	-	594-925
Floor Area (s.f.)	-	-	-	-	-	-	-	*	52,000			12,172	35,807	488,374	*

* See text below

This analysis revealed that approximately 600-925 additional residential units could be built in the Township under current zoning. Recent subdivision applications in the R-10 district have illustrated the highly constrained nature of soils and their limitations for the development of septic systems, and based on this experience, it appears appropriate to assume that the R-10 build-out will be somewhere between the adjusted theoretical yield of 825 units, and the more likely yield of 1 unit per 20-30 acres. Assuming an average lot size of approximately 25 acres, an additional 494 units could be built. Thus, the likely range of additional housing units at full build-out will be between 594 and 925 dwelling units, based on current zoning.

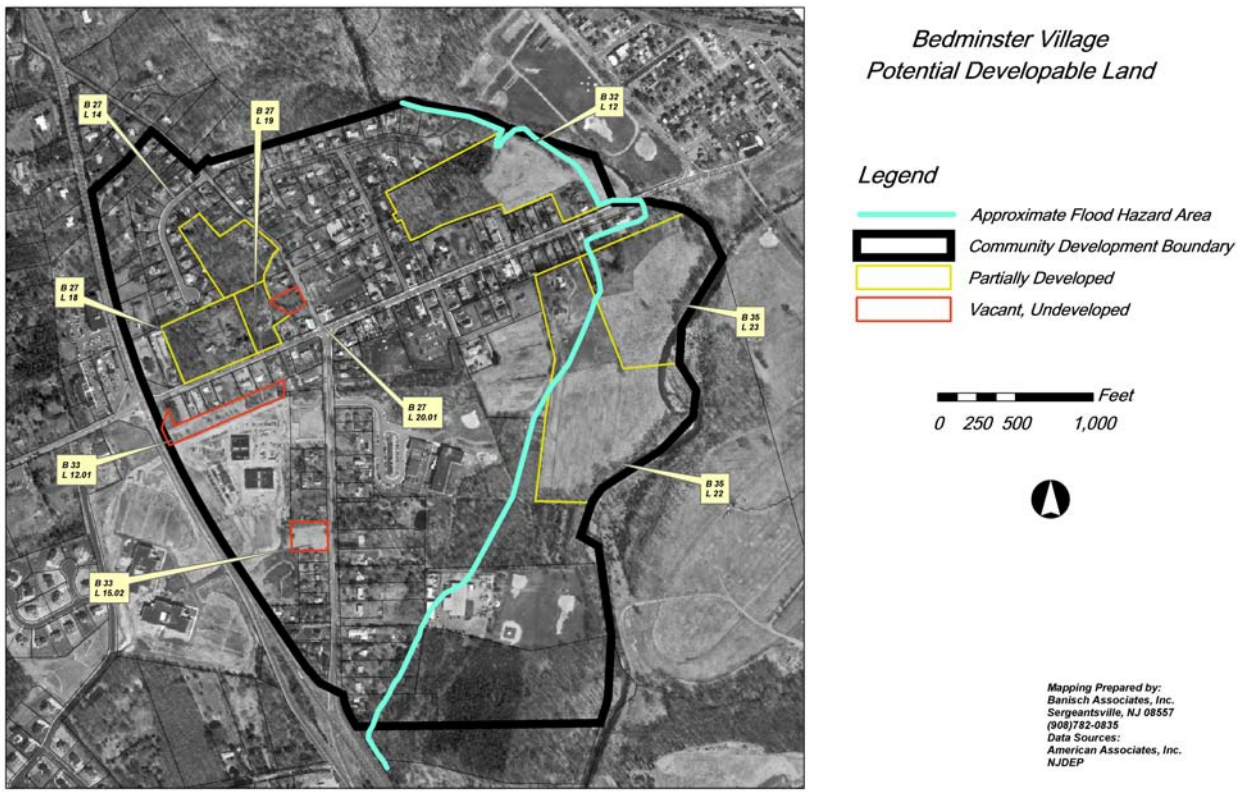
A similar analysis was conducted for the Village Neighborhood and Office districts. The analysis shows that in the "OP" Professional and General Office district approximately 35,807 additional square feet can be constructed, while in the "OR" Office Research district an additional 488,374 square feet is possible (472,000 square feet approved). Together the districts allow for an additional 524,181square feet of office floor area to be constructed in the office zones in Bedminster Township.

The Village Neighborhood districts do not lend to such a straightforward analysis, since they permit both residential and commercial development opportunities on each lot and the area devoted to each use will limit the area devoted to the other use. Nonetheless, the VN-2 District permits up to 2,000 square feet of non-residential floor area as a conditional use, and slightly over 50,000 square feet of additional floor is possible here.

The residential unit totals in Table 45 assume that all VN and VN-2 lands are used to their fullest potential for housing at the expense of non-residential development. However, it is more likely that commercial uses will produce higher real estate values and that these parcels will increasingly convert to commercial use. The major nonresidential development opportunities in the VN zones were analyzed as part of Bedminster's response to the Planning and Implementation Agenda developed as part of the center designation by the State Planning Commission, as described below. While Pluckemin has been largely built-out, with the exception of a handful of dwelling units and minor additions to existing commercial uses, Bedminster village is zoned to permit additional development of both residential and commercial uses.

Bedminster Village Vacant Lots

The non-residential development potential of significant development parcels in the designated Bedminster Village Center is outlined below. Vacant parcels and those where significant additional development is permitted are illustrated on a 2000 aerial photograph



below.

Block 33, Lot 12.01

Applying the permitted FAR to this 2.07-acre parcel, which straddles the rear lot line of lots fronting on Lamington Road, yields a total build-out of 12,172 square feet. However, due to its size and irregular shape, the parcel would require substantial variances from Section 13-407.5 in order for any buildings to be located on the site (lot area, lot frontage, lot width, and lot depth and side yard).

Since this parcel is in joint ownership with Lot 1, which has frontage on Lamington Road, we assume that these lots will be developed jointly. Lot 1 (0.52 acres) is already developed in the VN - Village Neighborhood zone, which permits 0.15 FAR and 45% lot coverage. Lot 12.01 is zoned OR-V – Office Research-Village (13.5% FAR, 35% lot coverage). This analysis assumes that variances would provide for 6,000 sq. ft. of floor area

The theoretical build-out of these lots is as follows:

Lot 1 – No net increase.
Lot 12.01 – 6,000 square feet

Block 33, Lot 15.02

This one-acre vacant lot, on the west side of Somerville Road, is in the VN-2 – Restricted Village Neighborhood zone. The VN-2 permits single-family dwellings on ½ acre lots, and also permits a variety of non-residential conditional uses 2,000 s.f. per lot maximum. The conditional uses are permitted in conjunction with a residential use on newly created lots of at least ½ acre, with 110' lot width. Lot 15.02 is 188' wide by 235' deep, and exceeds an acre in area.

The theoretical build-out of this lot, if subdivided into two lots (with variance for insufficient lot width) is as follows:

2,000 s.f. non-res. x 2 = 4,000 s.f.
2 single-family units

Block 27, Lot 20.01

This 0.511-acre parcel is located in the VR-100 district, which permits lots of 3/10 acre. Thus, this lot will support 1 single-family dwelling.

Partially Developed Lots

Several larger residentially-zoned parcels, which are partially developed, could support further development. These include:

	Total Acres	Zone	Additional Units
• Block 27, Lot 14	4.4	VR-100	7

Portions of each of the following lots are included on the Recreation and Open Space System Map as proposed open space acquisitions.

	Total Acres	Zone	Proposed Open Space	Lands Remaining	Additional Units
• Block 32, Lot 12	13.08	R-1/R-3	2.9	10.2	4
• Block 35, Lot 22*	20.67	R-½ /R-3	14.8	5.9	2
• Block 35, Lot 23*	12.9	R-3	7.9	5.0	0

Lots 22 and 23 above have only 17.5' frontage on Field Drive, where they split at the end of a 35' private ROW, and further subdivision cannot be assumed. However, if a public road were to be constructed to serve these lots, the above-noted build-out potential could be achieved.

Two lots on Lamington Road offer a significant redevelopment opportunity for commercial use. Their build-out potential is limited by the maximum building size permitted on each lot, which is 5,000 square feet. The theoretical build-out for these lots, if subdivided into 7 lots with the existing building removed is as follows:

	Total acres	Zoning	Non-Residential Square Feet
Block 27, Lot 18 (Subdivided into 5 lots)	4.2	VN	25,000 s.f.
Block 27, Lot 19 (Subdivided into 2 lots with one frontage variance)	1.9	VN	10,000 s.f.

The approximate zoning capacity of the parcels noted above is 16 dwelling units and 45,000 s. f. of non-residential floor area.

PART 14 REVIEW OF OTHER AGENCY PLANS

The Municipal Land Use Law includes an analysis of other agency plans among the requirements for a Master Plan. This review of the plans of adjoining municipalities, the county, and the state is intended to promote compatible land use planning among various jurisdictions.

1401 PEAPACK AND GLADSTONE

Bedminster Township's common boundary with Peapack and Gladstone extends from the Chester Township boundary to the North Branch of the Raritan River. North of Route 206, the Borough Master Plan provides for single-family dwellings having a minimum lot area of two acres. Immediately south of Route 206 is a Residential Cluster District permitting single-family housing at one unit per 2 acres on 65-acre tracts where 50% must be retained in open space. The remaining area is designated asRR-5 and RR-10, which allow single family dwellings at densities of 2 units per acre and 1 unit per acre having a minimum lot area of one and two acres respectively.

1402 FAR HILLS BOROUGH

Bedminster's common boundary with Far Hills extends from the railroad crossing over the North Branch south to Schley Mountain Road. A Low Density Residential designation applies to the Borough’s entire boundary with Bedminster except for abutting State Plan designated Village of Far Hills. The Low Density Residential District permits single-family dwellings having a minimum lot area of 10 acres. In contrast the Village allows for mixed use on lots of 5,000 to 7,500 square feet.

1403 BERNARDS TOWNSHIP

A nearly straight boundary line divides Bedminster Township from Bernards Township. The boundary extends from Schley Mountain Road to Prospect Road. Across this boundary, Bernards has planned for and the Hills Development Company has developed an inclusionary housing development.

1404 BRIDGEWATER TOWNSHIP

Chambers Brook forms Bedminster's boundary with Bridgewater; from its confluence with the North Branch to the Bernards Township line near Mount Prospect Road.

Most lands along this boundary are included within the "Parks and Open Space" category in Bridgewater's Master Plan. These areas are adjacent to Industrial Districts along I-287 and low-density R-40 Residential District (40,000 sq. ft./D.U.) in other areas.

1405 BRANCHBURG TOWNSHIP

The Lamington River forms the boundary with Branchburg Township. It extends from just west of Rattlesnake Bridge Road to the confluence of Chambers Brook and the North Branch of the Raritan River. Across the Lamington Branchburg has designated an Agricultural District that permits single-family dwellings having a three-acre minimum lot area.

1406 READINGTON TOWNSHIP

The Lamington River also forms the Readington boundary and Readington's land use planning along this boundary is the AR Agricultural Residential District. The AR District permits agriculture, open space and residential land use options including: six acre single family lots or on tracts of 30 to 40 acres an open space cluster development with 65,000 square foot lots and 70% of the tract devoted to open space.

1407 TEWKSBURY TOWNSHIP

Bedminster's common boundary with Tewksbury is also the Lamington River, from a point almost midway between Lamington Road and Route 78 to the Chester Township boundary just north of Pottersville. The Agriculture District is the predominant classification in eastern Tewksbury, permitting one unit per five acres. Three small districts in the Pottersville area include a Village Residential District which promotes single family units on 1.5 acre lots and the Village Business District which supports businesses in the area on mostly 20,000 square foot lots and a Townhouse Victorian District, which recognizes a townhouse inclusionary development.

1408 CHESTER TOWNSHIP

Bedminster Township's boundary with Chester begins at the Lamington River, just north of the Village of Pottersville, and ends east of Route 206, at the Peapack and Gladstone boundary. This neighboring municipality designates adjacent lands as R-5 Rural Density, Low Density, and Black River Open Space Corridor (Public Zone). Designed to protect critical environmental conditions, the R-5 District requires a five acre minimum lot size and allows for Open Space Development, which has replaced the Township’s cluster provisions.

1409 SOMERSET COUNTY SMART GROWTH STRATEGIC PLAN

During 2002 Somerset County initiated its Smart Growth Strategic Plan. This Plan will provide a comprehensive review and update of the 1987 County Master Plan designed to shape and focus the direction of development in the County, providing a regional framework to address changing land use, economic and demographic patterns and to support a number of other countywide smart growth initiatives. The new Plan will integrate new information and ideas into a single comprehensive vision and implementation agenda for the County. This ambitious plan will set forth goals and guiding principles, designed to acknowledge 2002 realities and shape the County’s future. It is intended to be the vehicle for helping to direct the location and form of

development, redevelopment and preservation within the County for 20 years, reflecting a logical and efficient "smart growth" approach to strategic planning. Most importantly, the County will work with municipalities and the public to define policies and specific strategies to achieve the various goals.

The overall purpose of the Somerset County Smart Growth Strategic Plan is to provide a regional framework for making comprehensive land use decisions, determining infrastructure investment priorities, directing economic growth, expanding housing choices, enhancing mobility, addressing traffic congestion and protecting the environment. The plan will build upon Smart Growth initiatives already underway, and insure Somerset County's future as a desirable place to live and work.

The Plan will serve to update and expand upon the County Master Plan, adopted in 1987 and address recommendations contained in the County Master Plan Re-examination Report of 1998. The plan will strengthen the basis for ongoing smart growth initiatives being undertaken by the County and its municipalities. It will also be consistent with and support implementation of the new State Development and Redevelopment Plan.

The Plan is being developed in two distinct, but complimentary phases. Phase 1 commenced in December of 2001 concentrating on the collection of data; modeling and analysis; mapping of geographic information, obtaining community input; and development of a unified collection of county-wide and area-specific vision statements, planning issues, priorities and guiding principles. Phase 2 of the project will provide an assessment of the impacts of anticipated growth within the County under current land development regulations and review potential development alternatives. It will involve the completion of build-out, capacity and development impact analyses. Infrastructure needs will be assessed and County and municipal economic and demographic forecasts will be developed. Indicators and benchmarks will be created to measure progress in achieving plan objectives.

The County intends to utilize community involvement extensively in the planning process. A Steering Committee made up of members of the County Planning Board's Master Plan/Land Use Committee, State Planning representatives, and various other stakeholders has been formed to oversee and facilitate the development of the Plan. Community involvement will also be achieved through the assignment of local advisory representatives from each municipality. In order to facilitate data collection and organization, each municipal advisory group will be placed in one of three county "Sub-Areas", representing geographic regions of the County i.e. North County, Central County and South County. Data collection and meetings with local advisory representatives will initially be organized within these sub-areas. Bedminster is participating in the "North County" sub –area.

The 1987 Master Plan espoused a number of problems for the Township. For example, the Master Plan recommended protecting sizable areas of open space and natural resources in the area that encompasses most of the Township west of the Route 287 and Route 202/206 corridor. However, it also mentioned "in the long term, the rural preservation category as a whole will provide land which can logically be converted from a rural designation to development as the County's growth management areas build up." Furthermore, the County Master Plan mentioned

the potential for "low density office research facilities with regional highway access," and cited the I-78/Rattlesnake Bridge Road Interchange as an example. Somerset County's expectations for the Rural Preservation area of Bedminster would have resulted in substantial development and little preservation if followed. Therefore, as the County develops and adopts a new County Plan the Township should examine the policies and recommendations in the County Plan and assess their impact on local planning.

1410 STATE DEVELOPMENT AND REDEVELOPMENT PLAN

The State Planning Commission adopted the State Development and Redevelopment Plan (SDRP) on March 1, 2001 in accordance with the State Planning Act. This document was the subject of cross-acceptance discussions and updated the 1992 State Development and Redevelopment Plan.

The SDRP identified nearly all of Bedminster as Planning Area 5, - Environmentally Sensitive Planning Area.

Bedminster Township voluntarily submitted its Master Plan, in compliance with State Planning Rules, for consistency review with the SDRP. The Master Plan Consistency Report, approved in 1995 by the Commission, found a high level of compatibility between the SDRP (adopted in 1992) and Bedminster's Master Plan goals, objectives, and strategies.

Local plan consistency with the adopted SDRP played an important role in Kirby vs. Bedminster, helping the Township defend the R-10 zoning and withstand legal challenge.

Center Designation

On September 20, 2001 the New Jersey State Planning Commission designated the villages of Bedminster and Pluckemin Centers. Centers are the State Plan's preferred vehicle for accommodating growth. Each Center has specific designation criteria, which establish certain basic thresholds of land area, population, employment and densities. These criteria are applied flexibly.

The purpose of the designation of Centers is to increase the degree of consistency among municipal, county, regional and state agency plans and the State Plan and to facilitate the implementation of these plans. The State Plan outlines six objectives that derive from this purpose:

1. To encourage municipal, county, regional and state agency plans to be coordinated and support each other to achieve the Goals of the State Plan;
2. To encourage counties and municipalities to plan on a regional basis while recognizing the fundamental role of the municipal master plan and development regulations;
3. To consider the entire municipality, including Centers, Cores, Nodes and Environs, within the context of regional systems;
4. To provide an opportunity for all government entities and the public to discuss and resolve common planning issues;

5. To provide a framework to guide and support state investment programs and permitting assistance in the implementation of municipal, county and regional plans that meet statewide objectives; and
6. To learn new planning approaches and techniques from municipal, county and regional governments for dissemination throughout the state and possible incorporation into the State Plan.

All Centers outside of Metropolitan, Suburban and Environmentally Sensitive/Barrier Islands Planning Areas must delineate Center Boundaries. Delineating Center Boundaries is critical for three reasons. First, these boundaries protect the Environs of these Centers—for instance, in Fringe, Rural and Environmentally Sensitive Planning Areas they protect the natural resources and rural landscape. Second, the extent of the Center's development area informs the private sector about public investment intentions, thereby creating positive expectations for development opportunities and growth. Third, these boundaries provide advance knowledge to agencies at all levels of government about where growth should occur, so they can plan for the provision of adequate infrastructure without a reduction in levels of service.

Figures 27 and 28 depict the center boundaries of the villages of Bedminster and Pluckemin.

The State Plan establishes five types of centers. Urban Centers are generally the largest Centers, offering the most diverse mix of industry, commerce, services, residences and cultural facilities. Regional Centers, which are a compact mix of residential, commercial and public, uses, serve a large surrounding area and develop at an intensity that makes public transportation feasible. Town Centers are traditional centers of commerce or government throughout New Jersey, with diverse residential neighborhoods served by a mixed-use Core offering locally-oriented goods and services. Villages are primarily residential places that offer a small Core with limited public facilities, consumer services and community activities while hamlets are small-scale, compact residential settlements organized around a community focal point, such as a house of worship, luncheonette, small park or civic building.

In applying the Center criteria to Bedminster and Pluckemin, Bedminster was designated as Village Center while Pluckemin was designated a Town Center. Pluckemin, however, was referred to as the Pluckemin Village Town center on the State Plan Policy Map to reflect the Township concerns for the village identity.

The center designation resolution adopted by the State Planning Commission included the following Planning and Implementation agenda (PIA). This document is a work program for the municipality to further the Centers consistency with the State Plan.

Bedminster Township's
Planning & Implementation Agenda for
Bedminster Village Center and Pluckemin Village Town Center

Activity	Local Effort	State/County Assistance
Land Use		
Prepare infill potential maps to identify suitable infill and redevelopment sites in the centers;	Planning Board to inventory potential infill & redevelopment sites in the centers and assess the available parcels that would support center development in accordance with the center design guidelines.	N/A
Reevaluate sewer capacity of the EDC plant in cooperation with Far Hill Borough and Peapack-Gladstone in order to effectively plan for the strategic use of the remaining sewer capacity to support center-based development within the centers in these municipalities. Any development and redevelopment in the center will be consistent with the delineation criteria of the designated center.	Planning Board and governing bodies of the three municipalities to initiate and coordinate this effort.	Somerset County and OSP Technical Assistance
Township to establish targets and indicators for successful completion of their PIA. Capacity-based planning information will continue to be used to monitor and evaluate the further updating of their master plan.	Planning Board to establish appropriate targets and indicators for Centers/Environs land use management strategy, (i.e. infill and redevelopment in center, protection of natural systems, water quality and quantity, and open space preservation in the environs.	Somerset County and OSP to provide technical assistance as needed.
Develop visual presentations on future development patterns for large contiguous areas, which should be referenced in the Master Plan	To be included in Master Plan update.	N/A

Transportation		
Explore opportunities to maximize transit opportunities, including expanded bus service, para-transit or van-on-demand to the Far Hills train station and linkages to nearby high-density centers and corporate office complexes. Promote pedestrian accessibility and safety throughout the Township; with emphasis on Pluckemin Village Town Center and Bedminster Village; coordinate efforts with the Far Hills Village. Explore context sensitive design options for centers and transportation demand management strategies.	Cooperate with Far Hills, County, State and other transportation agencies to identify opportunities for expanded bus service and strategies to reduce congestion and maximize rail transit ridership. Bike/hike system will provide pedestrian and bicycle accessibility and safety improvements through the highway corridor area. Township to explore pedestrian circulation connectivity with Far Hills. Planning Board to explore concept with county and state. Township to continue to pursue interchange improvements in Pluckemin as proposed by NJDOT.	Enroll participation from Somerset County, NJDOT, NJTPA, NJ Transit & Ridewise to promote connectivity between train station and housing and employment centers and reduce peak hour congestion. Township to continue to seek local, county state and Federal funds. County and State Technical and possible financial assistance.

Natural Resource Conservation Continue development of a protected, preserved greenbelt around the Town Center. Develop a land stewardship initiative. Develop a woodland conserva strengthen the State Plan's Environmentally Sensitive Planning Area conserve large, contiguous lands with valuable ecosystems and wildl Implement the Farmland Preservation Plan adopted in January 2000.	Planning Board to examine expanding preserved greenbelt around center, including lands along the Chambers Brook Stream corridor. Identify strategies to involve landowners such as easement donation, easement purchase, and acquisition in fee for greenbelt preservation. Planning Board to explore concept with county and neighboring communities. Planning Board to be lead with support and coordination from county and neighboring communities.	County and State funding sources for farmland and open space preservation (County Open Space Partnership Program; NJDEP Green Acres, Farmland Preservation Program Planning Incentive grants); County coordination of inter-municipal participation with adjoining municipalities. Utilize the PIG Funding received as a springboard for continued preservation activities. County Planning Board as coordinator.
Intergovernmental Coordination		
Continue to work with Somerset County and neighboring municipalities to encourage that infrastructure and the management of growth is efficient, effective and equitable. Specific attention should be given to encouraging compatible land use relationships. The township will participate in the regional watershed planning program.		County Planning Board as coordinator.

1411 SOMERSET COUNTY SOLID WASTE MANAGEMENT PLAN

The New Jersey Solid Waste Management Act designates counties as Solid Waste Management Districts (SWMD) and recommended that municipalities join into the SWMD. The Somerset County Solid Waste Management Plan, prepared in July 1979 and certified by NJDEP in 1980, lists the objectives for the County SWMD. These objectives are as follows:

(a) Prepare and adopt a solid waste plan to protect and enhance environmental quality;
(b) Develop a long-term plan to eliminate existing methods of disposal that cannot be upgraded to meet environmental standards;
(c) Upgrade disposal methods and/or provide alternative services and facilities to meet the standards;
(d) Conserve natural resources and encourage waste reduction;
(e) Maximize practicable use of resource recovery in the Plan;
(f) Evaluate regional solutions to the solid waste management problem.

In 1994, the U. S. Supreme Court ruled that a local flow control ordinance in New York was unconstitutional. New Jersey's own waste flow case, Atlantic Coast Demolition and Recycling, was heard in federal court. Ultimately, the court found state waste flow laws unconstitutional insofar as they discriminate against out-of-state solid waste facilities. Administrative or legislative action is needed to deal with the future of solid waste planning in New Jersey as a result of the ruling.

This action altered many of the activities of counties in developing resource –recovery facilities and state of the art landfills. It created a very competitive market amongst existing facilities. Likewise it altered or eliminated certain objectives in the County's Plan. Specifically the County was unable to control waste flow and it eliminated the pursuit of resource recovery in the Plan. It placed a greater emphasis on service and environmental quality of service rendered by the County to municipalities.

The Solid Waste Plan Amendment of August 15, 1989, identifies materials to be recycled. It requires municipalities to prepare and adopt an ordinance for residential, commercial, industrial, and institutional uses to recycle the following materials:

(a) Polyethylene terephthalate (PET) Beverage Bottles.
(b) High-Density Polyethylene (HDPE) Beverage Bottles.
(c) Other HDPE Post-Consumer Bottles.
(d) Newspapers and magazines.
(e) Glass bottles and jars.
(f) Aluminum beverage containers.
(g) Corrugated cardboard.
(h) Office paper.

In addition, NJDEP requires each municipality to identify an NJDEP permitted leaf

composting facility, which will accept lawn, landscaping, and garden wastes from all residential and nonresidential uses.

New Jersey continues to be a national leader in recycling. As of the end of 1995, New Jersey had met its target of recycling 60 percent of the total municipal solid waste stream, but that ratio was reduced to 55 percent by 1999. Some 13,500 private sector jobs and $1.3 billion in value added to New Jersey's economy are directly attributable to recycling. However, the key to long-term solid waste management is reducing the household and commercial waste stream. Composting, on both a community and household basis, is being used in several communities in the state to reduce the need for landfills or incineration.

The Township of Bedminster is striving to achieve the goals laid out by the County and the State in order to increase the amount of recycled material and reduce the total amount of solid waste produced in the Township. In accordance with County and State regulations and guidelines, the Township has appointed a recycling coordinator, adopted a recycling requirement ordinance and has submitted yearly tonnage reports to the County. These steps help to coordinate local, County and State efforts to reduce solid waste and increase recycled materials.

1412 STATE AIRPORT SYSTEM PLAN

The State Airport System Plan (SASP) is a multi-year plan comprised of coordination with ongoing state transportation plan(s), forecasting statewide aviation activity, general aviation trends, aggregate activity indicators, such as registered aircraft, based aircraft, operations, identification of the functional role of each airport within the system, measurements of the performance of each airport relative to its functional role, an overview of the adequacy of the state airport system and specific projects to help individual airports adequately realize their functional role within New Jersey's airport system. Specifics include system alternatives, development costs and recommended system.

In addition, it includes other specialty studies including a system wide economic impact study, evaluation of runway safety areas at 34 airports, land use compatibility guidelines and an Airport Directory.

1413 SUMMARY OF OTHER AGENCY PLANS

Municipalities, which share common boundaries with Bedminster generally, share common objectives for future land use. Areas zoned for higher densities or intensities in Bedminster generally adjoin areas treated in similar fashion by neighboring jurisdictions, east and south of Pluckemin. However, proceeding north of Pluckemin, the OR District in Bedminster adjoins the R-10 District in Far Hills, juxtaposing high and low intensity land use districts across this border.

While the VN Village Neighborhood District in Bedminster adjoins the Village in Far Hills, the functional connection to Far Hills Village makes actual land use in this area highly compatible. Peapack-Gladstone permits lower density (3 to 5 acres per unit) uses west of Route 206, adjacent to the R-3 District in Bedminster.

To the north and west, Bedminster is bordered by municipalities, which generally permit lower residential densities, which is somewhat consistent with the R-10District. Most of this boundary area is programmed for 5 to 6 acres per dwelling unit.

To the south, the common border with Bridgewater divides Bedminster's R-10 District from the higher density R-40 District in Bridgewater.

While the 1987 Somerset County Master Plan generally programmed growth and limited growth for areas Bedminster has planned in similar fashion, several differences appeared to be significant. The County Plan would extend a strip development pattern along Route 206 to Peapack-Gladstone, beyond the area Bedminster has planned for such uses. The Township's participation in the preparation of the Somerset County Smart Growth Strategic Plan should reconcile these issues.

PART 15 RECREATION AND OPEN SPACE

This Background Analysis reviews the existing inventory of recreation resources and facilities offered within the Township by the State, County, Municipality and Board of Education, as well as private recreation areas of The Hills. A review and discussion of open space standards applied to Bedminster Township's situation is included, and recommendations have been developed toward achieving a comprehensive system of public sites for recreation and open space.

Bedminster Township includes a unique mix of housing types, sizes, densities and spatial orientation. Routes 202/206, I-287 and I-78, physical barriers between various portions of the Township, are an impediment to residents' access to the Township's diverse and expansive recreation and open space resources. The Recreation and Open Space Plan identifies the type and nature of recreation and open space facilities and identifies planned additions to the Township's network of recreation and open space resources. The Circulation Plan outlines a pedestrian and bicycle network to surmount the highway obstacles. In addition, with the aid of a Somerset County Municipal Planning Partnership grant, the Bedminster Township Planning Board is developing a Scenic Corridor Characterization and Design Guidelines for scenic vistas, roads and ridgelines.

1501 EXISTING RECREATION FACILITIES

The following discussion briefly reviews the existing recreational facilities in or adjacent to the Township. A detailed listing of the facilities, which are located in the Township, is provided in subsection 508.

State

Within Bedminster Township, there is an 18-acre parcel of land that is part of the NJDEP Division of Parks and Forestry 585-acre Hacklebarney State Park. Located in the northwest corner of the Township, near Pottersville and located along the Lamington River, the site is the southerly-most portion of Hacklebarney State Park, which extends to Washington and Chester Townships in Morris County, Tewksbury Township in Hunterdon County, and Bedminster Township in Somerset County.

There are primarily passive recreation uses available at the site, including fishing, hunting, and hiking. A modest parking area is provided for approximately a dozen vehicles and is accessible from Hacklebarney Road north of Pottersville. Trails can be accessed from the site; however the main park facilities are more easily accessed from the main park entrance in Washington Township in Morris County, where a picnic area, comfort stations and access to an extensive trail network for hiking and other seasonal outdoor activities are located.

County

Somerset County does not operate any parks or recreation facilities in Bedminster Township. However, it is noteworthy that Morris County maintains Bamboo Brook Outdoor Education Center and the Willowwood Arboretum on the Township's northerly boundary in Chester Township.

Municipal

The Township has significantly expanded the municipal recreation and open space inventory during the last decade in response to rapid growth in the community during the 1980's and 1990's. Land for active parkland and open space has been acquired and recreation facilities have been developed during this time. The Township developed active athletic fields at River Road Park and expanded the Pluckemin Schoolhouse Park to accommodate a wide range of recreation facilities. The Township has made significant progress toward its goal of providing a balance of active and passive recreation and open space resources for citizens of all age groups in the community. Municipal recreation and open space areas are concentrated in the densely populated easterly portion of the Township in the Bedminster Village/Pluckemin area.

Two substantial open space areas, River Road and The Pond, straddle Route 206 and the North Branch of the Raritan River in Bedminster. These provide opportunities for fishing, hiking, birding and nature appreciation. The sites are the nucleus of the Township's North Branch Greenway project, which has been expanded over the last ten years with several municipal open space acquisitions along the river. The Greenway extends from Peapack-Gladstone and Far Hills southward along the river to Bridgewater Township. In Bedminster Village, the Township acquired a 26-acre parcel along the North Branch. This site is the northerly-most Township-owned site in the greenway to date. Access to the River can be gained from Deerhaven Road. Other recent greenway acquisitions include parcels along the North Branch south of River Road and the Township has targeted a number of sites for acquisition along the river with the objective of establishing a publicly-owned riparian corridor of open space land.

The Township acquired a 51-acre passive open space recreation area on Schley Mountain Road located just north of The Hills and a 3-acre parcel of open space at The Hills. A new park will be established on a 14-acre site adjoining I-287 at Burnt Mills Road. The township recently acquired the site for athletic field development. The site extends north from Burnt Mills Road toward River Road.

The Township has expanded the number of municipal athletic fields and active recreation facilities by constructing four baseball fields and three soccer fields at River Road Park, the centerpiece of the Township's network of recreation and open space sites. The Township arranged soccer fields in the common outfield area of two baseball fields which maximized spatial efficiency. This served to reduce the amount of parkland needed for athletic field development and conserved land for passive open space and recreation activities and to support natural and wildlife uses. These additions more than doubled the number of athletic fields the

Township maintained in 1992, which were located at Miller Lane (two baseball fields) and Pluckemin School Park (one baseball field). Despite this expansion of resources, the current inventory of fields are intensively used by various youth leagues, corporate neighbors and even outside parties that rent fields on an occasional basis. Township residents are free to use the fields when league games are not scheduled. The Township Public Works and Recreation Departments coordinate the scheduling of use of the fields on a reserved basis on request by residents for family gatherings.

The Township Recreation Department and Recreation Committee have identified the need for two more baseball fields and a soccer field at River Road and two baseball fields and two soccer fields at the new Burnt Mills Road Park. The Township Engineer and the Facilities Task Force established by the Township Administrator have reviewed concept plans for these park improvements, along with important site amenities and project planning remains underway.

In response to the daunting challenge of establishing safe pedestrian and bicycle access among Township neighborhoods and recreation and open space resources, the Township has also undertaken an ambitious hike-bike trail project. The hike-bike trail is a multi-phased project that will provide pedestrian and bicycle linkages between the neighborhoods of Pluckemin and Bedminster and establish connections to municipal parks. The hike-bike trail now links Bedminster Village neighborhoods and the Elementary School to the River Road Park via a pedestrian/bicyclist flyover connection from the east side of US 202/206 at AT&T south of the Pond, to the west side of US 202/206 at River Road Park. The construction of the flyover provides safe pedestrian and bicycle access across Routes 202/206, previously a barrier between the dense neighborhoods east of the highway and River Road Park west of the highway. Two planned hike-bike trail extensions to Pluckemin, one on the east side of I-287 & US 202/206, and one from Burnt Mills Road on the west side of the highways will complete the trail in the near future. When complete, the Township will have effectively overcome these dangerous barriers between the Pluckemin and Bedminster neighborhoods and the recreation and open space lands lying to the west of busy US 202/206 highway corridor. In addition to connectivity, the hike-bike trail provides Bedminster's residents with an opportunity to hike and bike through the Township's expanding network of natural open space areas. The hike-bike trail project was conceived to provide safe pedestrian and bicyclist access between Pluckemin and Bedminster Villages, and to provide access to the Township's several open space and recreation parks. What has emerged is an impressive model of municipal commitment to responding to the recreation and safety challenges resulting from court-ordered growth of the 1980's and 1990's.

Schools

The Bedminster Elementary School provides neighborhood park-like amenities for Bedminster residents. The School includes a large community playground, an outdoor basketball court and a baseball field.

The Hills Development

Each of The Hills neighborhoods provide its residents with a minimum of one pool, tennis courts and one tot lot maintained and managed by a master homeowners' association.

Maintenance of each facility is funded through residents' contributions to the individual associations. Use privileges are extended to residents provided that homeowners' maintenance fee contributions are current. These facilities reduce the municipal burden to provide recreation resources for The Hills residents, however no athletic field or open play areas are provided at The Hills in Bedminster Township.

In the 1990's the Township recognized that The Hills limited recreational facilities did not respond to the full range of needs of its residents, as could be evidenced by children and adults alike using streets and parking lots for play areas. Indeed, no active play fields are provided in the Hills, and the dedicated "open space" set aside in the development is a wooded steep slope area. In response, the Township Committee has expanded the Pluckemin School Park, which is convenient to The Hills residents and developed a wide variety of recreation facilities, including a baseball field. This park has become one of the most heavily used in the Township's inventory of recreation sites.

1502 RECREATION AND OPEN SPACE STANDARDS–

Various groups at the state and national level have developed standards to identify the minimum amount of open space and recreation lands that should be available at the municipal level. Standards have been developed by the State of New Jersey and the National Recreation and Parks Association including the balanced land use guidelines and the acres/population standard.

Balanced Land Use Guidelines

This approach, relates the open space need at the municipal level to the developed and developable acreage in the Township. Developable areas exclude slopes over 12%, wetlands, and federal and state owned open space. The guideline at the municipal level is: 3% of the developed and developable acreage of the municipality. Bedminster's 17,100 acres includes approximately 1,800 acres that are in state ownership or are not developable, yielding 15,300 acres. Analyzing the 3% standard indicates that Bedminster's open space need is 459 acres at the municipal level.

Balanced Land Use Guidelines

Total Land Area	**Land Area less State owned Open Space & Undevelopable land**	**Standard**	**Open Space Need**	**Open Space Gap**
17,100	15,300	3%	459	+239

Acres/Population Standard

Recreational lands should also be programmed in response to local populations. Using a figure of 8 acres/1,000 persons for municipal open space as indicated in the N.J. Outdoor Recreation Plan, and b*ased upon the year 2000 Census count of 8,302 persons, this approach yields a need of 66.4 acres.*

Acres/Population Standard

Population		**Standard**	**Need**	**Existing Acreage**	**Acreage Gap**
2000	8,302	8 acres/1,000 persons	66.4	698	+631.6
2020	16,217[3]	8 acres/1,000 persons	129.7	698	+568.3

National Recreation and Parks Association (NRPA)

This group has been establishing standards and guidelines for open space for many years. The most recent standards are published in Recreation, Park and Open Space Standards and Guidelines, NRPA, 1983. These standards are far more specific and relate to the type of park, service radius, etc., as follows:

	Service Area Radius	Desirable Size	Acres/1,000 Population
Mini Park	Less than ¼ mile	1 acre or less	0.25 to 0.5
Neighborhood Park/Playground	¼ to ½ mile	5 to 15 acres	1.0 to 2.0
Community Park	1 to 2 mile	25+ acres	5.0 to 8.0

Applying these standards to Bedminster's current population yields the following:

	Acres
Mini Park	2 to 4.2 acres
Neighborhood Park/Playground	8.3 to 16.6 acres
Community Park	41.5 to 66.4 acres

These standards should not be considered absolute, but rather should be used to assist in identifying the relative strengths and weaknesses of Bedminster's parks and recreational networks, as well as help identify areas to be targeted for improvement or expansion.

[3] Figure from the Center for Urban Policy Research, Rutgers University, The Costs and Benefits of alternative Growth Patterns: The Impact of the New Jersey State Plan, 2000

National Recreation and Parks Association Standards

Type of Facility	**Service Area Radius**	**Desirable Size**	**Acres/ 1,000 Population**	**Bedminster[4] 2000**	**Bedminster[5] 2020**
Mini Park	Less than ¼ mile	1 acre or less	0.25 to 0.5	2.0 to 4.2	4.1 to 8.1
Neighborhood Park/Playground	¼ to ½ mile	5 to 15 acres	1.0 to 2.0	8.3 to 16.6	16.2 to 32.4
Community Park	1 to 2 mile	25+ acres	5.0 to 8.0	41.5 to 66.4	81.1 to 129.7

The NRPA has also published standards concerning the need for specific facilities based on population. The following standards have been published as a guide, since the actual quantity of each will vary *as the needs of the community change*.

Facility	Facility per Population
Baseball - 90 feet	1 per 6,000
Softball/Youth Baseball	1 per 3,000
Tennis Courts	1 per 2,000
Basketball Courts	1 per 5,000
Swimming Pools - 25m.	1 per 10,000
Swimming Pools - 50m.	1 per 20,000
Community Center	1 per 25,000
Amphitheater	1 per 20,000
Golf Course - 18 hole	1 per 25,000
Handball	1 per 5,000
Shuffleboard	1 per 2,000
Horseshoes	1 per 2,000
Football/Soccer	1 per 5,000
Skating Rink - Outdoor	1 per 30,000

1503 RECREATION STANDARDS UPDATE

While the State's 3% Balanced Land Use guideline remains a valid and useful tool for calculating a *minimum target* for acquiring municipal recreation land, the standard is not intended to include public lands acquired for conservation of natural, scenic and historic resources, or private open space such as golf courses, farmland and similar open areas. In fact, it was recently observed by the Monmouth County Park System that "the limitations of this approach are demonstrated by the fact that Union and Essex Counties are the only two counties

[4] Apply 2000 population of 8,302.
[5] Apply CUPR projection of 16,217.

which have exceeded the guidelines for county level public recreation." Further, it was observed that "if your vision of your community at full development is something different than Union and Essex Counties, the Balanced Land Use minimums may not be enough."

