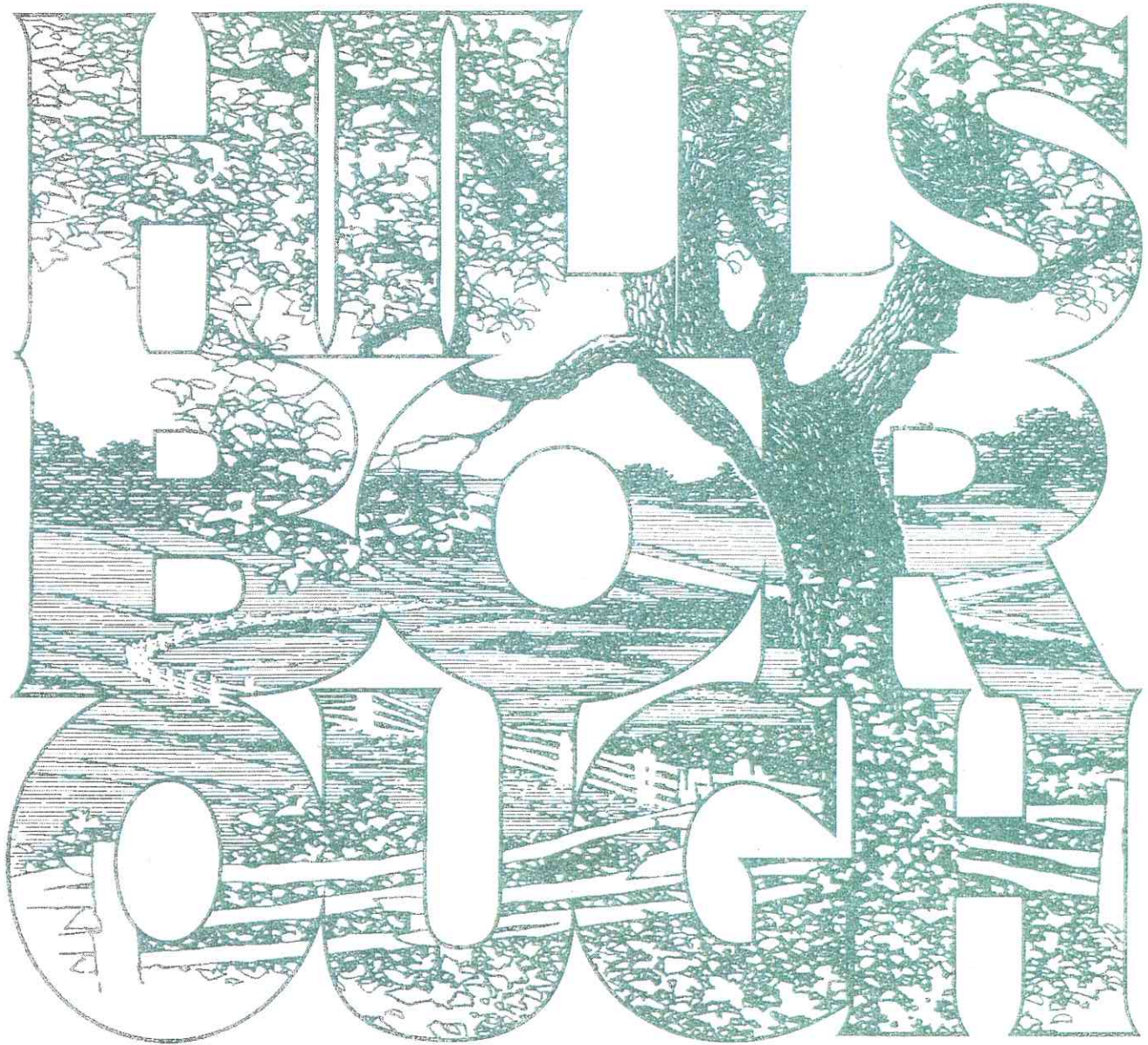


'65 '66 '75 '80 '84 '86 '87 '90 '92 '96



Hillsborough  
Township

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Master Plan



# HILLSBOROUGH TOWNSHIP

## MASTER PLAN

### PART A

#### SECTION 1 - GOALS AND OBJECTIVES

#### SECTION 2 - LAND USE PLAN ELEMENT

ADOPTED 1965/1966

AMENDED 1975  
1980  
1984  
1986  
1987  
1990  
1992  
1996





GOALS AND OBJECTIVES  
SECTION 1



# GOALS AND OBJECTIVES

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## GOALS & OBJECTIVES

### 1-1 INTRODUCTION

The purpose of the Master Plan as stated in the Municipal Land Use Law for the State of New Jersey is "to guide the use of lands within the Municipality in a manner which protects public health and safety and promotes the general welfare." The Master Plan Legislation is detailed in Chapter 291, Article 3, Section C 40:55D-28 of the New Jersey Statute.

The two elements required of a Master Plan are listed below and are presented as Part A of the Master Plan:

- (1) A statement of objectives, principles, assumptions, policies, and standards upon which constituent proposals for the physical, economic, and social development of the Municipality are based.<sup>1</sup>
- (2) A land use element (a) taking into account and stating its relationship to the above statement..., (b) showing the existing and proposed location, extent and intensity of development of land to be used in the future for varying types of residential, commercial, industrial, agricultural, recreational, educational and other public and private purposes or combination of purposes; and stating the relationship thereof to the existing and any proposed zone plan and zoning ordinance; (c) showing the existing and proposed location of any airports and the boundaries of any airport hazard areas delineated pursuant to the "Air Safety and

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1. New Jersey Statutes Annotated, Municipal Land Use Law Chapter 291, Law of New Jersey 1975. Edition 1989. 40:55D-28b(1) p. 22.



Hazardous Zoning Act of 1983"...., and (d) including a statement of standards of population density and development intensity recommended for the Municipality.<sup>2</sup>

The following elements 3 through 12 are contained in Part B of the Master Plan:

- ( 3) Housing Plan
- ( 4) Circulation Plan
- ( 5) Utility Service Plan
- ( 6) Community Facilities Plan
- ( 7) Recreation Plan
- ( 8) Conservation Plan
- ( 9) Economic Plan
- (10) Historic Preservation Plan
- (11) Recycling Plan
- (12) Appendices containing background data for each element.

The Master Plan is the foundation for the Zoning Ordinance and Developmental Regulations of the Township. It is adopted by the Planning Board after a public hearing.

Several basic conditions are recognized in Hillsborough's Master Plan that will influence the pattern of development regardless of the detailed land-use regulations. One is the existing major highway network involving Route 206, Amwell Road, and the Auten Loop Road. Others are the floodplains and major drainage corridors, historic areas, the Sourland Mountain area, environmentally critical areas, the Royce's Brook drainage basin, railroad alignments, and existing development patterns.

The Master Plan establishes written and mapped goals for long-range development. These are based on an analysis of past and present conditions within the context of anticipated development and the need for

2. New Jersey Statutes Annotated, Municipal Land Use Law Chapter 291, Law of New Jersey 1975. Edition 1989. 40:55D-28b(1) p. 22

improved facilities. The Master Plan once adopted by the Planning Board, is used in their review of applications for development brought before them. As such, it is a guide for the future. The Master Plan provides for the implementation of goals and objectives; in this way it allows for varying future needs.

#### 1-1.1 Master Plan Reexamination

As of August 1, 1982, a general reexamination of the Master Plan must be done at least every six years in accordance with the Municipal Land Use Law. This reexamination is designed to help maintain the Master Plan's effectiveness. As development takes place and new forces emerge, new construction techniques and different zoning and planning concepts are developed, a reexamination of the adopted plan may be in order. Modification of the original plan may be a logical result.

For these reasons, a Master Plan cannot be static, but must grow with the Township. At the same time, the Planning Board is the most appropriate agency to distinguish between long-term advantages and short-term expediencies. The Planning Board should be devoted to the fundamental community needs and insist upon policies that will not be judged inadequate in the years ahead. These policies should be established in conjunction with other municipal agencies, the County, adjoining communities, and appropriate regional groups. The final effectiveness of the Master Plan and the implementing ordinances will depend in part upon the relationship between the Planning Board and these other agencies.

#### 1-2 HISTORY OF THE MASTER PLAN OBJECTIVES

##### 1-2.1 Pre-1992

Hillsborough Township is a large community with diverse natural and man-made features. Historically a rural community between Somerville and Princeton, Hillsborough had very little development until the 1960's. Between 1960 and 1990, the population grew



from 7,800 to 28,800. That growth occurred predominantly in the center of the Township and to the east along State Route 206 and County Routes 514 and 533.

Most of the growth has been residential in nature and as such has placed great pressure on providing schools and maintaining a school system. In addition, it has placed great demands on the infrastructure, which includes roads, bridges, sewers, water line, storm-water management, and recreational facilities.

The main reason for the rapid growth of Hillsborough in the past 20 years is the exodus of many people from surrounding cities in search of the "Good Life" the development of office centers in nearby towns, and the general good economy of New Jersey during that period.

The Hillsborough Master Plan of 1966 anticipated this trend when it introduced a flexible zoning pattern for the central area of the Township, centering around the historic Woods Tavern area at Amwell Road and Route 206. The 1966 plan called for two "Planned Unit Development" Zones along Route 206 to be flanked by a new loop road as well as intensive development zones around the projected interchanges of Highway I-95 (then proposed), an agricultural zone, and a major regional park on top of the Sourland Mountain.

Unfortunately, the actual development that occurred in the next decade was not balanced, as had been anticipated in the plan. Residential development took off with an emphasis on garden apartments and without adequate planning for infrastructure, schools, and environmental issues. In 1978, a moratorium was placed on all construction while the Master Plan and Zoning Ordinances could be reviewed and made more consistent with the health, safety, and welfare of the community.

In 1980, the new Master Plan focused on three goals: Providing for continued agricultural activities in the north and west, protecting environmentally critical and historic areas, and having development occur according

to a higher density core with a ring of industrial/office employment uses around that core and then lower density residential and agricultural areas on the periphery.

The 1980 plan had a Ten-Year and a Twenty-Year sub-plan to address short-term real issues and longer-range projections. The Ten-Year Plan addressed the fact that sewer and water service would not be available to all areas of the Township in the foreseeable future, and that major transportation problems existed. To address this important issue, a map was presented in the 1980 plan showing highway improvements required for higher densities. This map is carried, unchanged, in the Land Use Element.

The results of the 1980 plan have been the Township's ability to seek and receive substantial off site contributions from developers for infrastructure improvements prior to development and the upholding of numerous lawsuits based on the triggering concepts proposed in 1980 Master Plan.

### 1-3 NEW FACTORS AFFECTING HILLSBOROUGH'S MASTER PLAN OBJECTIVES

Since 1980, several major changes have occurred that should be considered in the Master Plan update.

1. De-designation of proposed highway I-95/Somerset Exp.
2. The State Wetlands Act
3. The Mt. Laurel Decision (Affordable Housing)
4. Waste Management Laws Environmental Regulation
5. The Proposed State Development and Redevelopment Plan
6. State Highway Access Code

### 1-4 OBJECTIVES OF THE 1992 UPDATE TO THE MASTER PLAN

Based on the historic objectives, actual development experience, and the new factors, outlined above the following objectives are identified for the evaluation

and planning of the physical, economic, and social development of Hillsborough Township.

1. Provide a balance of land uses that includes agriculture (farms), recreation, employment, residential, and public service.
2. Require infrastructure improvements consistent with development in order to protect the health, safety and welfare of the public.
3. Provide a consistency in transportation management to meet the regional requirements.
4. Provide housing types to serve all ages, economic segments, and family sizes according to State Law and consistent with available service facilities, schools and infrastructure.
5. Provide expanded employment opportunities by encouraging development in zones established for this purpose and consistent with available infrastructure and supporting services.
6. Establish the necessary framework to provide housing, health care, and specific needs for the growing numbers of senior citizens.
7. Protect the environment and environmentally sensitive areas of the Township in accordance with State Law and consistent with findings of the Hillsborough Environmental Commission on a site-by-site basis.
8. Preserve the historic and archaeological sites of Hillsborough Township and coordinate development to incorporate historic features wherever possible.

#### 1-5 POLICY STATEMENTS TO HELP GUIDE DEVELOPMENT

While the objectives stated above are designed to promote balanced and coordinated growth in Hillsborough, the following principles should guide Township planners and developers:



1. Avoid development in environmentally critical areas. Any intrusion necessary should be kept minimal, and design features should mitigate the impact. Flexible zoning provisions such as cluster options no less than one unit per acre may aid in avoiding critical areas.
2. Guide the more intense development toward areas where the public water and sewers are available or easily made available. These utilities are to be part of, or precede, higher density development.
3. Gear population densities to the limits of groundwater control and the ability of the soil to sustain on-lot sewage disposal systems where public water and sewers are not available.
4. Encourage agricultural preservation in the less accessible northern and western portions of the Township, where farms are still operating and in recognition of the existing agricultural characteristics, the reduced potential for highway access and utility services, and the limited capabilities of soil for on-lot water and sewer service.
5. Provide opportunities for senior citizens housing opportunities, including affordable housing.
6. Anticipate a higher density core area surrounded by a lower density ring of residential development. Commercial services and public facilities are to be available in this core area. An employment area of planned industrial development is proposed that rings this residential core and generally corresponds with the railroad corridors and major highway. All non-residential development (e.g., industrial, office, commercial) shall be compatible with

neighborhoods. Beyond this employment ring, even lower density residential development is anticipated where fewer commercial services and public facilities will be provided. Beyond this is the outer ring intended for agricultural preservation and very low density residential use.

