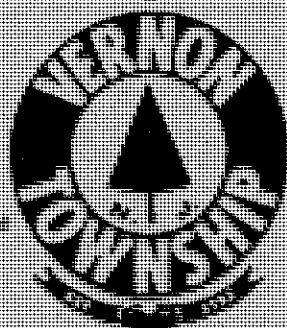


Twp.
Manager's
Office

FILE COPY

1995
Master Plan



Township of Vernon
Sussex County, New Jersey

Prepared by
Moskowitz, Heyer & Gruel, PA
Community Planning Consultants

December 1995

Moskowitz, Heyer & Gruel, PA
Community Planning Consultants

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1995 MASTER PLAN

Township of Vernon
Sussex County, New Jersey

Adopted
December 27, 1995

Prepared by

Moskowitz, Heyer & Gruel, PA
Community Planning Consultants
Cory Commons, Suite 204A
123 Columbia Turnpike
Florham Park, New Jersey 07932
201-966-1188

The original of this report was signed and
sealed in accordance with N.J.S.A. 45:14A-12.



Peter M. Tolischus, P.P. #1448





Township of Vernon

21 Church Street

P.O. Box 340

Vernon, New Jersey 07462-0340

Telephone 201-764-4055

Fax No. 201-764-3273

January 19, 1996

To the Governing Body and the Citizens of Vernon Township:

The Vernon Township Planning Board is pleased to present to you the 1995 Master Plan which was adopted on December 27, 1995. The Plan strives for a balance between the conservation of the unique qualities of Vernon Township and continued growth of residential, commercial and industrial uses. Several new zoning categories were also established that uniquely fit the land use of Vernon Township.

The Planning Board would like to express its sincere appreciation to our Mayor, the Township Committee, Township Agencies and staff and our citizens for their time and assistance in the preparation of the Master Plan.

This Master Plan represents a sound guide for the future development of Vernon Township to the year 2000.

Sincerely yours,

Bruce Zaretsky

VERNON TOWNSHIP PLANNING BOARD
RESOLUTION OF MEMORIALIZATION

Decided: December 27, 1995
Memorialized: February 28, 1996

MATTER OF THE 1995 MASTER PLAN

WHEREAS, the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq., specifically Section 28 thereof, enables this Board to prepare and, after public hearing, adopt a Master Plan to guide the use of lands within the municipality in a manner which protects the public health and safety, and promotes the general welfare, and

WHEREAS, in accordance therewith, this Board has caused the preparation of a Master Plan by its planning consultants, Moskowitz, Heyer & Gruel, P.A., which bears the date November 16, 1995, and

WHEREAS, said plan was considered at a public hearing on November 29, 1995, which hearing was continued on November 30, 1995 and December 27, 1995, and

WHEREAS, such hearing was held in accordance with N.J.S.A. 40:55D-13 with respect to notice concerning the said Master Plan, including publication in the official newspaper of the municipality and service to adjoining municipalities and the Sussex County Planning Board, and

WHEREAS, it appears to the satisfaction of this Board, upon presentation of the said plan, public comment thereon, and due deliberation of the Board, that the said plan, with minor revisions as more particularly described herein, represents not only a Master Plan conforming with each and every mandatory and

discretionary element for which provision is made in N.J.S.A. 40:55D-28, but also a Master Plan of high order and meaningful purpose in the expression of objectives, principles, assumptions, policies and standards upon which its constituent proposals for the physical, economic and social development of the Township are based, and

WHEREAS, good cause otherwise appears for the adoption of the said plan, NOW THEREFORE

BE IT RESOLVED by the Planning Board of the Township of Vernon that adoption of the 1995 Master Plan on December 27, 1995 shall be and is hereby memorialized to the extent of and in substantial conformance with the said plan dated November 16, 1995 and revised through December 27, 1995, as prepared by Moskowitz, Heyer & Gruel, P.A., having been signed and sealed in accordance with N.J.S.A. 45:14A-12 by Peter M. Tolischus, P.P., #1448, together with revisions thereto to include the following, which revisions shall be made by the said consultant in a final and complete copy of the Master Plan to be filed with the Secretary of the Planning Board:

1. Page I-1 shall be revised to include a provision that calls for the protection of existing residences through a property maintenance code.

2. Page II-13 shall include a revision to the second paragraph to provide that activities such as "biking", and not "hiking", are contemplated, and that golf courses would also be a permitted use in the agri-eco-tourism zone.