> In 1996 the NRPA and the American Academy for Park and Recreation Administration published new park, recreation, open space and greenway guidelines. Abandoning the "facilities per population" standards, the NRPA recognized that the standards were being inappropriately applied as actual targets for local recreation facilities development, rather than recommended guidelines. A new "level of service" approach has been developed to determine the minimum spatial requirements for recreation facilities, based upon the assumption that all recreation activities desired in the community can be predicted and that participation within each activity can be estimated. The minimum level of service approach is used to determine design capacity to accommodate a specific level of use on a set number of facilities and park space within a park. This method does not take into account factors such as soils, topography, and areas set aside for passive recreation and open space that may limit placement of facilities within a park. Applying the standards also does not take into account local preferences regarding the quantity of open space and recreation lands the community deems appropriate for itself.

The level of service approach utilizes a series of calculations that factor actual usage in terms of anticipated daily visitation, the number of users and the frequency of use per year for each recreation activity desired to predict local park sizes and facility needs. The minimum size of the park is determined by the number of facilities needed to satisfy the recreation demand within the service area of the park. The result is a needs-based, facilities-driven, and land measured level of service that describes the minimum park and recreation acres needed to meet current recreation and park demand per 1,000 people.

The NRPA has indicated that the Level of Service approach is "intended to measure general or area-wide conditions," however applicability to site-specific, short-term decision making may be limited. Moreover, the NRPA has renounced the "one size fits all" approach and recommends that communities develop park and recreational facility standards that fit their individual needs and circumstances. In this approach, the NRPA recommends using a variety of methods to identify local needs. These include public meetings, community surveys, and interviews with department heads and league representatives to establish the current facility utilization and future needs. The Township has embraced this concept and during the summer of 2000 the Recreation Committee conducted a survey of its residents. With the assistance of the Bernardsville High School statistics class a survey was formulated. From a universe of 4,360 residences a random sample of 10% were mailed the survey. It resulted in approximately a 20 % response, and found the following.

- Reported participation in Township recreation programs was relatively light, with approximately 20% of respondents identifying programs in which they participate. Most frequent participation occurred in little league, soccer and summer recreation programs.

- Survey results indicate general satisfaction with Township programs by those who do participate (score 3.0), as well as indicating a need for additional programs (score 2.9). The most frequent programs suggested by respondents include a desire for senior activities, concerts in the park and trails for hiking and biking.

- 80% of the respondents have access to a pool and tennis courts in the neighborhood where they live. This suggests that these are residents of The Hills in nearly all cases.

- Survey results indicate that most respondents did not often use Township parks. River Road Park was most frequently used and Knox Avenue Park was least frequently used. Satisfaction with the Township's recreational facilities scored 3 out of 5; although a similar (2.9) response indicted a need for additional recreational facilities.

The types of recreational activities deemed most important are listed below. The highest rating was received for concerts in the park and the lowest rating for horseback riding. Listed activities, arranged in order of importance, are as follows:

1. concerts in the park
2. cultural programs (theatre, music, etc.)
3. bicycling
4. hiking
5. picnicking
6. recreational workshops (arts, crafts, camp skills)
7. running, jogging, swimming (tie)
   environmental education (tie)
   youth sports league (tie)
8. boating, canoeing (tie)
   adult sports league (tie)
9. skating/rollerblading, camping, tennis (tie)
10. horseback riding

On a scale of 1 (never) to 5 (often), participation in recreation programs outside of Bedminster Township scored a 2.1.

- The types of programs outside the Township in which respondents most frequently participated included swimming and senior activities.

- The things respondents liked most about Bedminster Township recreation included River Road Park and the clean and well-maintained condition of the Township parks.

- The things respondents liked least about Bedminster Township recreation were a general lack of knowledge of what is available, and the Township's failure to communicate and promote these facilities and activities.

- A score of 3.5 indicates that respondents strongly support more aggressive acquisition of Green Acres lands for recreation.

- 75% of respondents indicated that they or members of their family would attend Community Day, which was held in September 2000.

Analyzing these results, the Township Recreation Department noted consistency with their own data collected through informal surveys and canvassing by the Recreation Committee. The Committee highlighted demands imposed on Bedminster Township's recreation infrastructure that challenge daily operations, including:

- Residents' increased requests for playing fields, and
- Residents' desire for more varied programming.

Working in conjunction with the Public Works Director, the Township's Facilities Task Force and the Township Engineer, the Committee has identified the need for the following specific recreational facilities for Township parks.

- Pluckemin School Park: Construct shelter to provide shade; construct restroom facility to be connected to public sewer and water, construct tennis courts and additional parking.
- River Road Park: Construct two new baseball fields, one new soccer field, comfort station, sheltered space for community events and interpretive programs for the Knox House, a dog walk compound and expanded parking.
- Burnt Mills Road Park: Construct two baseball fields, two soccer fields, a tot lot, a dog walk compound, parking facilities, install well for drinking water.

To offset the use of passive open space for active recreation the Township Committee has agreed with the Recreation Committee and the Facilities Task Force proposal to set aside, through deed restriction, another portion of the River Road Park for strictly passive open space. As River Road Park is the centerpiece of active recreation in the Township, athletic field development at this location will serve to concentrate most league and organized sports play at one location.

The conventional methods of calculating open space and recreation needs fail to take into account factors unique to Bedminster including (1) the Township's land use and open space planning and environmental resource management, (2) the explosive growth that occurred in the easterly sector of the Township during the 1980's and 1990's juxtaposed against the prized rural countryside, and (3) the Township's commitment to increasing the supply of recreation and open space land during the past decade to accommodate the rapid growth of the previous two decades.

When viewed in the context of the Township's desire to establish and maintain an extremely high quality lifestyle for its residents, recreation planning can be boiled down to local judgment. Such judgments have resulted in an inventory of passive recreation and open space lands far in excess of indicated minimum standards. Therefore, it appears that the Township's open space policies, quality of life goals and objectives, and steady commitment to providing a generous base of publicly-owned passive open space land and a sufficient supply of active recreation facilities is the best response to assessing local recreation and open space needs and responding to local preferences.

One element of the township's strategy to provide recreation and open space in response to the rapid growth of the 1980's and 1990's, has been the consolidation of a green belt separating the relatively high-density developed easterly sector of the Township from the low-density countryside lying to the west. The greenbelt provides an important resource for the residents of the easterly sector to enjoy active recreation and enjoyment of natural open space areas. Another part of this strategy is the Township's ongoing efforts to identify and respond to recreation facilities and open space needs through an interactive inclusive process with the Recreation Committee, the Open Space Committee, and relying on the recommendations of the Recreation Department staff which operates closest to the population served. In this way, recreation facilities needs are identified and prioritized and integrated with local spending decisions when making additions to the municipal open space and active recreation facilities inventory.

The inventory, Table 46, compares the Township's 1993 and 2002 parks and recreation facilities inventory. This comparison of the Township's recreation facilities inventory between 1993 and 2002 illustrates an impressive commitment to increasing the supply of recreation land and recreation facilities between 1993 and 2002, as well as an impressive achievement of open space acquisition.

TABLE 46 Bedminster Township Municipal Open Space and Recreation Inventory
Comparison of 1993 Inventory - 2002 Inventory

Municipal Park	1993	2002
Miller Lane	2-baseball fields soccer goal posts nature trail swings 9.8 acres	3-baseball fields 1-soccer field bike path nature trail 9.8 acres
Pluckemin School Park	1-baseball field 2.23 acres	1-baseball field 1-multipurpose field 1-roller hockey/skating rink 3-sand volley ball courts 2-basketball courts 1-bocce court 1-tot lot picnic area **6.63** acres
River Road Park	Open field Wooded area Fishing shoreline Hiking trail 217.33 acres	Open field Wooded area Fishing shoreline Hiking trail 4-baseball fields 2-soccer fields (3 fields when baseball is not played) 3-soccer goal posts storage building 15'x15' **333** acres
The Pond	Pond Wooded area Fishing shoreline Trail system 70.467 acres	Pond Wooded area Fishing shoreline Trail system Bike path 70.467 acres
Knox Avenue Park r-o-w		Walking path Benches Path between Courtyards, A&P, & Village Green 1.5 acres
Rodenbach Terrace		(acquired 2000) **11.08** acres
Deerhaven Rd.		North Branch Greenway **26.03** acres
The Hills Open Space		2nd Watchung Greenway **187.813** acres
Schley Mt. Rd.		2nd Watchung Greenway **51.77** acres
TOTAL	**299.827 acres**	**698.09 acres**

As illustrated above, the Township's supply of recreation and open space land has increased by approximately 398-acres, or by more than 130% since 1993. When compared to the 3% Balanced Land Use Guidelines developed for the State Outdoor Recreation and Open Space Plan, which indicates a municipal need of 459 acres, the Township's current supply of open space exceeds that standard by 52%, and yet local goals have identified an approximately 83 additional acres of open space acquisition as listed below.

Bedminster Township Proposed
Open Space Acquisitions

Site Block / Lot	Approximate Acreage	Project
32 / 12	5.96	North Branch Greenway
(partial)	.9	North Branch Greenway
35 / 14	12.00	North Branch Greenway
(partial)	8.00	North Branch Greenway
35 / 22		River Road Addition
(partial)	12.828	North Branch Greenway
35 / 23	29.148	North Branch Greenway
(partial)	7.066	North Branch Greenway
41 / 32	5.51	North Branch Greenway
(partial)	2.32	North Branch Greenway
48 / 3		
51 / 1		
51 / 2.01		
51 / 2		
51 / 3		
TOTAL	83.732 ac.	

See "Recreation and Open Space System Map (Figure 29), Township of Bedminster," and enlargement of easterly sector of Township that is appended to this section. The maps illustrates the municipal inventory, planned acquisitions and show the location of existing open space easements, private open space, and other public open space.

1504 REGIONAL OPEN SPACE AND GREENWAYS

The establishment of a regional open space network can significantly enhance the diversity of recreation activities accessible to the local population while advancing the Township's conservation and environmental protection goals and objectives. Often, regional open space networks are comprised of natural resources that extend across municipal boundaries such as large contiguous tracts of farmland, forest stands, wetlands, stream corridors, slopes and other unique natural systems. Regional management of these areas and natural systems may best preserve and enhance the integrity of the resources while also managing human enjoyment and access to these areas.

Regional open space can also include elements of the built and man-made environment, such as scenic transportation corridors and recreational travel routes such as rural roads, abandoned railroad rights-of-way, or hiking, cycling and bridle trails. These may provide access to and enjoyment of areas of exceptional natural beauty or scenic towns, villages and hamlets. Somerset County has prepared a "Scenic Corridor and Roadway Study" (July, 1992), which provided an objective ranking system to identify scenic corridors. Designated scenic corridors in Bedminster included Pottersville Road, Lamington Road, Rattlesnake Bridge Road, Peapack Road, and Cowperthwaite Road. The County designated Burnt Mills Road a scenic roadway in the plan. The County also acknowledged Township local scenic road designations, including

River Road, Larger Cross Road, Black River Road, Long Lane, Country Club Road and Meadow Road.

An extensive network of bridle trails crisscrosses the Bedminster countryside. Many of these trails connect with adjoining communities and are historic, evidence of an equestrian heritage that dates back to a time when there were no automobiles, and residents traveled on horseback, by buggy, wagon or stagecoach, or on the single railroad that traversed the Township. Today, bridle trails are a valued reminder of a simpler era.

Through the courtesy and generosity of local landowners, most of these bridle trails still provide recreational, social and cultural opportunities and continue an equestrian way of life. Horsemanship and its time-honored traditions are very much alive among Bedminster's residents and their neighbors.

Maintaining the bridle trail network is fundamental to continuing the equestrian way of life that plays an important role in maintaining Bedminster's beautiful countryside. Thus, new neighbors should be assisted in recognizing this unique infrastructure and respect its value to all residents. The Township should assist in the creation of new trail linkages and expansion of equestrian opportunities. The Somerset Bridle Path Association (SBPA) and the Lamington Equestrian Association, Inc. are organizations that promote trail riding for horse owners, and have expressed an interest in working with Bedminster to protect, maintain and expand equestrian trails in the Bedminster countryside.

During the subdivision review process, Township officials should help to protect the existing trail network, by encouraging a subdivider to keep existing trails open and by exploring opportunities to expand the trails. When an existing trail cannot be maintained due to the configuration of a subdivision, efforts to arrange new trail linkages should be sought. Whenever possible and feasible, the Township should promote permanent trail preservation, and new trails should be planned with the assistance of local equestrian groups. Bedminster should continue to identify opportunities for partnership efforts between equestrians and private property owners that encourage maintenance of trails while at the same time respecting property owner concerns …safety, liability and privacy.

Second Watchung Ridge

The Second Watchung Ridge is the subject of a 25-year ongoing regional open space project, which is aimed at preserving the ridgeline, steep slopes and associated sensitive areas of the Second Watchung Ridge. The project is a land acquisition and easement protection strategy within the Piedmont physiographic province. The Second Watchung extends from Basking Ridge, through Far Hills, Bernards, Bedminster, Bridgewater, and Warren Townships, the Watchung Reservation and through Union and Essex Counties northward to Passaic County.

According to Somerset County Planning Board, since 1976 when the Second Watchung Mountain Study Group was formed, the County has had an ongoing commitment to preserving what is deemed to be an important natural resource. In the early 1980's approximately $750,000 in acquisitions were made using a combination of public funds and Green Acres grants. As property values rose in the mid to late 1980's, parcel and easement dedication were sought through the development review process. An extensive mapping effort was undertaken by the County Planning Board in the late 1980's to assist in the identification of key parcels and areas for preservation. The County Planning Board has been the coordinating agency for the Second Watchung Ridge greenway project for years and provided assistance to Bedminster, Bernards, Bridgewater, and Warren Townships. County efforts have assisted in the acquisition, dedication and long range planning for the Second Watchung Mountain, which has become a major element of municipal plans.

The updated County Parks, Recreation & Open Space Plan (2000) identifies Bridgewater Township-owned acreage parcels along Washington Valley Road with 2 or 3 linkages to the Second Watchung Ridge, which are part of the coordinated system of interlinked pockets of open space along evolving greenway. The County Plan has also recognized Warren Township's sizeable public and private set-asides along the corridor this greenway corridor.

Bedminster Township's contribution to the Second Watchung Greenway includes 187-acres of undeveloped steep slopes in The Hills. This tract separates the Highlands neighborhoods from the Hills Village and Hills Village North neighborhoods. The Township also acquired a 51-acre parcel of open space located on Schley Mountain Road, which extends the greenway to Far Hills Borough. Due to the steep slope characteristics of these parcels, these open space parcels are best characterized as passive open space capable of supporting low-intensity recreation such as hiking trails, or in the case of the Schley Mountain Road site, a trail-head with a modest parking area for one or two cars and perhaps a picnic area of similar scale.

County planners recognize that a system of pockets of open space interlinked by a network of trails will likely continue to emerge over time as local jurisdictions and private landowners set aside parcels and easements in recognition of this regional open space project. Intergovernmental cooperation appears key to developing more effective linkages in order to expand the regional open space network on the Second Watchung Mountain.

1505 GREENWAYS.

Greenways are linear open space elements, which combine watercourses, floodplains, wetlands and other natural terrain features such as steep slopes to form an interconnected network of open spaces. Sometimes referred to as linear parks, greenways capitalize on the general unsuitability of these lands for urban development.

Greenways foster the goals of natural resource protection by protecting these areas from more intensive development and allowing natural processes to function without impediment. In 1987 the President's Commission on Americans Outdoors called for a nationwide system of greenways to provide "... corridors of private and public recreation lands and waters to provide

people with access to open spaces close to where they live and link together the rural and urban spaces in the American landscape."

In a 1989 publication titled "The Common Wealth of New Jersey - Outdoor Recreation Resources Planning Summary," the Department of Environmental Protection highlighted the "... need to establish an interconnected accessible recreation system of countryside, suburban and urban "greenways" in New Jersey." Citing the public benefits of combined recreation and conservation, DEP outlined a policy to develop such linkages by establishing "an interconnected system of "greenways" through legislation, planning and acquisition and the utilization of multiple private/public and other land use initiatives."

The State Development and Redevelopment Plan (SDRP) also highlights greenways as an important component in the State's open space and recreation planning. The SDRP cites the benefits of greenways to protect sensitive natural lands and wildlife corridors, enhance biological density, and to promote linkages.

Greenways can combine the multiple objectives of natural resource conservation, open space preservation and cultural resource protection. In a 1989 publication of the Association of New Jersey Environmental Commissions titled "Keeping Our Garden State Green: A Local Government Guide for Greenway and Open Space Planning," ANJEC identified four principal benefits of a greenways network. These included:

(a) Protecting environmentally sensitive areas by targeting stream corridors, floodplains, wetlands, steep slopes and woodlands.

(b) Creating areas for passive recreation such as scenic enjoyment, hiking, jogging, picnic areas, bird watching, canoeing and fishing.

(c) Preserving local character and "rural" qualities through the buffering of stream corridors, protection of prominent ridgelines and historic sites and scenic rights-of-way and by developing linkages to larger contiguous parcels of open space and to historic settlement areas.

(d) Saving tax dollars by controlling development and directing new development away from environmentally sensitive lands.

Greenways typically seek to provide linkages among various public or quasi-public open space reserves, and may involve acquisitions in fee or less than fee interests (deed restrictions, conservation easements, etc.). Bedminster's Green Acres parcels provide a substantial public open space anchor for a greenway system. Indeed in the last decade Bedminster purchased several open space parcels along the North Branch Greenway as part of a strategy to protect the North Branch and provide public access to the river. These lands are also proximate to other permanent open space lands in Far Hills (Fair Grounds, and Green Acres parcel) and provide opportunities for inter-municipal linkages. Linkage beyond Township borders may also result from connection of the Pluckemin portion of the Second Watchung Ridge with other portions of this ridge in Bridgewater and points east. The greenways plan should seek to develop convenient

connections between the more populated sectors of the Township, and may include limited access improvements such as hiking, bicycling and jogging trails.

1506 NON-MUNICIPAL RECREATION AND OPEN SPACE INVENTORY

JURDISDICTION	NAME & SIZE	LOCATION	FACILITIES
State Recreation Areas	Hacklebarney State Park 17.9 acres	Hacklebarney Road, Pottersville Block 1, Lot 1	hunting fishing hiking 17 parking spaces
County Recreation Areas	Bamboo Brook Outdoor Education Center and Willowwood Arboretum 44.1 acres	Morris County Park System	arboretum natural area fields forests formal garden adult and children's educational programming
Board of Education Recreation Areas	Bedminster Elementary School 6.5 acres	Bedminster Village Block 34, Lot 9	soccer field backstop playground 6 swings slide climbing equipment spring animals
	New Bedminster Elementary School	Bedminster Village	baseball field[6] playground basketball courts
The Hills Development Recreation Areas, Pluckemin	Hills Village:	Lower Pool, Village Green Road	pool wading pool tot lot cabana
	Upper Pool	Hills Drive	pool 5 tennis courts clubhouse jacuzzi weight room sauna walking path
	Knoll Crest	Lockhaven Lane	pool cabana
	Stone Edge	Dorset Lane	pool cabana tennis court
	Hills Village North	Artillery Park Road	pool cabana 4 tennis courts clubhouse weight room tot lot
	Highlands	Signal Point Road	pool

[6] Anticipated facilities.

			wading pool 4 tennis courts basketball court platform tennis tot lot walking path

1507 RECREATION AND OPEN SPACE SYSTEM MAP

Bedminster has adopted an open space tax, which provides for the acquisition of recreation and open space lands. These funds can be used in conjunction with Green Acres funding, to acquire lands shown on a Recreation and Open Space System Map (Figure 29) adopted as part of the master plan.

The Recreation and Open Space System Map identifies the following categories of lands and/or easements:

Existing Lands
Bedminster Township-Owned Lands
Other Public Lands
Private Open Space
Existing Conservation, Farmland or Other Open Space Easements
Proposed Bedminster Open Space Acquisition parcels *
Potential Conservation Areas

* This category includes specific properties that are acquisition candidates via the Planning Incentive Grant Program.

The Recreation and Open Space System Map is intended to guide such future acquisitions, and should provide assistance to the Open Space Advisory Committee, charged with advising the Township Committee regarding acquisition priorities. The system map should be updated on an annual basis, to reflect changing circumstances and priorities. Benchmarks should also be established, and monitored by an appropriate municipal agency to help guide the Township's progress.

Principal acquisition objectives involve preservation of scenic vistas and gateways, and acquisition of additional active recreation lands and passive open space areas, such as Greenway expansion along the North Branch and the Lamington River. "The Greenways of Bedminster", is a subplan element of the Recreation and Open Space Plan, which outlines the conceptual framework for the Greenway, and recommends implementation and funding approaches and public outreach.

Other preservation objectives reflected on the System Map include lands proposed for farmland preservation or other methods of natural resource conservation. The intent in these areas is to encourage the use of less than fee acquisition techniques, such as development rights purchases, conservation easements, deed restrictions and other appropriate covenants or agreements to maintain the special character of the Bedminster countryside.

PART 16 CIRCULATION PLAN

1601 INTRODUCTION

Bedminster's transportation goals and objectives for the Township are designed:

a. To establish transportation policies and programs that improve connections among housing, cultural, recreational, public services, employment and commercial uses, including pedestrian and bicycle paths.
b. To discourage further highway development or extension into agricultural or scenic areas.
c. To promote transit alternatives in new and existing development to reduce traffic congestion, including shared rides, taxis, car/van pools, dial-a-ride and flextime.
d. To program limited development in rural areas so that traffic will not exceed the capacity of the existing rural road network to provide safe, efficient and convenient traffic movements during peak traffic periods.
e. To encourage transportation funding for maintenance of existing system, rather than encouraging new systems in rural areas.
f. To manage road access in cooperation with State and County agencies.
g. To promote the development of a highway ramp system in Pluckemin to conserve the historic village and reduce congestion.
h. To recognize that roadways are public lands that deserve aesthetic design consideration as well as efficient movement of vehicles, and to carefully plan the gateway entrances to the Township because they represent a visitor's first impression of the Township.
i. To minimize the impacts of transportation systems on the environment, including air and noise pollution.
j. To identify road standards which merit special consideration for rural areas.
k. To regulate local airport land use so it does not induce growth in Bedminster's countryside.

The inventory contained in this report represents the analysis of existing conditions and facilities, which comprise the circulation network in the Township. This analysis addresses regional influences, roadway jurisdiction, existing road functions, street right-of-way widths, traffic accidents, road conditions, traffic counts, available rail services, airports, and the transportation plans of Somerset County, North Jersey Transportation Planning Authority and New Jersey Department of Transportation.

1602 REGIONAL INFLUENCES.

In 1995, Congress designated a nationwide total of more than 160,000 miles of roads as the National Highway System (NHS). Its purpose is to provide an interconnected network of principal travel routes that serve major population centers, international border crossings, ports, airports, public transportation and other intermodal facilities; meet national defense requirements; and serve

interstate and interregional travel. The NHS was created to provide for the continued maintenance and repair of those roads most important for both commercial and defense-related purposes. The system consists of the entire Interstate Highway System plus other urban and rural principal arterial roadways. Dedicated funding is provided for these roads of national significance. The principal arterial highways in Bedminster Township (I-78, I-287, Route 202 and Route 206) are part of this system.

These highways create a significant regional influence on the circulation system of the Township. Bedminster's eastern portion, in particular, has been notably impacted by the spread of suburban development, both residential and nonresidential, from the east and south. Crisscrossed by the two Interstate highways (I-78 and I-287) and two State highways (Routes 202 and 206), the Township's eastern sector accommodates approximately 205,000 daily trips on these four roadways.

Interstate 78 traverses approximately 4.9 miles of the Township, beginning at Milepost 26.7 in the west at the Somerset and Hunterdon County boundary and extending to Milepost 31.6 on the east where it enters Bridgewater Township. Interstate 78 is a limited access, east/west roadway consisting of three lanes and a wide shoulder in each direction, separated by a wide grass median. A full-movement, high-capacity interchange exists at its intersection with I-287 (MP 30.8), and a diamond-type interchange exists at its intersection with County Route 665 (Rattlesnake Bridge Road, MP 27.1). Interstate 78 crosses the Pennsylvania/New Jersey border at Phillipsburg and ends at the New Jersey Turnpike's eastern extension.

Interstate 287 traverses the Township for a distance of approximately 2.4 miles, beginning at Milepost 20.9 in the south at the municipal boundary with Bridgewater Township and extending to Milepost 23.3 at the municipal boundary with Far Hills Borough. Interstate 287 is a limited access roadway consisting of two or three lanes and a shoulder per direction with a grass median. A small portion of its length in Bedminster consists of an inner and outer roadway with two or three lanes per direction. As noted above, a full interchange is provided at the I-78 interchange, and a partial interchange exists at Route 202/206. Interstate 287 begins at the New Jersey Turnpike in Edison Township, runs on a northwesterly direction to Pluckemin, and then proceeds to the northeast into New York State where it intersects withI-87 (New York Thruway).

Routes 202 and 206 enter the Township as a combined roadway at Bedminster's southern boundary with Bridgewater Township and proceeds northerly for approximately 2.5 miles before the two highways diverge at Somerville Road. In the combined stretch the roadway varies between one and two lanes in each direction, with a concrete barrier in the two-lane section. Route 202 then proceeds approximately 0.7 miles before leaving the Township at the Far Hills boundary. Route 206 runs for a total of approximately 5 miles in the Township (MP 76.1 to 80.2, MP 82.3 to 83.1), with the northern segment separated by the Borough of Peapack-Gladstone.

Routes 202 and 206 are major roadways which traverse New Jersey in a generally south to north direction. Route 206 begins in Hammonton in Atlantic County and extends to the Pennsylvania border at Montague in northwestern New Jersey. Route 202 begins in Delaware, extends through Pennsylvania, enters New Jersey at Lambertville and extends in a generally northeasterly direction to Mahwah.

While there is no direct rail service to the Township, passenger service is provided on the Gladstone Branch of the Morris and Essex Lines, with stations in Peapack/Gladstone, Far Hills, Bernardsville and Basking Ridge. Frequent service is provided to Newark, with connecting service to mid-town Manhattan and via the Port Authority Trans Hudson (PATH) lines, to Hoboken. Commuter bus service within the Township is provided by Lakeland Bus Company to New York, while New Jersey Transit Wheels provides service between AT&T Long Lines, Bridgewater Commons Mall, major office parks, Pluckemin and Somerville with connection along Route 22 and Route 206 in Hillsborough. While no major airport exists in or adjoining the Township, access to Newark International Airport via Route 78 is excellent, and the Township is the home of a general aviation airport, George Walker Field.

1603 ROADWAY JURISDICTIONS

There are five levels of roadway jurisdiction in the Township, including Interstate, State, County, municipal and private.

The primary highway system consists of the Interstate and State highways. Roadway jurisdiction is depicted on the Jurisdiction of Roads map (Figure 30).

The secondary highway system, as defined by Somerset County, includes the entire County road network and a few municipal streets serving inter-municipal traffic; none of these municipal streets is in Bedminster. The County road system in the Township consists of both 500 series roads, which are inter-county roads, and 600 series roads, which are intra-county roads. The County roads in the Township include the following, by County Route number and local name:

1. Route 512 (Pottersville Road)
2. Route 523 (Lamington Road)
3. Route 620 (Burnt Mills/Washington Valley Road)
4. Route 665 (Rattlesnake Bridge Road)

The Somerset County Circulation Update (2001) categorizes some of these roadways as minor arterials (Washington Valley Road and Burnt Mills Road to Crossroads Center, Lamington Road (Route 523) between Routes 206 and 202 (Main Street) to Tewksbury Twp; Rattlesnake Bridge Road (Route 665) between Lamington Road to Branchburg). The Subdivision Review Resolution adopted by the County Planning Board identifies a standard roadway detail with a 60 foot to 80-foot right-of-way (ROW) "in accordance with the Master Plan." Proposed rights-of-way for County roads in the Township as identified in the County Circulation Update are discussed in a later section on the County Plan.

The remaining roadways in the Township are under municipal jurisdiction or are privately owned and maintained. A large number of these roadways or portions thereof are unimproved, either totally unpaved or improved with only tar and stone. Private roads within the Township include Knox Avenue, Thosmor Road, Hills Drive and most internal roads at The Hills, Willow Avenue, Victory Road, Preston Terrace, Somerset Terrace, Old Farm Road, Old Farm Lane and White Oaks Lane.

1604 EXISTING ROAD FUNCTIONS

In addition to classification by roadway jurisdiction, another way in which roadways commonly are classified is by function (See Figure 31). As indicated in the 1989 New Jersey Transportation Plan, Volume 1 (N.J. Department of Transportation), "The functional classification system is used to indicate the degree to which a facility provides mobility or land access or a combination of the two. Those roads, which are designed to provide the greatest degree of mobility and uninterrupted flow, are the Interstate and other principal arterials. Those roads designed to provide access to individual land uses are local roads and streets. In-between the two are minor arterials and major and minor collectors. Collector roads generally provide medium speed movements of vehicles from the local road system to the arterial system and for short distance movements through and between small communities."

Although there is not a direct relationship between the jurisdictional ownership and functional classification of a highway, generally the higher functional systems fall under State jurisdiction and the lower functional systems fall under local ownership. However, this generality is complicated by the fact that each level of government tends to view the function of a road from its own unique perspective. Thus, the comparability of functional road classification systems is compromised.

To illustrate this point, Table 47 compares the functional classification systems developed by the Township in its 1993 Master Plan update, the County in its 2001 Circulation Plan Update, and the State in Transportation Choices 2025. Examples of the roadways, which fall into each category, are provided. The County's Circulation update provides a description of the major highways (Interstates, State highways, County roads).

The Township is required to consider the functional classification system in its transportation planning, as the Municipal Land Use Law indicates that a Circulation Plan Element must take into account the functional highway classification system of the Federal Highway Administration.

TABLE 47 COMPARISON OF FUNCTIONAL CLASSIFICATION BY ROADWAY AND LEVEL OF GOVERNMENT

Roadway	Level of Government		
	Bedminster 1	Somerset County2	New Jersey3
Routes 78 and 287	Not designated	Not designated	Principal Arterials
Routes 202 and 206	Major Arterial	Not designated	Minor Arterials
Route 620 (portion)	Minor Arterial	Minor Arterial	4
Route 523 (206 to Hillside)	Major Collector	Minor Arterial	4
Route 665 (Portion)	Not designated	Minor Arterial	4
Route 512	Not designated	Major Collector	4
Hills Drive	Major arterial & Minor Collector	Not designated	4
Local	Others	Not designated	4

1. From Township of Bedminster 1993 Master Plan update adopted July 1, 1993
2. From Somerset County Circulation Update, Somerset County Planning Board
3. From, Transportation Choices 2025, NJDOT (2001)
4. In the NJDOT System County and municipal roads can be principal arterials, collector streets and local streets

1605 STREET RIGHT-OF-WAY WIDTHS

The right-of-way (ROW) widths of streets in the Township are reflective of the time period when they were established and, to some degree, the purpose they serve. The larger ROW widths of the Interstate and State highways reflect their position in the hierarchy of streets, while the smaller rights-of-way (33 feet) are on streets in the Township's largely rural sections. More recent subdivisions have the 50-foot ROW typical of the subdivision standard for local streets consistent with the Residential Site Improvement Standards for rural residential streets. The largest divergence from standard or proposed rights-of-way is on County roads, which are typically narrower than the current standards.

Table 48 summarizes the ROW widths for all public streets in the Township. Within a category the numbers in parentheses following some roads identify the widest portion of the road, although the road generally has the categorical ROW.

TABLE 48 RIGHT-OF-WAY WIDTHS

250'-550'	Interstate 78, Interstate 287
80'	Route 206 north of split from Route 202
66'	Black River Road, Hacklebarney Road, Rattlesnake Bridge Road (Route 665) (73',Route 202 (Ma Route 202/206 from Bridgewater boundary to I-287
60'	Wildewood Avenue
50'	Bedminster Terrace, Berkshire Court, Country Club Road (41.5'), Deer Haven Road, Frontage Ro Lamington Road (Route 523), Laomatong Way, Laura Lane, Mathews Drive, Oakura Lane (45'), Stonehouse Drive, Ski Hill Drive, Southfield Drive, Fairview Drive?
49.5'	Holland Road (54.75')
45' 45’	Autumn Ridge Road, Drummers Lane, Gatehouse Road, Kestrel Lane, Smoke Rise Road
33'	Airport Road, Bunn Road (50'), Burnt Mills Road (50'), Cedar Ridge Road (46.5'), Cowperthwaite Road (60'), Daly Road (50'), Hillside Avenue, Klines Mill Road, Larger Cross Road, Lisk Hill Road, Long Lane, Meadow Road, Mount Prospect Road, Milnor Road, Old Dutch Road, Pottersville Road (58'), River Road, Riverwood Avenue (50'), Schley Mountain Road (50'), Spook Hollow Road, Tuttle Avenue (50'), Union Grove Road, Washington Valley Road (50' and 66')
30'	Elm Street (50')

1606 TRAFFIC ACCIDENTS

The Bureau of Accident Records in the NJDOT compiles an annual list of the ten highest motor vehicle accident locations, including data on the total number of accidents, fatal accidents, and accidents involving personal injury. There is a three-year lag period in DOT's accident reporting, meaning the most current data cover the years 1998 to 2000. These data are presented in Table 49 and mapped on Figure 32. Figure 33 depicts the overall number of accidents for State and Interstate Highways in Bedminster Township for the same 3-year period.

TABLE 49 HIGHEST ACCIDENT LOCATIONS 1998 to 2000

Roadway	Location	Accident Information			
		1998	1999	2000	TOTAL
Interstate 78	Mile markers 30-31.6	42	49	41	132
Route 202	Mile marker 30-31.5	31	32	54	117
Interstate 287	Mile marker 21–22.8	19	25	31	75
Interstate 287	Mile marker 20.9-23.2	10	28	27	65
Interstate 78	Mile marker 26.7-31.6	7	18	16	41
Route 206	Mile marker 78.9-79	7	7	13	27
Route 202	Mile marker 32	6	3	6	15

There are several discernible trends and occurrences that bear noting. Overall, except for the highest accident location the number of accidents occurring at the highest accident locations has increased annually, as has the number of accidents involving personal injury and the number of persons injured.

An indicator of problem locations is the number of years that a location continues to appear on the list of the highest accident locations. For example, Route 202 at the River Road jughandle, and Route 78 at the merger with Route 287 have been problem areas. The River Road jughandle, which has been a confusing array of converging movements, was improved with the reconstruction of the ramp. The I-78/I-287 intersection is a high-speed, high-volume merge. In addition, three other locations, which are high accident locations, are Route 287 at its intersection with Route 78, Routes 202 and 206 split and Route 287 at its intersection with Routes 202 and 206. Routes 202/206 appear on the list for each direction.

1607 ROAD CONDITIONS

One of the distinguishing characteristics of the countryside in Bedminster is the relative absence of paved roads or, stated affirmatively, the prevalence of unimproved (either totally unpaved or surface treated with gravel) roads. In fact, between I-78 on the south and Pottersville Road on the north, and between the Township's western boundary and Route 206 on the east, an area covering 5 miles north to south and approximately 17 square miles, there is one east-west paved road connection (Lamington Road), and one north-south paved road connection (Black River/Rattlesnake Bridge Road). Within this area, only the eastern portion of River Road (east of Cedar Ridge Road) is paved. This situation provides support for what has generally been the Township's policy for road improvements in its rural environs, which is to improve roads only to the degree necessary to provide safe and convenient access to the existing and planned residential development in the area.

Field surveys were conducted during April 2002 to verify the extent to which roads in the Township were unpaved. Since the preparation of the base map for the 2002 Master Plan, the

unpaved condition of most roadways in central and western Bedminster has remained unchanged. Unpaved roads in the Township are shown on the Unpaved Roads map (Figure 34) at the end of this report.

The semi-corrugated condition of many portions of the unpaved roads poses a substantial deterrent to higher speed traffic, as it makes driving uncomfortable and limits steering ability. While this condition may discourage cut-through movements on many unpaved roads, it also results in potential traffic safety hazards, if drivers lose control of steering functions at higher speeds.

The list of unpaved roads in the Township includes the following:

1. Bunn Road (portion)
2. Cedar Ridge Road
3. Cowperthwaite Road (portion)
4. Fowler Road (portion)
5. Holland Road
6. Klines Mill Road (portion)
7. Larger Cross Road
8. Long Lane
9. Preston Terrace
10. River Road from Cowperthwaite to Cedar Ridge
11. Somerset Terrace
12. Victory Road
13. Spook Hollow Road
14. Old Dutch Road west of Old Farm Road
15. Old Farm Road
16. Thosmor Road

1608 TRAFFIC COUNTS

The Bureau of Transportation Data Development in the NJDOT maintains records of average annual daily traffic (AADT) counts on roads throughout the State. Table 50 indicates, Traffic Counts on Roads in Bedminster Township, with their locations depicted on Figure 35. While termed average annual daily traffic, these data usually represent the count from a single day in the identified year.

Interstate 78 and 287 are the only roadways for which a relatively complete record exists. The primary utility of these data generally relates to comparison of the relative traffic volumes.

TABLE 50 TRAFFIC COUNTS ON ROADS IN BEDMINSTER TOWNSHIP 1991-2001

Route/Street	Milepost	Location of Average Annual Daily Traffic Count	Year Average Annual Daily Traffic	Year Average Annual Daily Traffic
I-287	21.70	Burnt Mills & 202	1991 78,260	1994 75,450
I-78	26.90	About .2 of Rt.523 Spur	1991 59,410	1998 40,926
I-78	27.50	Rt. 523 Spur & I-287 Interchange	1991 50,450	1996 31,740
202	29.80	Rt. 620 & Hills Dr.	1997 22,005	2001 20,627
202	31.25	River Rd. & 206 split	1996 21,490	1999 32,471
206	78.80	Rt. 202 split & Rt.523	1998 25,965	2001 22,327
Co. Rt. 620 Burnt Mill Rd.	.49	Milnor Rd & Rt. 523 Spur Rattlesnake	1991 2,450	2001 3,202
Co. Rt. 523 Lamington Rd.	26.45	Larger Cross & Cowperthwaite	1998 5,633	2001 4,323
Co. Rt. 512 Pottersville Rd.	9.10	Black River & Larger Cross	1992 2,890	2001 3,414
Black River Rd.	.00	Long Lane & Pottersville	1997 4,432	2000 1,266
River Rd.	.00	Cowperthwaite & Larger Cross	1993 170	1999 200

1609 GEORGE WALKER FIELD

General

Somerset Airport was renamed George Walker Field after its founder in May 2001. It is located in south-central Bedminster, between Airport Road, Burnt Mills Road and the North Branch. The Somerset County Circulation Update prepared in August 2001 provides a summary of existing facilities.

George Walker Field began operations in 1946 with a turf runway and one open bay hangar. Currently, three runways serve this facility, including one paved and two unpaved runways. Runway 12/30 has had an improved surface since 1952, and the current conditions resulted from several phases of pavement improvements between 1974 and 1995.

Access to the airport is provided by Airport Road, which extends from Burnt Mills Road in Bedminster to Love Road in Bridgewater, which connects with Meadow Road.

George Walker Field is a general service airport and its service area includes Somerset, Hunterdon, Middlesex, Morris and Union counties. It is privately owned and is principally used for sport/recreation, training/instruction and business.

The airport owner has requested to update his airport layout plan. The scope of work is waiting funding to update the airport master plan. The existing George Walker Field Master Plan outlines recommended facilities development between 1986 and 2006.

State Airport System Plan

In the year 2000 the Division of Aeronautics selected a team comprising Wilbur Smith Associates (WSA), Clough Harbour & Associates, DY Consultants, and Reichman Frankle Inc. to analyze the current system of public-use airports.

The State Airport Systems Plan (SASP) is a multi-year project that is comprised of two phases. Major elements of the first phase of the SASP include the following:

- Collecting data (compilation of existing data sources)
- Conducting public participation activities.
- Regional informational meetings
- Newsletter
- Strategic Advisory Committee (SAC)
- Web page
- Coordination with ongoing state transportation plan(s)
- Forecasting statewide aviation activity
- General aviation trends
- Aggregate activity indicators (registered aircraft, based aircraft, operations)
    - Identifying the functional role of each airport within the system
    - Measuring the performance of each airport relative to its functional role
    - Preparing an overview of the adequacy of the state airport system

The goal of Phase I of the SASP, conducted in the spring of 2001, was to examine the existing airport system and identify adequacies and deficiencies in the system by evaluating measurable performance standards. The first phase of analysis will culminate in a "report card" on New Jersey's aviation system. Areas of the State that are underserved will be identified; in addition, regions that have several airports providing a duplication of services will also be identified.

In November 2001 a Recommended Plan was released. The Plan defined the State aviation system, and stratified a system of airports around the State. This stratification was based on four factors.