7. Plan for improvements to the major street system to create a convenient circulation system sufficient to accommodate anticipated development. Because of the restrictions in the capacity of Route 206 and the limited number of exits from the Township, it is intended that more restrictive residential densities will be imposed for the future. In the Sourland Mountain, historic districts, and agricultural districts, the road system should remain narrow because of the physical constraints of the terrain and the limited traffic resulting from the restricted development opportunities. Strip frontage development along arterial and collector highways that would result in uncontrolled access must be avoided. Access to individual properties should be from streets with a local classification. Plans for vehicular circulation should always consider the regional goals and requirements.
8. Provide for expanded employment opportunities and commercial services in locations compatible with existing and proposed development. Generally, these services are proposed where there is access from collector and arterial streets. Industrial uses will also have access to rail service. Water and sewer service either exists or is convenient to these locations. Most are readily accessible to residential areas for convenient home-to-work travel. Where such employment areas are developed near residential neighborhoods, the design of the development shall assure the peace and solitude of the residential neighborhoods.

9. Assure the availability of commercially zoned land in those areas of town that are economically usable for commercial purposes. Encourage the development of a commercial-office-research town center. Prevent strip commercial development in the process of expanding retail services. Additional commercial development should be in designed centers to control the number of intersections with major streets, provide shared parking spaces to reduce total parking area, and provide adequate on-site circulation. Pedestrian and bike paths within residential developments should be designed to provide direct, easy access to new shopping areas as an enticement to reduce vehicular travel. These planned centers should also coordinate architectural design, landscaping, lighting, signs, and similar design features.
10. Provide expanded public facilities and require coordinated open space proposals as part of new developments that will be related to population growth and natural and historic features. Provide educational services and facilities to meet the increased demand created by new developments.
11. Encourage the preservation of historic districts, in particular those identified in the 1975 Master Plan and continued in this Master Plan.
12. Establish a new Ten-Year Land Use Element that deals with foreseeable events and serves as a guide for zoning while providing a longer term plan for more distant considerations.



1-6 COMPATIBILITY OF THE TOWNSHIP PLAN TO ADJOINING  
COMMUNITIES, COUNTY, STATE, AND REGIONAL PLANS

1-6.1 Adjoining Communities Plans

Plate 1, Planning in Adjoining Communities, shows the compatibility of Hillsborough's Plan with the adjoining communities. The Township's northern boundary and much of its eastern boundary consist of rivers and their floodplains. Although most planning in the adjoining communities is similar to those land uses in Hillsborough, the rivers and their floodplains minimize the importance of land use compatibility since the physical separation and the absence of numerous bridges establish an effective barrier.

In reference to the western boundary with East Amwell and Raritan Townships, the planning for low density, large-lot residential and agricultural uses in Hillsborough is consistent with the plans for these two communities. The western half of the Township's northern boundary abuts Branchburg Township, where the dominant area is for three-acre residential lots consistent with Hillsborough's low density, agricultural designation. At the river's bend between Black Point Road and Main Road, Branchburg has an industrial park and a small neighborhood business district within the village. A major portion of these districts lies in the South Branch Raritan River floodplain.

The resulting pattern of land uses in these adjoining municipalities is reflective of an absence of river crossings. There are topographic differences and floodplains, both non-residential districts back-up to Hillsborough, uses do not influence the Township's major transportation and land use patterns, and these two districts are consistent with the character of development in that segment of Branchburg.

The eastern portion of the Township's northern boundary abuts Bridgewater, Raritan, and Somerville. In Bridgewater, the abutting area is residential on 20,000 square foot lots. A small neighborhood business section is located about 2,000 feet away from the

river. Inasmuch as this residential development and neighborhood business area is separated from Hillsborough by the Raritan River and no convenient river crossings exist because of the floodplain and different topographic characteristics, the continuing Township agricultural area is considered compatible.

The Borough of Raritan forms a small segment of Hillsborough's northern boundary; this entire common boundary is opposite the Duke Estates in Hillsborough. The Duke Estate will continue as an open-space preserve. The compatibility of planning and zoning with the Borough of Raritan is therefore not considered significant. This area is also separated by the floodplain of the Raritan River and has only one narrow bridge crossing into the Duke Estate portion of Hillsborough.

The remaining northern boundary comprises areas abutting the City of Somerville and a small portion of Bridgewater Township. These areas are predominantly industrial, with some commercial areas further away. Generally, these land-use districts are related to existing development patterns and major highway access. All those districts along the boundary abut the floodplain of the Raritan River. The major undeveloped portions of the Duke Estate as well as the floodplain of the Raritan River create major undevelopable areas and impose significant distances between Hillsborough's residential patterns and the non-residential uses in Somerville and Bridgewater.

The Borough of Manville has several one and two-family residential districts abutting the Township's northeastern boundary. The two very small industrial areas, one along the Reading Railroad and the other near River Road; are compatible with the Township's industrial district and Kupper Airport. The remainder of Manville is one and two-family residential, consistent with the Township's residential classification. One exception is the proposed industrial area south of Camplain Road; It is envisioned that this area will develop outward from its Camplain Road frontage, which is opposite industrial uses and junk yards. The extent to which this



industrial area can extend toward the Manville boundary is limited by the floodplain of Royce's Brook, which will serve as a buffer between the Township and the Borough.

The Borough of Millstone proposes only residential or open-space uses around its Hillsborough boundary except for the north central portion, which is industrial. The adjoining Hillsborough area is proposed for large-lot office park and light industrial, which is consistent with the Borough of Millstone.

All of Hillsborough's remaining eastern boundary abuts Franklin Township. The Millstone River and its floodplain separate both Townships, providing a significant separation between the developable portions of both. The floodplain area is being acquired on both sides by the State for the Millstone River State Park. With this state park intervening between both Townships and with only three river crossings, the land use characteristics are compatible.

Hillsborough's southern boundary is shared with Montgomery Township. The eastern end is residential at one unit per acre, similar to Montgomery's development pattern and its planning. At Route 206, Montgomery has a mixture of commercial and industrial uses compatible with Hillsborough's industrial planning. The residential pattern in Montgomery in the Belle Mead area is at a higher density than that proposed for Hillsborough. While residences are compatible with Hillsborough, it is likely that the density proposed in Montgomery will be realized in view of the recent Mount Laurel project approved by that Township. West of Belle Mead, the Carrier Clinic, Sourland Mountain Park, and 3-M Mining operation recognize existing and proposed uses compatible with Hillsborough. In the Township's southwestern corner, both Montgomery and Hillsborough propose low-density, residential development in recognition of the limited highway access, lack of utilities, and other municipal services, and the geological and topographic limitations imposed by the Sourland Mountain.

## 1-6.2 County Plan

The Hillsborough Plan is also compatible with the more generalized plans of Somerset County, the State of New Jersey's State Development and Redevelopment Plan, and plans formulated by the Tri-State Regional Planning Commission.

With respect to the Somerset County Plan, Hillsborough acknowledges the proposed West County Drive, the new Millstone River crossings resulting in realignments of both Amwell and Hillsborough Roads, the realignment of Route 206 to bypass the Town Center, and the Raider Boulevard extension along the former I-95 path. This latter connection is shown in the Hillsborough Plan as part of the Millstone/River Road By-Pass. The Hillsborough Plan is in general conformance with the County's Master Plan of Land Use, plans show a higher density core area surrounded by lower residential densities with a semi-ring of industrial development. This industrial area corresponds to the two railroad corridors, the Route 206 corridor, and the existing government depots. The preservation of the Duke Estate, Sourland Mountain Park, and the park along the Millstone River are also shown in the County's Plan.

The northwestern and western areas of the Township are shown in the County Plan for rural settlement, consistent with the Township's low residential density/agricultural proposals. The Township's plan in other residential areas is also compatible with the County's proposed densities. Although the boundaries shown by the County for the various residential densities differ slightly from the Township's more specific plan, the concept is similar and therefore compatible. For example, the core area of the Township is identified for community development, which is a general category applied throughout the County where overall densities vary from 5 to 15 units per acre. Hillsborough's core area has densities of 8, 4, 3, and 2 units per acre. The surrounding lower density residential areas are identified in the County Plan in the residential neighborhood category. These areas are between the higher density core, and the lowest density of rural settlement, forming a type of transition area.



The County's residential neighborhood is identified in the County Plan as the largest category, approximately 35 percent of the County's land area with most corresponding to the one and two-acre zoned areas in the County. This density is compatible with the Hillsborough Plan's temporary 0.5 unit per acre density, which will increase to one unit per acre as road and other improvements take place. But perhaps more significant, the provisions in the Township's plan for flexible zoning, including density designs, cluster designs, transfer of development credits, and multiple choices of housing types advance the County's goal to avoid one to two-acre lot by lot development and instead provide clusters of residential neighborhoods with open areas integrally related to them.

### 1-6.3 State Plan

The 1992 State Development and Redevelopment Plan sets forth a list of guidelines involving comprehensive planning, capital facilities, financing, economic development, housing, transportation, natural and cultural resources, and areas of critical State concern. Further, the plan designates land uses based on planning area criteria. They are Planning Areas ranging from; Planning Area One which represents urban areas to Planning Area Five which represents environmentally sensitive areas.

The State Development and Redevelopment Plan designates most growth areas where the following criteria exist: major population and/or employment centers; within or in proximity to existing major water supply, sewer service areas, and service by major highway and commuter rail facilities; and an absence of large concentrations of agricultural land and large blocks of public open space or environmentally sensitive land. In Hillsborough, the growth area reflects the Township's core area, the Route 206 corridor, and the general central and northeastern portions of the Township, which have been undergoing development pressures and where water and sewer service are available. The limited growth areas" are considered land reserves by the State so that public resources might be targeted toward other areas where growth can

be accommodated more readily. The designated agricultural area applies to the State's major agricultural areas in an attempt to balance the State's needs for both conservation and development. That portion of Hillsborough shown in the agricultural area is part of the larger area encompassing most of Hunterdon County.

In general, the State Development and Redevelopment Plan indicates those locations where further urban expansion should be encouraged, where less intensive development is appropriate, and where essential natural resources, recreation space, and agricultural land should be preserved.

The Township's Plan is consistent with the State Development and Redevelopment Plan, both with respect to the designated areas for proposed development within the Township and the manner in which the highway and utility facilities can be related to future development. As part of the report accompanying the State's Plan, data is included to support the State's goals and objectives. These include revitalizing older urban areas while being sensitive to natural resources and the quality of the environment, maintaining a viable agricultural economy, and clustering the settlement pattern to conserve energy, balance jobs and housing, and foster the efficient use of State resources for highways, rail lines, and sewers. In the larger view of things, Hillsborough is a bedroom community on the fringe of the New York Metropolitan Area. It is neither a city nor a job center. The growth area, including a portion of Hillsborough, is an area in which development is encouraged in order to preserve other large areas of agriculturally productive and environmentally significant lands. Development in the growth areas would also discourage growth in fringe areas, which have neither the infrastructure nor the employment opportunities to support such growth. Development in the growth areas should encourage a variety of housing readily accessible to employment and commercial centers and at densities that will result in savings in energy and land consumption. The Hillsborough Plan conforms to these objectives.

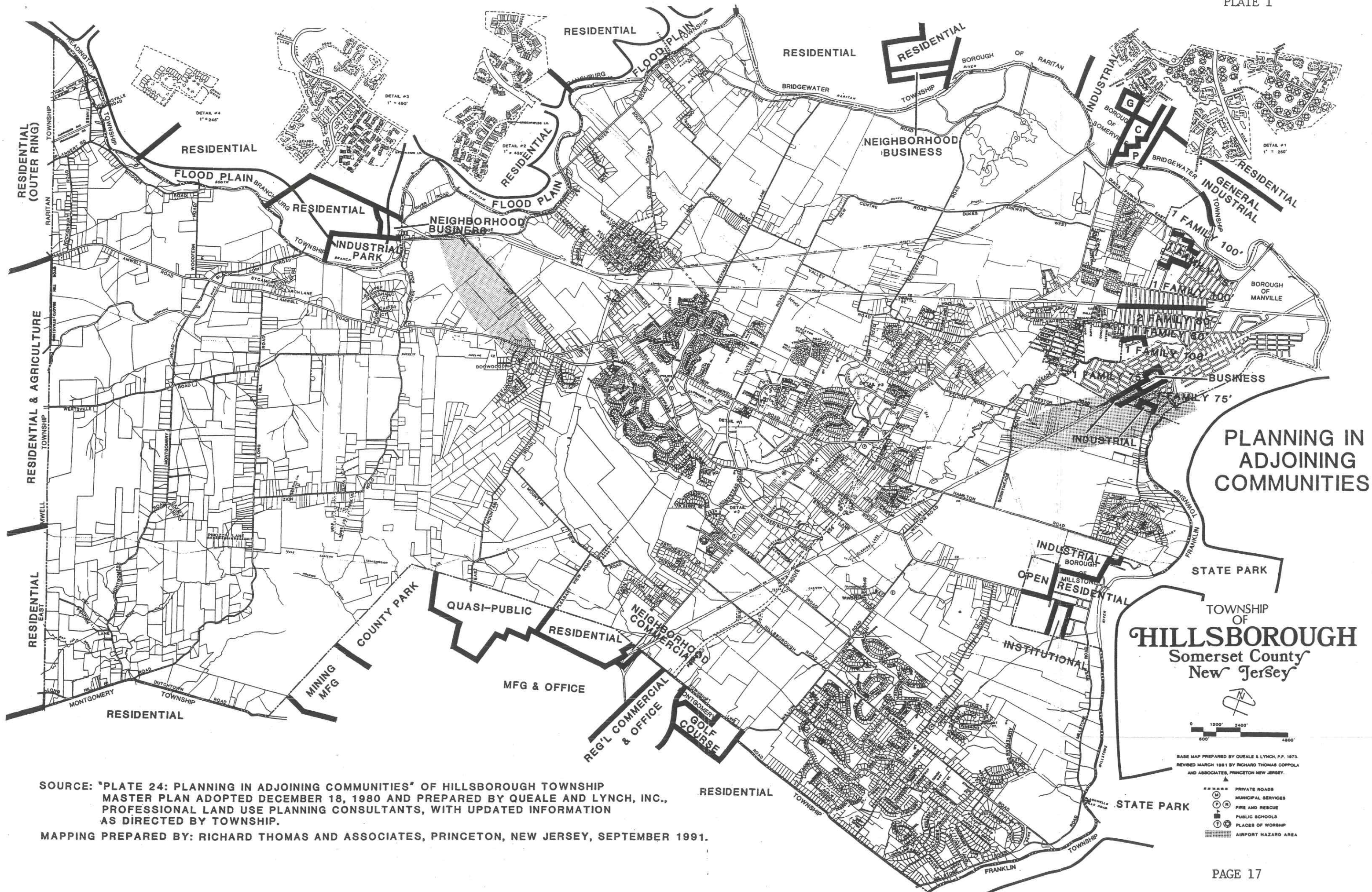


#### 1-6.4 Regional Plan

Additionally, the Tri-State Regional Planning Commission prepared a report entitled Regional Development Guide, 1977-2000. This report recommends development in five density categories beginning at zero to one-half dwelling units per acre, with densities increasing to 30 or more units per acre as one moves toward New York City. The agricultural fringes of the Township are in the agricultural category. The developing corridor along Route 206 is identified at densities of 2 to 6.9 units per acre. Tri-State provides no density category between 0.5 and 2 units per acre. The Tri-State map is a composite of square mile grids reflecting that agency's interpretation of the dominant characteristic in each square mile. Because of the small size of the Tri-State map and the fact the no municipal boundaries are identified (all of Somerset County is in an area of about 2 square inches), the placement of square mile grids, each often having a variety of conditions, each County and Municipality must refine the objectives based on more detailed local conditions. In general, the Township Plan is supportive of the Tri-State objectives by having identified a similar development corridor emerging outward from Somerville along Route 206. Whereas the Tri-State Plan shows this area in the range of 2 to 6.9 units per acre, the Township Plan includes development at densities as high as 8 units per acre to 1 unit per acre at the low end.