3. The text on page V-7 should be supplemented with a provision to recommend a study for new road service on the east side of Route 515 north of the A&P shopping center for the purpose of facilitating traffic movement among various

commercial facilities that may locate on either side of the existing shopping center, and, additionally, a second road to connect Route 515 in the vicinity of Firemens' Pond with Route 94 in the vicinity of the existing Dairy Queen establishment.

4. Page V-7 should be supplemented to provide substantially as follows:

OFFICIAL MAP.

The Township should consider an official map if a future road location or park site is designated and the Township would like to protect the site from development. This can be done by use of an official map as outlined herein.

The official map is a legal document adopted by the governing body of the municipality, designating lands which shall be reserved for future streets, drainage, rights-of-way and parks and playgrounds. It also serves as the official statement of the governing body as to which streets, drainage rights-of-way and parks and playgrounds it has accepted for maintenance. Areas may be reserved for a period of one year or for such further time as is agreed to by a prospective developer. If during this period the municipality has not instituted condemnation proceedings or entered into a contract to purchase the land, the developer is entitled to just compensation for the actual loss found to be caused by such temporary reservation and deprivation of use.

The official map is leally binding upon the governing body. The official map must be an engineered document with detailed, measured dimensions and must be produced and certified by a licensed engineer or land surveyor.

5. Section VIII shall be supplemented by an Open Space and Recreation Map, and a buffer depiction benefitting the Appalachian Trail where the same lies adjacent to Camp Louemma.

6. Page IX-6 shall be revised at the end of the first paragraph thereof following the words "...remains in tact.", to add the following or substantially similar language:

It is recommended that the Township adopt a ridge protection ordinance which would achieve the objectives outlined herein.

7. Page IX-12 shall be supplemented by an additional sentence following the second sentence therein substantially as follows:

As part of the zoning revision to implement the Master Plan, the EIS requirements should also be reexamined and strengthened where necessary.

8. Page XI-1 shall be supplemented with the following or substantially similar language concerning native american settlements prior to the language concerning lime kilns:

The native americans who inhabited the Vernon Valley area were nomadic tribes. They travelled through the region following their food source in order to survive. Remnants of their existence, such as arrowheads, pottery and cemeteries are still present in the Township, although the specific locations of these objects may not reflect their origin due to movement of artifacts by flood water activity.

9. XIII-6 shall be supplemented with the following paragraph:

CENTER DESIGNATION PROCESS.

The SDRP recommends that municipalities formally designate centers in their communities. Any interested party, such as a municipality, private organization or concerned citizen, can apply to the State Planning Commission for formal center designation. As was discussed in the land use element of this Master Plan, two centers are proposed for designation in Vernon Township: the McAfee 2-core center and the Vernon center. The proposed locations of the two centers have been delineated on the land use element map. It is recommended that Vernon Township proceed with the designation process.

10. The first sentence on Page XI-5 shall be revised to indicate that the 17 sites thereafter referenced are in need and deserving of identification and "evaluation", not "preservation".

11. Page II-13 shall be revised to delete the sentence: "If this golf course is not developed, the CR zone should be changed to agri-ecotourism". The text shall be supplemented with the following or substantially similar language:

In addition, a limited number of light, commercial recreation uses, such as golf courses, botanical gardens and tennis pavillions should be permitted as conditional uses. The area south of Maple Grange Road is also designated for larger type retail facilities which should only be permitted as a conditional use. Given the scenic aspects of this zone, special zoning controls for this type of retail center should be incorporated in the zoning ordinance including a low floor area ratio and adequate setbacks to preserve the scenic qualities.

12. The land use map shall be revised to include the Apple Valley Inn at Shiawassee Road in the C-1 zone.

13. The plan shall be revised to indicate that uses permitted in what will be formerly known as the ORL zone will be acceptable as permitted uses in the industrial zone.

14. The land use map shall be revised to reflect that the lands proposed for AET designation along Sand Hill Road shall instead remain residential.

15. The tracts known as the "Bill Hill" and "Bell" properties shall be included in the CR zone.

16. The land use map shall be revised to show that the Borderland Farm/Virginia Martin property near the New York State line will lie within the AET zone.

ADOPTED this 28th day of February, 1996 by a majority of the members of the Board present at such meeting who voted for the action taken on December 27, 1995.