- Volume of aviation activity and type of aviation demand served,
- Perceived flexibility of the airport to be expanded in future years,
- Proximity of the airport to major population and business centers and
- Historic investment made in the airport’s infrastructure.

Utilizing these criteria of evaluation the system was broken into four categories.

1. Scheduled service
2. Advanced service
3. General service
4. Basic service

Phase II of the SASP will identify and recommend specific projects to help individual airports adequately realize their functional role within New Jersey's airport system.

Other specialty studies will be conducted in conjunction with Phase II of the SASP. These specialty studies will include the following:

- System wide economic impact study
- Evaluation of runway safety areas at 34 airports
- Land use compatibility guidelines
- Airport Directory

These studies were to be completed in 2002.

The former SASP predicted that airline operations within the system would nearly double from 357,926 to 704,680 in 2010. General aviation operations were expected to grow by 16% during the planning period. While the State Aviation System was expected to have excess system-wide capacity for projected operations through 2010, deficits were predicted in parts of the system, based on local and regional needs. The new Recommended Plan continues to maintain this conclusion.

Again, the SASP identifies the primary role of George Walker Field as a general aviation service airport, designed to serve small general aviation aircraft for business or pleasure.

George Walker Field is not recognized as a "Priority" General Service airport. These are facilities that cannot meet the objectives of Advanced Service airports, but they are important and need to be protected and developed to the maximum extent feasible. Within the Bedminster region Solberg-Hunterdon fulfills role of an Advanced Service Airport.

The SASP identifying the Solberg-Hunterdon Airport as the general aviation airport that should be improved within the region supports the long-standing intent of the Township's Land Use Plan to prevent a significant expansion of the airport. This is consistent with the goals and objectives of the Master Plan including protection of the rural residential character of the R-10 District. The potential environmental and land use impacts of an expanded George Walker Field would conflict with the goals of the Land Use Plan.

1610 TRANSPORTATION PLAN OF SOMERSET COUNTY

The 1994 Somerset County Circulation Element significantly modified the 1987 Somerset

County Circulation Element, in response to a number of changes in the transportation-planning environment. At the federal level the Clean Air Act amendments and the Intermodal Surface Transportation Efficiency Act promoted alternative transportation systems (pedestrian systems and bicycling). At the same time the State Development and Redevelopment Plan was adopted emphasizing the preservation and maintenance of existing transportation systems.

The 2001 update of the County Circulation Plan reviews County transportation planning efforts since 1994. It includes - background data on the circulation system in the County and factors that influence transportation (employment and residential growth). In addition, it provides a listing of other planning studies and plans undertaken by the County since 1994, which included:

1. Somerset County Municipal Circulation Element Review Study – The purpose of this effort was to review the circulation elements of the County's 21 municipalities. It identified deficiencies in many elements such as a lack of addressing bicycling, transit and inter-municipal issues.
2. Somerset County Traffic Calming Study – The purpose of this effort was to demonstrate how traffic calming (physical design of roadways) can control vehicular speed, the dominance of cars, reduce the volume of through traffic and overall driving behavior.
3. Somerset County Sidewalk Inventory and Pedestrian Plan – This study included a complete inventory of sidewalk location and conditions along county roads. It mapped pedestrian generators and it made recommendations for improvements.
4. Somerset County Goods Movement Study – This effort was an attempt to understand the role that goods movement plays in the County's economy. It involved a survey of numerous County businesses and how they move and receive product.
5. Somerset County Route 22 Transit Enhancement Plan Study – This was a plan for a 12-mile section of Route 22 extending from Green Brook to Watchung.
6. Somerset County Transportation Public and Private Partnership Handbook – The handbook was developed to encourage a better understanding of the complex issues affecting partnerships in transportation and foster appropriate action to meet the County's growing transportation needs.
7. Regional Center Route 22 Sustainable Corridor Plan Access and Mobility – In conjunction with the Regional Center Partnership the County undertook a study to determine the feasibility of transforming Route 22 into a suburban boulevard.
8. Brownfield Redevelopment Technical Study: Improving Access and Mobility Opportunities for Redevelopment and Community Revitalization – This study was to determine the transportation needs of a pilot Brownfields site. It involved an assessment, improvement recommendations and financing options.
9. Somerset County Annual Six Year Capital Programming Handbook – This document was developed to help prioritize the County's transportation

needs. The County established a process to program transportation improvement needs (roads and bridges.)

As part of the background data, the County Update identified the classification of roadways, which did include several County roads in the Township. Four of the County highways in Bedminster proposed rights-of-way have been recommended for reduction. These rights-of-way are as follows:

1. Route 512 – 60' (Formerly 66')
2. Route 523 - 66' (Formerly 72')
3. Route 620 – 66-60'(Formerly 72' – 66')
4. Route 665 - 66' (Formerly 72')

The County Circulation Element includes an exhibit titled Somerset County Comprehensive Circulation System. The Comprehensive Circulation System provides the following designations for Interstates, State highways, and County roads in the Township:

1. Freeways (Existing):
   - Interstate 78
   - Interstate 287
2. State Highway (Existing):
   - Route 202
   - Route 206
   - Route 202/206
3. Major Arterial Roads:
   - County Route 523 (Lamington Road)
   - County Route 620 (Washington Valley Roads)
   - County Route 665 (Rattlesnake Bridge Road)

The 2001 Circulation Update also includes sections on capital improvements, transportation corridor districts, ridesharing, paratransit services, bus transportation, rail transit, bike/walkways, air transportation and pedestrian movement.

1611 SOMERSET COUNTY SCENIC CORRIDOR AND ROADWAY STUDY

The Somerset County Planning Board has prepared a study of Scenic Corridors and Roadways (July 1992), which reviewed a wide range of literature and existing regulatory models in developing a rating system for scenic corridors, and roadways. According to the County, scenic corridors have an area of influence, which extends beyond those lands that border the roadway, to include the entire landscape, while scenic roadways focus on the visual foreground at the edge of the roadway.

The County study suggests that while the State Development and Redevelopment Plan espouses worthy objectives relative to scenic corridors, "... the State Plan has not provided practical guidance on how to implement these policies." The County Planning Board suggests that "... use of an objective rating system can not only aid in this endeavor, but also lend credibility and support to

a scenic roads program and thereby shield the municipality from court challenges."

The County study cites the fact that three municipalities, Bedminster, Franklin and Montgomery have already designated scenic corridors within their jurisdiction. However, the study notes that none of these efforts involved the "objective review and evaluation criteria" employed by Somerset County.

The County developed designation criteria to allow an objective evaluation of candidate roadways. A rating system was developed to establish the relative scenic merits of various roadways, and all appropriate County road segments were analyzed. These designation criteria included positive features (vegetation, landscape composition, road characteristics and structures or historic districts); and negative features (landscape "scars" such as quarry sites or utility lines, structures such as junkyards, car lots or storage tanks and "other features such as high traffic volumes, litter, and landscape manipulation).

Based on this ratings system, several roads in Bedminster were designated as scenic corridors or roadways, including:

	Ranking
Pottersville Road (Corridor)	20-24.99
Lamington Road (Corridor)	30+
Rattlesnake Bridge Road (Corridor)	25-29.99
Burnt Mills Road (Roadway)	20-24.99
Peapack Road (Roadway)	20-24.99
Cowperthwaite Road (Corridor)	25-29.99

The highest ranking in the County (42.5) was given to Route 606 in Branchburg Township. In Bedminster, Lamington Road received the highest County ranking. The County established a minimum length of one mile for any roadway designated as scenic.

Bedminster Township's 1991 Land Use and Conservation plans included an analysis and designation of scenic corridors within the Township. Most roadways identified by Somerset County as either scenic corridors or scenic roadways were included within the Township's designation of scenic corridors, with the exception of Burnt Mills and Peapack Roads. Additionally, the Township also identified as scenic corridors major stream segments, including the Lamington River and the North Branch, as well as a series of paved and unpaved roads, including Larger Cross Roads, Long Lane, Black River Road, Fowler Road, Old Farm Road, Old Dutch Road east of Route 206, Routes 202/206 between the North Branch and Somerville Road, River Road, Klines Mill Road, and Bunn Road.

The County study suggests the use of an objective rating system to enhance the opportunities to protect scenic corridors. Bedminster should evaluate the potential benefits of such an approach, both to bolster the credibility of the local scenic resource management program and to prioritize roadways based on the scenic resource values.

The County also suggests that municipalities utilize the master plan, zoning ordinance and site plan and subdivision standards to enhance scenic resource protection. Master plans should coordinate circulation, conservation and historic preservation plan policies with scenic resource protection goals. Zoning ordinances can provide "scenic zones" based upon the boundaries of the "view shed" observed from a scenic corridor or roadway. Standards for such zones would provide for development that minimizes visual intrusion on the landscape.

Site plan and subdivision standards may have the greatest role in protecting scenic qualities since they can control the siting of buildings, lots and roads. Creative and flexible development options are recommended, and while these may include clustering of development, the generally rural areas traversed by thee roadways may not always be suitable for clustering. A comparison of conventional vs. creative development techniques is outlined in the County report.

Additionally, specific road design and maintenance standards are recommended by the County including standards for cartways, bridges and culverts, curbing and drainage, guide rails, vehicle limits, intersection treatments, landscaping, lighting and signage. The County also cites mitigation strategies, including landscape management plans and lighting and signage controls.

Bedminster's scenic resource protection program will be expanded during 2002, when the Planning Board prepares a scenic resource characterization and design guideline for the Township's Scenic Plan element to address these issues.

1612 TRANSPORTATION CHOICES 2025

The NJDOT has a statutory requirement to prepare a new State Transportation Plan every five years. The most recent of these is the Transportation Choices 2025.

Transportation Choices 2025 is both a process and a plan. It uses dynamic and interactive tools, including a web site, to involve the public in updating New Jersey's last long-range transportation plan, which was produced in July 1995 (Transportation Choices 2025). The updated plan sets forth transportation policies, strategies, and programs to guide New Jersey's transportation agencies for the next twenty-five years. The New Jersey Department of Transportation and NJ Transit, working closely with other state transportation organizations, regional agencies, and the public, developed the plan.

Transportation Choices 2025 is designed to:

- Update the state's vision, goals and objectives for its transportation system,
- Highlight current areas of concern,
- Anticipate future problems,
- Develop strategies to address both current and future problems and
- Provide New Jerseyans with the best transportation system possible.

In addressing municipal governments the Plan sets the following goals for 2010

1. Building 2,000 miles of bicycle paths
2. Empowering counties so they can coordinate and expand community-based transit services

3. Working with communities to create "transit villages" around rail stations that will maximize existing transportation services

The Township's efforts to establish bicycle routes coincide with the goal of Transportation Choices 2025 for municipalities. Somerset County already has done work on identifying bicycle compatible roadways in terms of the County, state and federal highway system. The Township should continue to develop a comprehensive bicycle route system within the Township and coordinate it with efforts of the County, NJTPA and the State.

1613 NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

The North Jersey Transportation Planning Authority (NJTPA) is the Metropolitan Planning Organization (MPO) for the 13-county northern New Jersey region. Each year, the NJTPA oversees over $1 billion in transportation investments. It evaluates and approves proposed transportation improvement projects and provides a forum for interagency cooperation and public input into funding decisions. It also sponsors and conducts studies, assists county planning agencies and monitors compliance with national air quality goals. Serving 6 million people, the NJTPA is the fourth largest MPO in the nation.

The NJTPA is the regional forum and technical resource for the people of northern New Jersey that

1. Creates a vision to meet the mobility needs of northern New Jersey through its Regional Transportation Plan,
2. Develops a plan for transportation improvement and management to fulfill the vision through the Region's Transportation Improvement Plan,
3. Prioritizes federal funding assistance to make that plan a reality, and
4. Links transportation plans with economic growth, environmental protection, growth management, and quality of life goals for the region.

The Regional Transportation Plan establishes corridors. Bedminster is within the Corridor 11, which corresponds to Route 206 extending from south to north between Montgomery Township and Newton in Sussex County. Within the Township, it identifies operational issues along Route 206, the interchange and congestion issue between I-78 and I-287 at US 202/206 due to the lack of ramp interconnections, which has been programmed on the Transportation Improvement Plan.

In addition, the corridor plan identifies bridge deficiencies. The River Road Bridge on over the Lamington River has a 10% structural deficiency rating. A low rating impacts the weight limits for the structure.

1614 PEDESTRIAN CIRCULATION CONSIDERATIONS

The previous Circulation Plan Element places a high priority on improved pedestrian circulation. Since there is frequently disagreement about the location and extent of sidewalks that should be provided, the Planning Board explored pedestrian circulation policy issues, including

safety and convenience.

Ongoing national debate over methods to reduce costs of housing construction has focused on all types of required improvements, including sidewalks. Where sidewalks were once considered an automatic requirement in new residential developments, the costs of construction and the impervious coverage impacts have been cited as reasons to minimize sidewalk construction.

The "Guide for Residential Design Review" (Moskowitz & Lindbloom, 1976) notes, "Apart from the need for sidewalks for circulation and safety, sidewalks can be an important element in the recreational system of a community. They serve as walking and biking trails for all age groups ... and are also the primary informal and unsupervised recreational system for preschoolers ... (and) should be required as part of any large scale residential development." Others have gone even further, stating, "Sidewalks are a more important recreational facility than playgrounds."[7] Finally, the State Development and Redevelopment Plan echoes this message by stating "New Jersey's communities are healthy, active communities where adults and children are living active, healthy lives because exercise and walking are a vital part of their daily lives. Communities are designed to promote walking and cycling for transportation and recreation".

It is generally accepted that sidewalks should be provided along streets used for access to schools, parks, shopping and transit stops (Model Subdivision and Site Plan Ordinance, NJDCA, 1987).

The model ordinance also notes that "... sidewalk requirements should be based on the street classification system and on density of development as measured in terms of lot size, lot frontage or number of housing units per acre."

Street classification is particularly important to safety since traffic volumes and speeds increase as roads assume higher traffic circulation functions. Density affects the extent of pedestrian movements to be generated, and in higher density developments sidewalks are important for both convenience and safety. The absence of sidewalks along Hills Drive is a good case in point, since frequent pedestrian movements in the paved cartway of the street conflict with traffic movements and creates potential safety hazards.

Additional factors cited in the model ordinance in determining sidewalk locations are major pedestrian generators, the existing sidewalk system and probable future development. The model ordinance also provides the following guidelines for sidewalk placement. "Requirements for sidewalks vary depending on road classification and intensity of development.

In conventional developments, sidewalks should be placed in the right-of-way, parallel to the street, unless an exception has been permitted to preserve topographical or natural features, or to provide visual interest, or unless the applicant shows that an alternative pedestrian system provides safe and convenient circulation. In commercial and in high-density residential areas, sidewalks may abut the curb.

[7] Site Planning, Lynch & Hack, 1984

In planned developments, sidewalks may be located away from the road system to link dwelling units with other dwelling units, the street, and on-site activity centers such as parking areas and recreational areas. They may also be required parallel to the street for safety and other reasons.

In general, sidewalk width should be four feet; wider widths may be necessary near pedestrian generators and employment centers. In parking areas, widths should be five feet where necessary to allow for overhang of vehicles.

Where a sidewalk is recommended for one side of the street only, an equivalent graded area should be provided on the opposite side of the street so that setbacks will be uniform and the right-of-way will contain the same amount of space on both sides of the cartway.

Sidewalks should be four inches thick and six inches at driveway crossings. At vehicular crossings, sidewalks should be reinforced with welded wire fabric mesh or an equivalent.

If the sidewalk is constructed of concrete, concrete should be Class C, 4,500 p.s.i. Other paving materials include gravel, crushed stone, brick, etc.

Since the last master plan update the Residential Site Improvement Standards Act (N.J.S.A. 40:55D-40.1 et seq.) was adopted by the Legislature and signed into law. The act was largely based on the work found in the Model Subdivision and Site Plan Ordinance, NJDCA, 1987. The act authorized the establishment within the Department of Community Affairs a Committee charged with the responsibility of developing uniform standards that would adhered to by municipalities in approving residential site improvements. These standards have been approved by the Commissioner of Community Affairs and been adopted in the New Jersey Administrative Code (N.J.A.C. 5:21-1-8).

The code covers a number of features such as water supply, sanitary sewers, stormwater management and streets and parking. The standards also address sidewalks. According to N.J.A.C 5:21-4.5, sidewalks and/or graded areas shall be required, depending on road classification and intensity of development. Sidewalks are required either on one side or both in the case of residential access roads, neighborhood, minor collectors and major collectors. Graded areas are required on rural streets or lanes as well as in the case of low intensity minor collectors and residential access roads. Exceptions from these rules are available only to municipalities that receive a waiver.

The rules provide certain reasons for exceptions, and in the case of the Township, one reason relates to designated centers (Bedminster Village and the Village of Pluckemin). Another is the area that is underlain by solution-prone carbonate rocks (Limestone, dolomite and marble, and the Township is one of three identified communities in Somerset County. Other reasons for waivers are lands in Agricultural Development Areas and land in designated historic districts.

The provision of a safe and efficient pedestrian circulation system in Bedminster requires careful planning. While over 3/4 of the Township residents are housed in and adjacent to the two villages of Pluckemin and Bedminster, there is currently no pedestrian linkage between these settlement areas. The Township's major public recreation lands, which are located between Bedminster and Pluckemin, also pose challenges for safe and convenient pedestrian access. The

Circulation Plan examines existing pedestrian access improvements and proposes a multi-phase program to improve pedestrian connections.

1615 EXISTING SIDEWALKSAND BIKE-HIKE TRAIL

Field surveys first conducted during August and September of 1992 have been updated to determine the extent of existing sidewalks and other public pedestrian thoroughfares within the Township. These are illustrated on the Bike-Hike Trail and Sidewalk System Map (Figure 4).

In general, improved sidewalks are found in and around the Village areas of Pluckemin and Bedminster. Other pedestrian ways include the Bike-Hike Trail, which incorporates the "Albert B. Winkler - Jacob Snyder Nature Trail". The existing portion of the Bike-Hike Trail extends from Main Street in Bedminster Village to the Bedminster Elementary School, and continues to the Miller Lane Recreation Area, The Pond and ultimately with River Road Park, via a new ADA-compliant pedestrian/bike overpass. Hacklebarney State Park is the site of a hunting area along Bedminster's northern boundary, and an informal trail system originates at the gravel parking area located on Hacklebarney Road. Other informal trails are also located on the River Road Green Acres tract, including fishing accessible to the North Branch shoreline.

The most extensive sidewalk network in the Township is found in Pluckemin. Concrete sidewalks here extend from Mount Prospect Road (at Stone Edge Road), along the north side of Washington Valley Road to Routes 202/206, and along the south side of Burnt Mills Road. Sidewalks also parallel both sides of Routes 202/206 from just south of the Pluckemin Inn and "The Village Shops" to the Burnt Mills/Washington Valley Road intersection. Additionally, a continuous sidewalk flanks the east side of Routes 202/206, between Route 78 and Washington Valley Road.

In Bedminster Village, a continuous concrete sidewalk extends from Far Hills to Hillside Avenue along both sides of Route 202, and short sidewalk segments flank the north side of Lamington Road, near its intersections with Hillside Avenue and Route 206.

The Hills

Sidewalks at The Hills generally connect dwelling units with off-street parking areas, and some provide interconnections to on-site recreation facilities. However, notably lacking from the pedestrian circulation system at The Hills is a continuous walkway network. No such network exists either along Hills Drive or as a continuous overall connection among the various neighborhoods.

Robertson Drive has sidewalks throughout most of its length, although they end in the vicinity of the large retention basin before reaching Schley Mountain Road. Sidewalks along Robertson are located on both sides of the road throughout this length and connect with sidewalk segments along Wynwood Drive, as well as a connection into Wood Duck Pond via Artillery Park Road. The Artillery Park Road sidewalk extends for approximately 500' along the area of existing development. The sidewalks along Robertson Road are also connected to sidewalks along Bradford Road. Bradford Road extends into Long Meadow, and a small sidewalk section is found on Long Meadow Road near a small open space area adjacent to Bradford Road. There are no sidewalks along Schley Mountain Road or Hills Drive except in the vicinity of the Village shops on Hills

Drive.

A painted bike lane extends along Hills Drive from Washington Valley Road to just west of Robertson Drive.

Linkage Considerations

Sidewalks and other pedestrian connections can provide important linkages between and among population centers and activity areas. In Bedminster, the demand for improved pedestrian access is primarily oriented toward the easterly highway corridor area, where most of Township residents reside.

The rapid development at The Hills during the 1980's resulted in a major increase in population. Geographically, this growth was concentrated around the historic Village of Pluckemin. The location of roughly 80% of the Township's population in Bedminster Village and Pluckemin, an area of roughly three square miles, emphasizes the need to provide improved pedestrian circulation within and between the villages.

The area between Pluckemin and Bedminster poses a unique challenge in this regard. The major Township-owned open space preserves and the North Branch stream corridor bisect the State highways here, and these areas attract pedestrian movements. The need for improved pedestrian access to the Township's major public recreation and open space lands (River Road Park, "The Pond," Miller Lane) prompted the Township to devise a “bike and hike trail” to connect Bedminster Village to Robertson Drive in the Hills, and westward to River Road Park. This improved pedestrian linkage between the villages has been designed to navigate around the substantial impediments of the North Branch and dualized State highways throughout most of this area, and access movements to and from I-287, which complicate traffic flow. AT&T is a major local traffic generator, and the location of the AT&T ingress and egress driveways results in a seven-lane configuration of Routes 202/206 north of River Road.

I-287 also separates the villages, and the combination of the State and Interstate highways functionally separates the villages from one another and from the River Road parklands. The bike and hike trail will link the villages and parklands with a safe and efficient pedestrian/bicycle connection through a multi phased implementation plan.

The relocation of the Bedminster Elementary School altered the established walk-to-school route, and required school children to walk along Somerville Road in an area where no sidewalks existed. The irregular signalization at Route 202 and Hillside Road, which previously constituted a pedestrian safety hazard, has been corrected, and sidewalks were extended along the frontage of Somerville Road to the school.

The greatest pedestrian generator in the Township is The Hills development. However, the automobile-based design of this project and lack of sidewalks along Hills Drive and between most neighborhoods inhibit pedestrian movements and reinforces reliance on the automobile.

Bedminster Township is ill equipped to improve these conditions, given the private road status of most roads and association ownership and management of lands at The Hills. However, the Township should recognize the internal circulation needs at The Hills and promote policies designed to enhance future pedestrian circulation.

Bicycling ranked highly as a favored recreation activity of Township residents who responded to a survey conducted by the Recreation Committee in the summer of 2000. Jogging and hiking were also desired activities, and together with biking, these sport and recreational activities impose varying demands on a comprehensive system of walkways and bikeways for Bedminster.

Planning for future pedestrian circulation improvements must also respond to the requirements of the American with Disabilities Act, which seeks to remove or prevent impediments to free access by persons with disabilities. The bike and hike trail provides an accessible route of pedestrian and bike travel that will offer a valuable connection between Bedminster and Pluckemin villages. It will dramatically improve convenience and safety, and promote non-vehicular travel.

PART 17 COMMUNITY FACILITIES

Inventory

1701 LIBRARY

The Clarence Dillon Public Library, located on Lamington Road west of Route 206, is a free public library, which jointly serves Bedminster Township and Far Hills Borough. Prior to 1982 the library was an association library of Somerset County and was managed by the Crossroads Public Library Association. In 1982, the Clarence Dillon Public Library withdrew from the Somerset County Library system, based upon a voter-approved public referendum, which established the "Joint Free Public Library of Bedminster and Far Hills," effective January 1982. The newly established municipal library would be governed by a ten member Board of Trustees, consisting of the Mayor of Bedminster and the Mayor of Far Hills or their appointed Alternate, the Superintendent of Bedminster Township School and the Superintendent of the Somerset Hills Regional School District (representing the Far Hills student population) or their designated Alternates, and three citizen representatives from Bedminster Township and the Borough of Far Hills, appointed by their respective governing Mayors.

The library is located on a 2.03-acre parcel and occupies 15,200 square feet. The current book stock includes approximately 80,000 volumes. There are currently four full-time professional librarians, two full-time paraprofessionals, and ten part-time staff. In addition, the library operates an active volunteer service program, with approximately twenty volunteers.

Under the terms of N.J.S.A. 40.54-29.4, the governing bodies of each municipality shall "provide for the apportionment of annual and special appropriations therefore among such municipalities…such apportionment of appropriations may be based on the assessed valuations of the respective municipalities, their populations, or such factors as the governing bodies shall agree. Such agreement shall provide that the combined minimum appropriation for the joint library shall annually not be less than one-third of a mill on every dollar of assessable property with the participating municipalities based upon the equalized valuation of such property…as certified by the Director of the Division of Taxation in the Department of the Treasury." (Amended by L. 1988, c 38 2.)

Beginning in 1996, both municipalities reached the minimum funding appropriation level as specified by state law.

1702 FIRST AID SQUAD

The Far Hills-Bedminster First Aid Squad, Inc. is a shared service and joint undertaking of the two municipalities, which provides emergency medical services for the two municipalities. The First Aid Squad building is located on a 2.01-acre lot on the south side of Main Street adjacent to the North Branch Raritan River, which is the municipal boundary between Bedminster and Far Hills.

The Far Hills-Bedminster First Aid Squad's current inventory of vehicles includes the following:

1996 Dodge Ram – First Responder Truck
1998 Ford Horton – Ambulance
1991 Ford Horton – Ambulance

The First Responder Truck responds directly to the scene to begin emergency patient care. The truck is fully equipped with EMS equipment, which included a defibrillator, oxygen and oxygen adjuncts, immobilization devices (long board, KED, splints) and onboard lighting. It is a non-patient transport vehicle.

The squad's current membership consists of nineteen individuals. Seventeen are New Jersey State Certified Medical Technicians (EMT's). Two members are drivers, with CPR certification. All are available for day, evening, night and weekend response. A limited number of members are generally available during the daytime, due to employment commitments in other municipalities. The squad has mutual aid agreements with all surrounding municipalities, including squads from Peapack-Gladstone, Tewksbury, Whitehouse, Branchburg, Green Knoll, Liberty Corner, Bernardsville and Martinsville.

The primary advanced life support unit, MICU, is Somerset Medical Center's 681 and 682. Secondary MICU's are Morristown Medical Center's MIC 11 and 12, and Hunterdon Medical Center's EMS 1. MEDEVAC support is from North Star, South Star and Lehigh Valley MEDEVAC's.

Financial support is from voluntary donations from the community along with fundraising activities and contributions from Bedminster Township and Far Hills Borough.

1703 MUNICIPAL SERVICES

The Township's municipal services, which are currently split between two locations in Bedminster Village, Hillside Avenue and Miller Lane, will soon be located at the Miller Lane campus. The administrative offices are currently located on Hillside Avenue in a building that was formerly the municipal garage, situated on an irregularly-shaped, narrow lot of approximately 0.72 acres in a residential zone. The 13-acre Miller Lane site, recently expanded by the addition of 3 acres, includes 4 acres of parkland with access from Somerville Road (Route 202).

The Hillside Avenue site contains a one-story building with approximately 3,500 square feet of floor area. At one time the building included a garage for the housing of a fire truck and public works vehicles, but this space was converted to additional office space. The building houses most of the Township's municipal departments, including the Township Administrator, Township Clerk, Tax Assessor, Tax Collector, Finance Department, Construction Code Office, Fire Prevention, Animal Registration, Township Committee Office, and Planning Board/Zoning Board Office. The official meeting room for the governing body and appointed boards also is

situated in this facility.

Because of spatial constraints of the municipal building on Hillside Avenue, relocated facilities have been concentrated at the Miller Lane site including the Public Works Center, Police Department, Municipal Court, and Far Hills-Bedminster Volunteer Fire Company Station No. 2 as well as a sewage pump station. Recreational facilities, as outlined in the Recreation Plan Inventory, are also located on the Miller Lane tract.

The Municipal Court occupies approximately 2,500 feet in the Police Administration Building on Miller Lane. The court staff includes one Judge, one Municipal Court Administrator, and one Deputy Court Administrator. Court is in session weekly on Tuesday nights, and also on Wednesday, as necessary.

1704 PUBLIC WORKS

The Public Works Department moved into its current location at the Public Works Center on Miller Lane in 1983 from several scattered sites throughout the Township. This relocation allowed the Department to consolidate its office and garage facilities at a modern facility of sufficient size to accommodate the garaging and storage requirements of the Department's vehicles and equipment.

The Miller Lane facilities are a 20,000 square foot building (100’ x 200’) located on the same 13-acre site as a sewage pump station, Police/Court Administration building and recreational fields and hike and bike trailhead. There is an additional 3,600 square feet (75' x 48') devoted to garages for the Far Hills-Bedminster Fire Department fire trucks. The staff allocated to the Public Works Department includes a supervisor, six workmen and a full-time secretary. The overall level of staffing for the Department has been maintained during the last six years. A need has been identified to increase staffing from the current level of one summer part-time employee to supplement recreation facilities operation and maintenance, to a year-round employee to respond to the need to maintain these new facilities. .

The principal services provided by the Public Works Department are the maintenance of roads, public facilities, recreational facilities and storm sewers. Brush may be brought to the designated area at the Public Works Center on the first and third Thursdays and second and fourth Saturdays. In the event of a major storm, curbside collection of storm debris is made on the Monday following the storm. Leaf collection on Township roads is ongoing during the fall season, and Township residents may also bring leaves to the Public Works Center, although grass clippings are not accepted.

The Public Works Center is also the location of a large dumpster where Township residents can dispose of bulky items four times per month. This material is conveyed to the BRI Transfer Station in Bridgewater Township for subsequent disposal. The recycling program in the Township is provided by Somerset County through its curbside collection program.

1705 FIRE PROTECTION

Fire protection for the people and property of Bedminster Township is provided by two volunteer fire companies: the Pottersville Volunteer Fire Company, situated at the intersection of Hacklebarney Road and Route 512 in the Village of Pottersville; and, the Union Hook and Ladder Company #1, also known as the Far Hills-Bedminster Fire Department, situated on Miller Lane in the Village of Bedminster with offices located at DeMun Place in Far Hills. In addition, mutual aid agreements with various surrounding fire companies in Somerset, Hunterdon, and Morris Counties provide additional assistance when necessary.

The Pottersville Volunteer Fire Company (PVFC) is located on two lots comprising approximately 1.63 acres on the east side of Hacklebarney Road in Pottersville. The PVFC has a roster of 25 members, of which 15 are active members with 10 available weekends and 5 available to respond to calls weekdays. As with most of the volunteer emergency services, weekday availability is problematic. The availability of members during the week has decreased relative to the figures quoted in the 1992 Master Plan Update. The PVFC's biggest challenge is to increase membership. Delivering fire apparatus to an emergency proves difficult at times due to the limited availability of volunteers at times. As a result, the Company entered an agreement with the Far Hills-Bedminster Fire Department to dual response in the Pottersville area during daytime hours, which has successfully benefited the fire protection needs within the area of the Township for the last 3 years. The Fire Company has also identified the need for more serviceable vehicles as the fleet is modernized, due to new steep driveways in the service area. The Fire Company reports that vehicles have a difficult time maneuvering vehicles into and out of driveways.

The vehicles owned by the Pottersville Volunteer Fire Company include the following:

1. 1961 Dodge Power Wagon brush truck.
2. 1980 1,000 GPM Pierce Pumper with 750 gallon water tank.
3. 1985 Chevrolet 2,750 gallon tanker.
4. 1999 Ford Chief's vehicle.
5. 1990 1,500 GPM Pierce Pumper with 1,000 gallon water tank.

In August 1991 the PVFC submitted a long-range capital plan to the Bedminster Township Committee that indicated that the most immediate need was the upgrading and repairing of the 1961 brush truck. This was completed during the mid 1990's and the vehicle remains in service in 2002.The PVFC's current plan envisions the following capital expenses.

1. The 1980 Pierce Pumper and 1985 Chevrolet Tanker should be sold and replaced with one new multi-function truck.
2. The acquisition of a utility vehicle for equipment and personnel transportation needs has been put on hold, because if acquired today, it would not be needed.
3. Enlargement of the building, including the installation of higher doors, to accommodate future vehicle purchases has also been put on hold until such time that the 1980 Pierce Pumper and 1985

Chevrolet Tanker are replaced with a multi-function truck. Enlargement of the doors would allow for more standard, and thus less expensive, trucks, which are the norm in today's firefighting apparatus market.

The PVFC indicated that the building addition should be considered first so that new vehicle purchases can be garaged, which will prolong the life and lessen the expense associated with future vehicle purchases.

Financial support for the PVFC comes from Bedminster Township, Tewksbury Township and fund raising, with 50% provided by Bedminster, 14% by Tewksbury and the remainder by fund raising activities. The coverage area for the PVFC in the northern part of the Township essentially includes Route 206, the area north of Long Lane and sections on the south side of Long Lane, and both sides of Black River Road. Coverage is also provided to portions of Tewksbury, Chester, Washington and Peapack-Gladstone. In addition, the PVFC maintains a dual response approach with the fire companies in Oldwick and Fairmont.

The Far Hills-Bedminster Fire Department, incorporated as the Union Hook and Ladder Company #1, maintains two stations, Station #1 on DeMun Place in Far Hills, and Station #2 on Miller Lane in the Village of Bedminster. Due to the limited size of the Far Hills facility, the Fire Department uses this station for administrative and training functions. Since 1993, all fire fighting apparatus has been garaged in Station No. 2 at Miller Lane, from which the Department responds to all calls for service.

Growth over the past two decades in Bedminster has significantly impacted fire operations. In 1976 the Far Hills-Bedminster Fire Department responded to 131 fire calls. In 1986 the Fire Company responded to 200 calls and in 1996, the Company answered 420 fire calls for service.

Also significant are the diverse nature of calls the fire department receives. The Fire Company protects expansive and dense townhouse development, large estates and rural cottages with no public water systems, large multi-story office buildings which pose difficult logistics, woodland and grassland fires in the countryside, and vehicular hazards and accident emergencies on two major interstate highways and two major state highways that traverse the Township. The service area also includes a commuter rail transit station and an airport. These diverse challenges require the Far Hills-Bedminster Fire Department to carefully plan the purchase of new equipment, overhaul training programs and concentrate on efforts to recruit new membership.

The Far Hills-Bedminster Fire Department volunteer membership continues to remain strong in numbers. The average structural firefighter in the Department has 10 years experience, however most firefighters were not born in the community. This has required the Department to educate new members about the community and the unique challenges presented by the diverse service area it protects. The fire department has implemented a point system requiring a minimum of fifty percent participation in firefighting, training, and maintenance activities, which has motivated members to remain active and committed.

Financial support for Far Hills-Bedminster Fire Department comes from Bedminster Township, Far Hills Borough and Fire Company fund raising, with the largest proportion of it's funding provided by Bedminster, and the remainder from Far Hills and fund raising activities. The coverage area for the Company includes all of Far Hills Borough and the area of Bedminster south of Long Lane. Mutual aid is provided to Bernardsville, Liberty Corner, Peapack-Gladstone, and Bridgewater, with additional response to portions of Tewksbury and Chester.

Due to an aging fleet, and regulations that firefighters must operate under (OSHA, NFPA; NJDCA), the Department has been forced to continually upgrade its fire apparatus. The vehicles owned by the Far Hills-Bedminster Fire Department in 2002 include the following:

1. 1998 GMC Incident Command Vehicle.
2. 1990 LTI Ladder Truck with 100' elevating platform.
3. 1992 Pierce Lance 1,500 GPM Pumper with 750-gallon water tank.
4. 1996 Peterbuilt 2,850 tanker
5. 1989 Horton support vehicle
6. 1997 Pierce Dash 1500 GPM Fire Pumper with 750 gallon water tank

In addition the Department has begun an apparatus committee to specify a new rescue vehicle to be purchased when the new firehouse is complete. The Far Hills-Bedminster Fire Department has purchased new portable equipment in order to comply with governing regulations and provides enhanced service to the community:

1. SCBA – breathing apparatus
2. Portable pumps
3. Imaging Camera
4. Meters for gas, CO, heat
5. Portable saws
6. Personal protective gear
7. Extrication equipment
8. Radios and communication

In 1994, the Department consolidated all five of its fire apparatus into Station No. 2 at Miller Lane, which allows for greater control of the order of vehicle response with the proper personnel depending on the type of fire. A large placard exists between the two bay doors that describe the type of call and the appropriate order of apparatus response. While operating out of one station has tactical advantages, there are numerous safety issues that need correction. Having five vehicles in a space designed for two is problematic. The fire apparatus is stored

close together and stacking of one fire truck behind another delays responses and becomes unsafe. There has been an accident with two vehicles in the station, fortunately without injury.

The greatest need identified by the Far Hills-Bedminster Fire Department is for a new firehouse to house all of its firefighting apparatus and equipment safely in one facility. The Fire Department leases Station No. 2 located at Miller Lane from Bedminster Township. The 2,400-sq. ft. two-bay metal panel building was built for the Department in 1983. The building was designed to house a ladder truck and one pumper.

In 1999, the Far Hills-Bedminster Fire Department prepared a Facilities Master Plan that outlines the fire protection needs of the community and the fire department. The new facility is proposed to be approximately 12,000 square feet. The location of the firehouse is most critical in providing fire protection to the community it services. The Department has determined that the best location for the new firehouse is in the Somerville Road corridor. Most of the properties in the corridor were studied for suitability and availability. The Department along with assistance from Bedminster Township Committee and Far Hills Borough Council determined the most feasible location of the new firehouse was the property to the south of the Bedminster Public Works Building.

1706 POLICE PROTECTION

Bedminster's Police Department is located in the Township's justice facility on Miller Lane, off Somerville Road (Route 202) having moved from the Pluckemin School in 1990. The facility contains 7,000 square feet for police in two stories. The current staffing for the Department includes 17 fully sworn police officers, 1 full-time secretary, and 1part-time special officers. The police officers include a Chief, Lieutenant, Administrative Sergeant, two detectives and twelve patrol officers (including supervisors). Police vehicles include 8 marked and 3 unmarked cars.

The new police headquarters was specifically designed to accommodate the Department's current and future space needs. The facility was designed so that expansion of office and storage facilities can be readily accommodated to meet expanded physical needs, and the available space has proved to be adequate over time, despite the rapid growth in the community since constructing the facility in 1990. The recent growth in population results in approximately two-thirds of the calls originating from The Hills, which is consistent with the Township's ratio of residents living at The Hills. While the Department still maintains a rapid response time, the Department's identified needs include additional police officers, as it is understaffed.

1707 SCHOOLS

The Township's elementary school is located on a 36-acre tract north of the Township's Miller Lane facility, south of Main Street and east of Somerville Road. A driveway provides access to the new school to Somerville Road. The elementary school replaced the elementary school formerly located on a 5-acre tract north of the new school with frontage on Main Street. The Board of Education sold the old school to a private real estate developer who redeveloped the site as a professional office condominium complex that has received recognition awards for

its context-sensitive architectural treatment of the former school building.

When opened in September 1993, the new school was

1. Approximately 99,000 square feet in two buildings, one of two stories and the other of one story,
2. Designed to accommodate a third floor on the two-story building to increase school capacity when needed,
3. Classrooms for grades kindergarten to 8 and special education were provided in the two-story building,
4. A functioning capacity for 666 students and 50 staff personnel, and
5. Including a spacious modern gymnasium, kitchen, and auditorium facilities.

In response to increasing enrollment throughout the 1990's, the Board of Education undertook an expansion of the elementary school in 2000 that included a 23,000-sq. ft. third floor addition to the elementary school. This addition increased the building to approximately 132,000 - square feet, and increased the functional capacity of the elementary school from 666 to 842 students. In accordance with State law, the Board of Education prepared a Long Range Facilities Plan (LRFP) in 2000. The LRFP adopted in January of 2001 indicated that no new construction or change to the facility and identified a total capacity for the school of 939. The Board of Education identified a school enrollment of 609 students for the 1999-00 school year. This includes students pre-kindergarten through grade 8.