In addition, both the State and Tri-State agencies prepared guidelines for low and moderate income housing. As indicated in the Housing Element Section of this plan, Hillsborough has encouraged housing opportunities of all types and have been developed far in excess of the projections of both of these agencies.





SOURCE: "PLATE 24: PLANNING IN ADJOINING COMMUNITIES" OF HILLSBOROUGH TOWNSHIP MASTER PLAN ADOPTED DECEMBER 18, 1980 AND PREPARED BY QUEALE AND LYNCH, INC., PROFESSIONAL LAND USE PLANNING CONSULTANTS, WITH UPDATED INFORMATION AS DIRECTED BY TOWNSHIP.

MAPPING PREPARED BY: RICHARD THOMAS AND ASSOCIATES, PRINCETON, NEW JERSEY, SEPTEMBER 1991.



LAND USE  
PLAN ELEMENT  
SECTION 2



# LAND USE PLAN ELEMENT

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## LAND USE PLAN ELEMENT

### 2-1 INTRODUCTION

A Master Plan represents the goals and policies of a Municipality concerning the use and accessibility of its land and the provision of the facilities and services needed to support various land-use activities.

While the Land Use Element focuses solely on the physical development of the Municipality, it must, by statute, take into consideration the other elements of a Master Plan. A Land Use Element is described in the Municipal Land Use Law (N.J.S.A. 40:55D-28a.[2]) as:

a) Taking into account the other Master Plan elements and natural conditions, including, but not necessarily limited to, topography, soil conditions, water supply, drainage, flood plain areas, marshes, and woodlands;

b) Showing the existing and proposed location, extent and intensity of development of land to be used in the future for varying types of residential and other public and private purposes or a combination of purposes;

c) Showing the existing and proposed location of any airports and the boundaries of any airport hazard areas delineated pursuant to the "Air Safety and Hazardous Zoning Act of 1983," P.L. 1983, c. 260 (C.6:1-80 et seq.); and,

d) Including a statement of the standards of population density and development intensity recommended for the Municipality.

The extent to which public policy can influence the physical development of any Municipality is dependent upon a number of considerations: existing land uses and the character of development that has already taken place; housing needs, both on a local and a regional level; the need and availability of community facilities to service the existing and future population; the constraints of the existing roadway system; and the physical characteristics of the land.



These concerns were discussed in the 1975 Master Plan, which has been periodically reviewed and updated as required by the Municipal Land Use Law. The concerns of the Township and the planning and zoning concepts utilized to address these concerns have remained consistent.

## **2-2 ENVIRONMENTAL CONSTRAINTS**

Because sizeable portions of the Township are environmentally critical, road locations, grading, and structural siting must be carefully selected. For example, new development should be oriented toward the interior of each tract and not stripped along the frontage of existing roads so that neighborhoods can have local streets. Major roads would be along the periphery, not through the neighborhood, and there would be fewer street and driveway intersections along those roads, a factor that would increase in importance as development advances. Lots abutting the major peripheral roads should have greater depth, with this increased depth being planted for a buffer strip. In addition, by avoiding the environmentally critical areas in the design of neighborhoods the Township will minimize maintenance resulting from wet basements, erosion, and frost action on foundations and paving, while increasing aesthetic benefits from major tracts of open space, wooded areas, and topographic relief. Wherever possible, the Township will avoid accepting open space that requires maintenance, unless for planned parks or recreational uses.

### **2-2.1 Topography**

Hillsborough's terrain is flat to gently rolling. The major exception is the Sourland Mountain area. Except for the Sourland Mountain, virtually all the Township lies below the 200-foot contour. The areas above the 500-foot contour are relatively flat. Most of the steep lands are found between 200 and 500 feet. The 100-foot contour line clearly defines many of the streams draining the eastern portion of the Township, forming a part of the Royce's Brook Watershed. The basic topographic pattern is shown on Plate 1, titled "Topography" in the Conservation Plan Element, Section 8.

Since slope is of such great importance to new development and road and utility locations, slopes of 20 percent or more and those between 10 and 20 percent were analyzed.

Very few areas of the Township had slopes in excess of 20 percent. The largest areas were found along the eastern face of the Sourland Mountain. This entire face has grades exceeding 10 percent. About one third of the face exceeds 20 percent grade. The northern face is more gradual, with about half the face lying in slopes of 10 percent or greater. Areas having slopes of 20 percent or more are associated primarily with the stream cuts. Some ribbons of slopes 20 percent or greater are found along the Neshanic River and small portions of the South Branch of the Raritan and Millstone rivers. The eastern two thirds of the Township has very few areas in the 10-20 percent slope category, and these are all associated with stream banks. Fairly extensive areas of 10-20 percent slope are found between the Sourland Mountain and the Neshanic River and again in the Three Bridges and Hockenbury Road area.

Areas with excessive slopes, particularly those above 10-12 percent, should have limited development for several reasons. When the vegetation on steep slopes is disturbed considerable erosion and flooding can occur. It is difficult to reestablish vegetation once the soil has been stripped. Septic tanks function very poorly on steep slopes where the effluent runs through the top layer of soil directly into nearby streams, causing pollution of surface water. Steep slopes also create problems for driveway, road, and house placement. All told, steeper slopes generally increase construction costs.

Slopes in excess of 20 percent should be considered unsuitable for development. Slopes lying between 6 and 12 percent should have special consideration during the review process because of the development's high potential for causing erosion, flooding, and pollution of surface water. Slopes over 12 percent should be considered environmentally sensitive; they require special design consideration and review. Even if public sewers are present, surface water can be harmed by the siltation resulting from erosion of areas where vegetation has been removed.

## **2-2.2 Geology**

The underlying formation in over 84 percent Hillsborough Township consists of shale bedrock. The Sourland Mountain area, roughly bounded by East Mountain Road, Amwell Road, and Wertsville Road, has two basic underlying formations: argillite and diabase, covering 16 percent of the Township.



The shale areas are a reddish, highly fractured bedrock with relatively good internal drainage because of the fractures. Argillite and diabase, on the other hand, are dense formations with very little permeability or porosity. The formation of the diabase and argillite was the result of volcanic activity. The molten lava, when cooled, formed a hard diabase rock and, in the outer areas in contact with the lower lying Brunswick Shale, formed the Lockatong argillite. Both the argillite and the diabase are extremely poor sources of water because of their lack of porosity; most of the water runs off in the form of surface drainage. Very little internal drainage can occur because of the density of the rock and the relatively infrequent cracks or fissures. Diabase is often referred to as "trap rock" and is used extensively for road construction. Quarrying is currently under way by the 3-M Company in the diabase area. The processing of the mined materials is taking place partially in Montgomery Township.

Royce's Brook is particularly significant since its watershed covers about one third of the Township and includes those areas under most active development. The Royce's Brook watershed is also used as a basic planning area for sanitary sewers by the Municipal Utilities Authority. As development takes place in this area, the potential for worse flooding problems exists because of the addition of impervious surfaces and the more rapid run-off of water they cause. Storm water piped directly to Royce's Brook could damage stream quality if it increases the velocity of water. This increased velocity would erode stream banks, having deposits in areas where the channel is wider and stream velocity is slower. These deposits would eventually clog the channel and reduce the brook's ability to handle water run-off during storms, causing flooding problems. The use of on-site facilities such as retention basins, siltation controls, and other techniques have been required since the passage of the Surface Water Management Ordinance in 1975. Experience has shown that specific site design solutions are not always appropriate. The Surface Water Management Ordinance should be revised so that development decisions are made on regional management models for basin and sub-basin management designed to serve the broader needs the watershed regardless of property lines and development prospects. These facilities should conform to the surface water detention sites prepared jointly by the County and the Township.

### **2-2.3 Critical Areas**

Plate 1, Critical Areas, shows a composite of severe development limitations. These are areas that should not be developed because of physical limitations, including excessive slopes, severe wetness, and floodway and foundation problems. Critical areas are defined by these single-factor ratings or a combination of severe factors that may add up to a critical problem. It is important to relate this data to the more detailed Natural Resources Inventory prepared by the Township Environmental Commission and to check the existence of these conditions in the field before making final site determinations.

The flood-hazard areas along the Neshanic, South Branch of the Raritan, Millstone, and Raritan rivers have been adopted by the New Jersey Department of Environmental Protection. Their maps should serve as the basis for reviewing development proposals in these areas. Those with slopes in excess of 12 percent are easily determined by field investigation. Soils with excessive wetness and severe foundation limitations require more involved interpretation of soils characteristics as could be provided by a soils scientist. It would be advisable to have developments in areas suspected of having these limitations be reviewed by the Soil Conservation Service. In addition, in order to provide accurate data on the water table, wetness, septic suitability, and erosion potential, soil logs should be taken throughout a site.

Other development limitations not shown on Plate 1 involve the use of private wells and septic systems. Throughout the Township, the soil limitations on the use of septic systems are expected to have greater limitations on development than those imposed by the availability of water, especially in the red shale areas that make up the bulk of the Township.

### **2-2.4 Wetness**

The United States Department of Agriculture's Soil Conservation Service through the Somerset-Union Soil Conservation District provides maps identifying various soil types. The United States Soils Handbook contains additional detail on soil types. In addition, data can be found in the Township's Natural Resources Inventory. Six categories of soil wetness are found in the survey. The



top two categories of excessively drained and well-drained soils were grouped to illustrate areas having only slight limitations for development. These areas have excess water for only short periods of time after an abnormally heavy rainfall. The next two categories were combined to show moderate limitations. These soils have seasonably high water at 0.5-2.5 feet from the surface from November through May. The category that would impose severe limitations on development combines poorly drained and very poorly drained soils, which have seasonably high water at 0-1 foot from the surface from September to June.

The largest area in the severe category is on the Duke Estate, while the area lying to the east of East Mountain Road has several extensive areas of poor drainage. Some lands lying along the Lehigh Valley Railroad between Beekman Lane and Roycefield Road also are in this very poor drainage category. Another fairly extensive area lies predominantly to the east of Route 206 near Manville, between the Lehigh Valley Railroad and Duke's Parkway East. Extensive areas of the Township are shown as having moderate limitations for development, based on soil wetness. Included in this moderate-limitation category are virtually all areas subject to flooding. Although wetness would normally be considered a severe limitation when resulting from frequent flooding, the moderate category was probably used since the water receded significantly from June through October. Most of the Sourland Mountain area is included in this area of moderate limitations except in critical places where a combination of perched water, seeps, and springs produce wetlands and closely associated headwater areas. Most of the other areas shown in the Township as moderately well drained or somewhat poorly drained are found in association with streams.

These wetlands, defined by State and federal law, are vital natural resources. They provide natural flood control, recharge of aquifers, natural purification of waters, stabilization of stream flow, and habitats for a diversity of animal life. Wetlands act as sediment and pollutant traps and remove nutrients from water under certain conditions. These areas that are regularly inundated or saturated by surface or groundwater usually support vegetation typically adapted to life in saturated soil conditions.

## **2-2.5      Limitations for Septic Filter Fields**

Development limitations based on the use of septic filter fields assume lines at a depth of about two and one half feet. Seasonably high water tables, poor permeability owing to high clay content in the soil and a thin layer of soil over impermeable bedrock, and extremely high percolation rates owing to fractured shale were cited most often as the basis for a severe-to-critical limitation. In the Township almost 35,008 acres, or 95 percent, is rated severe for septic systems and as such may require special alternative designs as required by State standards and other site improvements that might make septic systems a realistic alternative. The largest expanse of soils with a moderate limitation for the use of septic systems lies along the crest of the Sourland Mountain and in smaller pockets north of the Neshanic River. Combined with previously noted limitations, the soils in these areas are sometimes in the critical category. Areas with slight limitations are found in scattered locations along the South Branch and Raritan River areas in the northern part of the Township. Virtually the entire Royce Brook watershed has a severe rating.