Maureen Yelinko
Maureen Yelinko, Secretary
Vernon Township Planning Board

Members eligible to vote:

Nelson, Patterson, DeLuca, McVeigh, Zaretsky

3 Yes 0 No 0 Abstain⁵

LIST OF OFFICIALS

Township Committee

Mark Nelson, Mayor
Paulette Anderson
Daniel Kadish
Marianne Reilly
Peter West

Planning Board

Bruce Zaretsky, Chairman
Paulette Anderson, Committee Member
Daniel Borstad
Michael Jergensen
Keith Leon
Mark Nelson, Mayor
Jeffrey Patterson
William Turetsky
Arthur Woodell
Joseph DeLuca
James McVeigh

Donald Ross, Esq., Attorney
John DeGrace, Engineer
Maureen Yelinko, Secretary

Township Officials

Richard Sheola, Administrator
Patricia A. Lycosky, Clerk
James Rogers, Engineer
William Fitzgibbons, Attorney

VERNON TOWNSHIP MASTER PLAN

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INTRODUCTION

INTRODUCTION

HISTORY

Vernon Township is located in the northeastern section of Sussex County, as shown on the Regional Location Map. It is bordered by four other municipalities: West Milford borders Vernon to the east, Hardyston to the south, Wantage to the west and New York State's Warwick Township to the north.