APPENDIX A - DESCRIPTION OF HISTORIC RESOURCES

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
1.	44 / 2.02	John Lane Farm	Three bay renovated New Jersey Farmhouse, circa 1800. Numerous farm buildings of the same period.	SCPB 1 URWA 123
2.	44 / 2.01	Richard Field Farm	Large 19th century New Jersey Farmhouse with additions and alterations. Numerous farm buildings of the same period. Avenue of symmetrical trees. Richard Field settled along the Lamington River on a 400-acre farm at Rattlesnake Bridge before the American Revolution. He raised cattle, crops, and fruit, which were shipped down the river to the Delaware and Raritan Canal and on to New Brunswick and Perth Amboy. The farm was sold out of the family after the Civil War by his grandsons Longstreet and Depu Field. The farm was purchased in 1935 by Kenneth B. Schley. Recently the Lana Lobell horse breeding farm.	SCPB 2 URWA 122
3.	44 / 2.01	K.B. Schley Mansion	Georgian Colonial Mansion, brick with slate rook, built in 1937 for Kenneth B. Schley by architect John Cross.	SCPB 5 URWA 121
4.	44 / 2.01	William D. Field Farm House	Small 1 1/2 story 18th century New Jersey Farmhouse.	SCPB 120
5.	45 / 1	Sering Bunn House	18th century 1 1/2 story New Jersey Farmhouse. Few changes. Farm buildings remain. 1850 map shows the Widow Field. 1873 map shows Sering Bunn.	SCPB 7 URWA 119
6.	37.01 / 1	Fiddler's Elbow	American Country House, built circa 1937 for Mr. and Mrs. Frederick S. Moseley. Field stone, slate roof. Architect, John Cross. The field stone came from stone rows purchased from farmers in the hills of Hunterdon County, and hauled down by horse and wagon. Now Fiddler's Elbow Golf Club.	SCPB 8 URWA 144

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
7.	37 / 3	Meadowview	American Country House, built circa 1937 for Mr. and Mrs. Ogden White. Brick with slate roof. Architect, John Cross. Stable and outbuildings conform with the design of the house.	URWA 73
8.	37 / 3.01	River House	New Jersey Farmhouse, circa 1800, with alterations and additions. Homestead of Richard C. Todd, and his descendants, circa 1800-1880. Todd owned 168 acres of farmland with the house. Owned by Julius Miller, and his daughter and son-in-law, Luke and Bertha Miller Schapley from 1880 to 1932, when the farm was sold to Clarence Dillon. Later owned by Ogden White. Smokehouse, outhouse, barn, and slave buildings have been removed. Simple farmhouse transformed into country home.	URWA 74 SCPB 9
9.	11 / 1	Bishop Farm	Renovated mid-19th century New Jersey Farmhouse. Farm buildings exemplify farm culture and building techniques. The John Vanderbeak Farm in 19th century. The Reggie Bishop Farm in this century. Bishop ran James Cox Brady's Sheep Farm on Long Lane. Part of Hamilton Farm.	URWA 129 SCPB 11
10.	multiple	Lamington Historic District	Historic and Architectural Survey completed in 1981 by Heritage Studies. Lamington Historic District was listed on the State and National Registers in 1984.	URWA 69 SCPB 12-18 & 91-1
11.	12 / 1.01	Van Nest Farm	Early 19th century 5-bay New Jersey Farmhouse, with alterations and additions. The Aaron Longstreet Farm until his death in 1856. He was the Township Clerk. All the early Township records were destroyed in a fire here in 1846. John Van Nest owned the farm in 2nd half of 19th century. Edwin Willets owned the farm until 1925, when he sold to James Cox Brady. Part of Hamilton Farm.	URWA 139 SCPB 19
12.	12 / 1.02	Charlie Todd Farm	Renovated New Jersey Farmhouse with Federal influence. 1850 and 1873 maps shown C. Wyckoff. Later the Charlie Todd farm. Purchased in 1917 by James Cox Brady. Part of Hamilton Farm.	URWA 71 SCPB 20

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
13.	12 / 2	The Burying Ground at Foot of the Lane	Matthais Lane, who settled nearby in 1748, his children, descendants, and family slaves are among the 60 persons buried here in the Lane family cemetery. The Lanes once owned and farmed hundreds of acres surrounding the cemetery. The earliest legible stone is 1778 Peter Demund, a son-in-law of Matthais Lane.	SCPB 21 URWA 63
14.	12 / 1.03	Mill House at Vliettown	New Jersey Farmhouse with additions and alterations. Vestige of an early settlement. 1850 and 1873 maps show R.S. Vliet's grist mill, saw mill, blacksmith shop, store, and house. Later owned by George Moore, who owned and farmed the land from Pottersville to Vliettown along the river. Part of Hamilton Farm.	URWA 30 SCPB 12
15.	8 / 24.03	The Pony Farm	Once the farm of John Honeyman, Washington's spy who assured victory at the Battle of Trenton. Later the William Rinehart farm. The present house, built by Rinehart, is one of the original Sears, Roebuck mail-order houses, circa 1909-1910. Foundation of the Foot of the Lane School is at the northeast corner of Long Lane and Black River Road. The John Honeyman house was east of the school. The Rockaway Valley Railroad ran between the school and the Honeyman house. The farm was purchased in 1915 by James Cox Brady, who used it as a breeding and training farm for Shetland Ponies. Creamery, ice house, barns, stables, tenant house, etc., all removed. Part of Hamilton Farm.	URWA 26 SCPB 25
16.	8 / 24.04	Enoch Fritts House	A tenant house on the Hagaman Farm. Later part of the Hamilton Farm.	URWA 25 SCPB 26
17.	8 / 24.05	Hagaman House	Mid-19th century New Jersey Farmhouse and farm buildings. The Hagaman Farm. 1850 map shows C. Hagerman. 1873 map shows C.B. Hagaman. Later part of Hamilton Farm.	URWA 24 SCPB 27
18.	7 / 21	Potter House	Early 20th century Country House. Once the William Latourette Farm, later Henry Amerman. Amerman farmed the land and ran the sausage mill	URWA 23

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
			where the Potter house is now. The sausage mill burned in 1918.	SCPB 29
19.	multiple	Pottersville Historic District	Historic inventory by Dorothy Metzler and Anne O'Brien completed in 1982. Pottersville historic district listed on the State and National Registers of Historic Places in 1990.	URWA 22 SCPB 30-47
20.	1 / 1.01	George Thurston House	Built by George Thurston, a Union Army soldier, on his return from the Civil War. Used as a school circa 1900.	URWA 21
21.	8 / 13	William Moore House	L-shaped early Queen Anne frame two-story house. Stick style porch. Cutout fan-shaped large board in gable. Built by William and Susan Moore circa 1870-1880. He was a son of George Moore, a farmer who owned most of the land in Pottersville today, and down along the river.	SCPB 47 URWA 22
22.	2 / 5	Herzog Farm	19th century New Jersey Farmhouse and farm buildings. Shows on 1850 map as Philhower house. Margaret Philhower married Anton Herzog. Shows on 1873 map as Anton Herzog. The Herzogs have farmed this land for more than 100 years.	URWA 20 SCPB 48
23.	8 / 17	DeCoursey Fales House	American Country House. Extensive alterations and additions in the 1920s by architects Delano and Aldrich of New York City.	URWA 17 SCPB
24.	8 / 17	Martin Rinehart Farm	18th or 19th century New Jersey Farmhouse and wagon house. Long the Rinehart farm. Sold to DeCoursey Fales in 1920 by Martin Rinehart.	URWA 18 SCPB 49
25.	8 / 18	Dr. Knight's Corner	19th century New Jersey Farmhouse. 1873 map shows F.K. Lamerson. House was bought circa 1920 by Dr. Augustus Knight. Dr. Knight's Corner was a traditional meeting place of the Essex Fox Hounds. Dr. Knight was a member of the Township Committee 1930 - 1948. The house was owned circa 1945 - 1965 by Marguerite and William Wiles Elder, breeders and exhibitors of English Springer Spaniels under the Maquam Kennel name.	URWA 16 SCPB 50

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
26.	2 / 8	William Miller House	High Victorian farmhouse and wagon house. Shows on 1873 map as William Miller, a peach farmer who owned 150 acres surrounding the house.	URWA 15 SCPB 51
27.	2 / 14	Frank Miller House	Early 20th century hip roof house built by Frank Miller, a farmer, circa 1910.	URWA 14
28.	9 / 1	Union Grove Schoolhouse	Built on land conveyed to the Trustees of School District #12 by David C. Gaston in 1861. Closed as a school in 1930.	URWA 10
29.	4 / 4	William Lisk House	Built by John Bodine in 1910. There's a duplicate of this house on Bodine Avenue in Gladstone.	URWA 130 SCPB 54
30.	4 / 1	Harry Lisk House	1873 map shows W. Van Doren. His son-in-law William Lisk moved into the house in 1899. Harry Lisk, a son of William, lived here until his death in 1981.	URWA 8
31.	4 / 3	Boyd House	18th century saltbox with additions and alterations.	URWA 9
32.	5 / 4	O'Keefe House	Built circa 1900 by Thomas O'Keefe, a farmer. During the 1900's, Ben and Gertrude Henderson lived here. He was a mason and helped pour the foundation for the first Brady big house. Mrs. Henderson was the nanny for Elizabeth Ballentine Stevens.	URWA 7
33.	5 / 3	Henderson House	Built in 1905 by Albert Henderson, a mason and one-time engineer on the Rockaway Valley Railroad. Henderson was employed in constructing some of the estate homes in the area.	URWA 6 SCPB 58
34.	5 / 2	Conroy House	Mid-19th century New Jersey Farmhouse with extensive alterations.	URWA 5
35.	2 / 8	Charlie Miller Farm	New Jersey Farmhouse with alterations and additions, and outbuildings. 1873 map shows N. Todd. Later Charlie Miller Farm until purchased by DeCoursey Fales in the 1900s.	URWA 4 SCPB 61

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
36.	5 / 1	Ballentine	Mid-19th century Federal-style House with unusually formal symmetrical cut stone exterior. Greek Doric portico. 1873 map shows J. Opdycke. Extensive alterations and additions for Francis K. Stevens circa 1910. Later occupied by his daughter Elizabeth and her husband, Peter Ballentine (of Ballentine Brewery). Farm barns and well house of tile brick with a witches' cap peak.	URWA 3
37.	3 / 1	Emmons House	Mid-19th century stone Farmhouse. The house straddles the Morris-Somerset County line. "The owner of this house sleeps in Chester and eats in Bedminster." 1873 map shows J. Emmons. Later part of the Ballentine Farm.	URWA 1
38.	9 / 1	Feller House	Post Civil War New Jersey Farmhouse. Built by Daniel Feller, a Union Army soldier, on his return from the Civil War. Later owned by John Hurd. Sold to James Cox Brady in 1913. Part of Hamilton Farm.	URWA 11
39.	5 / 8	Upper Kennels Farm	Mid-19th century New Jersey Farmhouse, farm barns, and outbuildings. 1873 map shows Morris P. Crater. Purchased by Charles Pfizer circa 1890 when he bought the horses and hounds of the Essex Hunt to Gladstone. Part of Hamilton Farm. There once was a still up behind the barns, and a pesthouse for people with infantile paralysis. People would leave food outside.	URWA 12 SCPB 56
40.	9 / 1	Hamilton Farm	American Country House, farm barns, outbuildings, and stable on 5000-acre farm assembled by James Cox Brady between 1911 and 1927. At one time Hamilton Farm was the largest working farm in New Jersey. The brick residence was built in 1924 on the foundation of the 1914 Brady house which burned in 1923. The architect was Montague Flagg. The house was restored by the present owner, Beneficial Management Corp., after fire destroyed the interior in 1978. Beneficial owns 500 acres of the farm, and uses the house as a corporate guest house.	URWA 13 SCPB 52 and 53

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
			The stable, brick with a stucco facade, was built in 1916 for Mr. Brady's hunters and show horses. The brick and tile interior has 41 box stalls and a galleried trophy room. The architect was William Weissenberger, Jr., of New York. The stable has been the headquarters of the U.S. Equestrian Team since 1961.	
41.	9 / 6	Glenelg	The Arthur A. Fowler House. A Country House of English derivation built around a small hunting lodge in 1907. Edward S. Hewitt, brother-in-law to Mr. Fowler, was the architect. Extensive alterations in the 1930s by architect Mott B. Schmidt of New York City.	
42.	14 / 1	October House	Tudor County House built circa 1910 for an Englishman, Harry Lance, a member of the Essex Hunt. Purchased by W. Thorn Kissel in 1918. Property original included 500 acres and the sites of several newer houses. Kissel constructed a small polo field here and brought polo to this area. 1850 and 1873 maps show schoolhouse here.	URWA 72 SCPB 78-1
43.	14 / 9	Mr. Kissel's Carriage House	Early 20th century carriage house converted to a residence.	URWA 43
44.	14 / 10-11	Timberfield	1850 and 1873 maps shown P. Honeyman. Early New Jersey Farmhouse, +/- 1800. Extensive alterations and additions for David Hunter McAlpin Pyle in the 1920s by architect A. Musgrave Hyde.	URWA 44 SCPB 78
45.	13 / 10	Red Barns	Mid-19th century New Jersey Farmhouse and farm and farm barns. 1850 map shows P. Messler. 1873 map shows W. Heath. Once the Michael Shay Farm. Later Stuyvesant Pierrepont. He would buy it and sell it and buy it back again. May occupants, including Richard Gambrill (before he built Vernon Manor), LeRoy Whitney, F.E. Johnson, Frederick S. Jones, and others.	URWA 41 SCPB 80
46.	21 / 3	Francis Kinnicut House	English Tudor House built in the 1920s for Francis Kinnicut. Architect Nelson Breed.	URWA 48 SCPB 79
47.	13 / 12	Latourette House	19th century New Jersey Farmhouse renovated to an American Country House. Shows on 1850 and 1873 map. Extensive renovations in 1920s	URWA 59 SCPB 81

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
			for Shelton Martin by architect, Henry Sedgewick of New York City. Martin was a member of the Township Committee for many years, and Master of the Essex Drag Hounds. Mrs. Martin was one of the first women to ride with the Essex Drag and alter the Essex Fox Hounds.	
48.	21 / 7	David Bird House	Renovated New Jersey Farmhouse. 1850 and 1873 maps shown David Bird. House sits between two tributaries of Middlebrook. Original house was a four-room two-story farmhouse. Many occupants including William Clelland, Alfred Borden, Howell Forbes. W.A.K. Ryan, and others.	URWA 58 SCPB 82
49.	13 / 6	William Griffin House	New Jersey Farmhouse transformed to a Country House by extensive alterations and additions. 1850 and 1873 maps show G. Biggs.	URWA 40 SCPB 76
50.	9 / 9	Spook Hollow Farm	Built circa 1910 by Frederick Bull, member of the Essex Hunt. Stucco house with Dutch gambrel roof. Stuccoed stable courtyard and cottages generally match the main house. Later owned by William V. Griffin, business manager for James Cox Brady. Extensive renovations in 1920s by architect F. Burrell Hoffman, for Griffin.	URWA 39 SCPB 75
51.	13 / 4	Spook Gallery The Pig Farm	18th century stone and frame house, wood shingle roof. One of few stone houses in Township. Bake oven. Purchased by James Cox Brady in the 1900s. He used it as his Pig Farm, where he raised Duroc-Jersey swine. Part of Hamilton Farm. Road once went south of the house, re-routed to north side. Once there were A-shaped pig houses all around the house.	URWA 38 SCPB 74
52.	8 / 23.03	The Sheep Farm	19th century New Jersey Farmhouse with extensive alterations and additions. 1850 map shows J. Vleet and smithy shop of S.J. Vleet. 1873 map shows J.H. Linabery house and blacksmith shop. Later the William McCatherin Farm. Purchased in 1914 by James Cox Brady, who raised Dorset Sheep at the farm. Part of Hamilton Farm.	URWA 35 SCPB 64
53.	12 / 3	Mr. Dillon's Farm on Long Lane	Early Victorian Farmhouse and many outbuildings. 1850 map shows S. Sutphen. 1873 map shows P.C. Sutphen. Owned in the 1920s by a New York attorney, Joseph Larocque of Bernardsville, who ran a big farm	URWA 34 SCPB 65

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
			operation here with sheep, pigs and draft horses. Later part of Dunwalke Farm.	
54.	8 / 24.02	Crater Farm	Federal Farmhouse in two sections. Earliest section circa 1810. 1850 map shows Lemuel F. Crater. 1873 map shows Lemuel F.L. Crater. Part of Hamilton Farm. Many occupants, including Mr. and Mrs. Herman Bowker, Mrs. E.W. Clucas, and Mr. and Mrs. Philip Smith.	URWA 33 SCPB 66
55.	12 / 3	Hoy Farm	New Jersey Farmhouse built in three sections. 1873 map shows J.A. Welsh. Later the Hoy Farm. Purchased in the 1920s by Clarence Dillon. Part of Dunwalke Farm. House was moved in the 1920s. Once occupied by Douglas Robinson and later Richard Whitney	SCPB 69 URWA 131
56.	12 / 3.02	Brookfield Farm	Georgian Colonial House built circa 1960 for Mr. and Mrs. Mark Collins. Architect, Ellsworth Giles of Bernardsville.	URWA 32 SCPB 68
57.	8 / 24.01	Windmill Farm	New Jersey Farmhouse with extensive alterations and additions. 1850 map shows William W. Vliet. 1873 map shows William H. Vliet. Later the Charles McMurtry Farm. Purchased by James Cox Brady in 1916. Part of Hamilton Farm.	URWA 31 SCPB 67
58.	8 / 20	Fairview Farm	18th century New Jersey Farmhouse with additions and alterations. 1850 map shows W. Cortelyou. 1873 map shows J.H. Vliet. Later Phil Frank's Farm. Frank sold to Paul and Robert Zuhlke circa 1910. The Zuhlke's deeded the farm to the Upper Raritan Watershed Association as a wildlife preserve. Offices of URWA are maintained on the premises.	URWA 28 SCPB 194
59.	8 / 22	Little Lane Lodge	19th century New Jersey Farmhouse with extensive alterations and additions. 1873 map shows R.S. Vliet. Later the Jonathan Potter Farm. Purchased in 1902 by Frederick and Florence Jones. Mr. Jones was the author of "Recollections of the Essex Hunt." The house was later owned by Mr. and Mrs. Philip Smith, Jr., and Senator and Mrs. John H. Ewing.	URWA 29 SCPB 63
60.	12 / 4	Cornerhouse	Built in 1958 for Mr. and Mrs. Sidney Spivak in the manner of an 18th century French Country House. Architect, Mott B. Schmidt of New York	URWA 132

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
			City.	
61.	12 / 5	Hez Eick Farm	New Jersey Farmhouse with alterations and additions. Many owners. 1850 map shows M. and E. Cortelyou. 1873 map shows G. Hoffman. Later the Hezekiah Eick farm until 1924 when sold to William Phillips. Owned more recently by William Vandeventer until 1981.	URWA 36
62.	12 / 3.01	Dunwalke Farm	Georgian House built in 1928 for Clarence Dillon, who assembled a 1000-acre estate and working farm. Architect, John Cross. The handsome oversize red brick was brought to Virginia as ballast in a ship circa 1680 to construct a house that later burned. The brick was purchased by Mr. Dillon and brought to New Jersey to construct Dunwalke. The garage and indoor tennis court are in the style of the house and built at about the same time. Now owned by Princeton University and used as an academic conference center.	URWA 62
63.	12 / 6	Douglas Dillon House	Georgian Colonial House built in 1936 on the site of a 1900 house built and occupied by Leon Israel. Architect, Mott B. Schmidt.	URWA 135
64.	12 / 3	Lane House	18th century New Jersey Farmhouse. Part of Dunwalke Farm. Stone ice house. The farm drive is the old Vliettown Road, vacated when Clarence Dillon purchased all the surrounding land.	URWA 61
65.	12 / 3	Sutphen House	1 1/2 story Dutch Colonial Farmhouse. Part of Dunwalke Farm.	URWA 34 SCPB 71-1
66.	13 / 8	Peapacton Farm	American Country House circa 1914 for Mr. and Mrs. Stuyvesant Pierrepont. Architect, Montague Flagg. Part of the landholdings of the Sutphen family. Guisbert Sutphen came to Bedminster about 1743, traveling with a yoke of oxen and a cart on which were his family, household goods, and a chest of carpenters tools. He made many land purchases. His son, Guisbert 2nd, bought land along Middlebrook. On the farm is an early New Jersey Farmhouse, probably built by one of the Sutphens and later owned by Zachariah Smith, a farmer. After a fire	URWA 37 SCPB 71

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
			circa 1933, the house was extensively renovated for Hovey C. Clark.	
67.	13 / 13	Meadowbrook Farm	Early New Jersey Farmhouse with extensive alterations and additions. Part of the Sutphen landholdings. The 1766 Hills map shows a house on this site. 1850 map shows G. Sutphen. 1873 map shows A.C. Sutphen. Extensive renovations in the 1920s for James McAlpin Pyle by architect, A. Musgrave Hyde. The barn was moved to the site by Mr. Pyle from his farm at McAlpin's Corner on Jockey Hollow Road in Morris Township.	URWA 57 SCPB 73
68.	21 / 9	Larger Crossroad School	19th century schoolhouse. Shows on 1850 and 1873 maps. Closed as a school in 1923. The schoolteacher was paid $1000 a year.	URWA 56
69.	12 / 14	David Dunham House	New Jersey Farmhouse. Shows on 1873 map. Several smaller houses on property. Also large 7-story barn with Dutch roof and cupola. Later owned by A. Filmore Hyde, and used as a home for George Brice and his family. Mr. Brice was huntsman to the Essex Fox Hounds, 1913 - 1935. The barn was the stable for Mr. Hyde's hunting horses.	URWA 55 SCPB 83
70.	39 / 20	Dunham Farmhouse	Early 19th century New Jersey Farmhouse with alterations and additions. 1850 and 1873 maps show R. Dunham. Subsequent owners include Rodger Mellick, Robert Locke, David Klipstein, and Malcolm S. Forbes, Jr.	SCPB 87 URWA 55
71.	40 / 1	Ashmun House	Square Greek Revival House moved from 40 / 2.	URWA 55 SCPB 86
71-A.	39 / 21.01	Middlebrook	Georgian Colonial House built in the 1920s for Mr. and Mrs. Rodger Mellick. Architect, A. Musgrave Hyde of New York. Partial stone exterior and courtyard. The living room wing was detached in the 1930s and moved to 39 / 21 to become part of a newer house.	
72.	40 / 2.01	Caper Hill Farm	Colonial Revival House. Brick with hip roof. Built in 1960s for Samuel and Nancy Martin. Farm barns and stables across the road.	URWA 86 SCPB 121
73.	40 / 9	Petty House	New Jersey Farmhouse. 1873 map shows P.S. Petty. Later owned by R.	URWA 140

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
			Stuyvesant Pierrepont.	
74.	39 / 25	Isaac Newton Voorhees House	Early 19th century New Jersey Farmhouse. 1873 map shows I. Voorhees. Voorhees was the proprietor of the original Pluckemin store, which burned in 1892. He raced trotting horses, and was 100 years old in 1962.	URWA 94
75.	22 / 42	Elias Woods House	New Jersey Farmhouse built circa 1905 for Elias Woods, a farmer.	URWA 49 SCPB 129
76.	21 / 33	Clucas Cottage	Built in the 1920s by E.W. Clucas for his gardener on the site of the Clucas house, White Oaks, which was moved to 22 / 9. Extensive alterations and additions circa 1975.	URWA 50
77.	22 / 9	White Oaks Farm	The David Nevius Farm. House originally sat at 21 / 33. Said to have been a stage coach stop on Lamington Road. Owned by Frank Stoutenberg, a Newark clothier, circa 1900. Purchased by Edward W. Clucas circa 1917. Skidded up the hill into the oak grove by means of horses and a capstan circa 1917. Alterations and additions including a ship's room, round brick water tower, stables and kennels. Later owned by Dr. John Kurrence, an arthritis specialist, who subdivided the farm circa 1948.	SCPB 131
78.	21 / 17	J.G. Schomp House	Mid-19th century New Jersey Farmhouse. Shown on 1873 map. Later the Aaron Beers Farm. Circa 1920 - 1975, owned by Emily Stevens, who built Redfields Stable.	URWA 51 SCPB
79.	21 / 17	Redfields Stable	Elaborate courtyard stable in the Federal style. Built circa 1920 for Emily Stevens. Notable for its arches, quoins, rustication, and columns. Architect was a Mr. Courtingly, Mayor of Mendham, who also designed St. John the Baptist School and Convent on Route 24 in Mendham. House behind stable built at the same time for Miss Stevens, and designed by Mr. Courtingly.	URWA 52 SCPB 126
80.	21 / 16	Cornelius Layton Farm	New Jersey Farmhouse with alterations and additions. Wood frame with stucco. Shows on 1873 map. Once the Barry Farm and later owned by R.	URWA 136 SCPB 125

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
			Stuyvesant Pierrepont.	
81.	21 / 14	Blacksmith Shop	Old blacksmith shop expanded and converted to residence	URWA 53
82.	21 / 12	Jefferson House	Hip roofed house built 1912. Home of Arthur Jefferson, the saddle maker, whose saddlery was in Bedminster village at 34 / 4.	URWA 54
83.	40 / 3	Windy Hill Farm	Early New Jersey Farmhouse with many alterations and additions. Several outbuildings and cottages. Silo. Many owners including Larned, Borland, Prentice, Vogel, Lonegran, Vila, Bryan, and Spohler.	URWA 88 SCPB 85
84.	41 / 25	Wortman Farm	19th century New Jersey Farmhouse. 1850 and 1873 maps show I. Wortman.	URWA 89
85.	41 / 1	Cedar Ridge Farm	Early 19th century New Jersey Farmhouse transformed to Country House by alterations and additions. Farm buildings and brick smokehouse. Isaiah "Zebbie" Mullen's farm circa 1873 - 1900. He sold the farm, retired from farming, and built a house at 32 / 4, next to Bedminster Reformed Church.	URWA 87 SCPB 84
86.	40 / 2	Charles Scribner House	Georgian Colonial Mansion by architect A. Musgrave Hyde for Charles Scribner of the book publishing company. Built 1924. Harmonizing courtyard stable group by Mr. Hyde at the same time.	URWA 85 SCPB
87.	12 / 13	The Farm	New Jersey Farmhouse built in 1952 by some members of the Sutphen family. Owned by succeeding generations of Sutphens until sold to Harold Freeman in 1914 by Anna W. Sutphen, unmarried daughter of Peter and Sophia Van Doren Wyckoff Sutphen. Alterations and additions for Mr. Freeman.	URWA 64
88.	12 / 13	Freeman Tenant House	New Jersey Farmhouse, farm barns, and outbuildings. Identical to the house described in the foregoing No. 87, but without the alterations and additions. There once was an open well in the kitchen.	URWA 65

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
89.	12 / 12	The Game Warden's Cottage	Stone cottage built in the 1950s for Leo Schurr, the game warden.	URWA 138
90.	30 / 13-14	Southfield	Renovated 19th century New Jersey Farmhouse. 1850 map shows Martin Bunn. 1873 map shows Ephriam Eick.	URWA 66
91.	19 / 3	The Old Stone House	Built in 1752 by Johannes Moelich, an early German settler. Made famous by *The Story of an Old Farm* (and its abridged version, *Lesser Crossroads*), written by his descendant, Andrew D. Mellick, Jr., in 1889. The original landholding was 367 acres. Four generations of Mellicks were farmers, tanners of leather, and grinders of bark.	URWA 124 SCPB 130
92.	19 / 2	Elm Cottage Schomp's Mill and House	An early mill here was owned by Robert Allen, later Robert Gaston who sold to Stephen Hunt in 1766. Hunt sold to Nicholas Arrowsmith. House and mill purchased from estate of Judge Arrowsmith in 1845 by Cornelius Wyckoff Schomp. House and mill rebuilt in 1845. Later owned and operated by his son, William A. Schomp. At one time there were both a grist mill and a sawmill here. Owned by the Kate Macy Ladd Fund.	URWA 125 SCPB 190
93.	20 / 2	Schomp House	1873 map shows as tenant house for Schomp's Mill across the road. Mid-19th century farmhouse. Now owned by Kate Macy Ladd Fund. Addition to rear circa 1965.	URWA 126
94.	19 / 2	The Hogback and Hunt's Folly	The high spine of land between Peapack Brook and the North Branch of the Raritan is traditionally known as the Hogback. In 1766, Stephen Hunt, owner of the mill on 20 / 2 tunneled the Hogback and built a dam across the North Branch to increase the flow of water to his mill and the Mellick mills. The tunnel was 100 yards long, 4 feet across, and 6 feet high. The project ruined him financially, and he was forced to sell his mill. Hence Hunt's Folly. The old road to Peapack climbed the ridge of the Hogback. In 1869 a new road was built around the Hogback.	
95.	multiple	Lesser Crossroads - Bedminster Village	Lesser Crossroads-Bedminster Village Historic District National Register Nomination prepared by Heritage Studies, but opposed by residents.	SCPB 132 - 151

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
96.	33 / 15.01	Nevius Homestead	Built in 1772 on the 235 acre Nevius Farm, and lived in by seven generations of Nevius' until 1971 when it was sold out of the family. Originally a 1 1/2 story New Jersey Farmhouse, the roof was raised, and it was Victorianized when A. Layton Nevius married Henrietta Van Dorn circa 1900. The Bedminster Township Library was in the house from 1971 - 1977. Surviving farm buildings include barns, smoke house, outhouse, wagon shed, chicken house, and well sweep.	SCPB 153 URWA 149
97.	36 / 8	Wyckoff Homestead	New Jersey Farmhouse built in 1928 by Cornelius Martin Wyckoff on a farm of 150 acres given him by his father, Martin Wyckoff. The farm was the southeast quadrant of Bedminster village today. The farm was broken up and lots sold off between 1900 and 1950. The house was sold out of the family circa 1975. See *The Wyckoff Family in America*, published by the Wyckoff Association in America.	SCPB 152 URWA 150
98.	33 / 25	Beekman House	Built circa 1841 on three acres purchased from David Nevius by the Bedminster Reformed Church. It was the church parsonage from 1841 to 1902. Domine James McNair conducted a college preparatory school for boys in the house 1877 - 1902. Originally, a square Greek Revival House with a hip roof. Purchased in 1902 by Dr. John Beekman, longtime country doctor in the area. Major alterations and additions in 1902, raising the roof to a full 2-story house with a third floor attic. When Route 206 was built in 1928 - 1930, it took an acre out of the center of the property. When Route 206 was dualized in 1965, another acre became the highway.	SCPB 154 URWA 151
99.	41 / 31	Bedminster Cemetery	Four acre cemetery and site of the first (1758) and second (1818) sanctuaries of the Bedminster Reformed Church. Given to the church by Jacobus Vandeveer. The earliest stone is 1759, Phebe Ditmars Vanderveer, wife of Jacobus. When the third sanctuary was built in	SCPB 155 URWA

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
			Bedminster village in 1898, the old building was sold to Thomas Moore. It fell in on itself in a windstorm before he could move it away.	
100.	41 / 34	Jacobus Vanderveer House	Built circa 1754 by Jacobus Vanderveer, an early Dutch settler who gave the land for the Bedminster Cemetery and the first and second sanctuaries of the Bedminster Reformed Church. Vanderveer had extensive landholdings. General Henry Knox and his wife, Lucy, stayed here in the winter of 1778 - 1779 when the Continental Artillery was encamped in Pluckemin.	URWA 90 SCPB 156
101.	41 / 34	Schley's Polo Field	Part of the original Jacobus Vanderveer landholdings and owned by his descendants until the late 19th century. Later the Dorey Mellick Farm. Then the Henry Ludlow Farm. Ludlow sold to Grant B. Schley circa 1900. Used by Mr. Schley and his descendants as a polo field until World War II. 19th century house and farm barns on the site.	URWA 91 SCPB 115
102.	54 / 3	James Ten Eyck House	Large 18th century Dutch Colonial House with extensive additions.	URWA 141 SCPB 114
103.	54 / 3	Kline's Mill	A saw mill was operated by William McDaniel as early as 1744. 1850 map shows the Widow Kline's grist mill, sawmill, and store. Mill has field stone foundation, one story board and batten exterior with 15-light single sash windows. Kline's Mill Road, once closer to mill, has been moved to the west. Listed on State and National Registers in 1986 and 1987.	SCPB 114-A URWA 92
104.	40 / 11.01	Whitney House	Early 19th century New Jersey Farmhouse with alterations. The house on 40 / 12 was built with materials from a wing of this house in the 1930s. Owned by Richard Whitney, President of the N.Y.S.E. in 1920s.	URWA 93 SCPB 116
105.	40 / 10	Fox Chase Stables	Built circa 1920 by Richard Whitney. Part of the Whitney Estate. New Jersey Farmhouse pre-dates the stables.	URWA 94
106.	39 / 32	McDowell Farm	18th century Dutch house with many alterations and additions. Matthew and Elizabeth Anderson McDowell settled here as early as 1767. The McDowell landholdings were extensive. Two sons, William and John,	URWA 98 SCPB 117

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
			were educated at Princeton and became Presbyterian ministers. A grandson, Augustus W. McDowell, was the local country doctor and a Union Army surgeon in the Civil War. Owned early in the 20th century by Miss Agnes Fowler and her brother Oswald. Extensive alterations and additions for the Fowlers by architect Edward S. Hewitt, their brother-in-law. The intersection of Larger Cross Road and River Road is known as Hickory Corner because of the Hickory trees.	
107.	39 / 31	Hickory Cottage	Early 19th century New Jersey Farmhouse with additions and alterations. Part of the McDowell Farm. 1850 map shows R. McDowell. 1873 map shows J.M. McDowell. Renovated in the 1920s by architect Edward S. Hewitt for his sister-in-law, Miss Millie Mowler.	URWA 97 SCPB 118
108.	39 / 29	River Edge Farm	19th century New Jersey Farmhouse with major alterations and additions. Once part of the McDowell Farm. Alterations and additions in the 1920s for Mr. and Mrs. Charles Newcombe by architect Arthur Holden of Holden & McLaughlin, New York City. Owned in the 1940s and 1950s by Mr. and Mrs. William W. Brainard, who bred and exhibited wire-haired fox terriers. Brainard was an eminent dog show judge, and one of the early proponents of zoning in the Township. Owned in 1960s by Samuel and Nancy Martin, who maintained a pony breeding farm there. When the first Township zoning ordinance was adopted in 1946, Building Permit #1 was issued to the Brainards for alterations. Example of changing uses of farmland.	URWA 96 SCPB 119
109.	48 / 1 & 2	Cutting Corner	New Jersey Farmhouse, circa 1760, with additions and alterations. 1850 map shows H. Teneyck. 1973 map shows W. Kitchen. Many outbuildings. Farmhouse transformed to country house. Later owned by Mrs. Leslie Hyde and Mrs. Heyward Cutting.	URWA 80 SCPB 97
110.	50 / 2	Shale	French Provincial Mansion built in the 1920s for Mr. and Mrs. H. Rivington Pyne by architect William Adams Delano. Delano was a cousin to FDR. Frame house and farm barns at or near present site of house were said to be original Lamington Church glebe.	URWA 99 SCPB 193

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
111.	52 / 1	C. Maury Jones House	An early New Jersey Farmhouse with extensive alterations and additions for C. Maury Jones in the 1930s by architects Polhemus and Coffin of New York City. The driveway was Kline's Mill Road before the road was relocated. House shows on 1873 map as Mr. G.I. Vanderwort. 1925 map and 1935 map show Richard Whitney.	URWA 100 SCPB 192
112.	39 / 26	Albert Layout Farm	19th century New Jersey Farmhouse separated into two houses. Owned in the 1920s by John Balfour Clark.	URWA 78 SCPB 100
113.	39 / 27	The Fields	A brick Tudor house by Roger Bullard, architect. Built in 1927 for John Balfour Clark of the Clark Thread Company. Reduced to one-third of its original size in 1947.	URWA 81 SCPB 96
114.	39 / 12.01	Mullen House	Small early 19th century New Jersey Farmhouse expanded to a five-bay two-story house in the 1930s by builder Joseph Kouflie. For many years it was a two-family house for farm workers. Unusual corn crib/wagon shed. East part of house is the oldest.	URWA 82 SCPB 98
115.	39 / 12	High Time Farm	Fieldstone Colonial House by architect Henry Sedgewick for Harold and Thyrza Fowler, built 1929 - 1930. Stables and kennels. Middlebrook and Hoopstick Brook converge on the farm.	URWA 83 SCPB 99
116.	38 / 14	Lamington House	Georgian Colonial House and brick farm courtyard and tower. A house built in 1917 was designed to resemble the north portico of the White House. In 1939 the house was rebuilt of brick on the same foundation by architect Mott B. Schmidt of New York City for John K. Cowperthwaite. Farm barns and outbuildings designed for his father, Morgan Cowperthwaite, by architect James C. McKenzie of New York, and built in 1928.	URWA 76 SCPB 93, 94 & 95
117.	38 / 13	Duyckinck House	19th century New Jersey Farmhouse renovated in 1938 by architect A. Musgrave Hyde. 1873 map shows William Duyckink, a farmer and descendant of John Duyckink who in 1787 owned 200 acres "on the east side of High Road that leads from Lamington to Piscataqua."	URWA 77 SCPB 92

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
118.	38 / 13	Hurling House	Mid-19th century New Jersey Farmhouse, now divided into two houses. 1873 map shows G. Hurling. The Hurlings were slaves and, later free blacks, and members of the Lamington Church.	URWA 75 SCPB
119.	38 / 6	Hollingsworth House	New Jersey Farmhouse with additions and alterations. Earliest part is circa 1820.	SCPB 91 URWA 68
120.	12 / 2	Stout House	Mid-19th century New Jersey Farmhouse. Shows on 1850 map as G. Simonson and 1873 map as T.N. Stout.	URWA 67
121.	54 / 4	Frederick Crego House	18th century New Jersey Farmhouse, built in two parts of equal size. 3 chimneys and 2 entries. Large barn of same vintage. Small tenant house and barn.	URWA 101 SCPB 113
122.	52 / 6	Kean House	Early 19th century New Jersey Farmhouse, with additions and Greek Revival front entry. Extensive renovations circa 1950 by architect Eldredge Snyder. 1850 and 1873 maps show Van Arsdale.	URWA 102 SCPB 112
123.	52.01 / 3	Tall Oaks Farm	Early 19th century New Jersey Farmhouse with extensive alterations and additions. For many years the home of Township Committeeman Screven Lorillard.	URWA 108 SCPB 111
124.	52.01 / 2	Southdown	The Harry McMurty Farm. Early 19th century New Jersey Farmhouse. Purchased in the 1920s by Arthur R. Jones. Extensive alterations and additions for Mr. Jones by architect A. Musgrave Hyde.	URWA 109 SCPB 110
125.	50.01 / 3	Bunn Farm	Early 19th century New Jersey Farmhouse. Owned and remodeled in the 1930s by Harold Tappin.	URWA 110
126.	62 / 1	J. W. Annin House	Early 19th century New Jersey Farmhouse. Italiante porch added later. Chimneys gone.	URWA 111 SCPB 109
127.	50.01 / 4	Hedgerow	Large early 19th century New Jersey Farmhouse with additions and	URWA 112

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
			alterations. Well in front of house.	SCPB 108
128.	49 / 1	Burnt Mill School	One room country schoolhouse from 1893 - 1927. Additions and alterations circa 1971. Land acquired in 1893 from John B. Spears. The school house was built by an itinerant carpenter.	URWA 142
129.	45.05 / 4	Vanderwort Farm	Early New Jersey Farmhouse built in three stages. 1850 map shows P. Vanderwort.	URWA 117 SCPB 103
130.	45.02 / 12	Craig Cottage	Built in the 1930s as a summer cottage on the river by Dr. Henry A. Craig, a Somerville doctor.	URWA 143
131.	45.02 / 11	John J. Powlson House	New Jersey Farmhouse with Victorian alterations and additions. 1873 map shows J. Powlson.	URWA 118 SCPB 102
132.	50.01 / 2	Powellson Farm	Mid-19th century New Jersey Farmhouse. 1873 map shows W. Paulison. The greenhouse is built on the foundation of an old summer hotel circa 1910, later the first home of the Matheny School.	URWA 113 SCPB 107
133.	61 / 2	Four Furlongs Farm	Two early New Jersey Farmhouses with additions and alterations. The greensward was the playing field of the Burnt Mill Polo Club circa 1930 to World War II, a private landing field from 1946 to 1970, and again the base of the Burnt Mill Polo Club from 1973 to the present time.	URWA 114 SCPB 105, 106
134.	48.01 / 1	Deerfield	Mid-19th century New Jersey Farmhouse, built in two stages. Victorian cornice, low pitched metal hip roof with railing. 1850 and 1873 maps show Dr. T. Blackwell. Later owned by Heyward Cutting.	URWA 115 SCPB 101
135.	45.05 / 9	William Milnor House	19th century New Jersey Farmhouse.	URWA 116
136.	62 / 10	Mellick Farm	Mid-19th century high Victorian Farmhouse, barn, and wagonhouse. Farmed by the Mellick family circa 1860 - 1940. The homestead of Tunis Mellick, a great bear of a man with a voice like a fog horn. Described as the most grotesque and bizarre figure in attendance at the 1912 Republican Convention. "Tune" Mellick, known as the "Mayor of Pluckemin," drove	URWA 103 SCPB 184

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
			around in a buggy dressed in black like a Boer farmer, often following the Essex Drag and encouraging the riders. A descendant, Clarence Mellick, sold the 147-acre farm to John Stephenson in 1940.	
137.	7 / 2	Dow Farmhouse	Mid-19th century New Jersey Farmhouse with renovations and alterations.	URWA 104 SCPB 193
138.	63 / 1	Gerofsky House	Early 19th century New Jersey Farmhouse. Longtime home of the late Superior Court Judge, Leon Gerofsky. Before his appointment to the bench, Gerofsky was Township Attorney for many years.	URWA 105 SCPB 185
139.	62 / 12	Elm Hill	18th century New Jersey Farmhouse. Said to have been built in 1734, and may be the oldest house in the Township.	URWA 106 SCPB 186
140.	61 / 8	Lovejoy House	1850 and 1873 maps show Wilson. Later Silleman. Gaston Farm in the 1930s. Purchased by Mr. and Mrs. Winslow Lovejoy in 1936. Extensive alterations and additions for Lovejoy by architect Frank Nelson. Large barns have been removed. One had a beam marked "1836."	URWA 107
141.	multiple	Pluckemin Historic District	Pluckemin Historic District is listed on both the NJ Register of Historic Places and the National Register of Historic Places. See "An Architectural and Historical Inventory of the Village of Pluckemin," by Heritage Studies for the Bedminster Township Planning Board, 1981.	URWA 158-175 180-183
142.	72 / 1	McEowen House	18th century Dutch house with additions and alterations. James McEowen kept a store here which was raided by the British during the American Revolution. The house stood originally at the corner, and was moved in the 1940s when the gas station was built. British prisoners who were kept here cut their initials into the window glass. In 1890, James Brown, owner of the Kenilworth Inn, owned the house. There was a nine-hole golf course south of the house, and a mill by the brook. The house was used as the village school several years before the schoolhouse was built in 1912.	
143.	72 / 4	Pluckemin Church Cemetery	2.43 acre cemetery with stone wall all around and early wrought-iron gates, built in 1896. Part of cemetery land was acquired in 1851,	SCPB 179-C

Site Number	Block/Lot	Historic or Traditional Name	Historical and Architectural Significance	Designation in Other Surveys
			additional land in 1896 from James Brown, Jr.	
144.	72 / 7	Lewis Wood House	18th century three-bay, two-story Half House.	SCPB 178
145.	71 / 15	J.B. Vanderveer House	Village house and former store of J.B. Vanderveer, "Dealer in Gen. Merchandise and Clothing," in the mid-19th century. House built in three sections: real ell 1830 - 1840; right side circa 1845; left side circa 1865.	SCPB 188
146.	71 / 14	Hoffman House	Queen Anne House, gabled slate roof, wood and shingles. Built by Tom Hoffman, circa 1890.	Demolished
147.	59 / 13.01	Cromwell House	19th century New Jersey Farmhouse.	Demolished
148.	59 / 11	Great Pluckemin Stone Mystery	65 massive stones in a row more than 150 feet long in a wooded section north of Pluckemin. Cultural feature placed there either by Indians or early farmer. May be the remnants of an early dam.	SCPB 157,
149.	59 / 1 & 10	Artillery Park	Site of the 1778 - 1779 winter encampment of General Henry Knox and the Continental Artillery. Later a military hospital and militia training area. Investigation conducted by the Pluckemin Archeological Project, an historical and archeological research group.	SCPB 101,
150.	59 / 10	Higgins House	American Country House built in stages. Oldest part is circa 1930.	Demolished

APPENDIX B INVENTORY OF BEDMINSTER TOWNSHIP'S DEED-RESTRICTED LOW AND MODERATE INCOME UNITS

Rental Units

Inventory		Deed	Restriction	Data
Rental Units by Neighborhood	Number of Units	Date Imposed	Duration	Expiration
Parkside	54	1987	15 years	2002
Cortland	48	1990	15 years	2005
Pluckemin Senior Housing	50	1995	permanent	none
Total rental units	152			

Sales Units

Inventory		Deed	Restriction	Data
Sales Units by Neighborhood	Number of Units	Date Imposed	Duration	Expiration
Village Green	260	1984	40 years	2024
Parkside	162	1987	30 years	2017
Timberbrooke	4	1989	30 years	2019
Cortland	96	1990	30 years	2020
Timberbrooke	20	1994	30 years	2024
Scattered Site Rehabilitation	4	1995	6 years	2001
Total Sales Units	546			

Total of All Rental and Sales Units	698

APPENDIX C DEMOGRAPHIC AND HOUSING SUMMARY

INTRODUCTION

This element presents general demographic and housing information for Bedminster Township and analyzes the changes that have occurred over time in population, housing and income characteristics. Although past trends do not necessarily guarantee those of the future, they do provide an historic sense of direction and call attention to emerging trends.