## **2-2.6      Foundation Limitations Without Basement**

The Soil Conservation Service lists two interpretations for foundations, one with basements and one without basements. Many areas have severe limitations for basements, but because houses could still be erected without basements, an analysis was made of areas with severe development limitations for buildings without basements. This rating assumes excavation deep enough for footings. The overall pattern closely follows streams and areas of extreme wetness as shown on the Critical Areas Map. Large areas along the north face of the Sourland Mountain are also included in the severe category.

## **2-2.7      Agricultural Limitations**

Limitations on the use of undeveloped land for agricultural purposes was also analyzed. Three categories of agricultural limitations were mapped and the map is part of the 1980 Master Plan. The slight category included Soil Conservation Service (SCS) Classes I and II. Moderate agricultural limitations were represented by SCS Class III. All other areas shown are either Classes IV through VIII or



areas already developed. These distinctions were chosen because Classes I, II, and III were used in the Report of the Blueprint Commission on the Future of New Jersey Agriculture as the prime target areas for the preservation of farmland. Much of the undeveloped areas of the Township fall in either the Class I, II, or III categories; the major exceptions are the Sourland Mountain and areas subject to flooding or wet soil conditions.

## **2-3 ROAD SYSTEM**

The major constraint to allowing the higher residential densities and more gross floor area in non-residential uses is the inadequacy of the major highway system. It is recommended that the reduced levels of density shown in the 1980 Ten Year Plan be retained, in whole or in part, until segments of the major road system are improved. Plate 2, Highway Improvements Required for Higher Densities, identifies the major undeveloped areas together with the road improvements considered necessary before there can be an increase in residential density or greater floor area for non-residential uses.

## **2-4 EXISTING LAND USE**

In developing the Master Plan, Plate 3, Developable Land and Proposed Neighborhoods, was originally prepared to illustrate major areas where development should be most logically directed. The goal is to initiate a long-range policy of guiding future development to those areas that can best be coordinated with a convenient circulation system, proper storm drainage and water and sewer service; be in character with adjoining development; and be designed to protect environmentally sensitive areas. Consideration is also given to future water and sewer service being extended logically outward from the periphery of the existing service areas. By plotting the patterns of existing development, critical areas, and the location of public and tax exempt land, the remaining developable tracts are identified.

With the delineation of these areas, it is intended that development be coordinated within and between neighborhoods, whether completed in multiple stages or as one stage or with one developer or several. The neighborhood boundaries are schematic and therefore flexible. The intent, however, is to use flood plains,

wetlands, areas of erodible soils, water recharge areas, steep slopes, proposed streets, existing development, railroad alignments, Sourland Mountain, and similar features as boundaries. Drainage corridors should be preserved. These and other environmentally critical areas should not receive the full density allowance in residential developments. Homes and other uses should back up to flood plains, not encroach upon them. A minimum number of roads should cross flood plains and wet areas so that fewer costly bridge construction projects and costly maintenance are required. Road grades and the radii of curves should take into consideration inclement weather conditions. The preservation of floodplains and groundwater recharge areas provides opportunities to generate recreation areas convenient to homes, while providing open space buffers between neighborhoods. Their preservation also provides opportunities to recharge underground aquifers in areas dependent upon groundwater supplies and provide storm water management programs in areas undergoing rapid development.

Even with massive development in recent years, Hillsborough remained predominantly undeveloped in 1990. The following tables identify the acreage in each zone listed by tax classification. Table 1A, Use of Land by Residential and Non Residential Zone. Table 1B, Use of Land by Residential Zone and Table 1C, Use of Land by Non Residential Zone.

|          |
|----------|
| TABLE 1A |
|----------|

USE OF LAND BY RESIDENTIAL AND NON RESIDENTIAL ZONE  
(in acres)

| ZONE            | USE           |             |                 |               |
|-----------------|---------------|-------------|-----------------|---------------|
|                 | <u>VACANT</u> | <u>FARM</u> | <u>IMPROVED</u> | <u>PUBLIC</u> |
| Residential     | 3,070         | 13,680      | 8,455           | 3,037         |
| Non Residential | 1,173         | 3,391       | 1,972           | 972           |
| TOTAL           | 4,243         | 17,071      | 10,427          | 4,009         |

Sources: Hillsborough Township Master Plan - Revised 1992, Tables 1B and 1C.

TABLE 1B

USE OF LAND BY RESIDENTIAL ZONE  
(in acres)

| ZONE                            | USE           |             |                 |               |
|---------------------------------|---------------|-------------|-----------------|---------------|
|                                 | <u>VACANT</u> | <u>FARM</u> | <u>IMPROVED</u> | <u>PUBLIC</u> |
| Mountain/Valley<br>Preservation | 864           | 2,516       | 1,482           | 1,547         |
| Rural/<br>Agricultural          | 681           | 7,213       | 1,214           | 335           |
| Residential/<br>Agricultural    | 426           | 1,651       | 550             | 283           |
| Rural/Suburban                  | 82            | 1,604       | 198             | 11            |
| Residential                     | 621           | 463         | 3,031           | 493           |
| Residential I                   | 154           | 99          | 1,018           | 322           |
| Central<br>Residential          | 176           | 0           | 544             | 46            |
| Town Center*                    | 0             | 0           | 96              | 0             |
| Planned<br>Development*         | 0             | 0           | 322             | 0             |
| Affordable<br>Housing           | 66            | 134         | 0               | 0             |
| TOTAL                           | 3,070         | 13,680      | 8,455           | 3,037         |

\* The TC and PD Zone acreage was not taken from the tax rolls. The data is derived from the official zoning map (revised July 24, 1990).

Sources: 1992 Hillsborough Township Tax Rolls  
Hillsborough Township Official Zoning Map (Revised July 24, 1990)  
Hillsborough Township Ordinance 90-13 Zone Change-Exhibits A & B

TABLE 1C

USE OF LAND BY NON RESIDENTIAL ZONE  
(in acres)

| ZONE                       | USE           |             |                 |               |
|----------------------------|---------------|-------------|-----------------|---------------|
|                            | <u>VACANT</u> | <u>FARM</u> | <u>IMPROVED</u> | <u>PUBLIC</u> |
| HomeOccupation             |               |             |                 |               |
| Office                     | 33            | 33          | 203             | 6             |
| Office                     | 72            | 127         | 112             | 12            |
| Office/<br>Research        | 17            | 362         | 0               | 7             |
| Economic<br>Development    | 496           | 281         | 71              | 763           |
| Office/Light<br>Commercial | 0             | 0           | 13              | 0             |
| Retail/<br>Commercial      | 17            | 0           | 264             | 16            |
| Light<br>Industrial        | 253           | 5           | 354             | 45            |
| General<br>Industrial      |               |             |                 |               |
| Office Research            | 192           | 54          | 261             | 46            |
| Mining/Quarry              | 62            | 682         | 449             | 0             |
| Corporate<br>Development   | 31            | 1.847       | 245             | 77            |
| TOTAL                      | 1,173         | 3,391       | 1,972           | 972           |

Sources: 1992 Hillsborough Township Tax Rolls  
Hillsborough Township Official Zoning Map (Revised July 24, 1990)  
Hillsborough Township Ordinance 90-13 Zone Change-Exhibits A & B  
Hillsborough Township Industrial Commission 1992 Inventory of  
Industrial Lands



Table 2, Residential Certificate of Occupancies, shows the number of Certificate of Occupancies issued for residential dwellings between 1980 and 1991.

TABLE-2 - Residential Certificates of Occupancy

| Year | Single<br>Family | Multi<br>Family | Total |
|------|------------------|-----------------|-------|
| 1980 | 179              | 132             | 311   |
| 1981 | 162              | 210             | 372   |
| 1982 | 120              | 92              | 212   |
| 1983 | 134              | 129             | 263   |
| 1984 | 240              | 198             | 438   |
| 1985 | 281              | 279             | 560   |
| 1986 | 331              | 273             | 604   |
| 1987 | 280              | 229             | 509   |
| 1988 | 170              | 183             | 353   |
| 1989 | 142              | 76              | 218   |
| 1990 | 177              | 4               | 181   |
| 1991 | 140              | 75              | 215   |

The major attractions for development are still concentrated in the central and eastern portions of the Township. These include the modest topographic characteristics, proximity to the New York Metropolitan center, two rail lines, existing water and sewer service various community services, and a pattern of development that serves to entice further development. The major factors detracting from development are areas of poor soils, flood plains, steep topographic conditions to the west, a lack of facilities and convenient highway access in the peripheral areas, and severe traffic congestion along Route 206.

Although between 1979 and 1990, isolated developments were abandoned, the general trend was one of continued development. Overall, the land-use pattern remains consistent with the Township's 1980 Master Plan, e.g., the more intense development is occurring in the Royce's Brook drainage basin, with lower density, single-family development in the peripheral areas, particularly the southeastern corner. Residential development since 1979 has been basically a stabilization of the development patterns that had already begun. Of all the residential activity, the most significant patterns were the reduction in growth of townhouses and apartments in the multi-family

district and the return of conventional versus cluster design in the new single-family developments.

The Ten-Year Plan presented in 1980 was essentially completed in the Town Center area and in the southeastern portions of the Township. Most of the development from 1980 to 1990 was in the residential and commercial zones. The de-designation of I-95, the lack of improvement to Route 206 and the inability to find alternative paths for the Auten Loop past the Duke Estate have kept development from occurring in the planned Industrial/Office and Economic Development zones.

The strip of retail uses along segments of Route 206 comprises a major commercial feature, but with a pattern of individual development accumulated over the years. The existing shopping centers are classified as neighborhood centers. There is no central business district in the traditional sense, i.e., a "downtown," and no regional shopping center. The regional facilities are in the Somerville area and Bridgewater Commons in Bridgewater Township. The pattern of commercial uses stripped along Route 206 is, one of a mixture of highway-oriented uses such as drive-in facilities, service stations, community shopping centers, and offices as well as the convenience-type, neighborhood retail outlet normally associated with residential centers. The first group is related to the through traffic on Route 206. The second can be expected to benefit from this traffic, but is of the type more appropriately located convenient to residential areas rather than the regional highway. The major patterns evident in commercial activity remain the in-filling of vacant parcels on Route 206 as well as some turnover in occupancy of existing commercial structures.

The existing Home Occupation Zone (HOO) has been extended to include portions of the residential area along Route 206, portions of Amwell Road (Route 514) between the Reading Railroad line to the intersection of County Route 625, and the westerly side of Hamilton Road between Route 206 and the proposed realignment of Route 206. This zone is intended to act as a transition between the high activity of non-residential areas and present single-family uses.

The major industrial operations are scattered. A significant number are in close proximity to the Lehigh



Valley Railroad, but most seem to rely on highway transportation. With such reliance highway designs that require employee commutation in addition to shipping and receiving activities to pass through residential areas should be avoided.

One undesirable pattern of industrial development is the scattered location of industries among residences. The intermixing of industrial and residential uses can be seen in more exaggerated form in many older cities. The noise, on-street parking, traffic, and other activities are incongruous with quiet, residential areas and activities such as children playing, pedestrian traffic, playgrounds, and schools. Similarly, there are advantages to having industrial uses located in a common area so that street designs and public services can be provided in a manner that meets the unique needs of industry.

Although the two government depots (Government Services Administration and the Veterans Administration) are shown as public uses, they are potential major employment centers with industrial characteristics. These two uses cover 1,185 acres, or 1.9 times the acreage of all other commercial and industrial uses combined. These two facilities accounted for almost 77 percent of the total land devoted to public and quasi public uses in 1973. By 1979, additional public lands were created so that these two federal facilities represented about two-thirds of all public and quasi-public land. Together, all public and quasi-public uses such as schools, churches, cemeteries, camps, the municipal building, firehouses, landfill, recreation areas, and the two federal depots occupy only five percent of the Township (about 1,780 acres.) With the exception of these two major facilities, the public and quasi-public uses are scattered throughout the Township, with a heavier concentration in the eastern half that corresponds to the higher portion of residential uses in this area. This scattered pattern is typical of most communities since these services are normally disbursed for convenience to the people they are serving. Some types of public uses, such as landfill sites, highways department maintenance yards, etc., need not be located in any particular area, but should be removed from neighborhoods.

Hillsborough's development features include the rights-of-way of the railroads, overhead transmission lines, and underground pipelines. Railroads not only provide a means



of transportation for people and goods, but they also establish a physical barrier adding inflexibility to street designs. There are also two overhead transmission lines located in the northeastern portion of the Township. The impact of these facilities in areas undergoing development has already been seen. Individual lots for detached dwellings are designed to back up to these rights-of-way and, in multi-family projects, the trend is to utilize the areas under these lines for recreation and/or parking. While these uses are logical there are some design limitations. Finally, there are three underground pipelines running east/west across the Township. These underground easements do not leave the same visual impression as the railroads and the overhead transmission lines, but because of their restrictions on land use, the opportunities for maximum design potential is still reduced.

Throughout the Township, street and railroad rights-of-way represent about six percent of the total land area (about 2,030 acres), reflecting the mixture of rural, open land to the west and more intensive development in the east. In rural areas, streets represent a low percentage of the land area. In more developed areas, each lot requires street frontage, so that the percentage devoted to streets can approach 25-35 percent in urban centers. Proper street design recognizes existing street patterns, land uses, street widths, existing contours, traffic patterns, and the use of streets for utility services. In Hillsborough, the existing streets will serve as the major system serving continued development. Realignments will be required where there are dog-legs around old farms, intersections with acute angles, narrow bridges, narrow rights-of-way, and some unimproved surfaces.

## **2-5 PROJECTED LAND USE**

The 1980 Master Plan consisted of two land-use plans. The first was for the short-term. In this plan, development and its impact, the need for improved facilities, and the proper staging of improvements in coordination with longer-range development were easily seen. The density of development in the peripheral areas was lower than that shown in the longer-range plan, in recognition of the highway and bridge capacities. The second plan was a longer-range plan where expanded public services, road and bridge improvements, greater employment opportunities,

additional retail/commercial services, and more flexibility in residential densities were anticipated. But the precise timing depended on the interrelationship and the completion of improvements to such support services as road capacities and water and sewer service. These plans remain valid although dated.<sup>1</sup>

The basic pattern of future growth in 1992 is expected to be in the following categories: the initial enfolding of parcels in the higher density core areas; expansion of housing outward from this core as highway improvements and additional public services become available; followed by non-residential development in the railroad corridors and in other locations as major highway improvements become available. Scattered, low-density development in the agricultural and historic areas is expected to occur separate from, and unrelated to, the more active major developments along the Route 206 corridor.