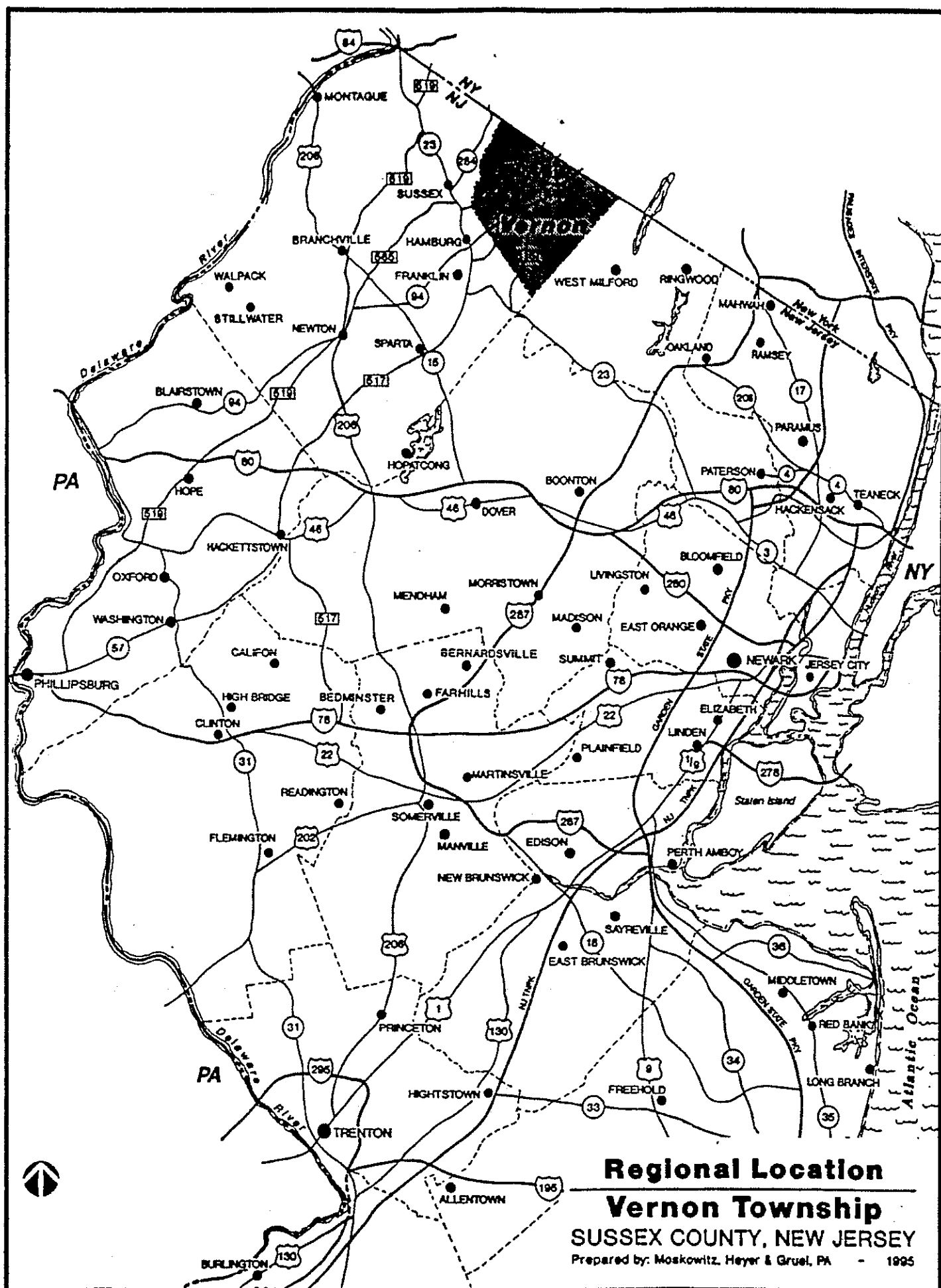
Geologic History

The Township's bedrock formations originated during the Precambrian and Paleozoic eras. The Precambrian era dates from approximately 570 million to over a billion years ago. The Paleozoic era occurred approximately 220 million to 570 million years ago. New Jersey's limestone and sandstone formations were exposed during this time. Prehistoric glacier activity also formed natural caves and mountainous rock formations. Many of these caves were carved out of the limestone and marble formation by the creeks and rivers.

As a result of this geologic history, Vernon Township is comprised of mountains, valleys and lakes. The Hamburg and Wawayanda Mountains, both of which are part of the Appalachian Mountains, are on the west side of the Township. The Pochuck Mountains, which are part of the Highlands, are on the eastern side of the Township. The rocks of the Highlands are the oldest in New Jersey; they are believed to be 1.1 billion years old. The Township's lakes are natural, glacier-formed lakes and there are also several man made lakes. Some of the natural lakes are Lake Glenwood, Lake Pochung, Lake Wildwood and Wawayanda State Park Lake.

Early Settlers

It is believed that Native American tribes migrated to the Vernon area as early as 10,000 B.C. Artifacts of their existence, such as arrowheads, pipes and pieces of pottery, can be found within Vernon to support this theory.



Vernon's first permanent settlers were European farmers searching for a new home. The early settlers came from Scotland, England, Holland and Germany. Farming, trapping and mining became popular in the area due to the abundance of natural resources. Lime and iron mining became big industries in Vernon and between 1700 and 1900, there were 15 mines in Vernon Township. They were abandoned in 1900 with the decline in demand.

Vernon was part of Hardyston Township until its official separation in 1793. The Township's early settlements were scattered and self-sufficient villages. Some of Glenwood's earliest deeds date back to 1764 and the first schoolhouse was built in 1795. McAfee's earliest deeds date back to 1826 and in 1851 Stephen Smith built a tavern. Eventually, McAfee became the end of the Warwick Valley and the Sussex Railroads. The Village of Vernon was also settled during the time and by 1840 was the home to 200 residents.

Vernon In The Twentieth Century

Vernon Township, beginning with this rural heritage, has grown significantly in the last 60 years and today contains a complex land use pattern. Farms and farmland representative of its heritage still remain, but it also contains Lake resort communities from the 1930's, newer, attractive subdivisions from 1950 to present and a unique resort industry. This resort industry consists of three ski centers, resort condominium housing and a summer "action park." Also included is a resort-convention center hotel and golf course. Limited retail commercial development has also occurred, some of it in the form of older strip development and one new community shopping center. The population also grew respective of this development process. In 1950, the population of Vernon was 1,528 persons which grew to 21,211 by 1990. Vernon Township contains the Black Creek valleys and two mountain ranges which provide this community with a beautiful geographic setting. As a result of this growth, approximately 30 percent of the Township is presently developed. However, due to State and Federal parks and environmental constraints, less than one-third remains vacant.

PLANNING IN VERNON

Vernon has been engaged in the planning process for the last 25 years. The last Master Plan was adopted in September of 1985 and revised the Township's first Master Plan of December, 1970. The Township adopted its latest Reexamination Report in 1990. In 1992 the Township began a comprehensive Master Plan update. This Plan sets forth a land use policy to serve as a guide for future growth to the year 2000 with a projected population of 24,400.

This Master Plan addresses the basic issue of preserving the Township's unique aesthetic setting while permitting continued development. It examines current land use policies and recommends changes based on sound planning criteria. The environmentally sensitive lands as mapped by State agencies are included in that they affect land use decisions by permitting future growth without any degradation to the environment or aesthetic features of the community.

This consultant worked with a Master Plan Subcommittee comprised of Planning Board members. Various groups made presentations to the subcommittee which provided factual information and a variety of community perspectives and goals.

LEGAL RESPONSIBILITIES

The New Jersey State Municipal Land Use Law requires that each municipality reexamine its Master Plan every six years. Failure to do so shall constitute a rebuttable presumption that the municipal development regulations are no longer reasonable. This Plan has been prepared in accordance with 40:55D-28 et seq. of the Municipal Land Use Law. Vernon Township complies with this requirement.