SUMMARY OF DEMOGRAPHIC TRENDS

The demographic trends in the Township between 1990 and 2000 can be summarized as follows.

Population

1. From 1990 to 2000 Bedminster experienced a 17.2 percent population increase (1,218 persons) compared to Somerset County's 23.4 percent increase.

2. From 1990 to 2000 Bedminster Township and Somerset County's main population growth was in the 35-44 age cohorts, the "baby boom" generation. The 35-44 age cohort increased from 19.0 percent of the population to 22.3 percent in the Township. The 45-54 age cohort increased from 11.0 percent to 16.2 percent.

3. During this same time period, there were large population increases in the 5-17 age cohort, also known as the "baby boom echo" generation. The 5-17 age cohort increased from 10.0 percent to 12.3 percent of the population.

4. The Township's median age grew older from 1990 to 2000. It increased from 33 to 39.3. The percentage of 55+ increased from 16 percent to 20.9 percent of the population.

5. The race compositions of the Township remained about the same between 1990 and 2000.

6. By the year 2020, Rutgers estimates that Bedminster's population is expected to increase to approximately 11,478 persons.[8]

7. Based on the rate of growth experienced between 1990 and 2000, Bedminster's population would increase to 10,738 by 2020. However, the growth during the second half of the decade was considerably slower than during the early 1990's, as reflected in the fact that 82% of the total number of building permits issued between 1991 and 2000 were issued between 1991and 1995.

[8] This projection is from The Impact Assessment of the New Jersey State Plan as performed by the Center for Urban Policy Research at Rutgers University.

8. Assuming a population growth rate similar to that of the second half of the 1990's, the 2020 Bedminster population will increase by roughly 1,730 persons to 10,032 (8,302+1,730).

Household characteristics

1. From 1990 to 2000 Bedminster's' average household size decreased from 2.06 persons to 1.96 persons per household. Family size has also decreased from 2.94 to 2.76.

2. In 2000 approximately 40.8 percent of Bedminster's households were married couple families.

3. In 1999 Bedminster's median household income was $71,550 or $5,383 less than Somerset County's median income, but $16,404 greater than the State's median income.

Housing Stock

1. Approximately 25.6 percent of Bedminster's 2000 housing stock consisted of single family detached homes.

2. In 2000 housing units with six or more rooms accounted for approximately 41 percent of Bedminster's total housing stock, less than Somerset County's 63.4 percent.

3. Approximately 88.9 percent of Bedminster's households moved into their 2000 residences after 1990. Approximately 65 percent of Somerset County's households moved into their 2000 residences after 1990.

4. In 2000 the median housing value in Bedminster Township was $228,000, or $7,000 less than Somerset County's median housing value.

5. 61.5 percent of Bedminster's 2000 housing stock was valued at $200,000 or more.

6. None of Bedminster's 2000 housing stock lacked complete plumbing facilities. Less than one percent was overcrowded.

DEMOGRAPHIC CHARACTERISTICS

Population Trends

Between 1970 and 2000, Bedminster Township generally followed Somerset County and New Jersey State population trends. As shown in Table 51, there was little or no growth from 1970 to 1980 and substantial increases between 1980 and 1990. Part of the reason was new home construction, particularly condos and townhouses, in the Hills development. The Township and the County also saw increases from 1990-2000. The Township's population increased by 17.2 percent, a lower rate than the County's 23.8 percent.

TABLE 51 - POPULATION CHANGE, 1970 TO 2000

Year	Somerset County			Bedminster Township		
	Population	Number Change	Percent	Population	Number Change	Percent Change
1970	198,372			2,597		
1980	203,129	4,757	2.40%	2,469	-128	-5%
1990	240,279	37,150	18.30%	7,084	4,615	186.90%
2000	297,490	57,211	23.80%	8,302	1,218	17.20%

Source: U.S. Bureau of the Census, 1970 – 2000

Population Age Distribution

The age-segmented population increases in both Bedminster Township and Somerset County again followed national trends, although the increases in Bedminster were slightly lower. As shown in Tables 52 and 53, the Township and County's major growth surge occurred in the 35-44 and 45-54 age groups - the baby boom generation - consisting of those born from about 1946 through 1965. The County experienced a 42.6 percent increase in the 35-44 age cohort and a 52.6 percent increase in the 45-54 age cohort while the Township experienced 34.2 and 83.4 percent increases in these cohorts respectively. This baby boom generation represents the major population force nationally as well as locally.

Another significant increase occurred in the 5-14 population cohort. This age group contains the children that will fuel the school population for this decade. From 1990 to 2000, the Township and County experienced approximately 51.3 and 57 percent increases in this age group, respectively. In Bedminster, the actual increase in numbers was significant - from 536 to 811 children. These children are now entering the school system and will continue to represent the bulge in enrollments over this decade.

These children comprise the "baby boom echo" generation, which consists of the baby boomers' children. The increase in this population group is attributed to the vast size of the baby boom cohort and not an increase in the birth rate. The large number of baby boomers produced a large number of offspring accounting for the increase in the 5-14 population cohort.

Another change that will have an impact on Bedminster is in the 25-34 age cohort. This cohort decreased from 32 percent of the population to 19.2 percent. This decrease is reflected nationally as well as in the Township and portends a decrease in demand for goods and services for young adults. In addition, it will eventually have an impact on the housing market - reducing first home demands.

Lastly, the number of individuals aged 55 and older is significant. This age group has a variety of housing and consumer needs. For example, the younger members of the cohort may desire condominiums or smaller single-family dwellings while those in their late seventies or

eighties may need assisted living facilities. A small percentage may require nursing homes. In 2000, the 55 and older age group accounted for approximately 22 percent of Bedminster' population. The number of persons in this age group is expected to mount, as the oldest of the baby boomers will enter it in the year 2001.

TABLE 52 - POPULATION BY AGE, 1990 AND 2000 BEDMINSTER TOWNSHIP

	2000		1990		Change	
Age	**# of Persons**	**Percent**	**# of Persons**	**Percent***	**# of Persons**	**Percent***
Under 5	482	5.8	488	6.9	-6	-1.2
5-14	811	9.8	536	7.6	275	51.3
15-24	500	6.0	645	9.1	-145	-22.5
25-34	1,590	19.2	2,266	32	-676	-29.8
35-44	1,759	21.2	1,311	18.5	448	34.2
45-54	1,368	16.5	746	10.5	622	83.4
55-64	902	10.9	578	8.2	324	56.1
65-74	543	6.5	327	4.6	216	66.1
75-84	283	3.4	134	1.9	149	111.2
85 and over	64	0.8	55	0.8	9	16.4
Totals:	**8,302**	**100**	**7,086**	**100.00**	**1,216**	**17.2**

Source: U.S. Bureau of the Census, 1990 – 2000

TABLE 53 - POPULATION BY AGE, 1990 AND 2000 SOMERSET COUNTY

	2000		1990		Change	
Age	**# of Persons**	**Percent**	**# of Persons**	**Percent***	**# of Persons**	**Percent***
Under 5	22,207	7.5	16,862	7	5,345	31.7
5-14	43,337	14.6	27,603	11.5	15,734	57
15-24	27,962	9.4	28,883	12	-921	-3
25-34	42,367	14.2	48,028	20	-5661	-13
35-44	58,297	19.6	40,891	17	17,406	42.6
45-54	43,861	14.7	28,739	12	15,122	52.6
55-64	26,078	8.8	23,260	9.7	2,818	12.1
65-74	17,770	6.0	15,865	6.6	1,905	12
75-84	11,482	3.9	7,429	3.1	4,053	54.6
85 and over	4,129	1.4	2,719	1.1	1,410	51.9
Totals:	**297,490**	**100**	**240,279**	**100.00**	**57,211**	**23.8**

Source: U.S. Bureau of the Census, 1990 and 2000

Race and Gender

Bedminster Township remains a predominantly white community with a small but increasing percentage of minorities. Whites comprised 90.1 percent of the Township's 2000 population compared to 95.3 percent in 1990, as shown in Table 54. In Somerset County, the percentage of minorities increased from 12 percent to 20.7 percent between 1990 and 2000. The number of minorities in Bedminster has increased by 1,147 persons between 1990 and 2000. The majority of the increase occurred in the Asian population. From 1990 to 2000 the number of Asians in Bedminster increased by 349 persons, from 2.6 to 6.4 of the population. The number of persons of Asian decent in Somerset County increased by 14,514 persons, from 10,548 to 25,062. In 2000, 46.2 percent of the Township's population was male while 53.8 percent was female.

TABLE 54 - RACE AND GENDER, 1990 AND 2000 BEDMINSTER TOWNSHIP

	2000		1990		Number Change	
Race	**Number**	**% of Total Population**	**Number**	**% of Total Population**	**Number**	**Percent**
White	7,476	90.1	6,753	95.3	723	10.7
Black	145	1.7	119	1.7	26	21.8
American Indian, Eskimo, Aleut	9	.1	7	.1	2	28.6
Asian or Pacific Islander	534	6.4	185	2.6	349	188.6
Other Race	69	.8	22	.3	47	213.i
Total	**8,233**[9]	**100**	**7,086**	**100**	**1147**	**16.2**
Gender						
Male	3,836	46.2	3,317	46.8	519	15.6
Female	4,466	53.8	3,769	53.2	697	18.5
Total	**8,302**	**100**	**7,086**	**100**	**1216**	**17.2**

Source: U.S. Bureau of the Census, 1990 and 2000

[9] Lower figure reflects the number that answered the question.

TABLE 55 RACE AND GENDER, 1990 AND 2000 SOMERSET COUNTY

	2000		1990		Number Change	
Race	**Number**	**% of Total Population**	**Number**	**% of Total Population**	**Number**	**% of Total Population**
White	236,042	79.3	211,384	88	24,658	11.7
Black	22,396	7.5	14,824	6.2	7572	51
American Indian, Eskimo, Aleut	375	.1	243	.1	132	54.3
Asian or Pacific Islander	25,062	8.4	10,548	4.4	14,514	137.6
Other Race	13,615	4.5	3,280	1.4	10,335	315
Total	**297,490**	**100**	**240,279**	**100**	**57,211**	**23.8**
Gender						
Male	145,241	48.8	118,089	49.2	27,152	23
Female	152,249	51.2	122,190	50.8	30,059	24.6
Total	**297,490**	**100**	**240,279**	**100**	**57,211**	**23.8**

Source: U.S. Bureau of the Census, 1990 & 2000

HOUSEHOLD CHARACTERISTICS

Household Size

In general, household size is decreasing nationally and locally. Various trends during the late 1960s and 1970s contributed to the reduction in household size and are continuing. These include the tendency to marry at later ages, increases in divorces, increases in the number of elderly living alone and the desire of single persons to maintain their own household. Collectively, these trends have resulted in reductions in household size, which has a major impact on the housing market. Obviously, unmarried and single individuals in their twenties and thirties have different shelter needs than do those who are married with children.

Bedminster Township and Somerset County both followed the trend of declining household size in the past. However, as shown in Table 57, the Township's 1990 median household size was 2.54 and the 2000 median household size went slightly up to 2.58. Likewise, the County's 1990 median household size was 2.67, which increased to 2.69 in 2000. This increase in slight but it is yet to be determined if household size will continue to increase in the future.

The household size in Bedminster Township is seen in Table 57. The number of one-person households increased from 22.6 percent in 1990 to 26.4 percent in 2000. Two person households in the Township decreased from 35.3 and 30.6 percent, respectively, from 1990 to 2000. The number of single person households almost doubled - from 1,432 to 2,442

households. Two person households slightly rose - from 2,240 to 2,829 households. Meanwhile, households comprised of five or more persons slightly increased during the same time period.

TABLE 56 HOUSEHOLD CHARACTERISTICS- 1990 AND 2000 BEDMINSTER TOWNSHIP

	2000 Households		1990 Households		Change	
Household Size	**Number**	**Percent***	**Number**	**Percent***	**Number**	**Percent***
1 Person	1,857	43.8	1,210	35.1	647	53.5
2 Persons	1,391	32.8	1,362	39.4	29	2.1
3 Persons	511	12.1	478	13.9	33	6.9
4 Persons	306	7.2	290	8.4	16	5.5
5 Persons	118	2.8	88	2.6	30	34.1
6 or more Persons	55	1.3	21	0.6	34	161.9
Totals:	**4,238**	**100**	**3,449**	**100**	**789**	**22.9**

Source: U.S. Bureau of the Census, 1990 & 2000

TABLE 57 MEDIAN PERSONS PER HOUSEHOLD 1990 AND 2000

Year	**Bedminster Township**	**Somerset County**
2000	1.96	2.69
1990	2.06	2.67

Source: 1990 & 2000 U.S. Census

Household Type

The majority of the households in Bedminster are non-family households living alone as indicated in Table 58. Approximately half of the Township's total households comprise non-family households living alone.

As noted earlier, three and four person households have decreased in the Township. An interesting finding in Table 58 is that of the 1,059 married-couple households, 25 percent have no related children living with them.

Lastly, about 6.9 percent of the Township's households, or 291 houses, contain one or more persons aged 65 and over. This age group will continue to increase over the years as people are living longer than they did in the past.

TABLE 58 TYPES OF HOUSEHOLDS BEDMINSTER TOWNSHIP

Type of Household	Number in Subgroup	2000 Total	Percent
Total Households:		4,235	100
Family Households:		2,100	49.6
Married Couple Family:	1,727		40.8
w/related children	668		15.8
w/no related children	1,059		25.0
Female Householder, No Husband	293		6.9
w/related children	171		4.0
w/no related children	122		2.9
Non-Family Households Living Alone		2,135	50.4
One or More Persons, 65 Years or Over	291		6.9

Source: U. S. Bureau of the Census, 2000

Household and Per Capita Income

As shown in Table 59 Bedminster Township position has changed over the last ten years in medium income. The 1999 median household income in Bedminster was $71,550 or $5,383 less than Somerset County's median income. Conversely, the Townships' medium income in 1989 was $52,058 greater than the State's median income. Likewise, the Township's 1999 per capita income was $62,545 or more importantly $7, 026 greater than that of the County. The Township's medium income is still greater than the States' by $16, 404.

Bedminster Township has a per capita income of $53,549, which is $15,579 greater than that of the County maintaining the approximately level it was at in 1989 ($14,669).

Table 60 details Bedminster' 1999 household income distribution. Over 47.9 percent of Bedminster' households earn $75,000 or more annually. This is interesting since only 37.7 of Bedminster' population is in the 35-54 age group; a time when individuals typically earn higher incomes. However, it is also important to note that close to 11.3 percent of the households earn less than $25,000 per year, an amount that qualifies them for low income housing, depending on household size.

TABLE 59 - PER CAPITA AND HOUSEHOLD INCOME, 1989 AND1999 BEDMINSTER TOWNSHIP, SOMERSET COUNTY AND STATE OF NEW JERSEY

	1989 Median Income	1989 Per Capita Money Income	1999 Median Income	1999 Per Capita Money Income
Bedminster Township	$62,545	$39,780	$71,550	$53,549
Somerset	$55,519	$25,111	$76,933	$37,970

County				
State of New Jersey	$40,927	$18,714	$55,146	$27,006

TABLE 60 1999 HOUSEHOLD INCOME DISTRIBUTION BEDMINSTER TOWNSHIP AND SOMERSET COUNTY

	Bedminster Township		**Somerset County**	
Income	**# of Households**	**Percent**	**# of Households**	**Percent**
Less than $24,999	479	11.3	12,392	11.3
$25,000 - $49,999	747	10.6	19,641	18.0
$50,000 - $74,999	980	23.1	21,109	19.4
$75,000 - $149,999	1,313	30.9	36,689	33.6
$150,000 or more	719	17.0	19,239	17.6
Totals:	**4,238**	**100**	**109,070**	**100**

Source: U.S. Bureau of the Census, 2000

HOUSING STOCK

Type and Size Characteristics

The majority of the housing stock in Bedminster Township is single family attached housing as indicated in Table 61. In 2000, there were 1,729 single-family attached homes or 38.7 percent of the total housing stock. Of the remaining units, 25.6 percent were single-family detached units and 35.4 percent were in structures that contained two or more units.

In 2000, the majority of units in Bedminster had less than six or more rooms which accounted for approximately 59 percent of Bedminster' total housing stock in contrast to the 36.6 percent of Somerset County's total housing stock as shown in Table 61.

Bedminster' housing stock is relatively new. Almost 80 percent of the housing was built between 1980 and 2000. Less than 8 percent of the Township's housing was constructed prior to 1939.

TABLE 61 HOUSING UNIT DATA – 2000

	Bedminster Township		Somerset County	
Characteristics:	**Number**	**Percent**	**Number**	**Percent**
Total Units	**4,467**	**100**	**112,023**	**100**
Year Structure Built:				
1999-3/00	24	0.5	3,010	2.7
1995-1998	458	10.3	10,254	9.2
1990-1994	606	13.6	10,478	9.4
1980-1989	2,453	54.9	22,597	20.2
1970-1979	108	2.4	12,953	11.6
1960-1969	123	2.8	17,014	15.2
1940-1959	340	7.6	21,286	19.5
1939 or earlier	355	7.9	13,898	12.4
Units in Structure:				
One (Single Family Detached)	1,145	25.6	67,830	60.6
One (Single Family Attached)	1,729	38.7	16,243	14.5
Two or more Units	1,583	35.4	27,714	24.6
Mobile Home, Trailer, Other	10	0.2	217	.2
Number of Rooms:				
1 room	6	0.1	1,157	1
2 rooms	127	2.8	2,472	2.2
3 rooms	318	7.1	7,672	6.8
4 rooms	954	21.4	12,831	11.5
5 rooms	1,235	27.6	16,862	15.1
6 rooms	674	15.1	17,613	15.7
7 rooms	436	9.8	15,828	14.1
8 rooms	266	6.0	17,779	15.9
9+ rooms	451	10.1	19,809	17.7
Number of Bedrooms				
No bedroom	36	0.8	1,374	1.2
1 bedroom	559	12.5	12,828	11.5
2 bedrooms	2,253	50.4	26,754	23.9
3 bedrooms	1,143	25.6	33,933	30.3
4 bedrooms	274	6.1	29,440	26.3
5+ bedrooms	202	4.5	7,694	6.9

Source: U.S. Bureau of the Census, 2000

Tenure of Households

As shown in Table 62, 80.9 percent of Bedminster's households moved into their 2000 residences after 1990. The trend is similar in the county with 65 percent of residents moved into their homes after 1990. This trend is consistent with similar communities in regions with significant job growth occurring in recent decades.

Table 62 OCCUPIED HOUSING UNITS BY TENURE - 2000

	Bedminster		Somerset County	
Year Householder Moved Into Unit	**Number**	**Percent**	**Number**	**Percent**
1999 - 3/00	869	20.5	17,744	16.3
1995-1998	1,706	40.3	33,744	31
1990-1994	851	20.1	19,268	17.7
1980-1989	604	14.3	17,101	15.7
1970 - 1979	81	1.9	9,090	8.3
1969 or earlier	124	2.9	12,037	11
Totals:	**4,235**	**100**	**108,984**	**100**

Source: U.S. Bureau of the Census, 2000

Housing Values

In 2000, housing values in Bedminster were slightly lower than housing values in Somerset County. As shown in Table 63, Bedminster's 2000 median housing value was $228,000 or $7,000 less than the County's 2000 median housing value. Almost 62 percent of Bedminster' 2000 housing stock was valued at $200,000 or more compared to approximately 60 percent of Somerset County's 2000 housing stock in this range. Only 5.4 percent of Bedminster' housing units and 2.8 percent of Somerset County's housing units were valued below $100,000 in 2000.

TABLE 63 HOUSING VALUES - 2000

	Bedminster		Somerset County	
Value	**Number**	**Percent**	**Number**	**Percent**
Less than $99,999	118	5.4	2,022	2.8
$100,000-$199,999	717	33.1	27,625	37.6
$200,000 -$299,999	731	33.7	18,836	25.7
$300,000-$499,999	425	19.6	17,162	23.4
$500,000 -$999,999	162	7.5	6,647	9.1
$1,000,000 or more	16	0.7	1,071	1.5
Total:	**2,169**	**100**	**73,363**	**100**
Median Value:	**228,000**		**235,000**	

Source: U.S. Bureau of the Census, 2000

Housing Conditions

The condition of housing in Bedminster is excellent. Table 64 details the condition of the Township's 2000 housing stock based upon the existence of complete plumbing facilities and overcrowded units, factors customarily used to determine housing deficiency. As in 1990 no units lacked complete plumbing, but in 2000 75 units were considered overcrowded. Even with the increase of overcrowded units, these units total less than 2 percent of the Township's 2000 housing stock.

TABLE 64 INDICATORS OF HOUSING CONDITIONS: 1990& 2000
BEDMINSTERTOWNSHIP

	2000		1990		Change	
	Number	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Total Housing Units	4,235	100	3,757	100.00	2,827	12.7
Lacking Complete Plumbing	0	0	0	0	0	0
Overcrowded Units*	75	1.8	39	.01	36	.92

Source: U.S. Bureau of the Census, 1990 and 2000.
*Any unit with 1.01 or more persons per room was considered overcrowded.

Housing Construction

Table 65 details the dwelling units authorized by building permits since 1980 and the number of units demolished. During the 21-year period between 1980 and 2001, there were a total of 3,741 dwelling units authorized by building permits. Approximately 83.5 percent, or 3,126 of the units, were single-family homes, 252 units more than reported in the census. Therefore many of the permits may have been for alterations, modifications and additions to existing dwellings.

The most active years were 1984, 1986 and 1987. The number of building permits that were issued during these years comprises 56 percent of all building permits issued between 1980 and 2001.

TABLE 65 DWELLING UNITS AUTHORIZED BY BUILDING PERMITS 1980-2000

Year	Total	Single-Family	2-4 Family	5+ Family	Demolitions
2001	7	7	0	0	
2000	4	4	0	0	1
1999	5	5	0	0	
1998	34	34	0	0	
1997	24	24	0	0	3
1996	35	35	0	0	0
1995	172	146	26	62	0
1994	96	48	23	25	2
1993	155	40	0	115	0
1992	13	3	0	10	0
1991	33	3	0	30	1
1990	33	13	0	20	0
1989	378	246	0	132	1
1988	295	132	0	163	3
1987	636	636	0	0	2
1986	744	742	2	0	2
1985	48	48	0	0	2
1984	728	728	0	0	0
1983	253	184	69	0	0
1982	43	43	0	0	0
1981	1	1	0	0	0
1980	4	4	0	0	1
Totals:	**3,741**	**3,126**	**118**	**557**	**18**[10]

Source: Summary of Residential Building Permits, 1980-2001, NJ Department of Labor.

POPULATION FORECAST

2020 Population

By the year 2020, Rutgers estimates that Bedminster's population will increase to approximately 11,478 persons.[11] However, based on the rate of growth experienced between 1990 and 2000, Bedminster's population would likely increase to 10,738 by 2020. Nonetheless, if the rate of growth during the second half of the 1990's is assumed, an even slower growth in population is likely. The pace of development was considerably slower than during the early 1990's, as reflected in the fact that 82% of the total number of building permits issued between 1991 and 2000 were issued between 1991and 1995. Assuming a population growth rate similar

[10] Data is lacking for 1998, 1999 and 2001.

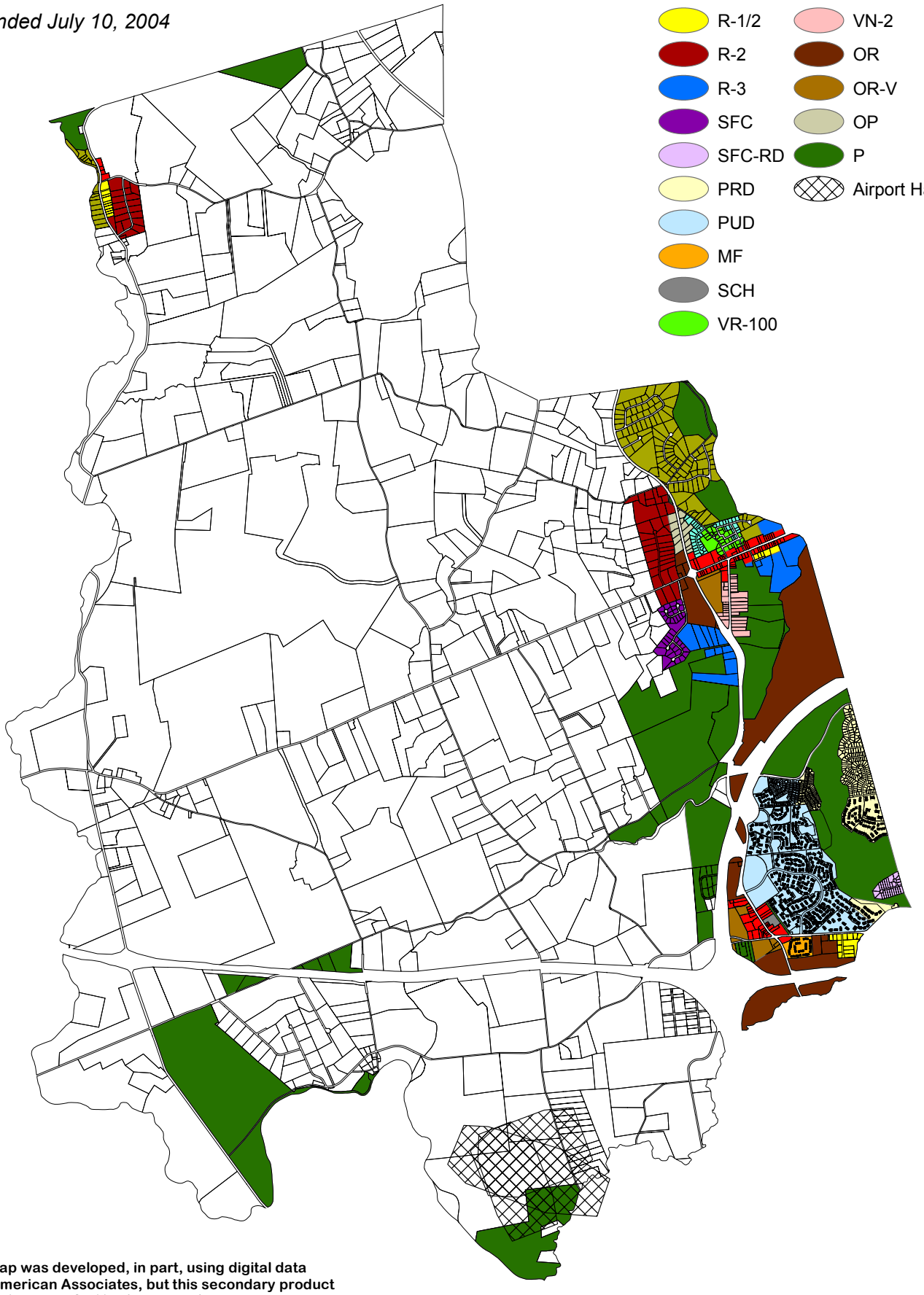
[11] This projection is from The Impact Assessment of the New Jersey State Plan as performed by the Center for Urban Policy Research at Rutgers University.

to that of the second half of the 1990's, the 2020 Bedminster population would increase by roughly 1,730 persons to 10,032 (8,302+1,730).

Figure 1 - Land Use Plan

Township of Bedminster

Amended July 10, 2004



This map was developed, in part, using digital data from American Associates, but this secondary product has not been verified by American Associates.

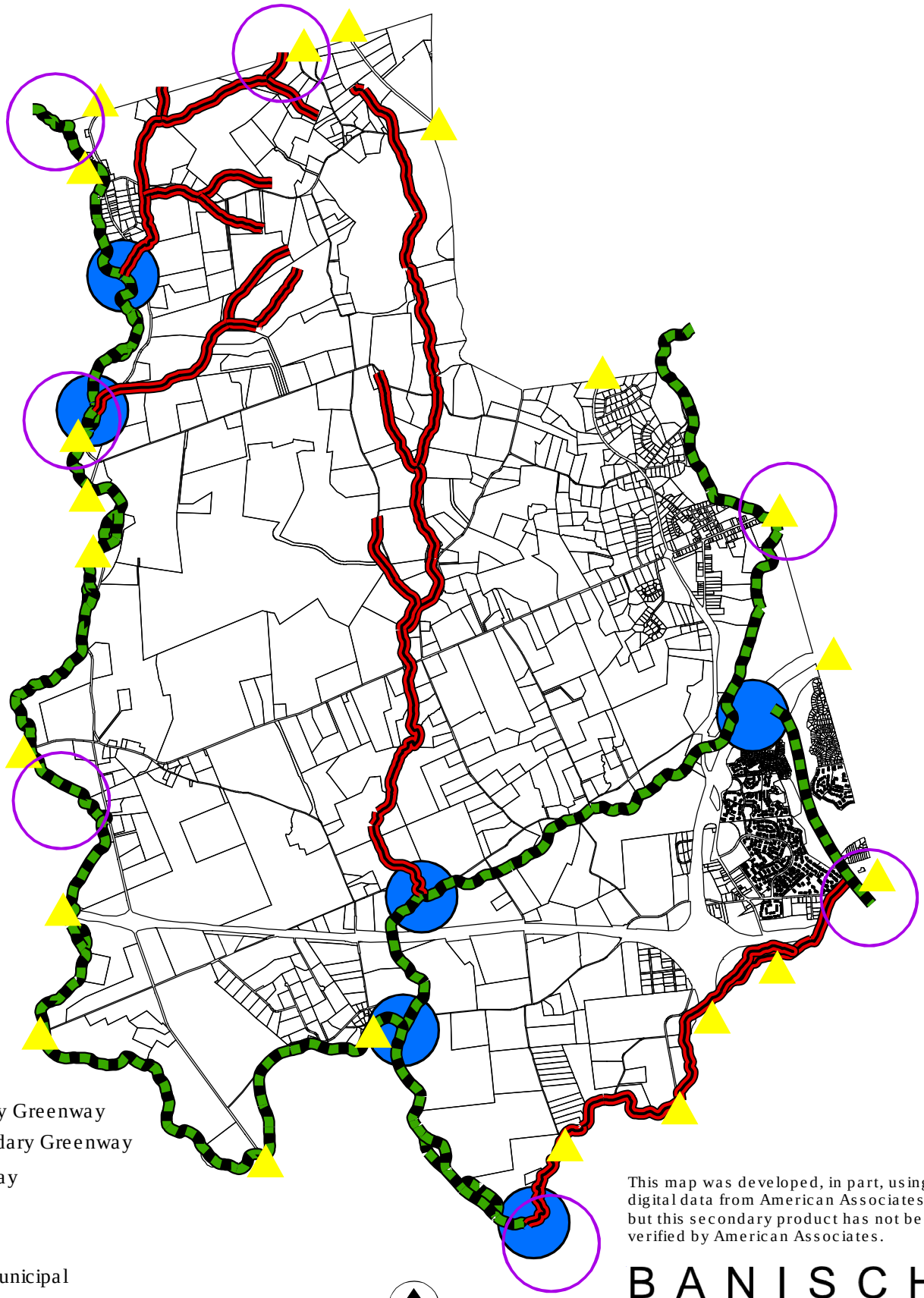
Data Sources:
American Associates
Ferriero Engineering
Banisch Associates, Inc.

0 0.5 1 2 Miles

BANISCH ASSOCIATES, INC.
Planning and Design

Figure 2 - Greenway Plan

Township of Bedminster



Legend

- Primary Greenway
- Secondary Greenway
- Gateway
- Node
- Intermunicipal

Data Sources:
American Associates
Banisch Associates, Inc.

0 0.5 1 Miles

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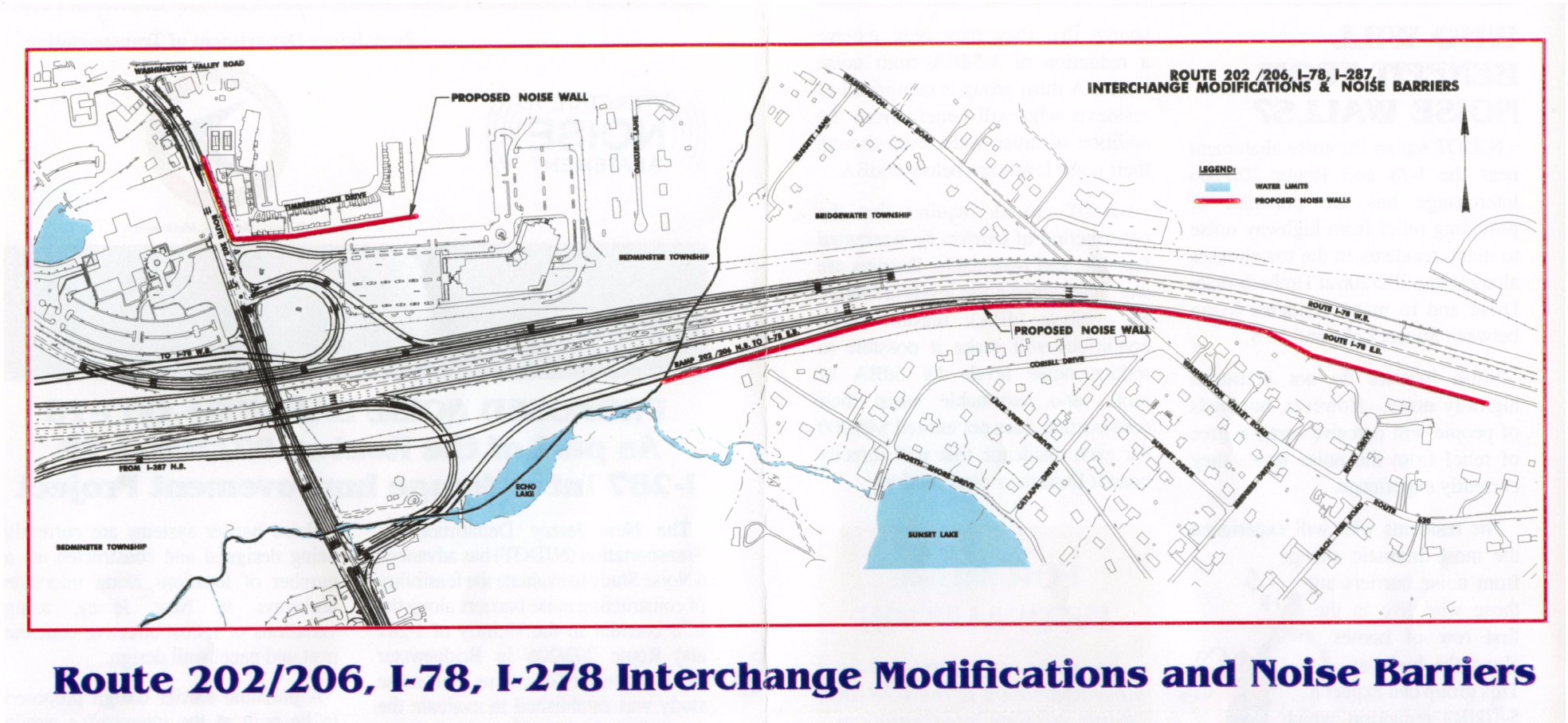
Figure 3 - Proposed Highway Modifications
Township of Bedminster



Route 202/206, I-78, I-278 Interchange Modifications and Noise Barriers

Data Source:
NJDOT

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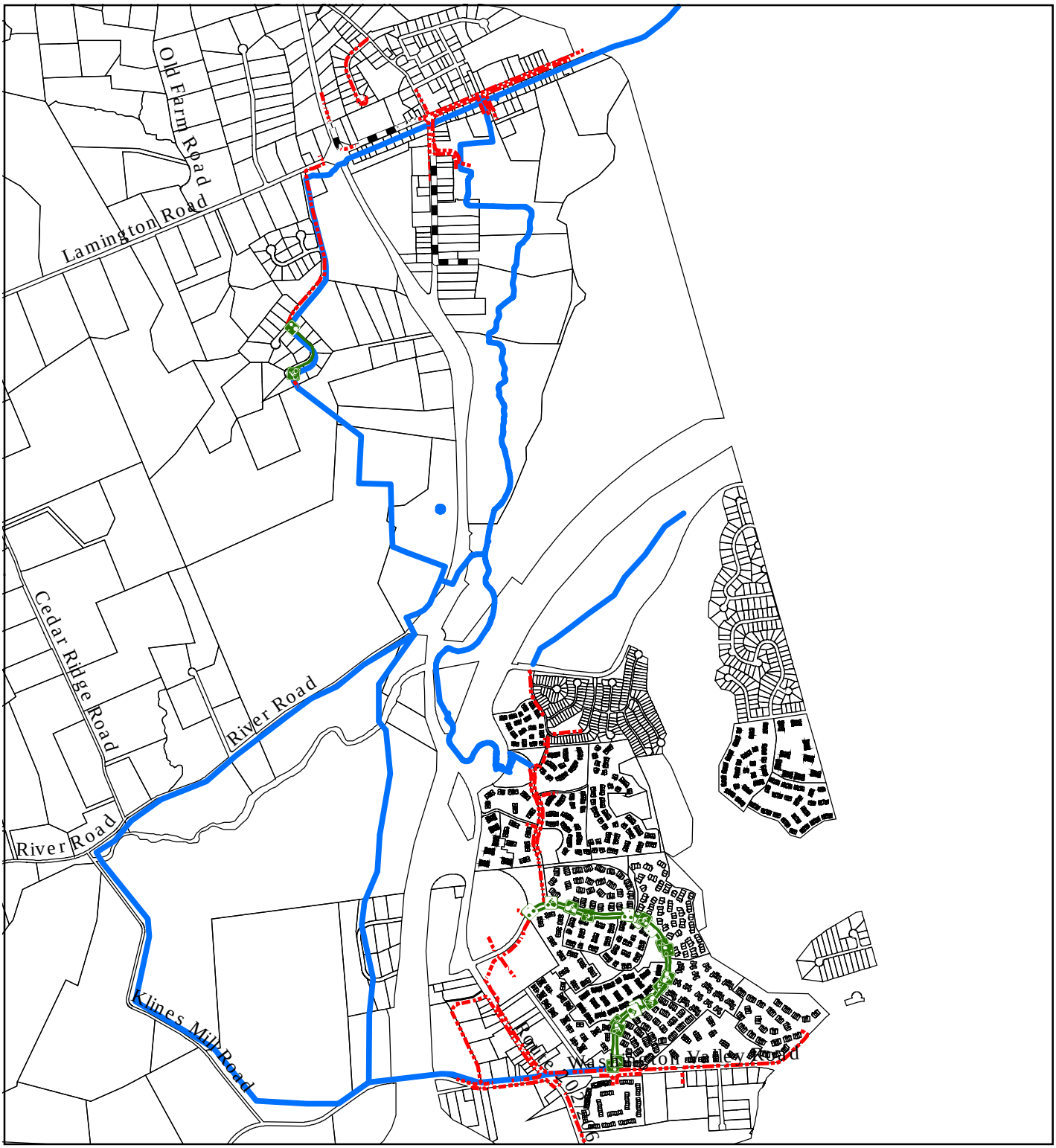
Figure 4 - Sidewalk and Bicycle System Map

Township of Bedminster



Legend

- Bike/Hike Trail
- Existing Sidewalk
- Proposed Sidewalk
- Existing Striped Bike Lane

Data Sources:
American Associates
Ferriero Engineering
Banisch Associates, Inc.