Three goals remain constant: to provide for continued agricultural activities in the north and west; to protect environmentally critical and historic areas, and; to have development occur as a high density core surrounded by a ring of industrial/office employment uses and with lower-density residential and agricultural uses on the periphery. Toward these goals, the Township should carefully weigh different possible approaches. For example, alternate clustering options would allow some development in the agricultural areas while protecting water resources and preserving prime agricultural soils. Where development does take place, it should protect existing aesthetic qualities of the neighborhood and site and recognize the limitations of natural features such as prime farm soils, flood plains, soil erodibility, steep slopes, high water tables, and the compatibility between on-lot septic systems and limited groundwater resources.

In addition, the projection should continue to share the concept of directing development to the existing core areas. This area, within the Royce's Brook Watershed, is more easily served by water and sewer service, has existing major highways, is the focal point of future road and transportation improvements, and has the most public facilities.

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<sup>1</sup> Hillsborough Township Master Plan, Amended 1980. Queale and Lynch, Consultants. Pgs. 64, 66-73.

The extent, density, and specific locations of future development are logically related to current characteristics. The plan encourages the enfolding of available sites within the core area, with priority given to sites either served by or having easy access to existing water and sewer service. "Leap Frogging" of development into undeveloped areas should be discouraged. As various services are expanded and as major highway improvements occur to provide additional highway capacity, logical extensions of the development pattern are anticipated to take place outward from the core area in patterns related to the new services. Toward this effort, zoning techniques such as cluster zoning, planned unit development, transferring development credits and/or development rights, bonus zoning provisions, and similar ideas should be evaluated and used. In some instances, such as the transfer of development "rights," legislation may be required prior to implementation. In the meantime, other flexible provisions such as cluster zoning in both its traditional form and in the form of transferring development "credits" between noncontiguous parcels, should continue to be used to encourage agricultural preservation, on-site aesthetic qualities, and designing around environmentally sensitive lands, major wooded areas, stream corridors, and ponds and similar water areas.

"Greenways are a testament to the need to protect our lands and keep them alive, healthy, and green. The community-based, democratic effort to bring greenways about is composed of hard-working, ordinary people who are dedicated to improving the quality of their everyday lives by preserving and connecting the remnants of nature near their homes and workplaces," defines Charles E. Little, Greenways for America.

The Hillsborough Township Greenways Plan (Plate 4) consists of a largely uninterrupted expanse of existing open space, both private and public, which links together woodlands, wetlands, stream corridors, steep slopes, and other sites having geological, botanical, cultural, and historic qualities.

In some cases, the Greenways Plan is limited to a narrow easement; in other cases, it expands to the width of a field, a farm, or a meadow. In all cases, the Greenways



Plan is important because it provides a meaningful way of linking open space, as well as proposed open space.

The proposed open space areas are conceptual corridors and broad linkages that have been designed to connect the existing open space. These proposed greenways follow ridge lines, parallel stream corridors, and may include significant areas of wetlands and flood plains. Ultimately, these proposed greenways will provide planners and township officials with a valuable framework for the purchase of open land, and for guiding future development decisions.

In addition, the Hillsborough Greenways Plan is designed to provide all of its citizens with numerous opportunities to enjoy a diverse mix of both passive and active recreational experiences. Wherever practical, the Greenways Plan provides interconnections between developed areas, schools, parks, and natural areas. It should be noted, however, that many portions of the Greenways Plan will be left undisturbed to provide natural habitat and wildlife corridors. The Greenways Plan also recognizes similar plans in adjacent communities, and an effort has been made to provide linkage with open space in East Amwell and Montgomery townships. In this way, Hillsborough's Greenway Plan serves both local and regional needs by providing an open space system of countywide significance.

Many benefits accrue from preserving and protecting open space through a Greenways Plan. Among other benefits, greenways:

- ♦ Protect environmentally sensitive lands.
- ♦ Provide valuable corridors for wildlife movement.
- ♦ Preserve ecological diversity by protecting valuable habitats.
- ♦ Protect water quality and control flooding by providing buffers between developed areas.
- ♦ Provide diverse recreational opportunities.
- ♦ Preserve local character.
- ♦ Save tax dollars by controlling development.
- ♦ Provide outdoor classrooms where citizens can study the natural environment.
- ♦ Help to shape new growth and development so that it accommodates community needs and goals.

"A clean, safe, and attractive environment is essential to assuring the health of our citizens," notes the New Jersey State Plan. Hillsborough Township recognizes this need and by implementing a Greenways Plan the township seeks to ensure a high quality of life, important to the identity of the community.

#### **2-5.1      Ten-Year Plan**

Plate 5, Land Use Element, Ten-Year Plan, is based on the realization that water and sewer service will not be available to all areas of the Township in the foreseeable future, and that major problems have developed throughout the transportation system in the Township. Indeed, the agricultural areas to the north and west are not expected to be watered and sewered. This plan also recognizes the intense development that has occurred in Hillsborough since 1973. By developing a Ten-Year Plan in conjunction with a longer range plan, it is intended that the current zoning policies be based on lower density land-use controls that recognize existing development patterns, the present levels of various facilities and services, and the problems of highway congestion and safety.

While this Ten-Year Plan represents a practical approach to some real problems, it can also be viewed as a temporary plan. Ultimately, sewers can be expected to be extended, water service will be available in larger portions of the Township, and major road and transportation improvements will be made, albeit in stages. These improvements should represent logical extensions, not random "leap frogging" throughout the Township. Such haphazard, rapid growth patterns dilute the Township's limited staff and financial resources. To implement this concept, the zoning ordinance can be amended in stages and at appropriate locations to reflect areas in which one or more major improvements have been made that singularly or in combination remove the constraint to development that had existed in that area.

At the present time, Route 206, the eastbound exits, and the total transportation system are the weak links placing a constraint on continued development. The plan assumes Route 206 will be improved to at least a dualized cross-section. As Route 206 and other major routes are improved to provide easier access into and out of Hillsborough, zoning changes can occur to the limit of the next weakest



link, e.g., sewerage treatment plant or trunk line capacities where sewers are available.

In 1992, the interior portion of the core area had densities reflecting the existing apartments and townhouses at 8 and 4 units per acre, as well as existing single-family developments of 1 and 2 units per acre. Where the existing residential pattern is more scattered and existing lots vary in size, a density of 1 unit per acre is proposed in anticipation that any significant growth would be compatible with both the existing lower densities in the area as well as similar and higher densities of some adjoining areas. On the north, west, and south fringes of the core area, areas for 1 to 1 1/2 units per acre are proposed to serve as transition areas. These densities are also consistent with approved subdivision plans in the area.

Beyond this rather tightly scribed core area, the residential densities are recommended at 0.5 unit per acre east of Route 206 (exceptions are those areas already developed, or areas of lower densities along the historic area abutting the Millstone River). North and west of the central core area is proposed for continued agricultural uses. Agricultural characteristics still prevail in this region, and water/sewer service is not foreseen. In addition, the soil conditions for groundwater supply and on-lot septs require low densities to assure adequate water supplies on the one hand, and potable water on the other. For example, in the Sourland Mountain the rock conditions make finding water difficult. Once found, the steep slopes and rock conditions combine to threaten the water supply where on-lot septs will be used. Larger lots of 5-8 acres are therefore expected to be necessary in order to find water and properly locate on-lot septic systems.

In the agricultural valley, shale is dominant. Because of its highly fractured nature, shale is capable of providing good water supplies, but on-lot septic systems severely threaten the water supply should the density become too high. Existing on-site septic systems should be upgraded according to State requirements. Earlier estimates by Rutgers University suggest lot sizes might need to be 3-7 acres in order to avoid well-water contamination in these areas.



The north and west areas of the Township exhibit rural characteristics, some areas of difficult terrain, the problem of water supply in the mountain, and the threat of contaminating the water supply in the shale area owing to on-lot septs. The Township therefore foresees the continuation of agriculture in this area. If there is some development, it should be at these very low densities to be compatible with the agricultural activities and water/sewer limitations. In view of highway access, utilities, and significant residential development patterns elsewhere in the Township, the northern and western areas are recommended essentially for nondevelopment or, if developed, to be developed at very low densities.

There are several retail commercial areas. The largest is the concentration of strip commercial development now along the central portion of Route 206, e.g., north and south of Amwell Road, the Woods Tavern Shopping Plaza near Valley Road, and the highway services along the west side of Route 206 near the Montgomery Township boundary. These commercial areas are strip malls and while they are successful, they do not offer any real shopping opportunity such as might be available in a mall.

One concept that was proposed in the 1980 Master Plan was the neighborhood convenience center; this concept did not work out as well as had been anticipated. Two convenience centers were built during the 1980's, Pheasants Landing on Amwell Road at Willow Road and the Corner Mall in Neshanic. The difficulty each of these convenience centers faces is lack of traffic and recognition. Small shops that are successful are normally well established before residential development occurs in an area. The Belle Mead Lumber Company and the Belle Mead Coop are examples of successful commercial businesses that are well known in the community because they have been serving the public well for many years. This has not worked as well with new businesses opening in predominantly residential and rural areas. For these reasons, several small commercial tracts have been rezoned and more emphasis is being placed on the town center concept.

In addition, the Ten-Year Plan proposes several office areas along Route 206 that correspond with some currently emerging office developments. In the case of the intersection of Route 206 and Raider Boulevard, the intent is to provide an option for an employment and service area

that focuses on the edge of an identifiable town center, while also providing a buffer between the highway and the residences further east.

Those areas already industrially developed or immediately accessible to major highway and rail transportation have been proposed for industrial growth. These areas correspond to the mining operations, the two large government depots, enlarging to the east and west of the area occupied by the government depot in the north, and an area along the east side of Route 206 in the south end of the Township corresponding to existing industrial development. By upgrading lot-size requirements in the Belle Mead section along the Reading Railroad up to a minimum 50 acres, the quality of development should change greatly, and this portion of the Township will be set aside for campus-style research/high tech complexes and designs such as corporate centers and office park complexes. The purpose of this change is to promote improved development from a design perspective thereby enhancing the area's overall potential for high quality development and aesthetic improvement.

While it is important to protect the land mass along the railroad corridor for optimum uses, it is also desirable to permit controlled flexibility to permit smaller lot development. It is recommended that this be accomplished through the conditional-use mechanism to ensure compatibility and the application of special design standards. It is also expected that Hillsborough's industrial area, such as the area along the Auten/Raider Loop Road and along the proposed re-aligned Route 206, can provide for the many small service offices and industries that can be expected in the area in response to major regional growth. Likewise, allowance for a conference center or educational center for the major industries in the region might be appropriate in the western valley or mountain area, provided that the tract is at least 150 acres and the intensity of development is compatible with water and sewer limitations.

Perhaps the most significant is the proposal to re-align Route 206 as a dualized freeway. The majority of this re-alignment is south of Old Somerville Road. The proposed re-alignment is essentially parallel to the existing highway and offers direct access to the Corporate Development Zone east of Route 206.



It is intended the Ten-Year Plan be a stepping stone toward the realization of the Long-Range Plan. As such the 10-Year Plan is the one on which current zoning policies should be established. As major public projects, highway improvements, or major development patterns emerge the appropriate modifications should be made, a new Ten-Year Plan revised and appropriate zoning modifications adopted.

It is also recommended in the Long-Range Plan that not only can residential densities increase in the southeast, but additional flexibility should be provided in the zoning options to encourage development in the areas served by the Township's Municipal Utilities Authority. This will result in more efficient use of the trunk sewers and reduce overall mileage within the system. It can also encourage preservation of major open space and agricultural parcels through appropriate clustering technique. This would allow for the transfer of dwelling units from any district into the core area, where densities are shown for 1.5 to 8 units per acre. Because most vacant land in the core area exists in those portions shown for 1.5 and 2 units per acre, it would be within these areas that the majority of transferred units would be constructed. With transferred units, the densities on the receiving lots could be permitted to double, with a maximum density of about 4 units per acre. It is also recommended that any site resulting in a density of more than 2.5 units per acre must incorporate apartment and/or townhouse units.

The southeastern area of the Township is proposed for 1 unit per acre, except in the historic district along the Millstone River. It is recommended that the transfer of units either be permitted to this district or out of the district but that it cannot receive transferred units from other districts. If transferring credits within this district can be established, it is envisioned that part of the area south of Millstone Borough and east of the Millstone/River Road By-Pass would be reserved for open space and possibly some agricultural uses, with +/-5 acre lots or larger along the open space corridor being created by the Millstone River State Park.

Early in 1990, an overlay, floating zone was established to allow for senior citizen housing and related senior citizen services. This zone has two components; one is a planned adult community without health care facilities and the



other is a planned adult community with health care facilities. In order to develop under the guidelines of this zone, a General Development Plan must be approved by the Planning Board. By 1992, two developers received classification under the planned adult community zone, and one received approval of a General Development Plan.

As a result of the higher residential densities in the Long-Range Plan, three additional retail centers plus some mixed office/retail uses are proposed beyond those existing today. One retail area is at the intersection of the Millstone By-Pass with Hillsborough Road and the second is in the core area at the intersection of the northern portion of Auten Loop Road and extended Triangle Road. A development application for this site has been approved. Both these facilities are seen as neighborhood convenience centers, not major community-wide shopping centers. In addition, the community-wide shopping center shown in the 1975 Master Plan at the intersection of the Auten Loop Road and Route 206 has been removed. In its place is shown an expanded commercial area between Auten Road and Route 206 on Amwell Road. This location is central to the major residential areas of the Township, is near the intersection of two arterial roads, and is in the water and sewer service area. In addition, Amwell Road has had recent improvements.