I. GOALS AND OBJECTIVES

I. GOALS AND OBJECTIVES

Land Use Plan

1. To achieve a balance between continued development and the preservation of the extensive natural resources of the community.
 - Upgrade zoning in appropriate areas in order to protect ground water quality, steep slopes and scenic vistas.
 - Create new land use categories and apply zoning techniques that permit development of land while preserving environmentally sensitive areas.
 - Recognize and protect the Appalachian Trail through cluster or density zoning techniques.
 - Maintain low density zoning in that area adjacent to the Wallkill National Wildlife Refuge.
 - Utilize the Farmland preservation program to preserve farmland on a voluntary basis.
 - Avoid location of intensive land use areas in wetland and buffer areas.
2. To preserve the existing residential neighborhoods and Lake communities.
 - Review the residential zoning standards governing the Lake communities in order to avoid unnecessary variances.
 - Maintain the current zoning standards of existing residential areas outside of lake communities.
 - Provide for new residential growth at densities sensitive to water quality and environmental constraints.
 - Protect existing residences through a property maintenance code.
3. To encourage commercial development in appropriate locations and governed by modern planning techniques.
 - Avoid strip commercial along Route 94 by designating two commercial centers.
 - Establish neighborhood commercial centers along Route 515 and 517 to serve adjacent residential neighborhoods.

- Establish a two core center for the McAfee area as a primary commercial area for the immediate region and a regional commercial recreation center extending to Vernon Valley Ski area.
 - Establish a Vernon Town Center and commercial area in Vernon.
4. To provide for economic development through commercial, light industrial and Commercial-Recreational zone.
- In areas without infrastructure, to permit environmentally compatible economic development using the carrying capacities of the natural system.
 - For large scale nonresidential uses, select areas for economic development free of environmental constraints.
 - Review the use, bulk and intensity standards of the current industrial zones and the permitted uses.
 - Support the resort industry and recognize it as a positive factor for the economic development of the community.
 - Establish a Agri-Eco Tourism District along the northeastern section of Route 94.
5. To insure adequate infrastructure to accommodate the projected level of intensity of development.
- Protect groundwater resources - the sole source aquifer - through proper septic management.
 - Residential development, other than single-family, should be served by utilities.
 - Major commercial development should be encouraged in designated centers which should be served by utilities.
 - Amend the Township and County 208 Wastewater Management Plan in order to include the two proposed "centers".

Historic Plan

1. To preserve the rich and varied historical heritage of Vernon Township.
- Recognize the many identified historical structures by petition for placement on the State and Federal Historic Register.
 - Ensure protection of former Indian mining and tool manufacturing areas as subdivision development occurs.

- Explore the potential of a historical district in the Vernon Village area.
- Examine the potential of establishing a Historic Preservation Commission.

Transportation Plan

1. To encourage the development of a safe, practical and efficient circulation system.
 - Establish a uniform rights-of-way system in conjunction with the County and State system.
 - Establish a functional classification system for all roads based on State and County criteria.
 - Utilize the State Highway Access Management Code for all development along Route 94.
 - Provide for commercial service roads through the site plan review process in the Vernon C-2 district.

Housing Plan

1. To provide for Vernon Township's Affordable Housing obligation.
 - File the Housing Plan with COAH for substantive certification.
 - Rehabilitate existing substandard housing with State or Federal funds.
 - Meet the inclusionary housing obligation through a Regional Contribution Agreement (RCA).

Community Facilities Plan

1. To plan community facilities to accommodate anticipated future population growth.
 - Maintain appropriate emergency services for Township residents.
 - Continue to monitor the facility needs of Vernon's public schools.
 - Plan for and provide the library with the necessary additional floor space and/or building expansion.

Parks, Open Space And Recreation Plan

1. To provide adequate recreation facilities for all age groups.

- Obtain fields to be used for active recreation, such as soccer and baseball.
- Provide recreation facilities for Vernon's senior citizen population.
- Encourage lot averaging or cluster development techniques which will result in the development of the greenway system as well as the donation of land within the Appalachian Trail corridor.
- Provide a network of pedestrian and bicycle paths which link residential neighborhoods with open space, community facilities, and commercial areas.
- Create linkages between existing parks and open space areas and create greenway connections along major stream corridors and the Appalachian Trail.