0 500 1,000 2,000 3,000 Feet

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Figure 5- Community Facilities
Township of Bedminster

Legend

- Existing Facility
- Proposed Facility

Existing Community Facilities

1 Municipal Building
2 First Aid Squad
3 Elementary School
4 Public Works, Police/Court, Far Hills-Bedminster Volunteer Fire Co.
5 Library
6 Pottersville Fire Co.

Proposed Community Facilities

7 Municipal Building
8 Far Hills-Bedminster Volunteer Fire Co.

Data Sources:
American Associates
Banisch Associates, Inc.

0 0.5 1 2 Miles

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Figure 6 - Future Sewer Service Areas

Township of Bedminster

Data Sources:
American Associates
Upper Raritan Watershed Assoc.
American Associates

0 0.5 1 2 Miles

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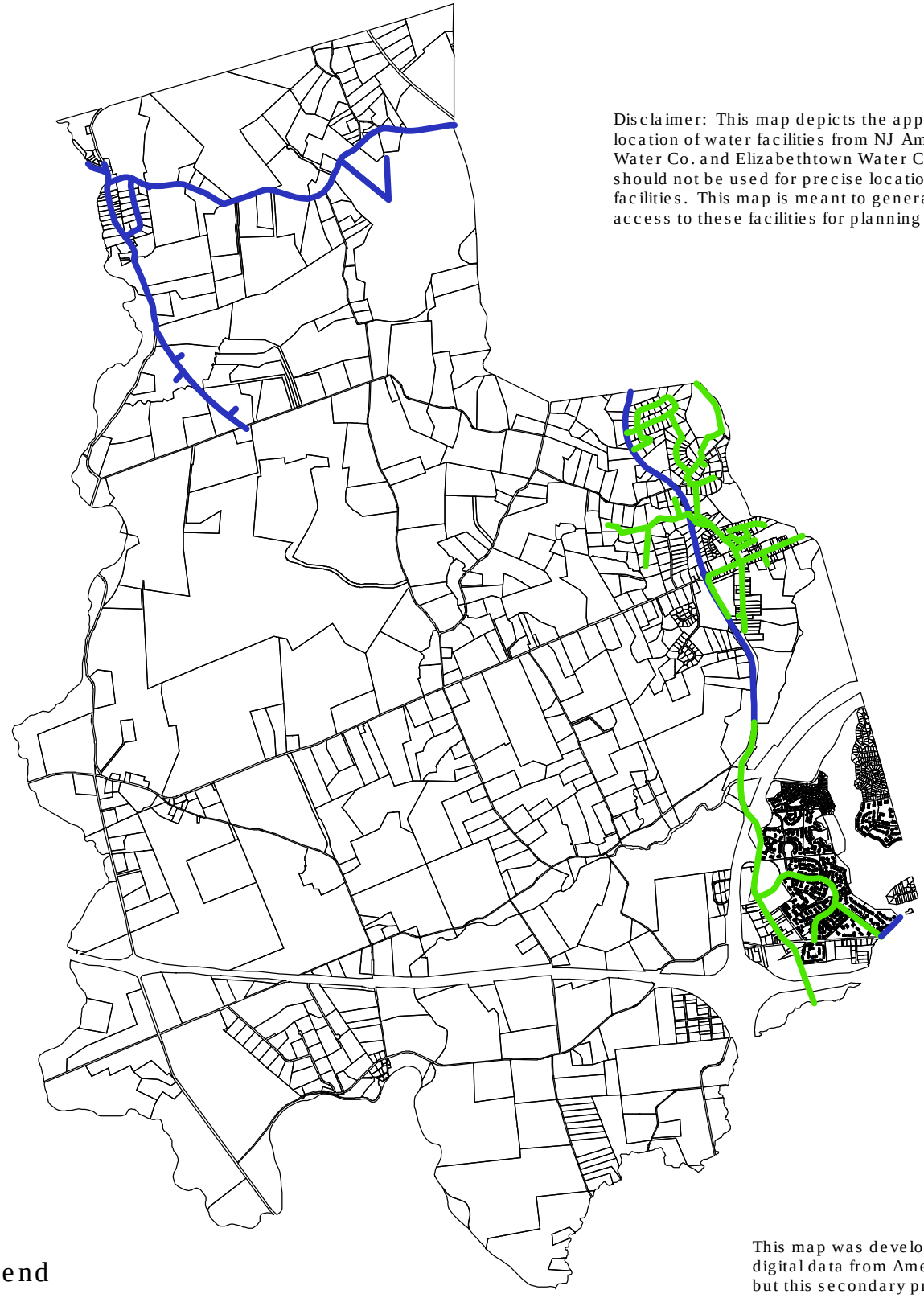
Figure 7 - Water Facilities
Township of Bedminster



Disclaimer: This map depicts the approximate location of water facilities from NJ American Water Co. and Elizabethtown Water Co. and should not be used for precise location of said facilities. This map is meant to generalize access to these facilities for planning purposes.

Legend

- Elizabethtown Water Co.
- NJ American Water

Data Sources:
American Associates
NJ American Water
Elizabethtown Water Co.

0 0.5 1 2 Miles

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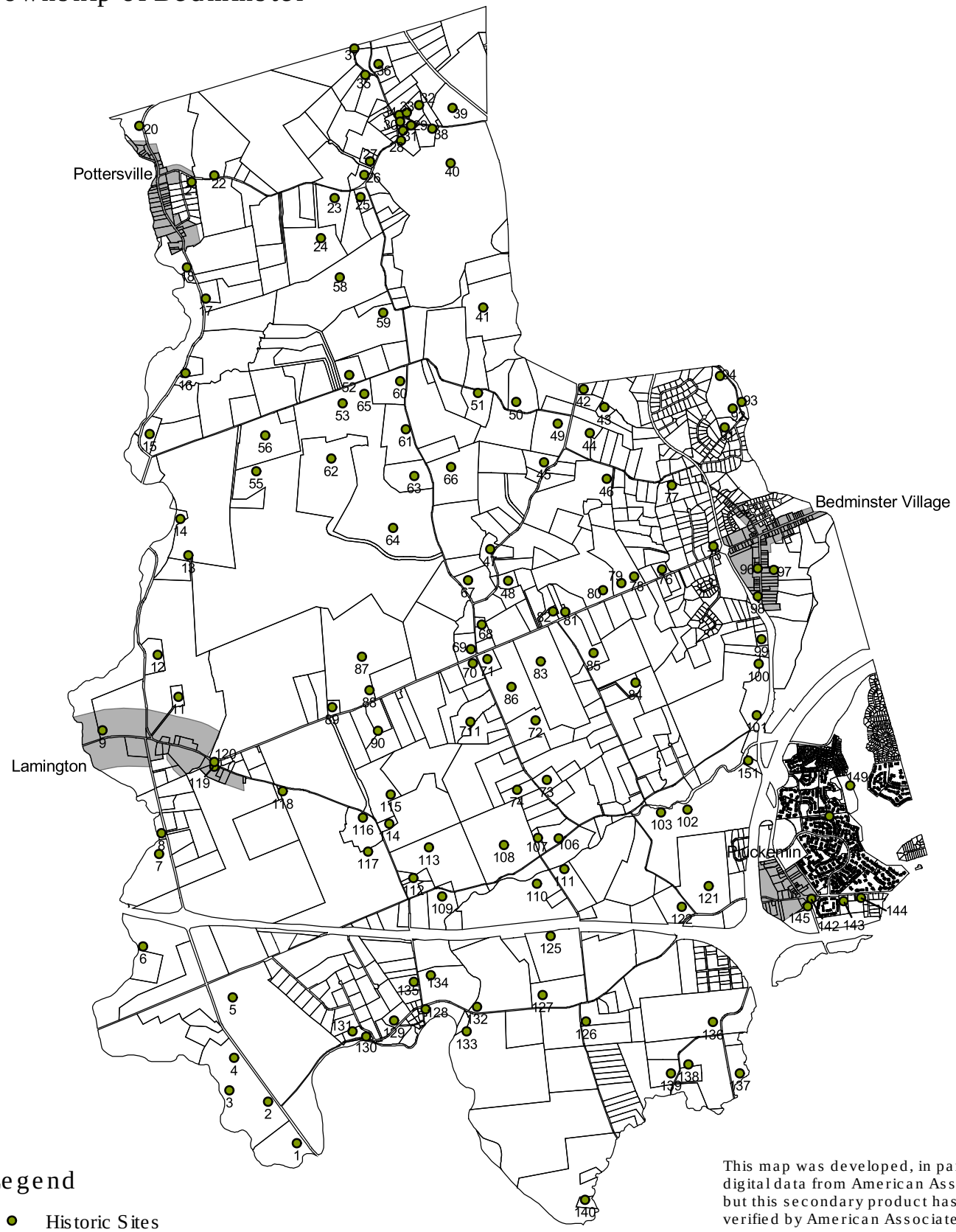
Figure 8 - Historic Points and Districts

Township of Bedminster



Legend

- Historic Sites
- Historic District

Data Sources:
American Associates
Ferriero Engineering

0 0.5 1 2 Miles

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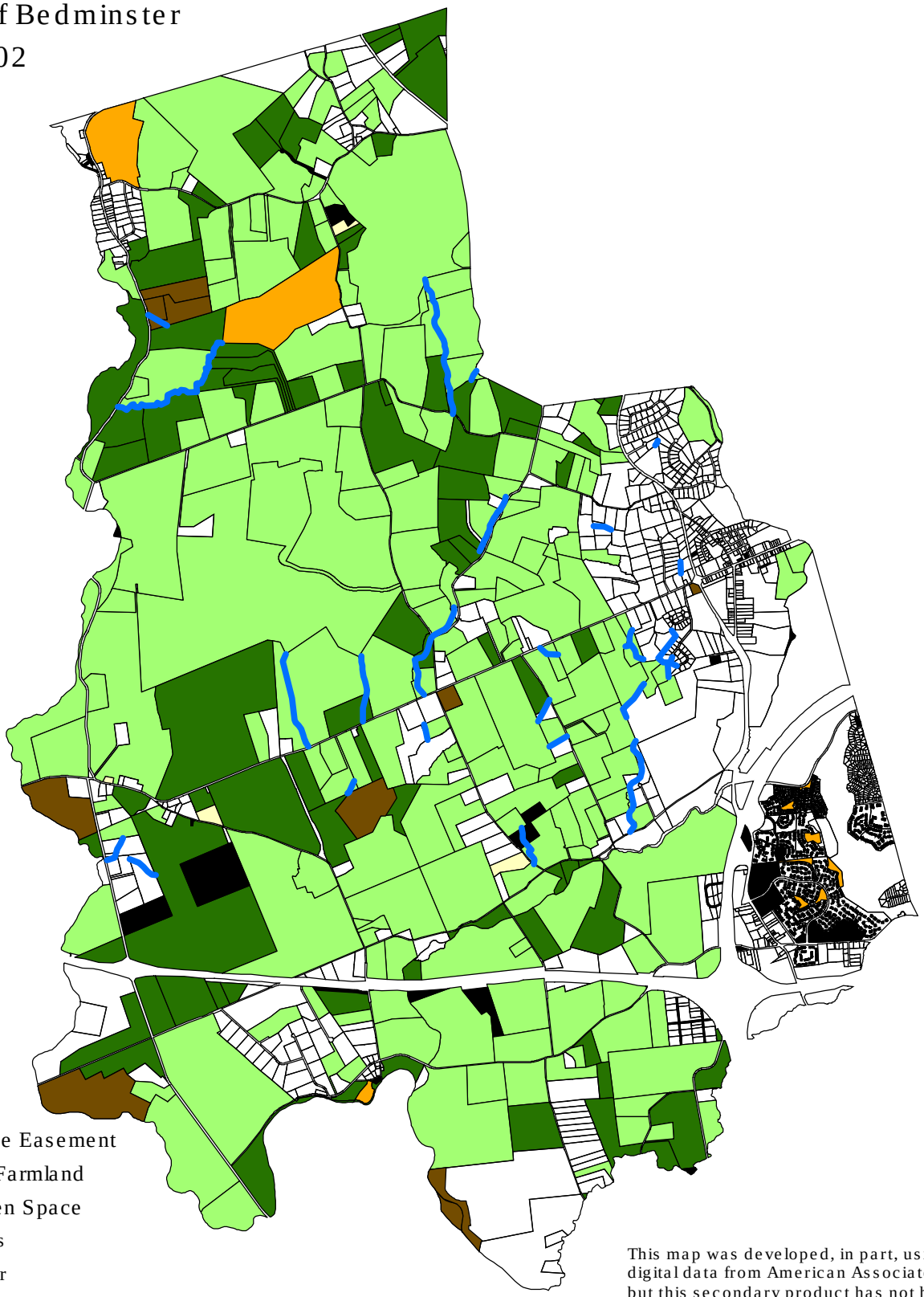
Figure 9 - Land Under Farm Assessment or Conservation Easement

Township of Bedminster

January 2002



Legend

- Open Space Easement
- Preserved Farmland
- Private Open Space
- Other Parcels
- Farm Regular
- Farm Regular/Farm Qualified
- Farm Qualified
- No Data

Data Sources:
American Associates
Banisch Associates, Inc.

0 0.5 1 2 Miles

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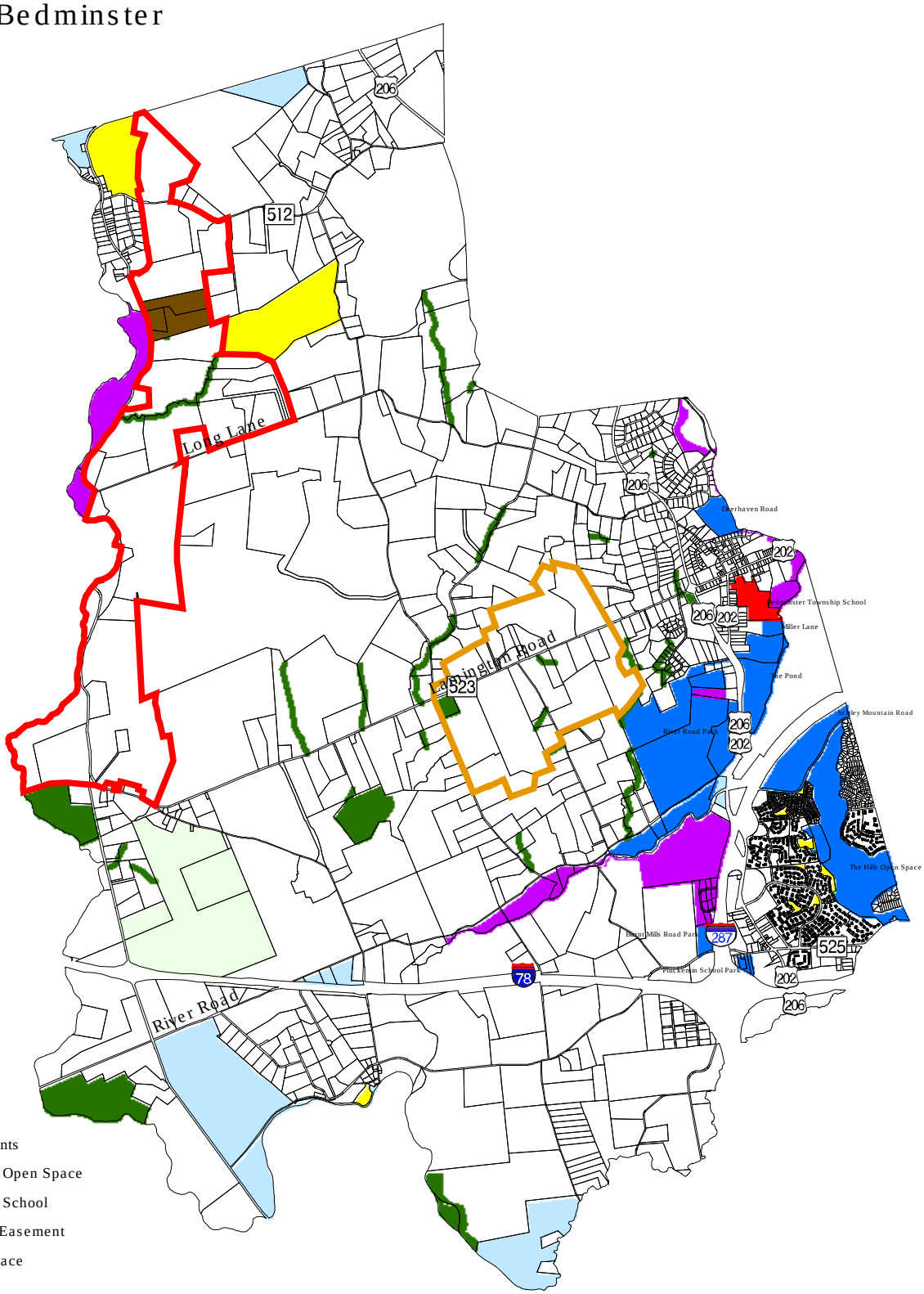
Figure 10 - Existing and Proposed Recreation, Open Space and Farmland Preservation

Township of Bedminster



Legend

- Open Space Easements
- Bedminster Township Open Space
- Bedminster Township School
- Existing Open Space Easement
- Other Public Open Space
- Private Open Space
- Proposed Open Space Acquisition
- Easement Donation

Farmland Preservation

- State Direct Easement Purchase Application
- Black River Corridor PIG Project Area
- Lamington Road East PIG Project Area

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0 0.5 1 2 Miles

Data Sources:
American Associates
Ferriero Engineering
Banisch Associates, Inc.

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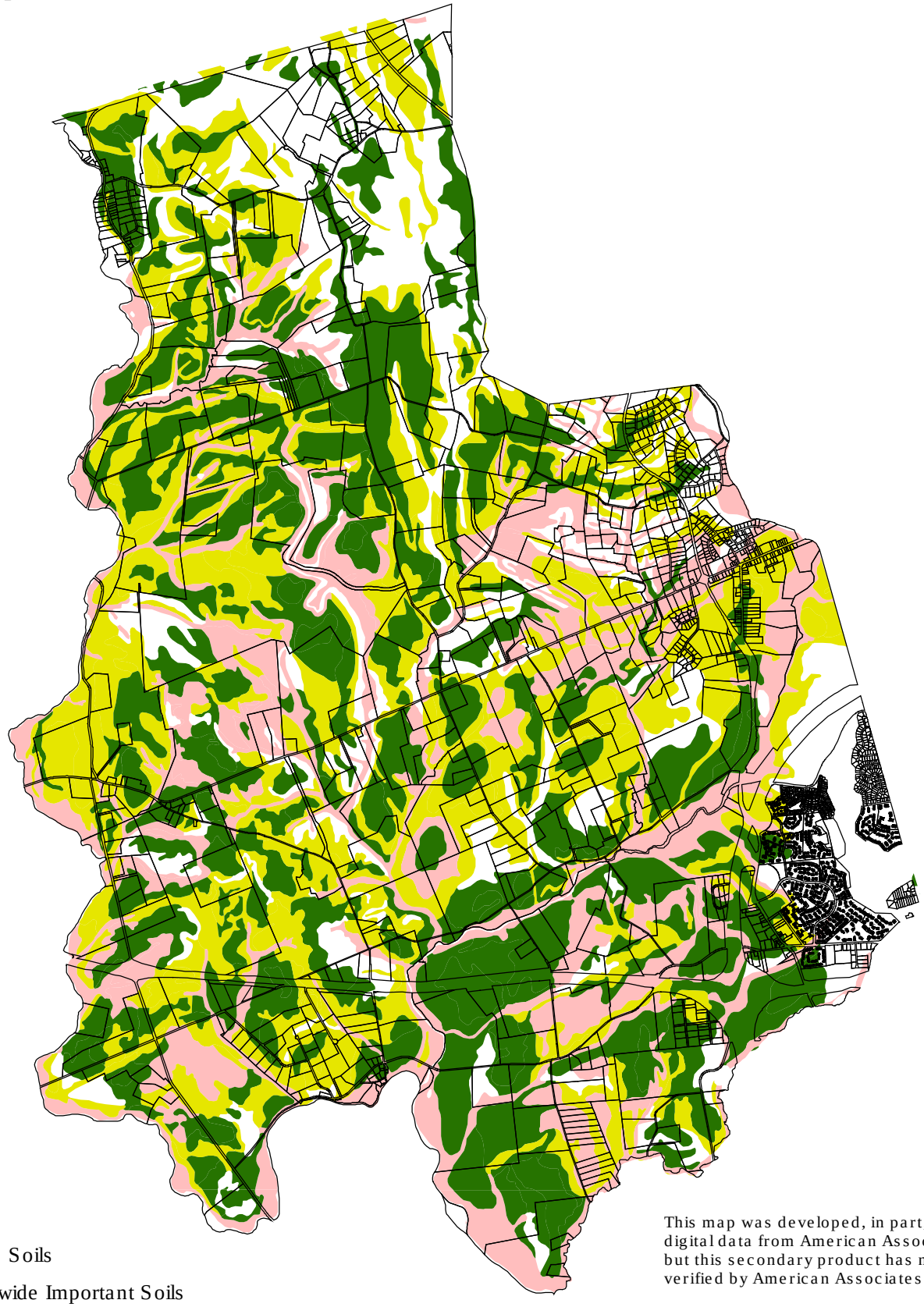
Figure 11 - Farmland Capability

Township of Bedminster



Legend

- Prime Soils
- Statewide Important Soils
- Locally Important Soils

Data Sources:
American Associates
USDA NRCS

0 0.5 1 2 Miles

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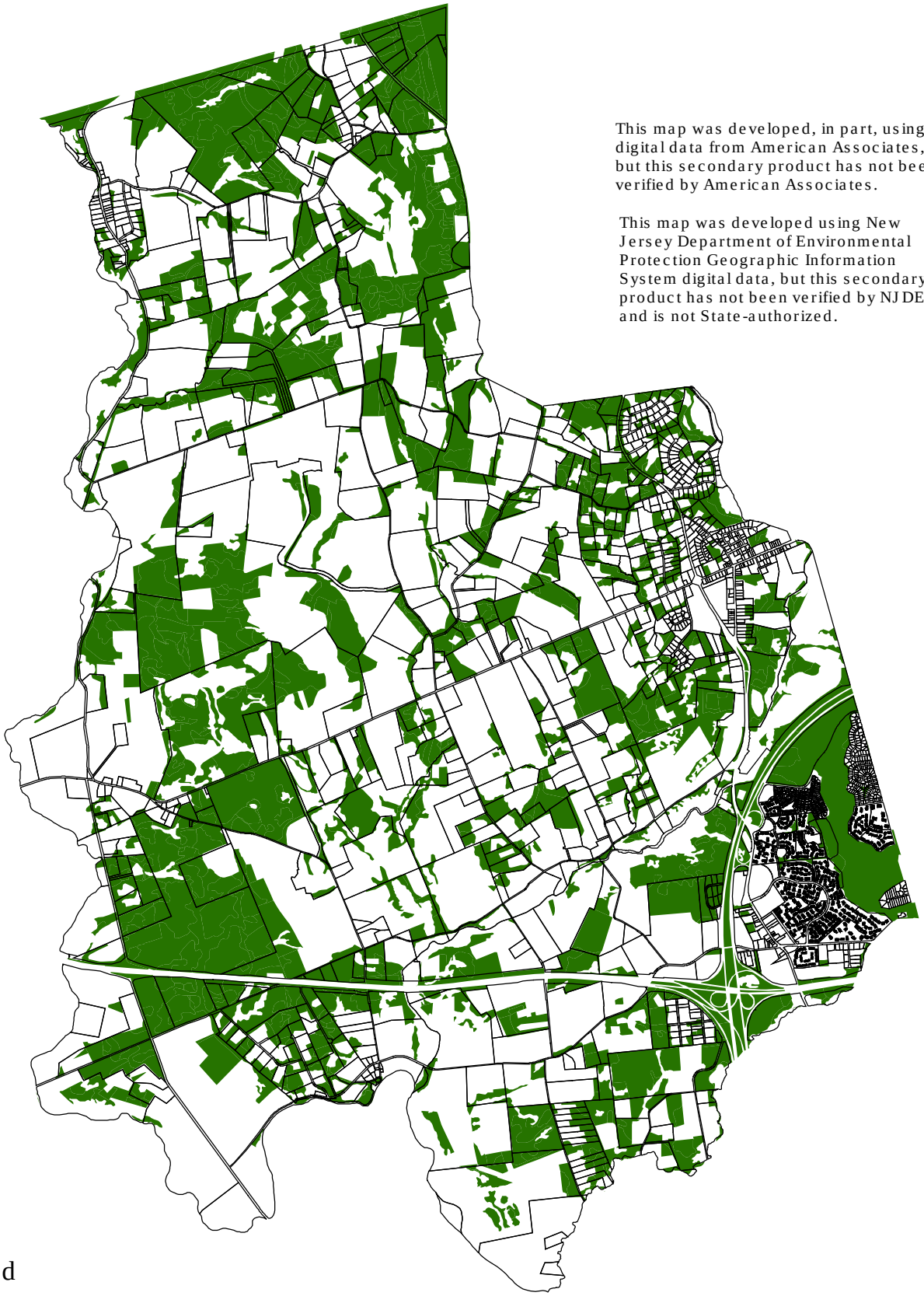
Figure 12 - 1995 Forested Areas

Township of Bedminster



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Legend

Forested Area

Data Sources:
American Associates
NJDEP

0 0.5 1 2 Miles

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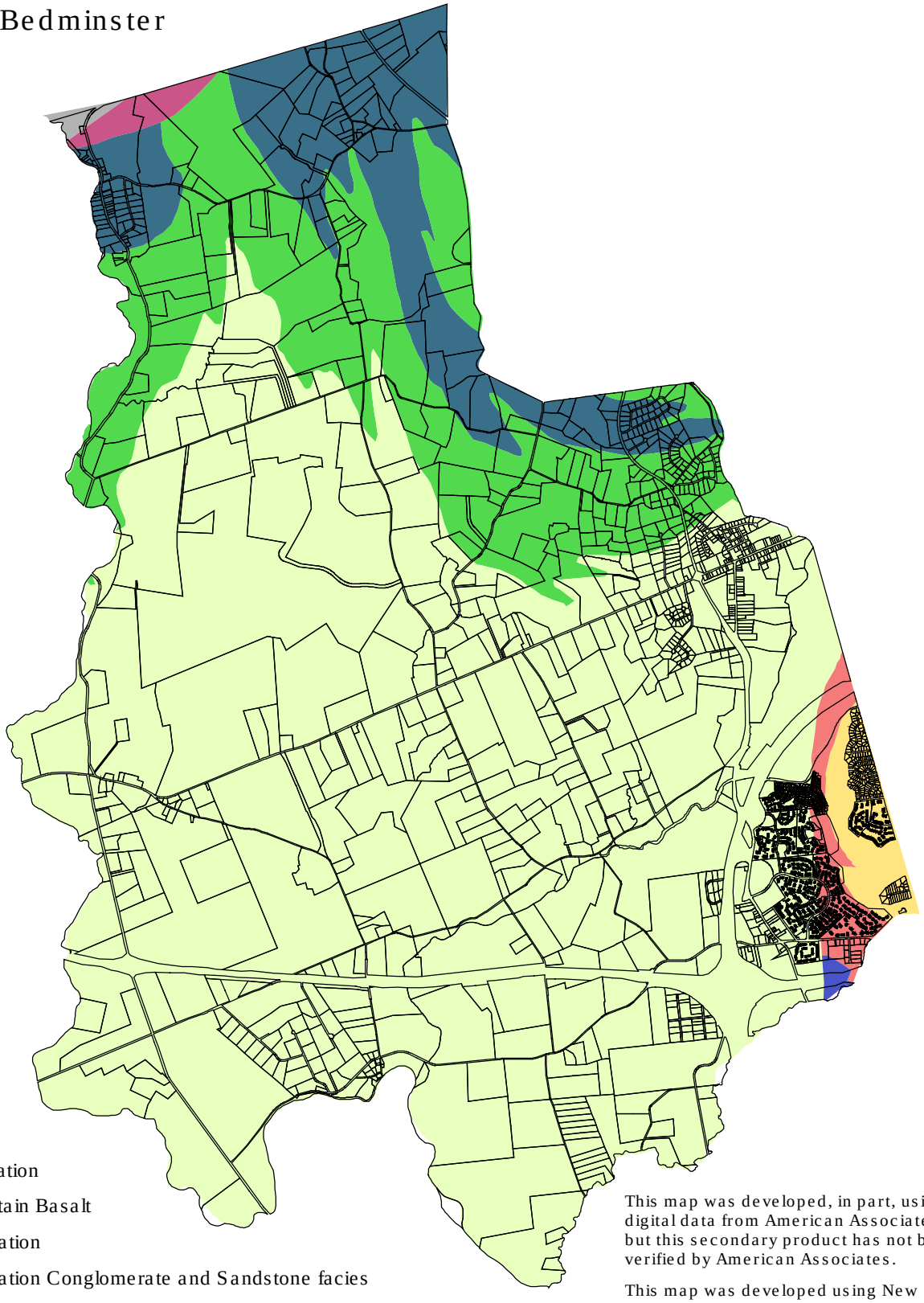
Figure 13 - Geology

Township of Bedminster



Legend

- Feltville Formation
- Orange Mountain Basalt
- Passaic Formation
- Passaic Formation Conglomerate and Sandstone facies
- Passaic Formation Limestone-clast Conglomerate facies
- Passaic Formation Quatzite-clast Conglomerate facies
- Preakness Basalt
- Quartz-Oligoclase Gneiss

Data Sources:
American Associates
NJ Geological Survey CD 00-1

0 0.5 1 2 Miles

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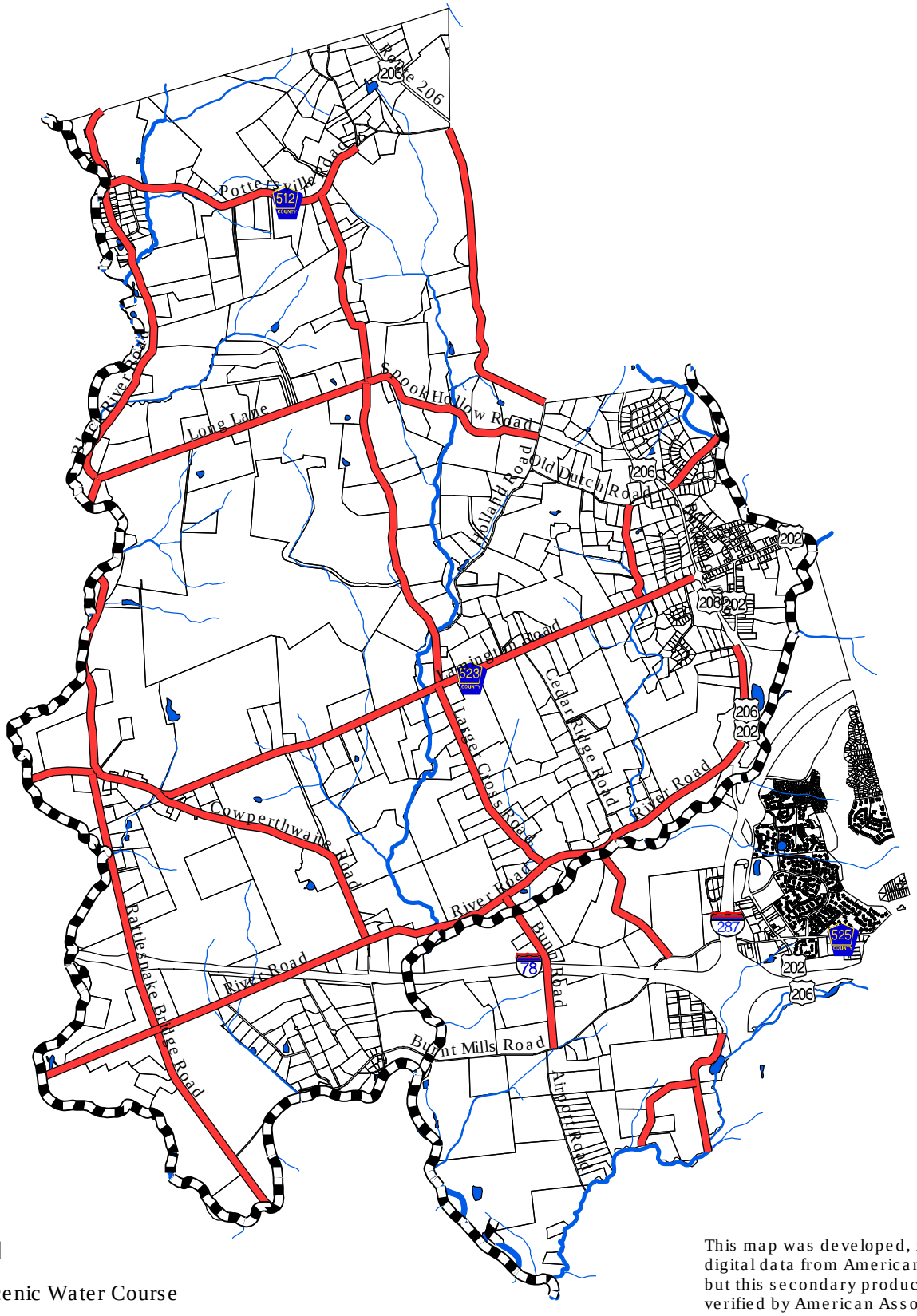
Figure 14 - Scenic Corridors

Township of Bedminster



Legend

- Scenic Water Course
- Scenic Roadway

Note - Cowperthwaite Road to be re-aligned.

Data Sources:
American Associates
Banisch Associates, Inc.