In total, the Long-Range Plan includes almost 185 acres of retail/commercial area (excluding the areas proposed for office use and the service area near the intersection of Amwell Road and the Reading Railroad). These proposals convert to sufficient acreage to represent five community centers, three neighborhood centers, and two areas of strip highway frontage, offering a mixture of offices and highway services. According to data provided by the Urban Land Institute, each community center on +/-10 acres can serve from 40,000 to 150,000 people, while each neighborhood center on +/-4 acres can serve from 7,500 to 40,000 people. (The highest levels of population to be served from these ranges represent the most intense use of the site and a mixture of tenants designed to maximize service to the particular community). Even if the least intense levels of population are used from these guidelines, the commercial areas shown on the plan could serve close to 200,000 people, almost seven times the population estimate for the year 2000. (This even assumes inefficient retail service in the Amwell Road/Route 206 area because of the office and

highway uses intermingled in that strip.) The goals, therefore, are to permit the development of small neighborhood centers in locations off Route 206 that are convenient to neighborhoods and to permit the expansion of retail and office services in the town center.

In general, it is expected that all the commercial areas shown on the plan will not develop because of the imbalance of commercial acreage versus projected population. However, each area should be retained in the Long-Range Plan to maximize the opportunity for providing modern retail and office centers to serve the growing population and to locate new services closer to the population centers. One option may be to combine the commercial services with second-floor residences in large developments where a village center could be designed. Another would be to keep the number of locations, but scale them down to smaller tracts.

The Long-Range Plan identifies several office areas to offer opportunities for employment and services. The two areas along Route 206 and the one at the east end of Hamilton Road are carried forward from the 1975 Master Plan. The one at the north end of Route 206 is in conjunction with scattered office uses already there, together with a realization that this relatively narrow strip of land has its orientation to the highway. As a result, a non-residential use that will be compatible with both the highway and the adjacent residences is appropriate. In each instance where non-residential uses abut a residential area, wide and planted open space with high berms should be used to ease the transition into residential areas.

The office area at Falcon Road is also an area that is compatible to the higher density residential uses across Route 206, the activity on Route 206, the need to realign the Triangle/Falcon Road traffic function, overhead power lines, and future residences to the east. When the Millstone River Road By-Pass connects with Route 206 at Falcon Road, it will provide this office area with direct, major highway access to both the core area of multi-family, high density housing and the eastern area of single family homes. The large-lot office park and light industrial area shown at the east end of Hamilton Road is intended to provide a buffer between the major new highway and the residences further east. It is also in an area capable of



water and sewer service, and improved highway access and is part of a transition area from more intense industrial development to residential.

Early in 1990, the State moved forward with the dualization and bypass of Route 206, at the same time it began entertaining the prospect of reactivating the West Trenton Commuter Rail line. Although the State has indicated that it will establish a train depot in Hillsborough, such major undertakings warranted a re-examination of the proposed transportation centers. Transportation Centers have long been identified in the Master Plan.

Finally, a service area near the intersection of Amwell Road and the Reading Railroad is recommended. This facility would be convenient to major highway access as well as long-range rail and bus service. It would be an integral part of the industrial/transportation corridor proposed in this plan. Facilities for restaurants, bus stop, motel, conference facilities, offices, banking and similar services are envisioned to be designed integrally with the transportation center and major access roads. Retail facilities are expected to be incidental uses, almost accessory, convenience uses to the concentration of industrial/business employment in this area.

## **2-6 ZONING ANALYSIS**

At the present time, the Township is divided into eleven (11) residential zones, two (2) commercial zones, four (4) office zones, four (4) industrial zones, two (2) mining/quarry zones, one (1) economic development zone, and one (1) corporate development zone. These zones are indicated on Plate 6, Hillsborough Township Zoning Map. A brief outline of each of the zone districts comprised by the Township's existing and proposed Land Use Plan is as follows:

### MZ, AG, RA, RS, R, R1, CR, TC, PD, AH & RCA Residential Districts

The purpose of these residential districts is to establish a distribution of population density throughout the Township in relation to existing facilities, a convenient street system, employment areas, and reasonable predication of population growth. The standards are intended to offer maximum flexibility in site design and



the selection of dwelling-unit types in order to offer a balanced housing pattern. This pattern should be attractive to all income and age segments of the community as part of the Township's fair share of meeting the region's low- and moderate-income housing need. In each of these districts, development design may follow either standard subdivision of lots or cluster zoning or, in the R, R1, CR, AH, RCA, TC, and PD districts, utilize the planned development provisions as outlined in Chapter 77 of the Township Development Regulations.

#### C1 - Neighborhood Shopping Center District

The purpose of the C1 Neighborhood Shopping Center District is to recognize areas of existing retail characteristics and provide new areas near existing and proposed population centers for the location of commercial services, limited entertainment facilities, and employment opportunities. Their geographic distribution is intended for convenient access by the residents of the immediate area and to discourage unnecessary traffic from major streets.

#### OLC - OFFICE, LIGHT COMMERCIAL DISTRICT

This zone is established to provide a mixture of retail and office uses that would serve the high density residential area in this vicinity. The design standards require a plan for the entire district, whether designed at one time or in stages, in order to emphasize controlled access to Route 206 and highway safety at the intersection of two major roads.

#### O-2 - Office District

The O-2 Office District is established to provide particular areas along Route 206 and Hillsborough Road for small employment centers of a non manufacturing nature.

#### HOO - Home Occupation Office District

The purpose of creating the Home Office Occupation District is to provide for home occupations and offices of small employment nature along portions of Route 206, Amwell Road, and Hamilton Road. This zone is intended to act as a transition or buffer between large traffic volumes on Route 206 and Amwell Road and the high activity around and within

the Township center area and present single-family uses. Strip retail and highway commercial uses and uses with extensive lighting, signing, art, and traffic requirements are specifically not intended.

#### O-5 - Office/Research District

The O-5 Office/Research District is intended to provide employment opportunities of a light manufacturing and office nature that are compatible with a transition area between industrial uses, major transportation routes, and residential neighborhoods.

#### I-1, I-2, and I-3 - Light Industrial Districts

The purpose of the I-1, I-2 Light Industrial Districts is to create zoning districts that recognize the existing pattern of small industrially oriented facilities. This would allow the remaining vacant lots in the same areas to be developed with similar uses and would provide areas for modest industrial operations.

The I-3 Light Industrial District is intended for a mix of high-quality uses. The zone shall encourage innovative building and design and extraordinary uses of topography and landscape within the prescribed standards of the zone. Of extreme importance will be considerations of the effects of one building upon another and upon abutting residential zones. Use of perms, changes of grade, intense use of landscaping and use of earthtone building materials will be required.

#### GI - General Industrial District

The GI General Industrial District was designed to provide areas where a wide range of industrial uses are permitted within the limits of design and environmental regulations. This district is located conveniently to the Route 206/Reading Railroad, where some scattered industry now exists but where the potential for industrial growth is good owing to convenient transportation routes, utility services, and population proximity.

#### M - Mining and Q Quarry District

The M Mining and Q Quarry Districts were created to allow present quarrying and mining operations to continue

as a permitted use rather than as a nonconforming use. These zoning districts recognize the unique operations within the Township owing to the presence of a natural resource suitable for mining, but at the same time recognize the necessity for public regulations brought about by the existence and excavation of these natural resources. These district regulations are intended to provide for the continued excavation of natural resources and their processing in those areas that are currently being actively mined and used for processing.

The provisions of these districts are also intended to require the site to be used in a manner that is reasonable to the operator(s) and at the same time require the site to be safe, healthful, as aesthetic as possible, and be usable subsequent to the completion of the excavating process. The limits of the districts are intended to be oriented to the specific conditions of excavating, such as eliminating erosion, avoiding drainage problems, leaving the site useful, reducing dangers associated with steep operating faces, and recognizing these industrial uses in the environs of a rural but growing residential community.

#### ED - Economic Development District

The purpose of the ED Economic District is to acknowledge the interrelationship between industrial and office park development and limited retail uses. The district is intended to generate an employment area designed and developed as a single entity. This entity is to include one or more structures with appurtenant common areas to accommodate the permitted uses and to promote on-site coordination of buildings, parking, circulation, landscaping, and other design criteria and economic development in this district as well as the I-1, I-2 and GI Districts.

#### CDZ - Corporate Development District

The purpose of the CDZ Corporate Development District is to provide and promote suitable corporate development opportunities promote improved land use that is compatible with residential areas and existing and proposed transportation facilities and protect one of the Township's more valuable land masses by ensuring its proper development. It is also the intention to encourage architecture of a high quality. Flexibility of various



ownership patterns (i.e. condo, rental) and land development concepts are encouraged so that the resultant overall development creates a positive image in this quadrant of Hillsborough. Additionally, it is intended that the development within this zone be encouraged to reduce single occupant work trips so as to minimize impacts on major roadways.

## 2-7 SUMMARY OF LAND USE

The Land Uses, based on 1992 Tax Classifications. for each zones is as follows:

### Mountain Preservation (MZ)

| CLASSIFICATION   | ACRES | PERCENT |
|------------------|-------|---------|
| VACANT           | 864   | 13.48   |
| RESIDENTIAL      | 1,471 | 22.95   |
| FARM (REGULAR)   | 85    | 1.33    |
| FARM (QUALIFIED) | 2,431 | 37.93   |
| COMMERCIAL       | 7     | 0.11    |
| INDUSTRIAL       | 4     | 0.06    |
| PUBLIC PROPERTY  | 1,389 | 21.67   |
| CHURCH           | 129   | 2.01    |
| OTHER EXEMPT     | 29    | 0.45    |
| TOTAL            | 6,409 | 100.00  |

### Rural/Agricultural (AG)

| CLASSIFICATION   | ACRES | PERCENT |
|------------------|-------|---------|
| VACANT           | 681   | 7.21    |
| RESIDENTIAL      | 970   | 10.27   |
| FARM (REGULAR)   | 301   | 3.19    |
| FARM (QUALIFIED) | 6,912 | 73.20   |
| COMMERCIAL       | 241   | 2.55    |
| INDUSTRIAL       | 3     | 0.03    |
| RAILROAD CLASS I | 12    | 0.13    |
| PUBLIC SCHOOL    | 14    | 0.15    |
| PUBLIC PROPERTY  | 277   | 2.93    |
| CHURCH           | 6     | 0.06    |
| CEMETERY         | 13    | 0.14    |
| OTHER EXEMPT     | 13    | 0.14    |
| TOTAL            | 9,443 | 100.00  |

# RESIDENTIAL/AGRICULTURAL (RA)

| CLASSIFICATION   | ACRES | PERCENT |
|------------------|-------|---------|
| VACANT           | 426   | 14.64   |
| RESIDENTIAL      | 528   | 18.14   |
| FARM (REGULAR)   | 35    | 1.20    |
| FARM (QUALIFIED) | 1,616 | 55.53   |
| COMMERCIAL       | 5     | 0.17    |
| INDUSTRIAL       | 17    | 0.58    |
| RAILROAD         | 9     | 0.31    |
| PUBLIC SCHOOL    | 47    | 1.62    |
| PUBLIC PROPERTY  | 197   | 6.77    |
| CHURCH           | 1     | 0.03    |
| CEMETERY         | 8     | 0.27    |
| OTHER EXEMPT     | 21    | 0.72    |
| TOTAL            | 2,910 | 100.00  |

# Rural/Suburban (RS)

| CLASSIFICATION   | ACRES | PERCENT |
|------------------|-------|---------|
| VACANT           | 82    | 4.33    |
| RESIDENTIAL      | 196   | 10.34   |
| FARM (REGULAR)   | 25    | 1.32    |
| FARM (QUALIFIED) | 1,579 | 83.32   |
| COMMERCIAL       | 2     | 0.11    |
| RAILROAD CLASS I | 9     | 0.47    |
| PUBLIC           | 2     | 0.11    |
| TOTAL            | 1,895 | 100.00  |



Residential (R)

| CLASSIFICATION   | ACRES | PERCENT |
|------------------|-------|---------|
| VACANT           | 621   | 13.48   |
| RESIDENTIAL      | 3,007 | 65.26   |
| FARM (REGULAR)   | 20    | 0.43    |
| FARM (QUALIFIED) | 443   | 9.61    |
| COMMERCIAL       | 21    | 0.46    |
| APARTMENT        | 3     | 0.07    |
| PUBLIC SCHOOL    | 19    | 0.41    |
| PUBLIC PROPERTY  | 440   | 9.55    |
| CHURCH           | 14    | 0.30    |
| CEMETERY         | 2     | 0.04    |
| OTHER EXEMPT     | 18    | 0.39    |
| TOTAL            | 4,608 | 100.00  |

Residential I (R1)

| CLASSIFICATION   | ACRES | PERCENT |
|------------------|-------|---------|
| VACANT           | 154   | 9.67    |
| RESIDENTIAL      | 1,016 | 63.78   |
| FARM (REGULAR)   | 1     | 0.06    |
| FARM (QUALIFIED) | 98    | 6.15    |
| COMMERCIAL       | 2     | 0.13    |
| PUBLIC SCHOOLS   | 96    | 6.03    |
| PUBLIC PROPERTY  | 215   | 13.50   |
| CHURCH           | 11    | 0.69    |
| TOTAL            | 1,593 | 100.00  |

Central Residential (CR)

| CLASSIFICATION  | ACRES | PERCENT |
|-----------------|-------|---------|
| VACANT          | 176   | 22.98   |
| RESIDENTIAL     | 530   | 69.19   |
| COMMERCIAL      | 14    | 1.83    |
| PUBLIC PROPERTY | 27    | 3.52    |
| CHURCH          | 12    | 1.57    |
| OTHER EXEMPT    | 7     | 0.91    |
| TOTAL           | 766   | 100.00  |