Conservation Plan

1. Preserve and protect Vernon's natural resources.

- Develop policies to preserve, protect and maximize the utility of natural resources in the Township.
- Recommend specific changes to the Township's Land Use Ordinance, and propose new Township ordinances to implement these initiatives.
- Restrict development in critical environmental areas, such as flood plains, wetlands and steep slopes.
- Minimize the impacts of development on environmentally sensitive areas including wetlands, stream corridors, and aquifer recharge areas.
- Preserve existing woodland areas.
- Preserve the quality of both groundwater sources and surface water bodies.
- Provide a continuous network of open spaces along streams, scenic areas and critical environmental areas.
- Encourage lot averaging or cluster development techniques which preserve natural amenities, farms, woodlands, scenic views, and open space.
- Preserve and protect open space areas having scenic views and/or important historical, cultural, or agricultural significance.

II. LAND USE PLAN

II. LAND USE PLAN

INTRODUCTION

The main function of the Land Use Plan Element is to guide the future development of Vernon Township in a manner consistent with the goals and objectives of this Master Plan. This is achieved by setting the type and intensity of land use categories for all lands within the Township of Vernon. The Land Use Plan is a synthesis of the existing land use pattern, and the recommendations and conclusions of the other Master Plan elements. Most particularly, the impact of the environmental characteristics and the availability and capacity of infrastructure were considered in determining the Land Use Plan. The Land Use Plan provides a logical and comprehensive framework on which to base future Township decisions relating to land use and expected community needs for housing, commercial and industrial development, infrastructure, schools, parks and other community facilities. It also serves as the basis for the regulation of land use districts as implemented through the zoning ordinance.

EXISTING LAND USE

Residential

Vernon Township land area totals 43,718 acres or 68.31 square miles. The 1992 land use survey identifies 7,962.2 acres which are residentially developed while 5,707 acres remain in agricultural uses. The residential development started in the 1920's as a series of lake communities which were established for summer recreational purposes. The largest community is Highland Lakes with 1,959 homes and a population of 4,550 persons (1990 census). Approximately 40 percent of Township residents live within these communities as shown on Table II-1.

Table II-1

**BUILDING LOTS - VACANT AND OCCUPIED - IN THE LAKE
COMMUNITIES**

Vernon Township, New Jersey, 1992

<u>Name</u>	<u>No. of Homes</u>	<u>No. Of Vacant Lots</u>	<u>Total</u>
Barry Lakes	500	322	822
Cliffwood Lake	174	5	179
High Breeze Estates	4	63	67
Highland Lakes	1,959	442	2,401
Lake Conway	87	18	95
Lake Glenwood	69	5	74
Lake Panorama	276	230	506
Lake Pochung	36	16	50
Lake Wallkill	328	60	388
Lake Wanda	256	133	389
Pleasant Valley Lake	439	213	652
Scenic Lakes	236	65	301
Vernon Valley Lake	<u>338</u>	<u>166</u>	<u>504</u>
Total	4,702	1,738	6,428

Source: Tax Assessor's Office, November 1995.

These communities represent a significant portion of the residential land use and housing units within the community.

Major new subdivision activity has occurred west of Route 94 and today contains housing for 16,000 persons. In between these subdivisions are steeply sloped areas, vacant land and some of the remaining farmland. Most of the major farms are north of the Appalachian Trail and along the Wallkill River and account for 5,707 acres.

Commercial

Based on a survey conducted as part of the previous Master Plan study there are 172 commercial establishments which accounts for 227 acres or .5 percent of the Township land area. Commercial development consists of individual establishments or small strip malls except for the emerging shopping area on Route 515.

Industrial

There are very few industrial uses in the Township. Industrial development accounts for 431 acres and consists of 18 parcels occupied by several small industrial enterprises and a large soil removal operation.

Commercial Recreation

During the 1970's, commercial recreation uses emerged in Vernon Township, which today comprises 3,000 acres, about 7 percent of the Township's land area. Only one-half of the zoned area is developed. The zone extends north of McAfee on the east side of Route 517 and along both sides of Route 94 through the central portion of the community. These commercial recreational facilities are the Township's largest employers and an important part of the Township's economic base.

The ski resort industry was precipitated when the State of New Jersey leased a portion of Hamburg Mountain to Vernon Valley Ski Resort for commercial recreation. Subsequently the State sold 1,400 acres on Hamburg Mountain to Vernon Valley which gave rise to Great Gorge and Vernon Valley Ski Resort. This was followed by the Playboy Hotel now known as Season's Hotel, related riding stables, the golf courses presently owned by Shinnahon U.S.A., the Great Gorge North Ski Area and Action Park summer amusement area. A second ski resort emerged known as Hidden Valley. During the 1980's resort housing in the form of condominium known as the Spa, Stone Hill, and Great Gorge Village were constructed adjacent to the ski slopes. Hidden Valley also contributed condominium resort housing as part of this ski area. Presently

about 3,000 persons or 12.5 percent of the Township's population reside within the various resort housing centers.