0 0.5 1 2 Miles

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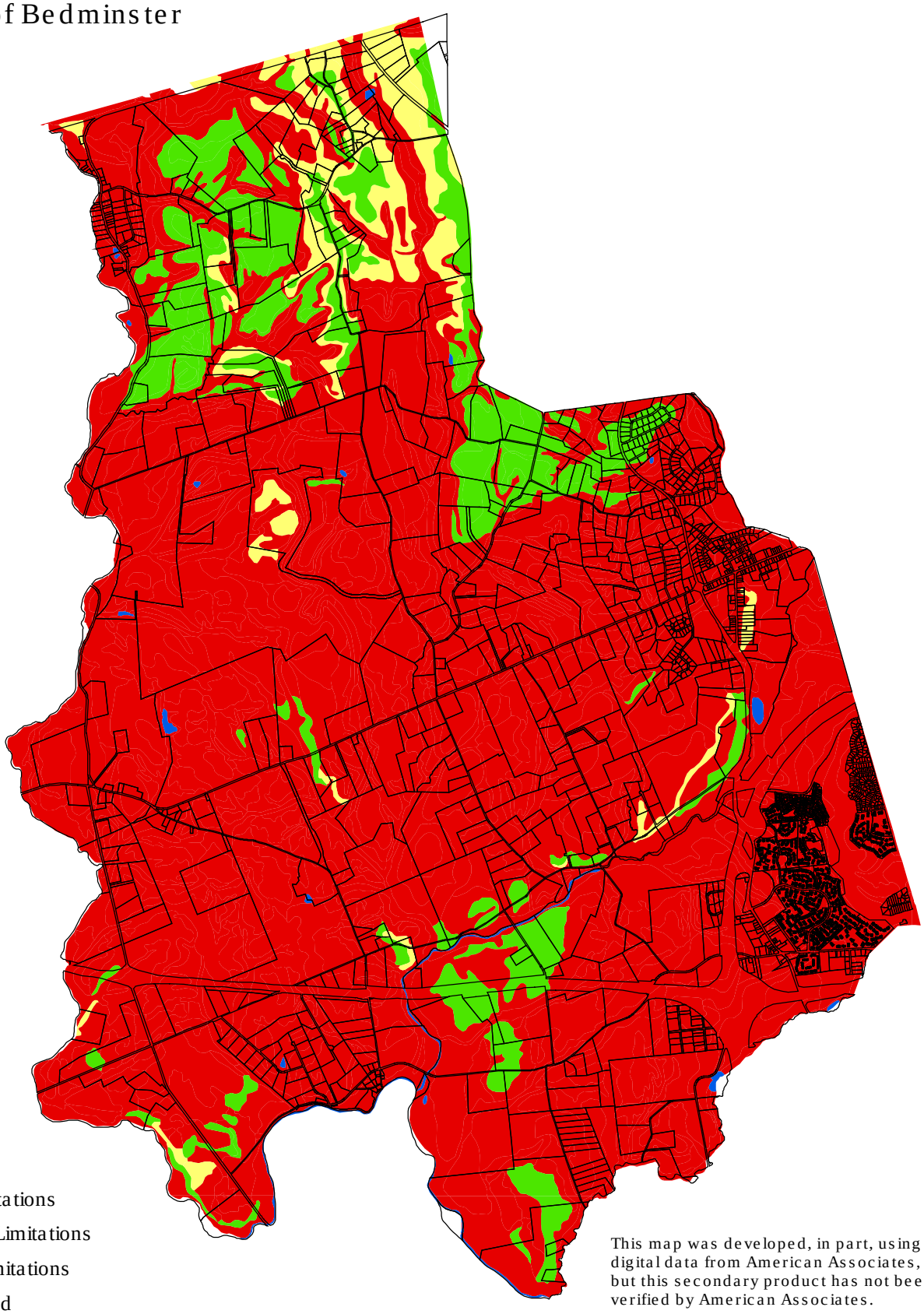
Figure 15 - Limitations for On-site Disposal of Effluent

Township of Bedminster



Legend

- Slight Limitations
- Moderate Limitations
- Severe Limitations
- Unclassified
- Water

Data Sources:
American Associates
USDA NRCS

0 0.5 1 2 Miles

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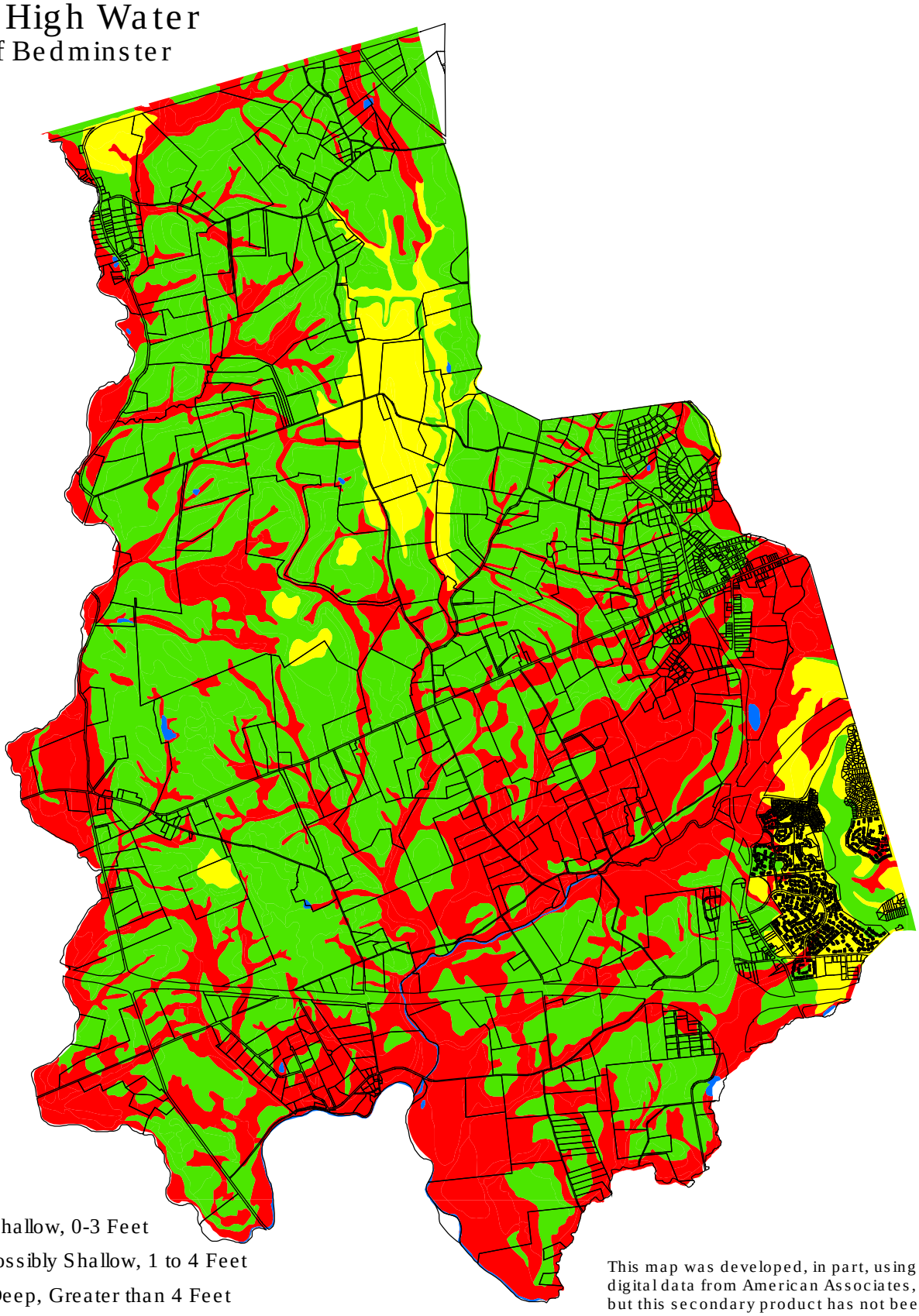
Figure 16 - Depth to Seasonal High Water

Township of Bedminster



Legend

- Generally Shallow, 0-3 Feet
- Variable, Possibly Shallow, 1 to 4 Feet
- Generally Deep, Greater than 4 Feet
- Water
- Unclassified

Data Sources:
American Associates
USDA NRCS

0 0.5 1 2 Miles

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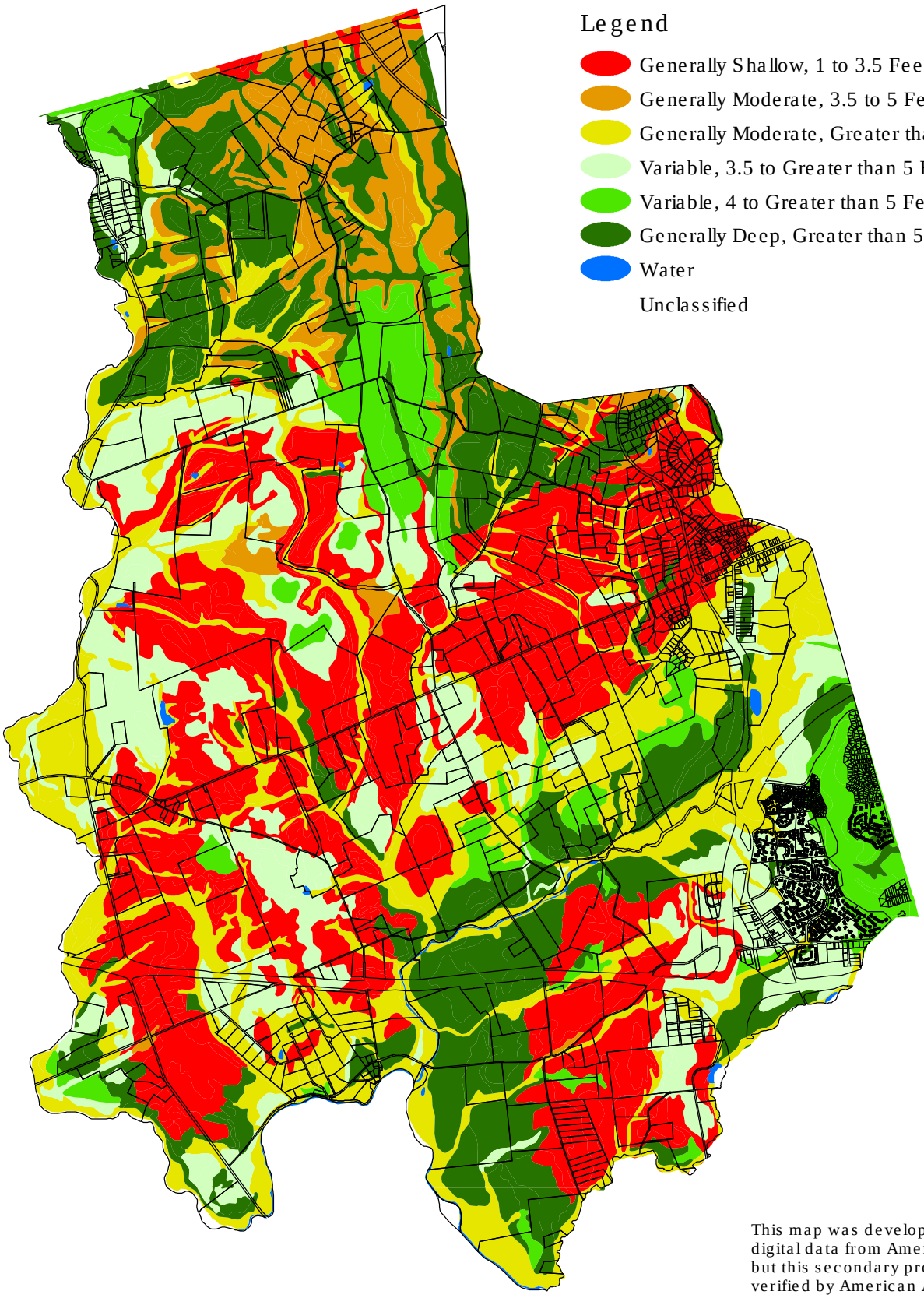
Figure 17 - Depth to Bedrock

Township of Bedminster



This map was developed, in part, using digital data from American Associates, but this secondary product has not been verified by American Associates.

Data Sources:
American Associates
USDA NRCS

0 0.5 1 2 Miles

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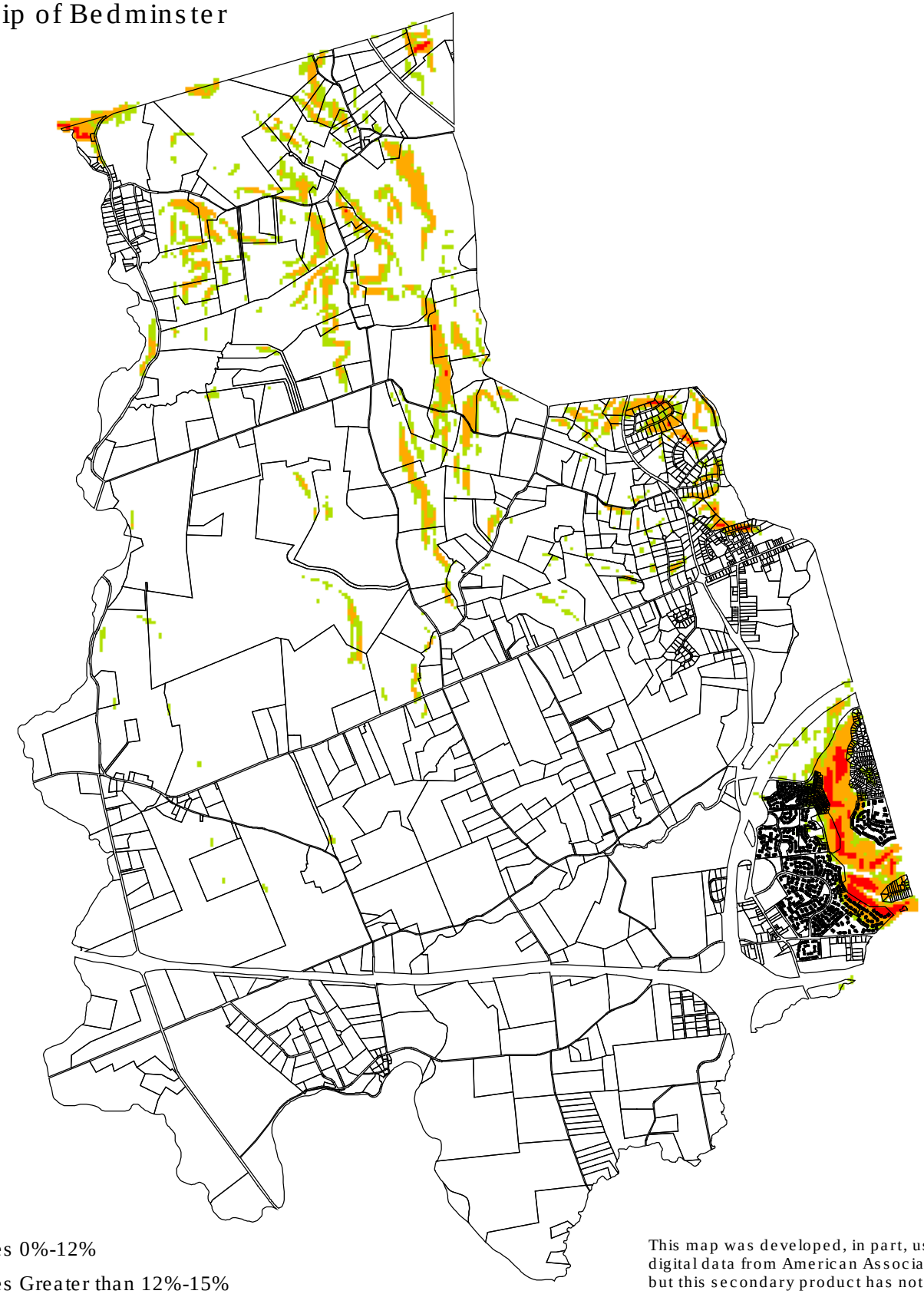
Figure 18 - Steep Slopes

Township of Bedminster



Legend

- Slopes 0%-12%
- Slopes Greater than 12%-15%
- Slopes Greater than 15%-25%
- Slopes Greater than 25%

Data Sources:
American Associates
USGS DEM

0 0.5 1 2 Miles

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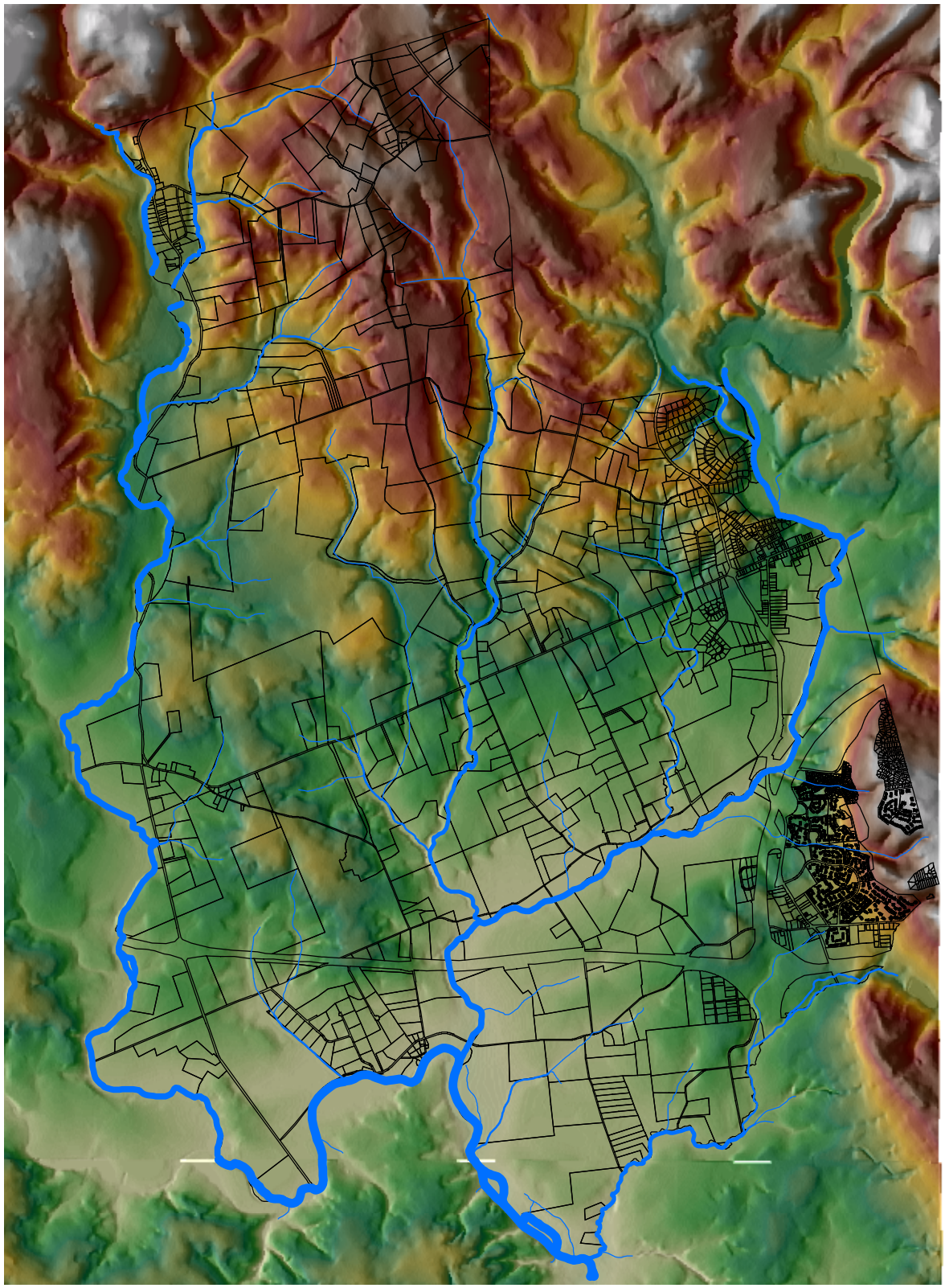
Figure 19 - Topography

Township of Bedminster



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Data Sources:
American Associates
USGS DEM

0 0.5 1 2 Miles

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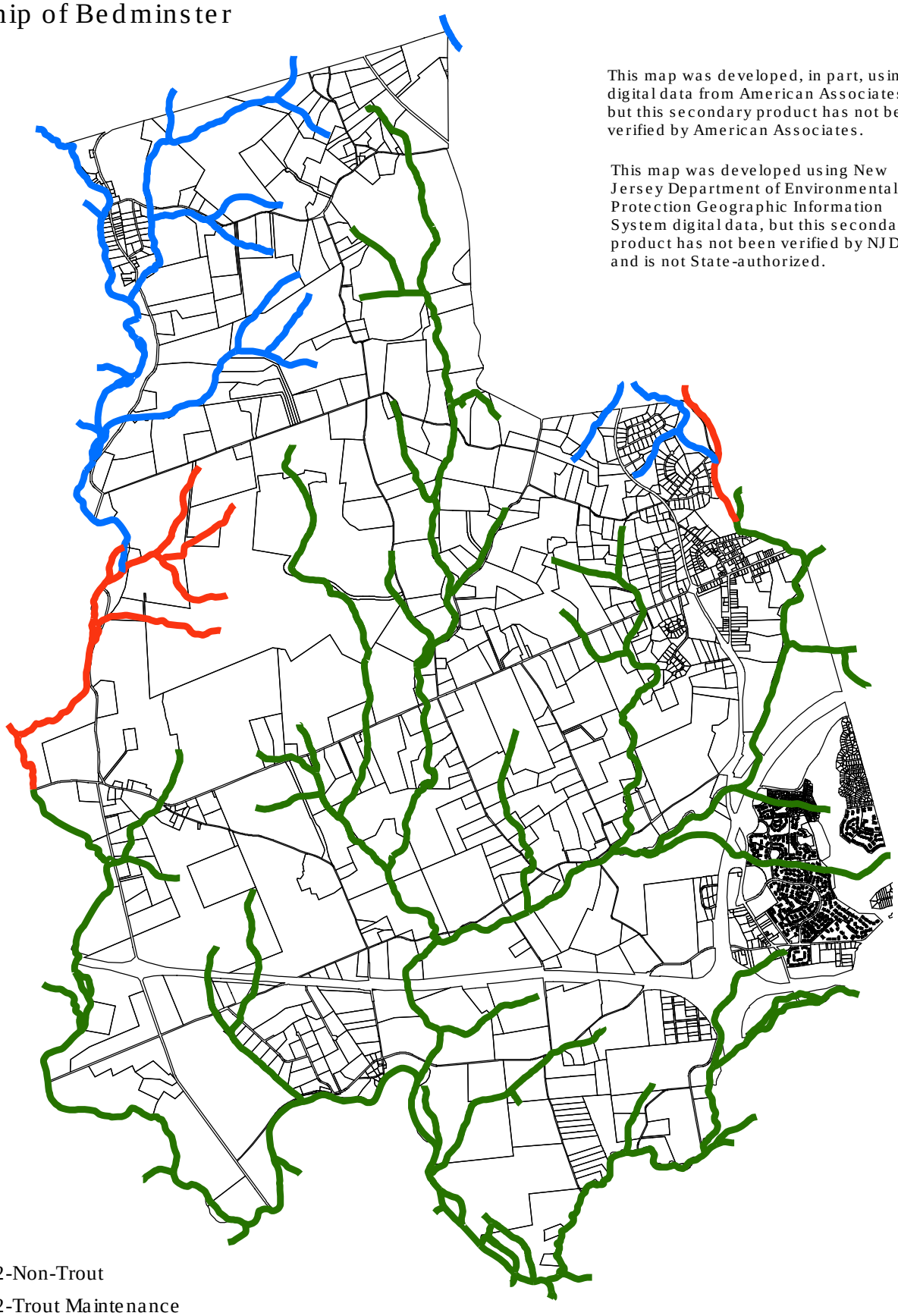
Figure 20 - Water Quality Designations

Township of Bedminster



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Legend

- FW2-Non-Trout
- FW2-Trout Maintenance
- FW2-Trout Production

Data Sources:
American Associates
NJDEP

0 0.5 1 2 Miles

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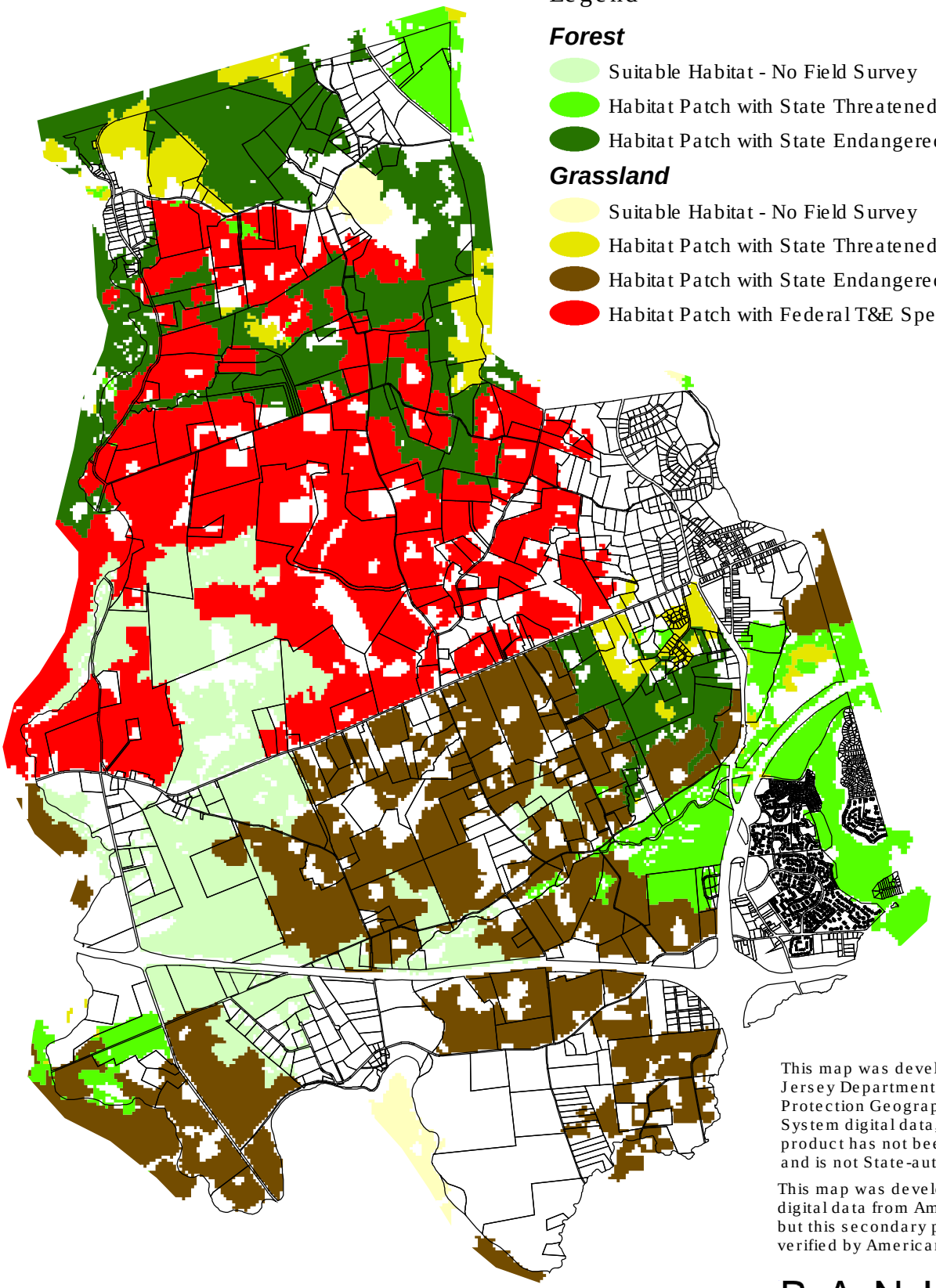
Figure 21 - Landscape Project Critical Habitat Data

Township of Bedminster



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This map was developed, in part, using digital data from American Associates, but this secondary product has not been verified by American Associates.

Data Sources:
American Associates
NJDEP ENSP

0 0.5 1 2 Miles

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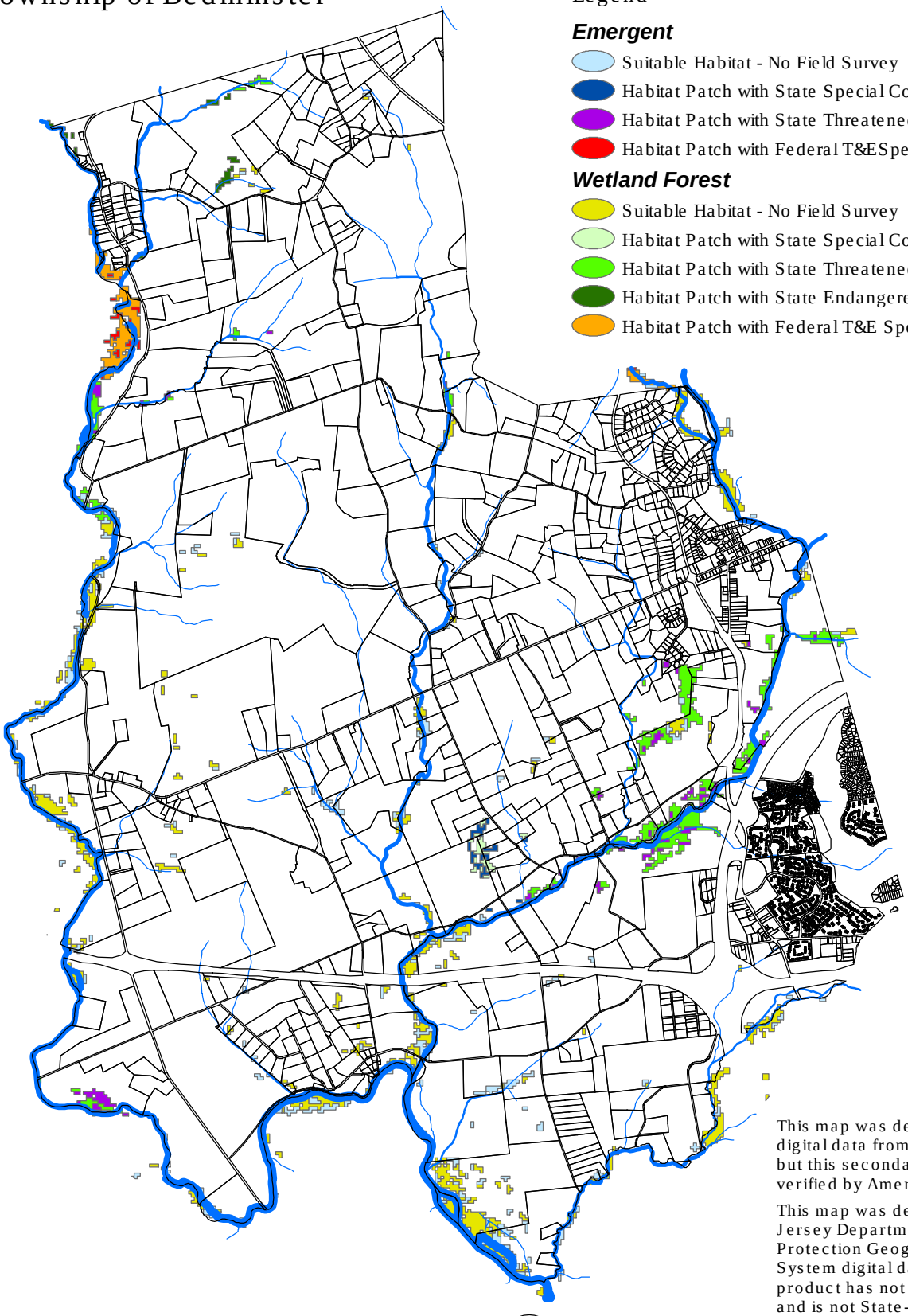
Figure 22 - Landscape Project
Critical Habitat Data
Township of Bedminster



Legend

Emergent

- Suitable Habitat - No Field Survey
- Habitat Patch with State Special Concern Species Present
- Habitat Patch with State Threatened Species Present
- Habitat Patch with Federal T&ESpecies Present

Wetland Forest

- Suitable Habitat - No Field Survey
- Habitat Patch with State Special Concern Species Present
- Habitat Patch with State Threatened Species Present
- Habitat Patch with State Endangered Species Present
- Habitat Patch with Federal T&E Species Present

Data Sources:
American Associates
NJDEP ENSP

0 0.5 1 2 Miles

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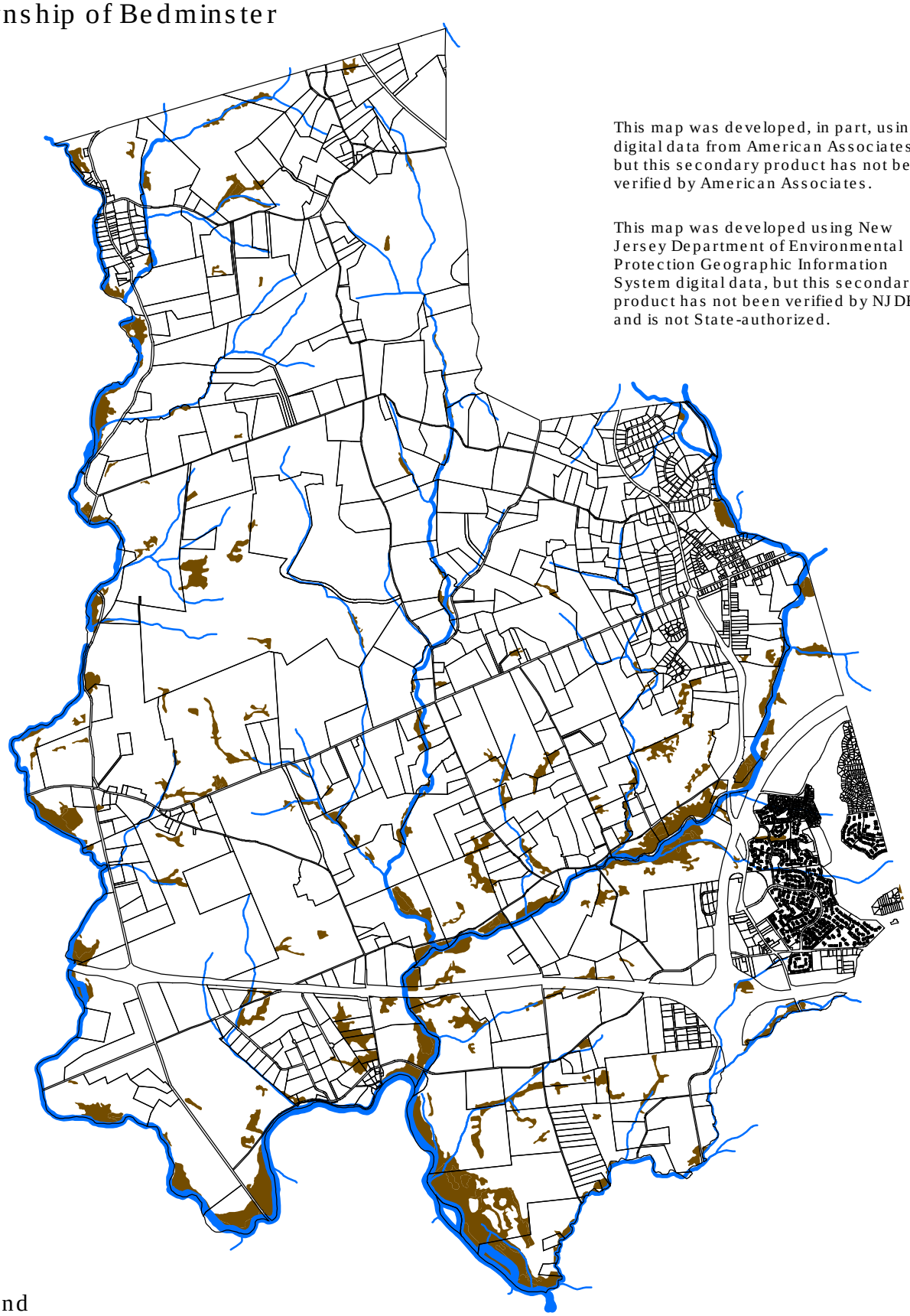
Figure 23 - Wetlands

Township of Bedminster



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Legend

Wetlands

Data Sources:
American Associates
NJDEP

0 0.5 1 2 Miles

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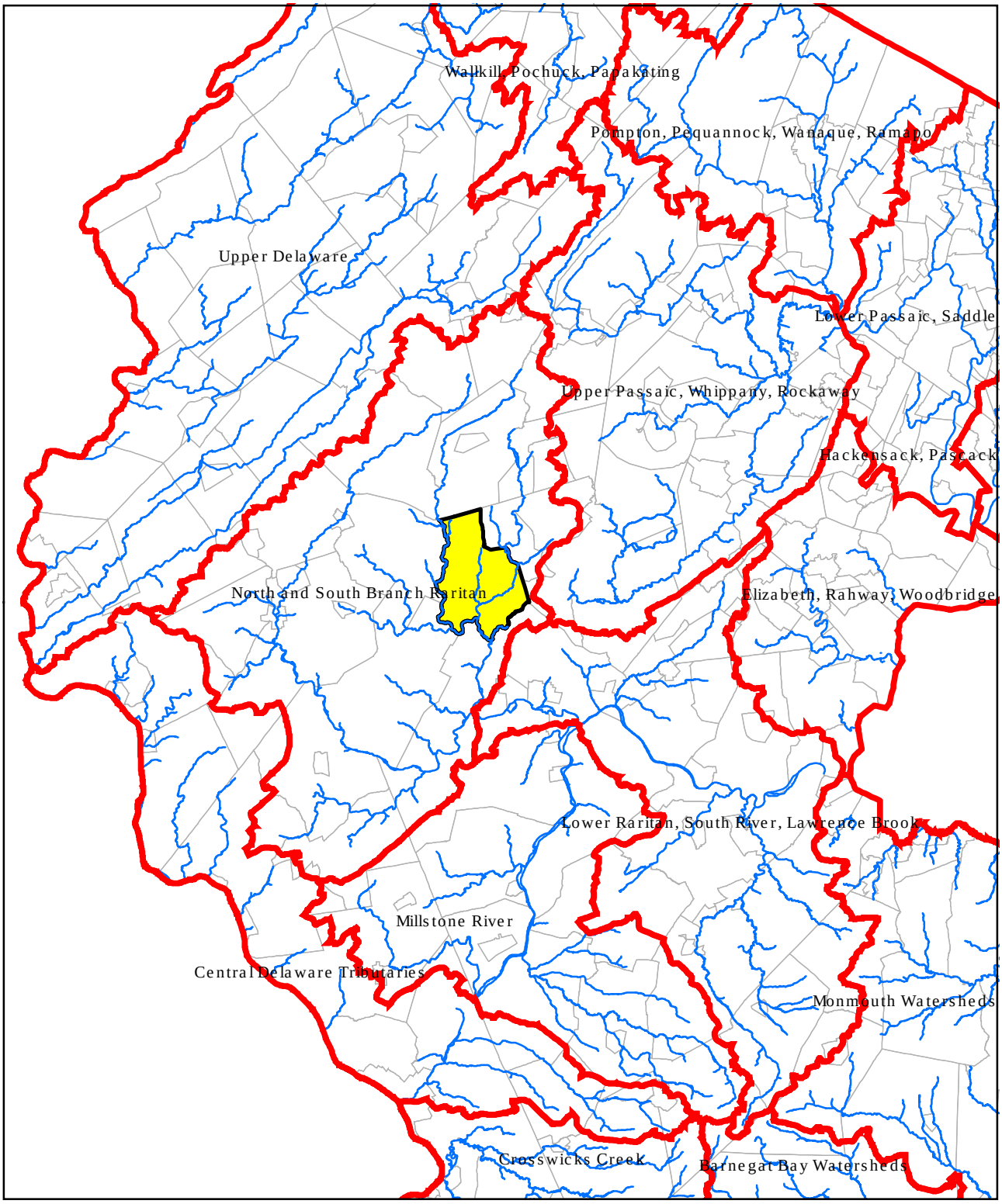
Figure 24 - Watershed Management Areas

A Portion of the State of New Jersey



Legend

- Watershed Management Areas
- Bedminster Township

Data Sources:
NJDEP

0 5 10 20 Miles

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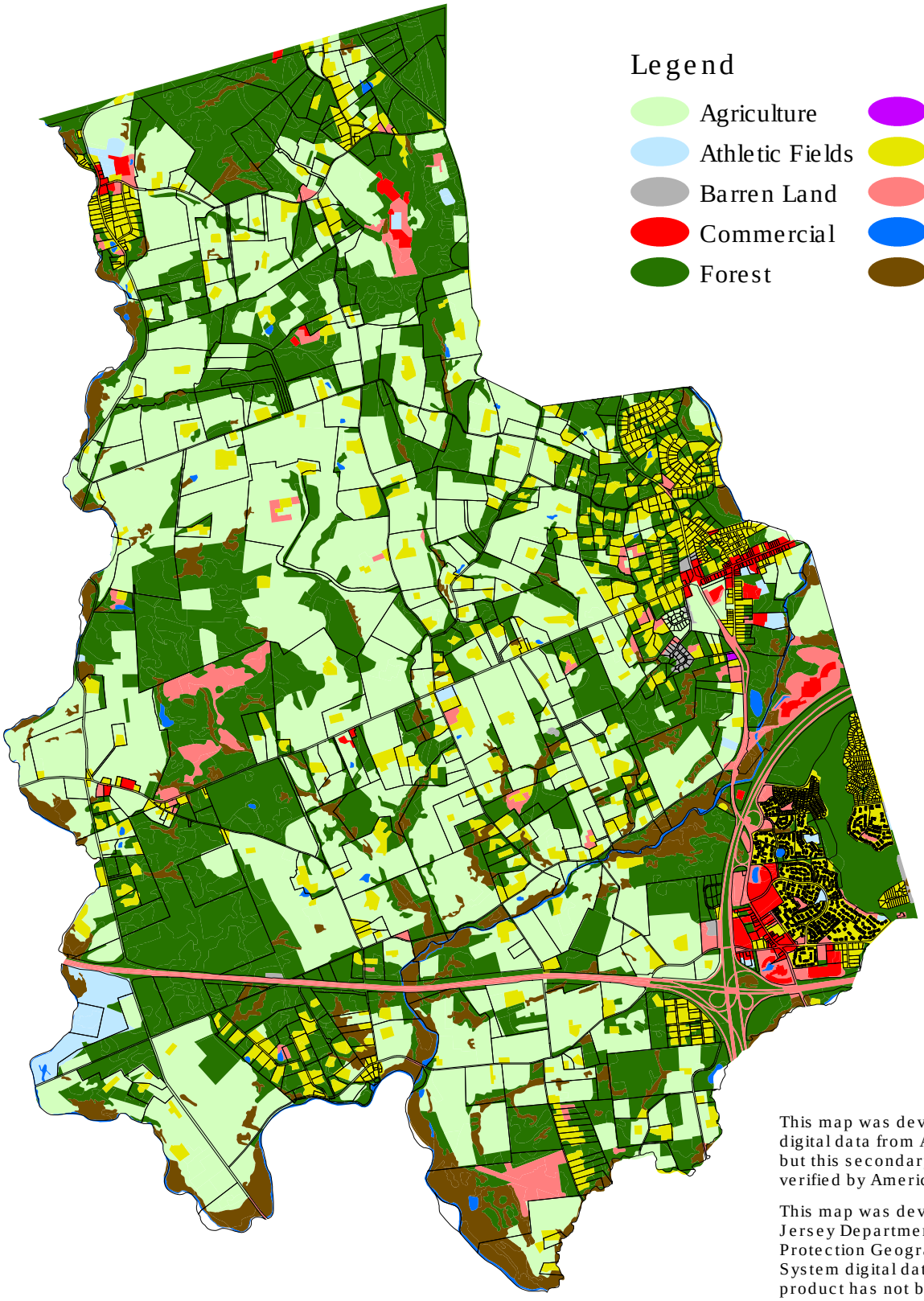
Figure 25 - 1995 Land Use/Land Cover

Township of Bedminster



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Data Sources:
American Associates
NJDEP

0 0.5 1 2 Miles

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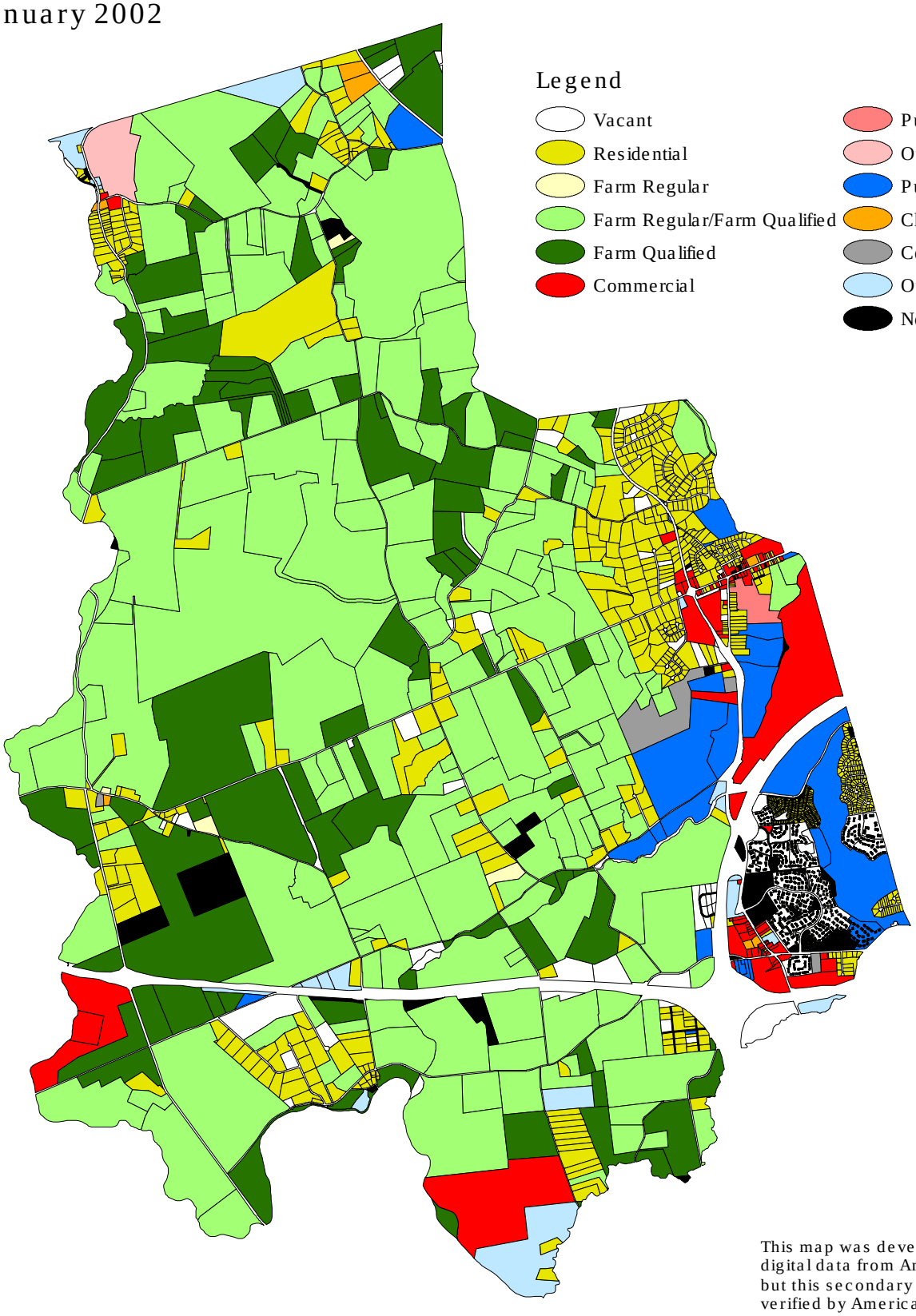
Figure 26 - Land Use by Property Tax Class

Township of Bedminster

January 2002



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Data Sources:
American Associates
Ferriero Engineering
Banisch Associates, Inc.