Town Center (TC)

| CLASSIFICATION | ACRES | PERCENT |
|----------------|-------|---------|
| RESIDENTIAL    | 96    | 100.00  |
| TOTAL          | 96    | 100.00  |

Planned Development (PD)

| CLASSIFICATION | ACRES | PERCENT |
|----------------|-------|---------|
| RESIDENTIAL    | 322   | 100.00  |
| TOTAL          | 322   | 100.00  |

Affordable Housing (AH) (RCA)

| CLASSIFICATION   | ACRES | PERCENT |
|------------------|-------|---------|
| VACANT           | 66    | 33.00   |
| FARM (QUALIFIED) | 134   | 67.00   |
| TOTAL            | 200   | 100.00  |

Retail/Commercial (C1)

| CLASSIFICATION  | ACRES | PERCENT |
|-----------------|-------|---------|
| VACANT          | 17    | 5.72    |
| RESIDENTIAL     | 30    | 10.10   |
| COMMERCIAL      | 234   | 78.79   |
| PUBLIC SCHOOLS  | 13    | 4.38    |
| PUBLIC PROPERTY | 1     | 0.34    |
| CEMETERIES      | 2     | 0.67    |
| TOTAL           | 297   | 100.00  |

Office Light Commercial (OLC)

| CLASSIFICATION | ACRES | PERCENT |
|----------------|-------|---------|
| COMMERCIAL     | 13    | 100.00  |
| TOTAL          | 13    | 100.00  |

Office (02)

| CLASSIFICATION   | ACRES | PERCENT |
|------------------|-------|---------|
| VACANT           | 72    | 22.29   |
| RESIDENTIAL      | 8     | 2.48    |
| FARM (REGULAR)   | 2     | 0.62    |
| FARM (QUALIFIED) | 125   | 38.70   |
| COMMERCIAL       | 104   | 32.20   |
| CHURCH           | 4     | 1.24    |
| OTHER EXEMPT     | 8     | 2.48    |
| TOTAL            | 323   | 100.00  |

Home Occupation Office (HOO)

| CLASSIFICATION   | ACRES | PERCENT |
|------------------|-------|---------|
| VACANT           | 33    | 12.00   |
| RESIDENTIAL      | 161   | 58.55   |
| FARM (REGULAR)   | 8     | 2.91    |
| FARM (QUALIFIED) | 25    | 9.09    |
| COMMERCIAL       | 42    | 15.27   |
| CHURCH           | 4     | 1.45    |
| CEMETERIES       | 1     | 0.36    |
| OTHER EXEMPT     | 1     | 0.36    |
| TOTAL            | 275   | 100.00  |

Office/Research (05)

| CLASSIFICATION   | ACRES | PERCENT |
|------------------|-------|---------|
| VACANT           | 17    | 4.40    |
| FARM (REGULAR)   | 1     | 0.26    |
| FARM (QUALIFIED) | 361   | 93.52   |
| CEMETERIES       | 7     | 1.81    |
| TOTAL            | 386   | 100.00  |



Light Industrial (I1) (I2) (I3)

| CLASSIFICATION   | ACRES | PERCENT |
|------------------|-------|---------|
| VACANT           | 253   | 38.51   |
| RESIDENTIAL      | 52    | 7.91    |
| FARM (QUALIFIED) | 5     | 0.76    |
| COMMERCIAL       | 148   | 22.53   |
| INDUSTRIAL       | 154   | 23.44   |
| RAILROAD CLASS I | 42    | 6.39    |
| PUBLIC PROPERTY  | 3     | 0.46    |
| TOTAL            | 657   | 100.00  |

General Industrial Office Research (GI)

| CLASSIFICATION   | ACRES | PERCENT |
|------------------|-------|---------|
| VACANT           | 192   | 34.72   |
| RESIDENTIAL      | 4     | 0.72    |
| FARM (REGULAR)   | 1     | 0.18    |
| FARM (QUALIFIED) | 53    | 9.58    |
| COMMERCIAL       | 35    | 6.33    |
| INDUSTRIAL       | 222   | 40.14   |
| RAILROAD CLASS I | 26    | 4.70    |
| PUBLIC PROPERTY  | 19    | 3.44    |
| CEMETERIES       | 1     | 0.18    |
| TOTAL            | 553   | 100.00  |

Mining & Quarry (m) (q)

| CLASSIFICATION   | ACRES | PERCENT |
|------------------|-------|---------|
| VACANT           | 62    | 5.20    |
| RESIDENTIAL      | 1     | 0.08    |
| FARM (QUALIFIED) | 682   | 57.17   |
| INDUSTRIAL       | 448   | 37.55   |
| TOTAL            | 1,193 | 100.00  |

Economic Development (ED)

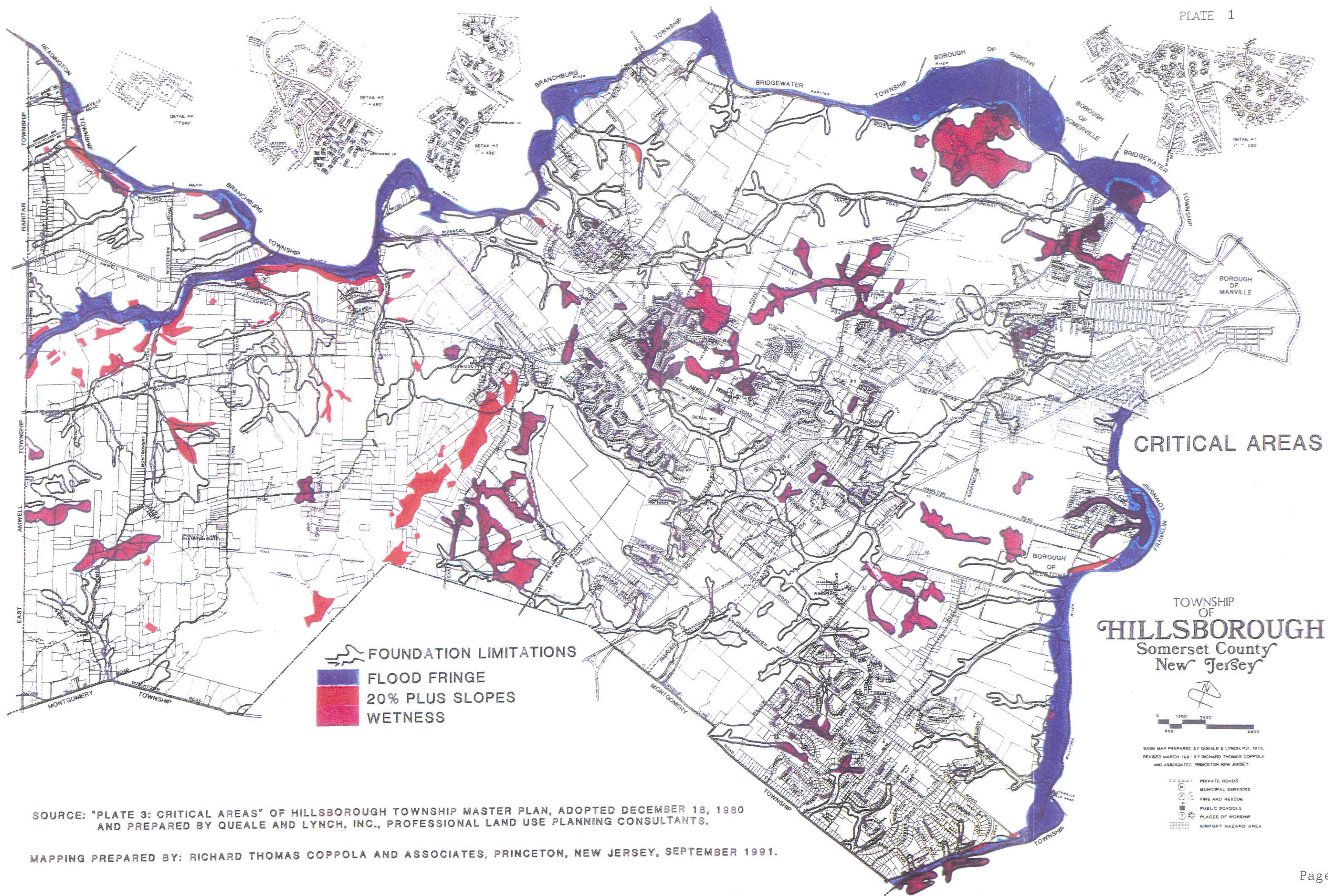
| CLASSIFICATION   | ACRES | PERCENT |
|------------------|-------|---------|
| VACANT           | 496   | 30.79   |
| RESIDENTIAL      | 36    | 2.23    |
| FARM (QUALIFIED) | 281   | 17.44   |
| COMMERCIAL       | 2     | 0.12    |
| INDUSTRIAL       | 33    | 2.05    |
| RAILROAD CLASS I | 6     | 0.37    |
| PUBLIC PROPERTY  | 757   | 46.99   |
| TOTAL            | 1,611 | 100.00  |

Corporate Development (CD)

| CLASSIFICATION   | ACRES | PERCENT |
|------------------|-------|---------|
| VACANT           | 31    | 1.41    |
| RESIDENTIAL      | 63    | 2.86    |
| FARM (REGULAR)   | 18    | 0.82    |
| FARM (QUALIFIED) | 1,829 | 83.14   |
| COMMERCIAL       | 147   | 6.68    |
| INDUSTRIAL       | 35    | 1.59    |
| CEMETERIES       | 77    | 3.50    |
| TOTAL            | 2,200 | 100.00  |



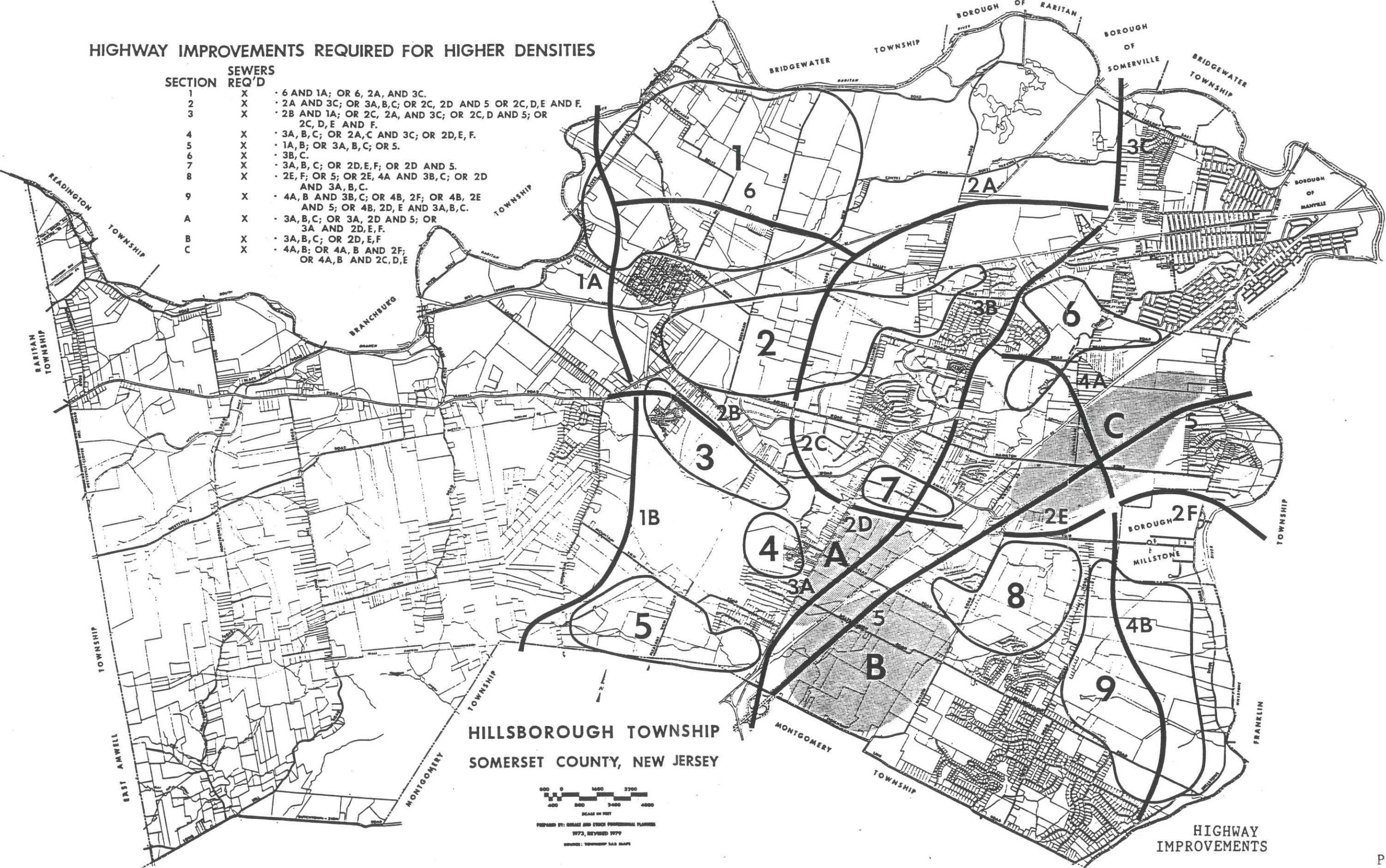






HIGHWAY IMPROVEMENTS REQUIRED FOR HIGHER DENSITIES

| SECTION | SEWERS<br>REQ'D |   |
|---------|-----------------|---|
| 1       | X               | • 6 AND 1A; OR 6, 2A, AND 3C.   |
| 2       | X               | • 2A AND 3C; OR 3A, B, C; OR 2C, 2D AND 5 OR 2C, D, E AND F.              |
| 3       | X               | • 2B AND 1A; OR 2C, 2A, AND 3C; OR 2C, D AND 5; OR 2C, D, E AND F.        |
| 4       | X               | • 3A, B, C; OR 2A, C AND 3C; OR 2D, E, F.                                 |
| 5       | X               | • 1A, B; OR 3A, B, C; OR 5.   |
| 6       | X               | • 3B, C.  |
| 7       | X               | • 3A, B, C; OR 2D, E, F; OR 2D AND 5.                                     |
| 8       | X               | • 2E, F; OR 5; OR 2E, 4A AND 3B, C; OR 2D AND 3A, B, C.                   |
| 9       | X               | • 4A, B AND 3B, C; OR 4B, 2F; OR 4B, 2E AND 5; OR 4B, 2D, E AND 3A, B, C. |
| A       | X               | • 3A, B, C; OR 3A, 2D AND 5; OR 3A AND 2D, E, F.                          |
| B       | X               | • 3A, B, C; OR 2D, E, F.  |
| C       | X               | • 4A, B; OR 4A, B AND 2F; OR 4A, B AND 2C, D, E.                          |