Summer Camps

Another of Vernon Township's land use are the campgrounds. Presently there are three campgrounds, Camp Sussex, Camp Lou Emma and Tall Timbers. Tall Timbers is a condominium campground for recreational vehicles. These uses occupy about 439 acres.

State And Federal Lands

A major portion of the eastern half of Vernon Township consists of State land known as Wawayanda State Park, the Appalachian Trail and Hamburg Mountain Wildlife area. These facilities consist of 11,967 acres of woodlands, and open space including the Township's most dramatic and severe sloped areas and in some cases open escarpment.

On the western border of the community, the Federal Government established the Wallkill National Wildlife Refuge in 1990 under the management of the U.S. Fish and Wildlife Service, Department of the Interior. The Refuge includes both sides of the Wallkill River basin in Vernon and Wantage Townships. Forty-six percent of the total area is in Vernon Township and 44 percent in Wantage Township. The Refuge designation line is shown on the Land Use Plan and contains 2,954 acres of which 1,578 acres or 53 percent have been acquired.

Farmlands

Farming, which was once the major land use activity in Vernon Township, has declined to 5,707 acres. The major active farms are south of New York State line between Wawayanda State Park in the east and Pochuck Creek in the west and along the easterly bank of the Wallkill River. There are, however, scattered farms throughout the Township.

A summary of the land use acreage distribution is shown in Table II-2.

Table II-2
LAND USE DISTRIBUTION
Vernon Township, New Jersey

	<u>Acres</u>	<u>Percent Of Total</u>
RESIDENTIAL		
<u>Low Density Residential</u> , detached one-family homes, including lake areas	7319.2	16.7
<u>High Density Residential</u> , including garden apartments and townhouses	<u>167.9</u>	<u>0.4</u>
Subtotal	7,487.1	17.1
Seasonal Recreation	<u>439.1</u>	1
Subtotal	7926.2	18.1
PUBLIC & SEMI-PUBLIC	361.6	0.8
COMMERCIAL	227.3	0.5
COMMERCIAL RECREATION*	3,249	7.4
INDUSTRY & UTILITIES	<u>431.3</u>	1
TOTAL DEVELOPED	12,195.4	27.9
OPEN SPACE		
Township Parks	106	0.2
Wawayanda State Park	8,968	20.5
Hamburg Mountain Wildlife Area	411	0.9
Appalachian Trail	903	2.1
Wallkill River National Wildlife Refuge**	<u>1,579</u>	<u>3.6</u>
Subtotal	11,967	27.3
NEWARK WATERSHED	5,487.3	12.6
ROADS	452.4	1
AGRICULTURAL	<u>5,707.6</u>	<u>13.1</u>
Subtotal	35,809.7	81.9
VACANT	<u>7,908.3</u>	<u>18.1</u>
TOTAL	43,718	100

*Includes 1,494 acre current development application.

**Acquired portion of 2,954 acre designated area.

Source: Land use acreage estimates from Dorram Associates Inc. The Open Space acreage data are from tax assessor's office, January, 1993 updated to 1995 from State and Federal sources by Moskowitz, Heyer & Gruel, PA

Vacant Land

Vernon Township's land area totals 43,718 acres. Table II-2 presents an analysis of the land use distribution and indicates that 12,195 acres or 27.9 percent are currently developed. The remaining vacant land is further reduced by State and Federal holdings and the Newark watershed since it is proposed for very limited development, and results in a final vacant land area of 7,908 acres. To this can be added the agricultural lands which, although currently farmed, can be considered as vacant, and this yields a total of 13,615.9 acres that are vacant and privately owned. However, as the environmental constraints map (Map No. IX-1) indicates, there are substantial wetlands and steep slope areas that may not be developed. It is estimated that about 4,000 acres are environmentally constrained and when subtracted from the 13,615.9 vacant acres results in a remaining developable land area of 9,600 acres.

Land Use Categories

The land use plan is comprised of 13 land use categories subdivided into the following major groupings and delineated on the land use plan Map II-1.

Public Lands

The State, Federal and Township land holdings are delineated on the Land Use Plan as public lands and identified by their respective name and are discussed in greater detail in the Conservation Plan. Wawayanda State Park, consisting of 8,968 acres, is the major open space area. The Appalachian Trail, traversing the northern portion from east to west and consisting of 903 acres is also a significant open space area. The Hamburg Mountain Wildlife Management area extends into the southern portion of Vernon Township for a total of 411 acres. The Wallkill Fish and Wildlife Refuge, established area by an Act of Congress in 1990, consists of a designated area in Vernon Township of 2,954 acres of which 1,579 acres or 53 percent have already been acquired.