0 0.5 1 2 Miles

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Planning/Design
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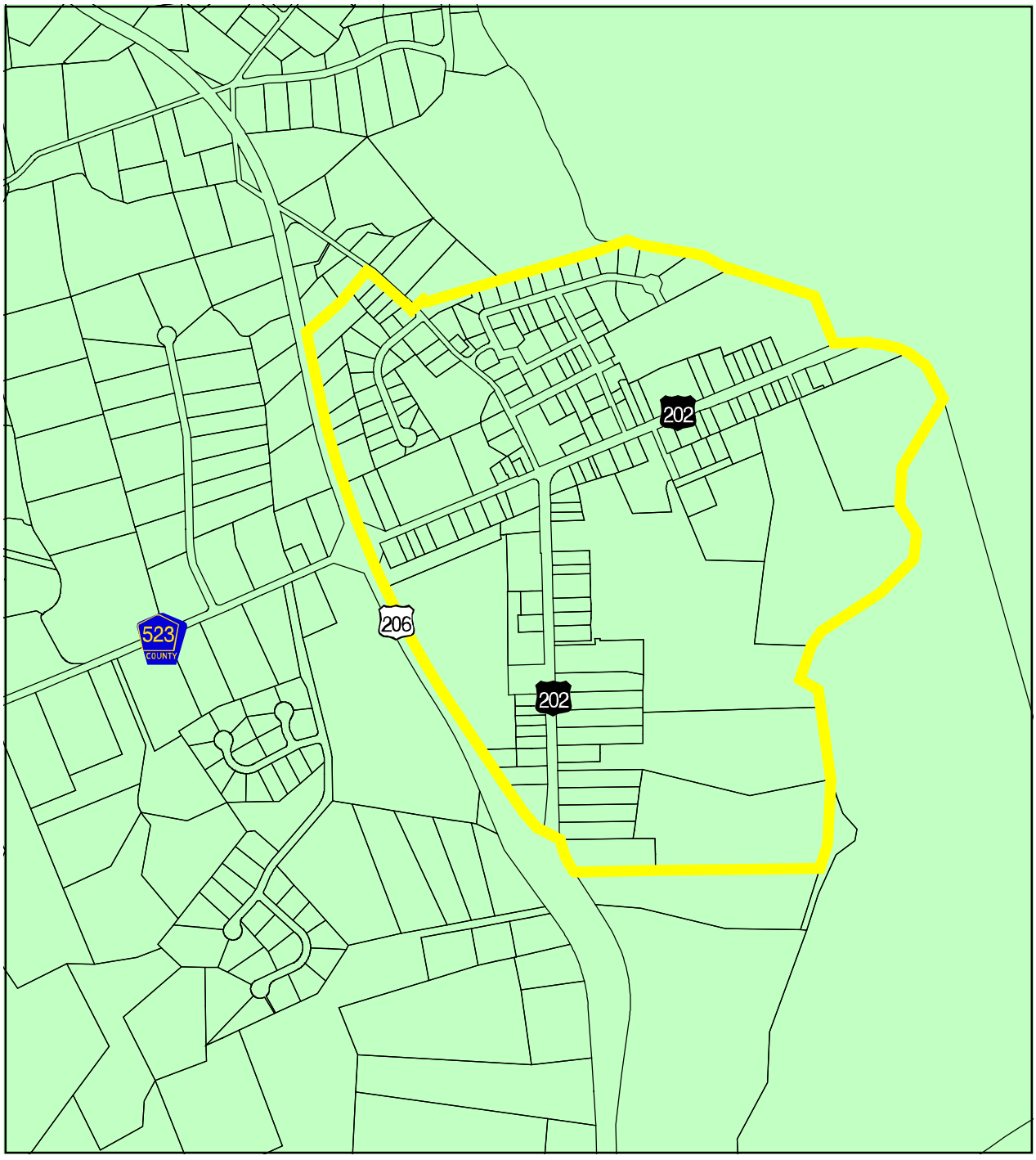
Figure 27 - Bedminster Village CDB

Township of Bedminster



Legend

Bedminster Village CDB

PA 5

Data Sources:
American Associates
NJDEP

0 500 1,000 2,000 Feet

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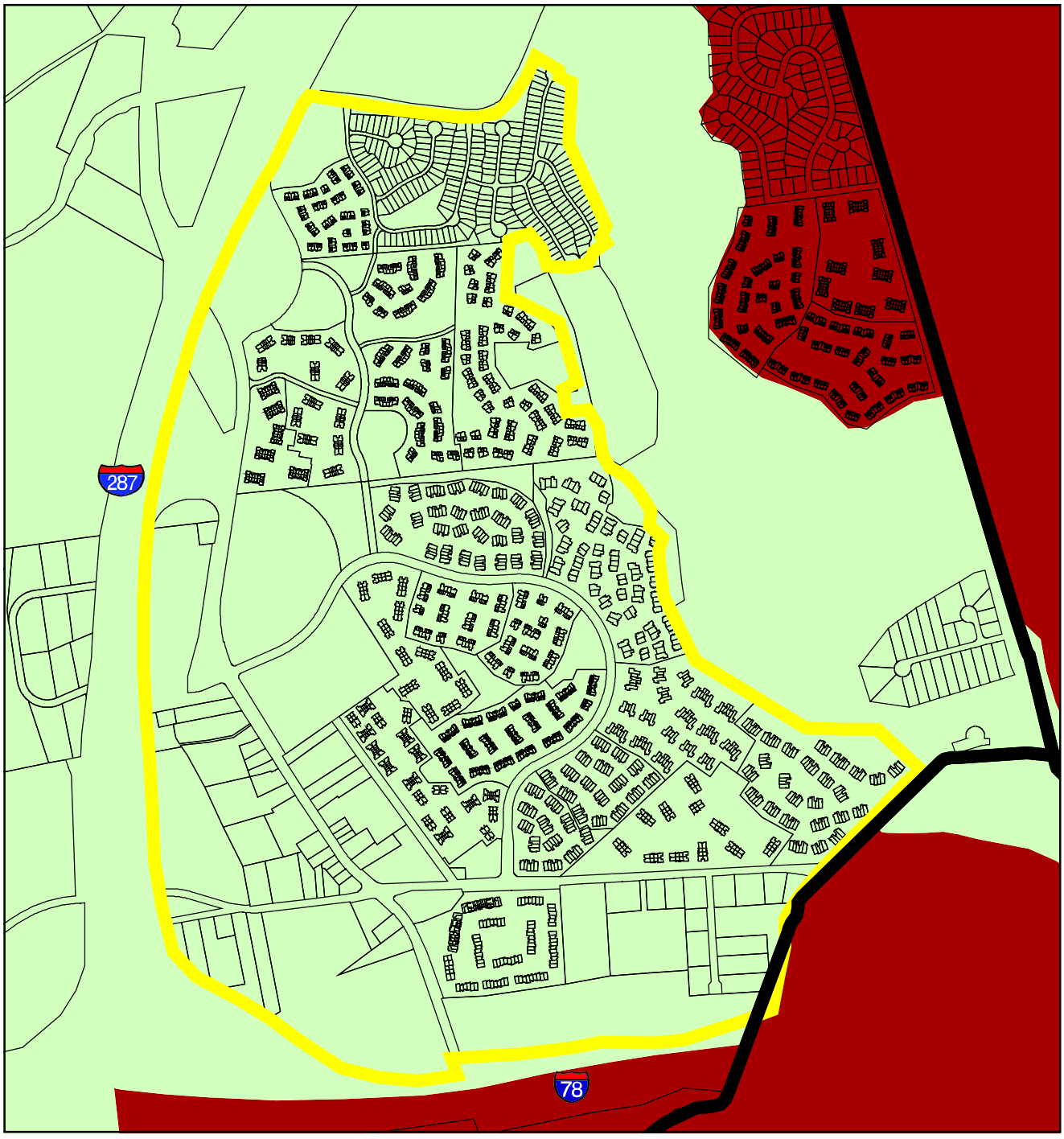
Figure 28 - Pluckemin Village CDB

Township of Bedminster



Legend

- Pluckemin Village CDB
- PA-2 Suburban
- PA-5 Environmentally Sensitive

Data Sources:
American Associates
NJOSP

0 500 1,000 2,000 Feet

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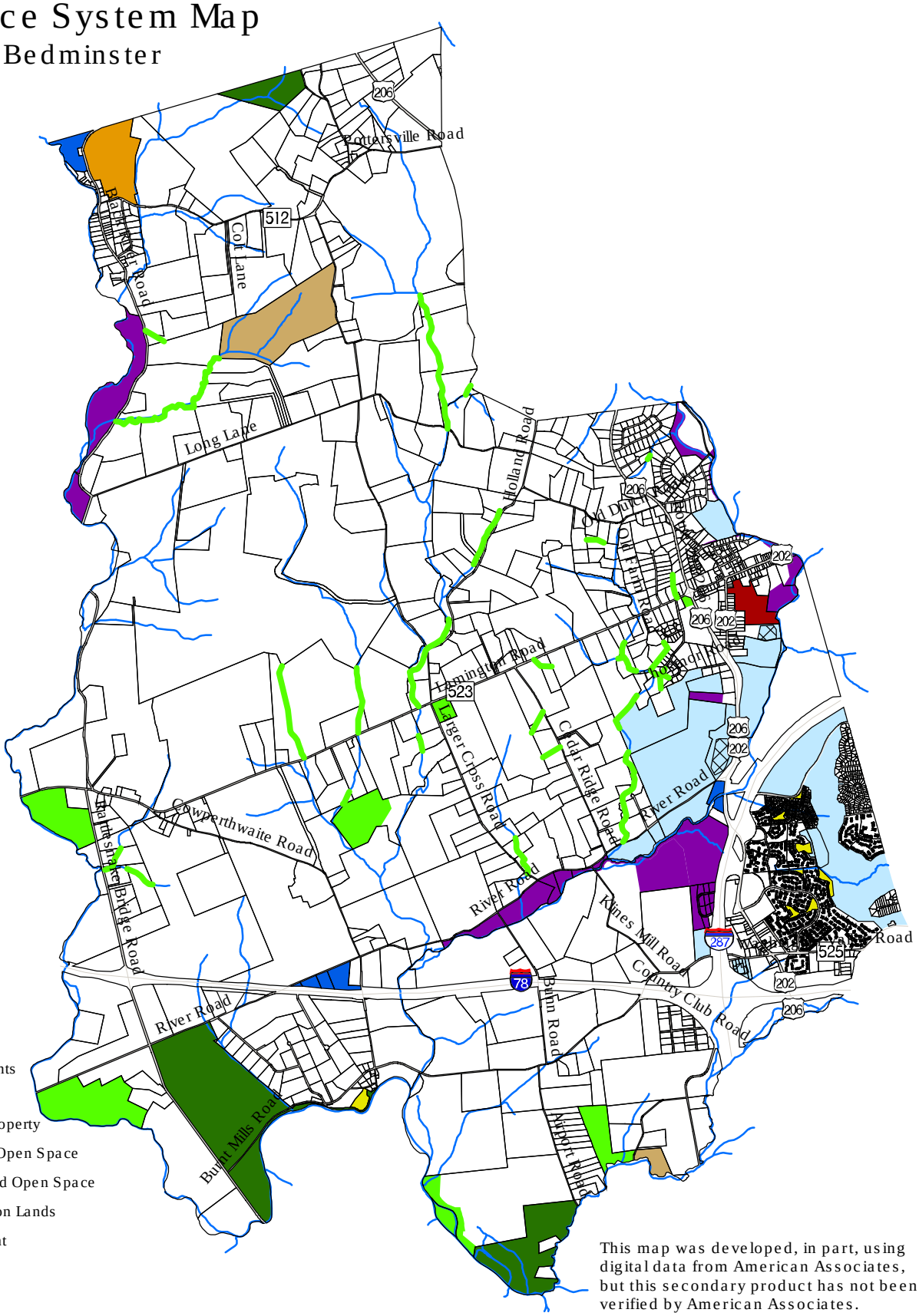
Figure 29 - Recreation and Open Space System Map

Township of Bedminster



Legend

- Open Space Easements
- Active Recreation
- Board of Education Property
- County Parkland and Open Space
- Municipal Parkland and Open Space
- Non-Profit Conservation Lands
- Open Space Easement
- Private Recreation
- Proposed Acquisition
- State Parkland and Open Space
- Homeowners Association Recreation and Open Space

Data Sources:
American Associates
Ferriero Engineering

Miles
005

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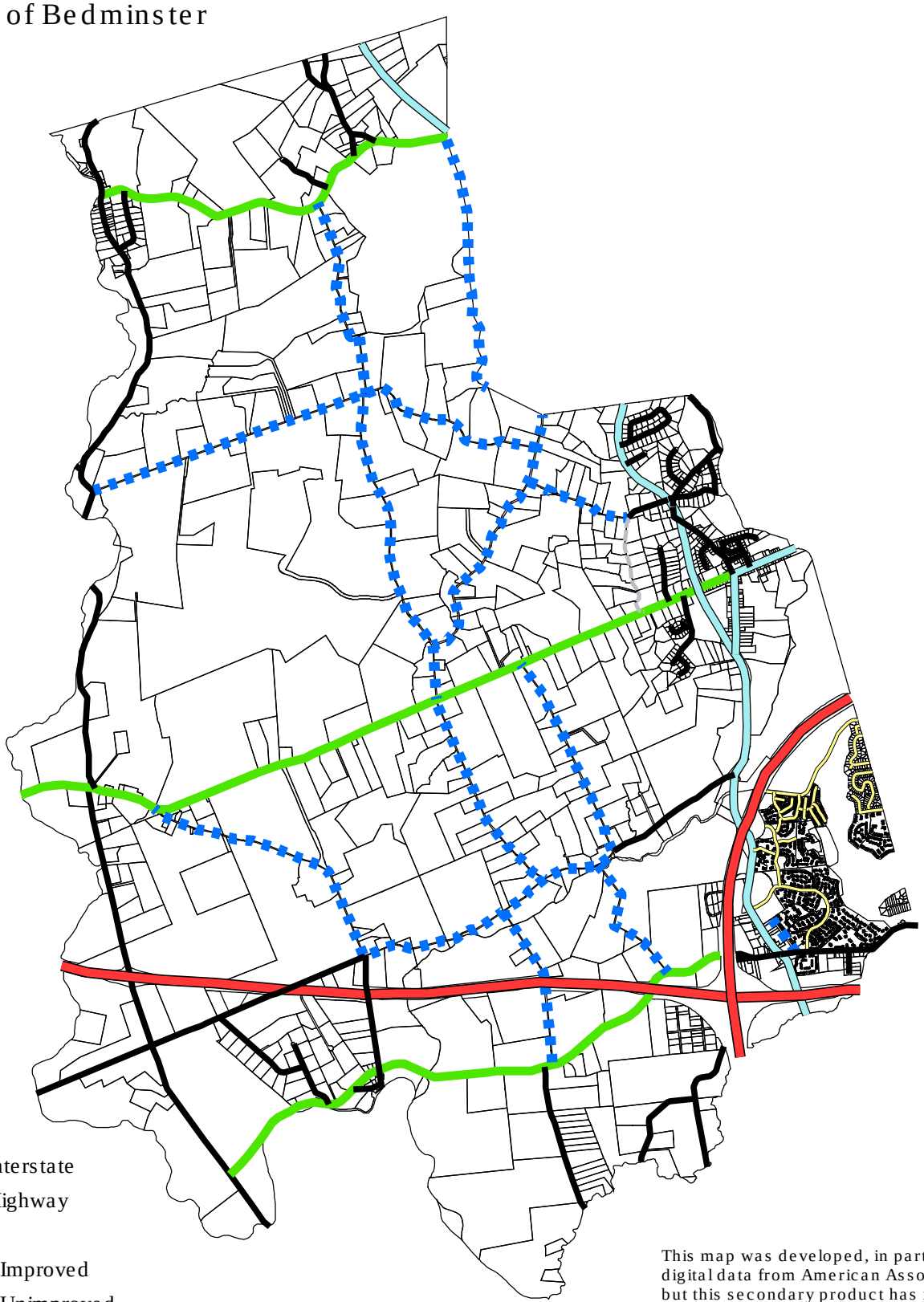
Figure 30 - Roadway Jurisdictions

Township of Bedminster



Legend

- State Interstate
- State Highway
- County
- Local - Improved
- Local - Unimproved
- Private - Improved
- Private - Unimproved

Data Sources:
American Associates
Banisch Associates, Inc.

0 0.5 1 2 Miles

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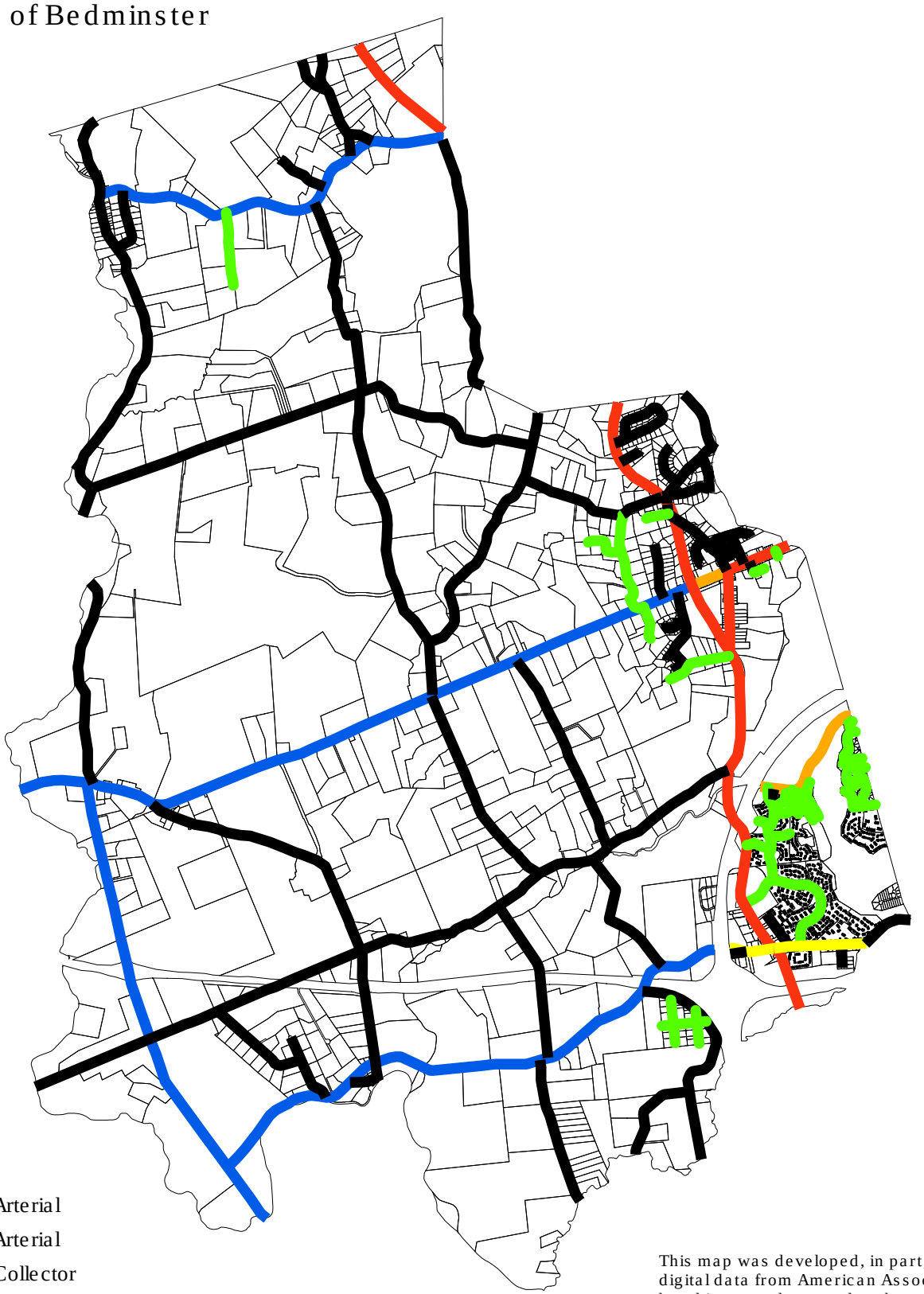
Figure 31 - Roadway Functional Classifications

Township of Bedminster



Legend

- Major Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local
- Private

Data Sources:
American Associates
Banisch Associates, Inc.

0 0.5 1 2 Miles

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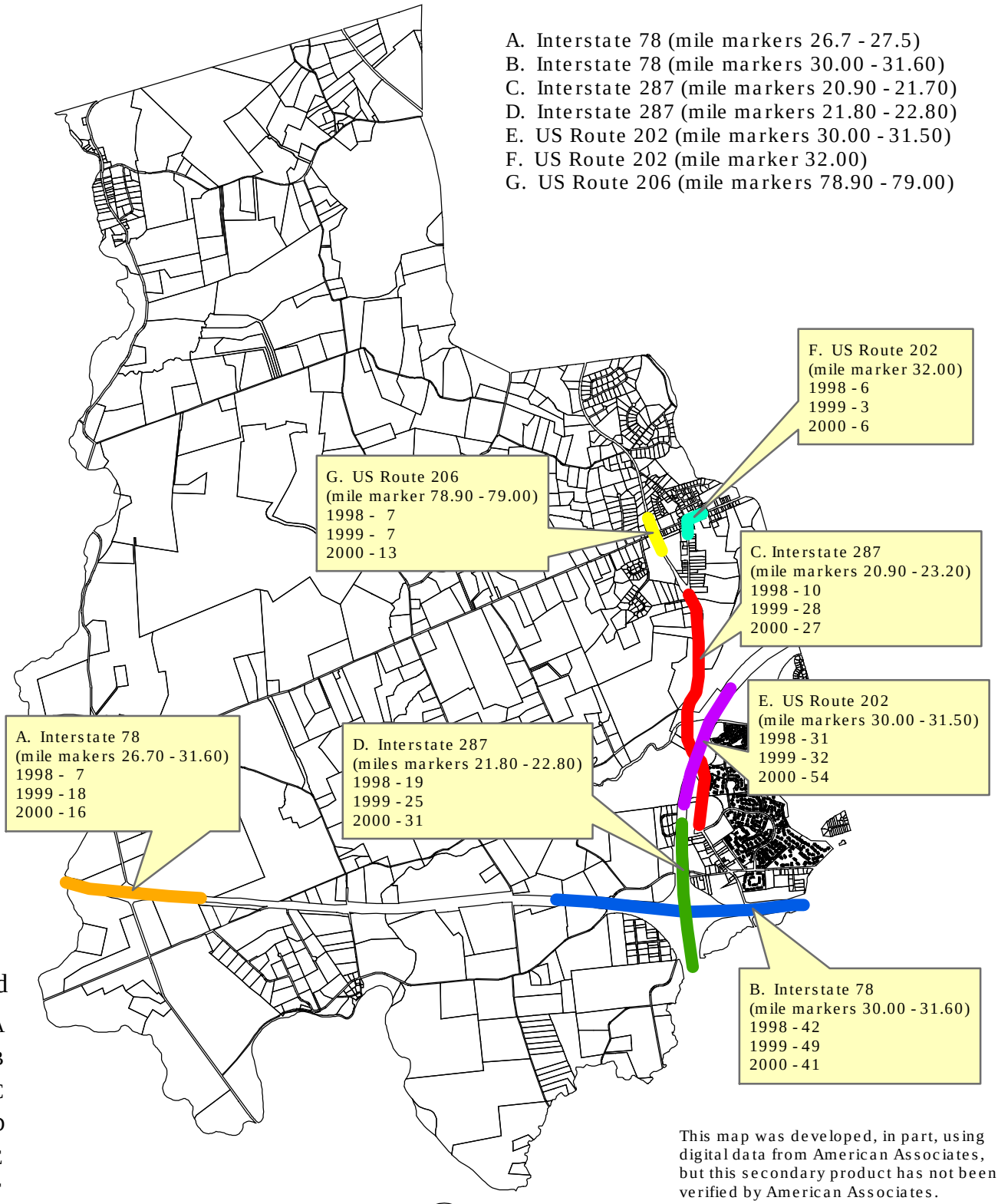
Figure 32 - High Accident Roadways
Township of Bedminster



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Data Sources:
American Associates
Banisch Associates, Inc.

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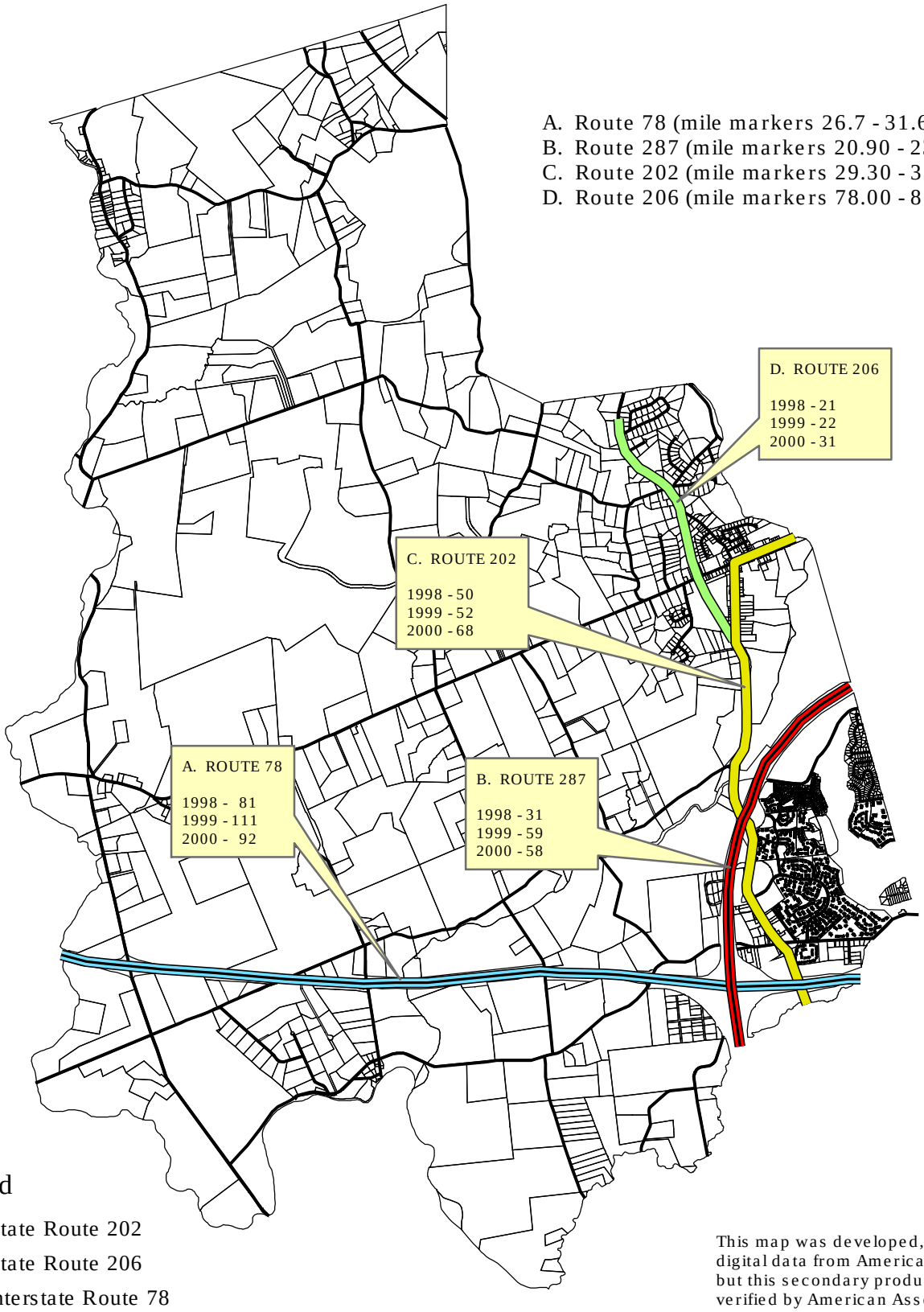
Figure 33 - Number of Accidents

Township of Bedminster



Legend

- State Route 202
- State Route 206
- Interstate Route 78
- Interstate Route 287

Data Sources:
American Associates
Banisch Associates, Inc.

0 0.5 1 2 Miles

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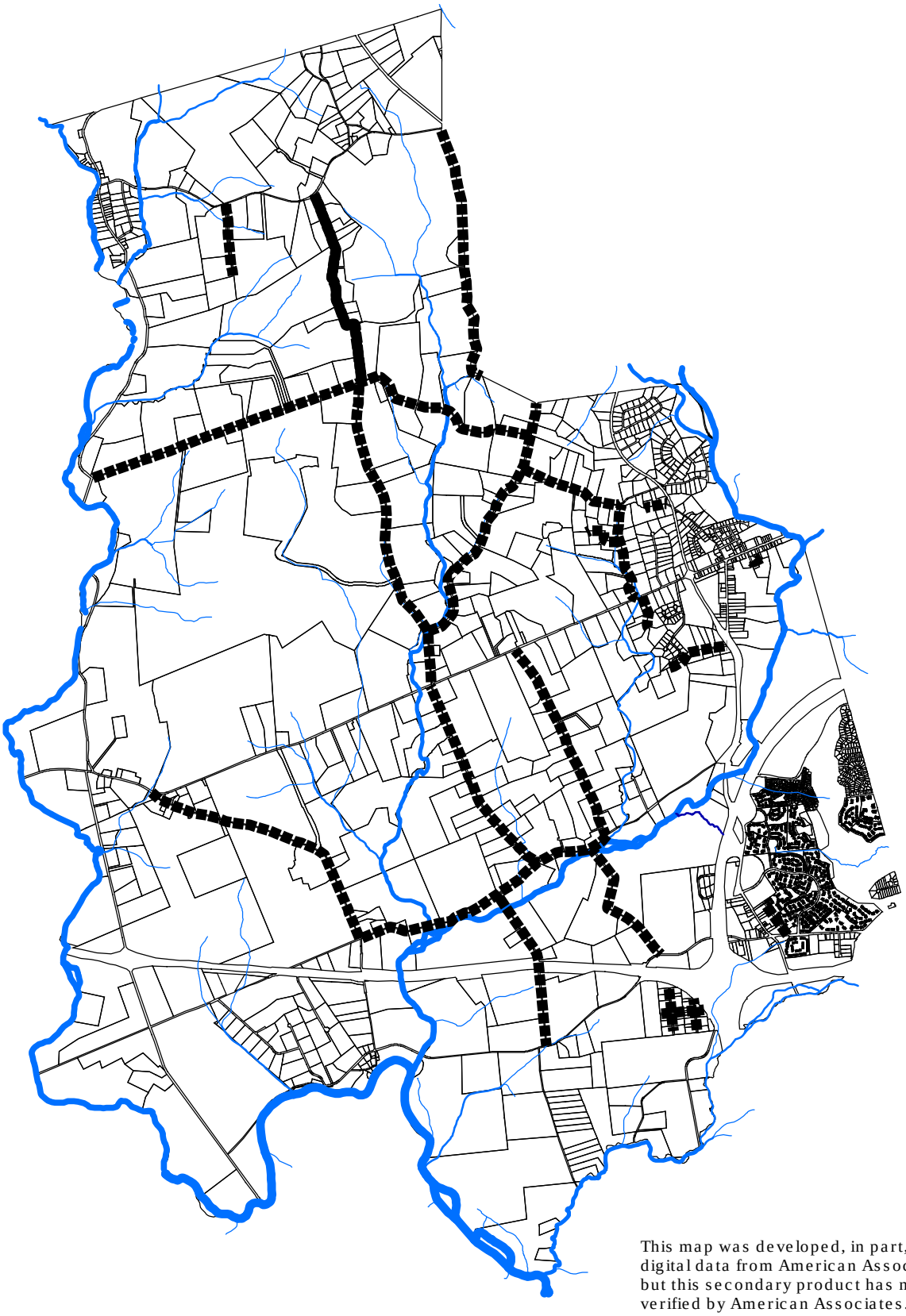
Figure 34 - Unpaved Roadways
Township of Bedminster



This map was developed, in part, using digital data from American Associates, but this secondary product has not been verified by American Associates.

Legend

Unpaved Roadway

Data Sources:
American Associates
Banisch Associates, Inc.

0 0.5 1 2 Miles

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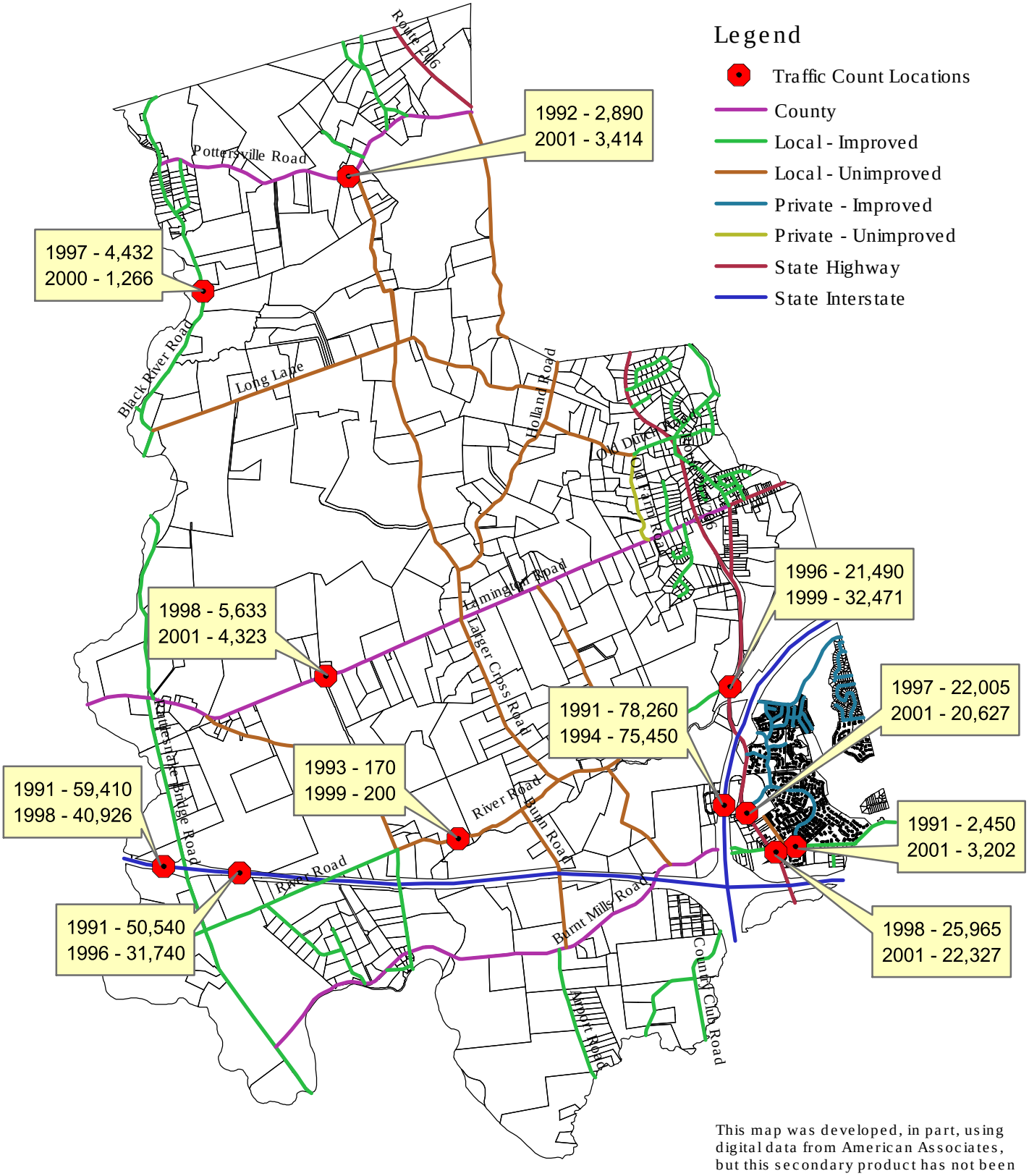
Figure 35 - Traffic Counts
Township of Bedminster



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Data Sources:
American Associates
Banisch Associates, Inc.

0 0.5 1 2 Miles

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