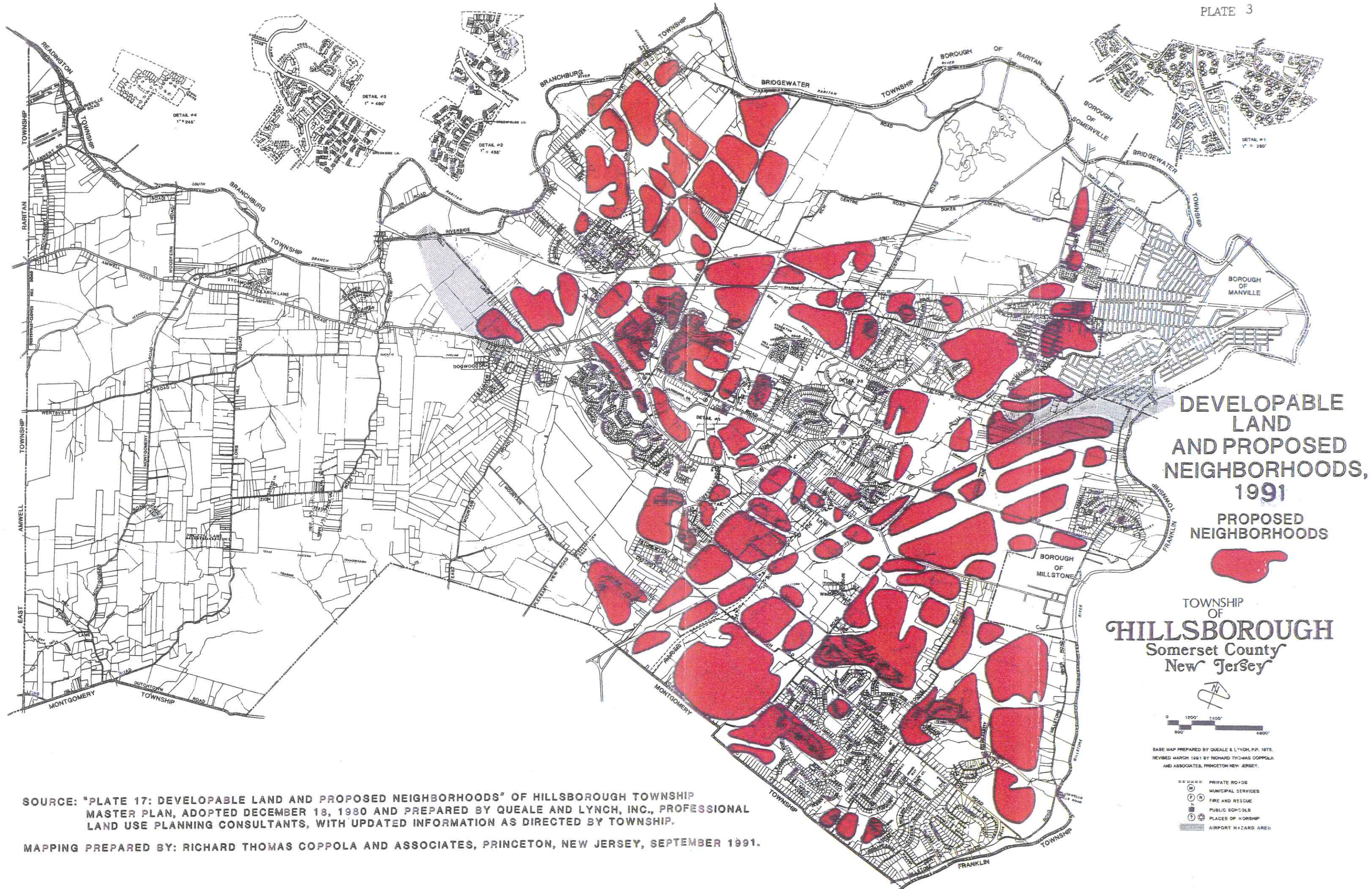


HILLSBOROUGH TOWNSHIP  
SOMERSET COUNTY, NEW JERSEY

0 400 800 1600 3200 4000  
FEET  
FORWARDED BY: GREGG AND EVANS PROFESSIONAL PLANNERS  
1973, REVISED 1979  
SOURCE: TOWNSHIP MAP

HIGHWAY  
IMPROVEMENTS





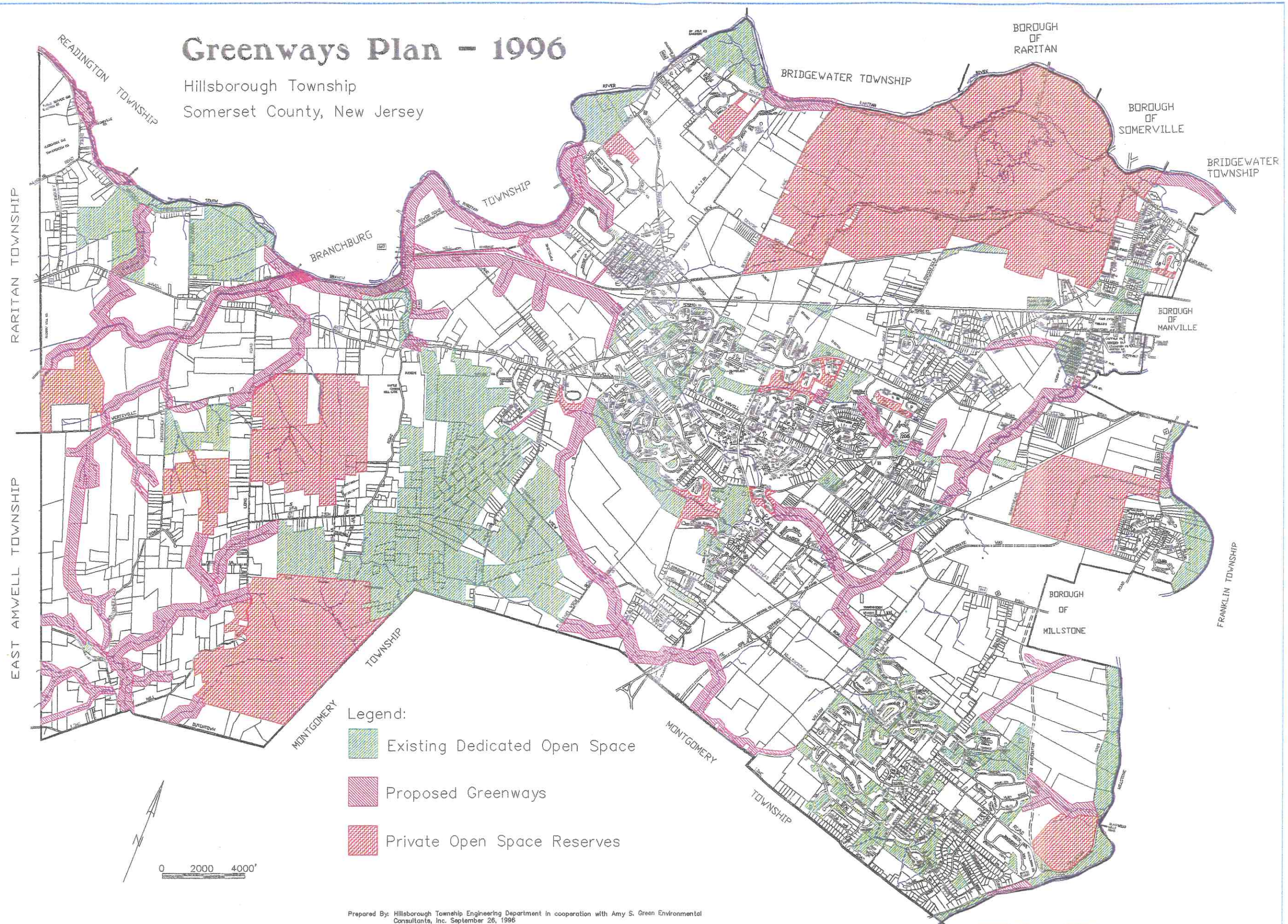
SOURCE: "PLATE 17: DEVELOPABLE LAND AND PROPOSED NEIGHBORHOODS" OF HILLSBOROUGH TOWNSHIP MASTER PLAN, ADOPTED DECEMBER 18, 1980 AND PREPARED BY QUEALE AND LYNCH, INC., PROFESSIONAL LAND USE PLANNING CONSULTANTS, WITH UPDATED INFORMATION AS DIRECTED BY TOWNSHIP.

MAPPING PREPARED BY: RICHARD THOMAS COPPOLA AND ASSOCIATES, PRINCETON, NEW JERSEY, SEPTEMBER 1991.



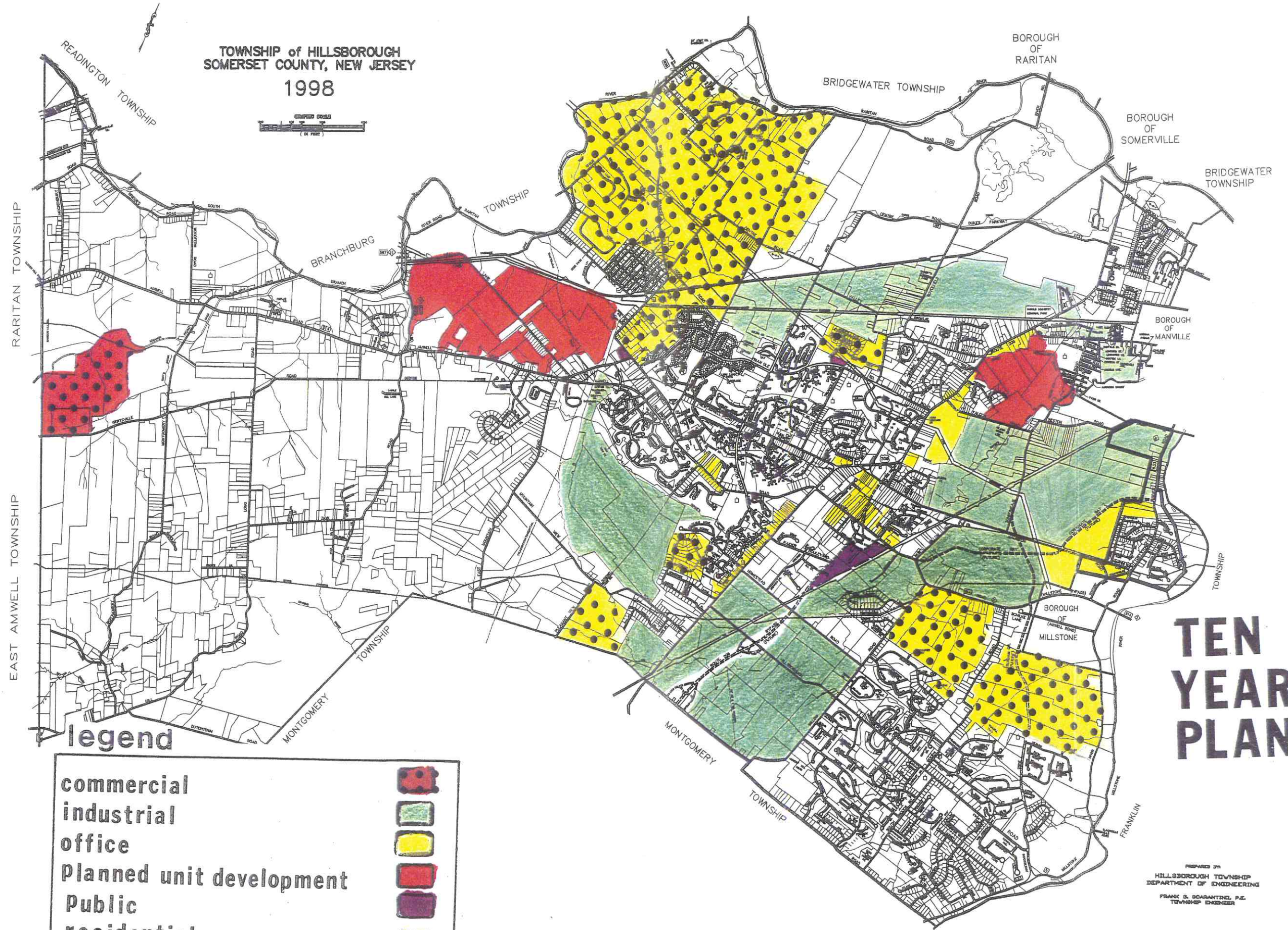
# Greenways Plan - 1996

Hillsborough Township  
Somerset County, New Jersey





TOWNSHIP of HILLSBOROUGH  
SOMERSET COUNTY, NEW JERSEY  
1998



Legend

- commercial
- industrial
- office
- Planned unit development
- Public
- residential

TEN  
YEAR  
PLAN

PREPARED BY  
HILLSBOROUGH TOWNSHIP  
DEPARTMENT OF ENGINEERING  
FRANK S. SCARANTINO, P.E.  
TOWNSHIP ENGINEER