Conservation Area

The Newark Watershed property has been designated as a conservation district with a proposed overlay zone. First, residential development would be permitted at one unit per five acres given the lack of utilities and the water resource function of the land area. Secondly, an overlay zone would permit eco-tourism as a land use which would encourage commercial inns or places of lodging and cater to various conservation and passive recreational activities such as bird watching, nature trail hiking, cross-country skiing, fishing and other passive activities related to the open lands of the watershed and Wawayanda State Park. Use of any motorized or mechanical activities would be prohibited and land clearance would be limited for the lodging hall and parking area. The Inn would be limited to 10 or 20 rooms and would require a land purchase or density equivalent to the number of rooms. As an example, an Inn of 20 units would require a purchase of 100 acres or one unit per five acres. The objective is to encourage limited economic development of the Newark Watershed by permitting a new passive recreation activity while preserving its main function as a watershed and reservoir of the City of Newark. The final size of the Inn would be determined by septic capacity and effluent restrictions.

A second area designated for conservation is the Wallkill River Wildlife Refuge. Since major portions of the Wallkill River Wildlife Refuge are inundated by wetlands and since 53 percent has already been acquired, this area is also designated as a conservation zone with a density of one unit per five acres. Farming will also be a permitted use and existing homes should be protected through a "grandfather" clause in the zoning ordinance. Once the refuge is fully established, eco-tourism should also be considered adjacent to the refuge with the refuge serving bird watching and other activities under the control of the U.S. Fish and Wildlife Service, Department of the Interior

Residential

There are six residential land use classifications on the Land Use Plan.

Rural-Residential

This category includes significant farmland areas which are designated at a density of one unit per three acres but permitting a one acre lot size for development. It includes the lands north of the Appalachian Trail, the lands along the Wallkill River and Lake Wallkill Road. Since these are the most rural and the lowest density areas of Vernon Township, this density would permit modest residential development in conjunction with the rural character of this rural area. Major farmland within the area is also encouraged to enter the Sussex County farmland preservation program. This would ensure the continuance of the rural aspects of the community and preserve needed farmland and agricultural areas for the support of a growing population in the County and the State.

Residential-Low Density

The density of this single-family residential category should be one unit per three acres but with a minimum lot size of one acre. This would recognize the existing subdivision and all the bulk standards of the R-2 would apply. The reasons for this density is that a major portion of this land west of Route 94 has been subdivided and most of the remaining portions contain steep slope areas. This density would permit lot averaging techniques for new subdivisions in conjunction with design standards which should be enacted to protect steep slopes and environmental constraints.

This new density would also recognize that much of the area is underlain by Precambrian crystalline bedrock and septic systems within this formation may adversely affect the groundwater quality. A determination as to septic suitability should be conducted on a site specific basis as new subdivisions are submitted.

In order to preserve the environmental and topographic features, Vernon Township currently has a critical area ordinance which excludes environmentally sensitive areas such as flood hazard areas and steep slopes from lot and floor plan calculations. However, Manalapan Builders Alliance, Inc. v. Township Committee of the Township of Manalapan (App. Div.. 1992) has

rendered such ordinances invalid. In response, many New Jersey municipalities have adopted steep slope ordinances which comply to the decision reached in the Manalapan case. Such ordinances restrict the amount of disturbance on critical and moderate slope areas but do not attempt to control gross density or floor area ratio (FAR). Vernon should adopt such an ordinance to replace its current ordinance which may be ruled invalid.

Since Vernon Township consists of 68.31 square miles and a diverse land use pattern, Bed and Breakfast uses should be permitted as a conditional use in the R-1 and R-2 zones. One of the conditions should be that the uses have frontage on a major State, County or local collector road.

Residential-Medium Density

The medium density residential land use refers to the R-3 zone which includes the existing Lake communities. The density as per the current zoning is for a 30,000 square foot lot although the Lake communities were planned out on a 10,000 square foot or smaller lot basis. This discrepancy in the zoning should be resolved since this zoning requires a variance procedure for any expansion activity of the existing homes within the Lake community. Lots that were established prior to 1978 in the Lake communities are grandfathered under current zoning ordinances. It is recommended, therefore, that a Lake community zoning district be established which would recognize the grandfathered lots and establish appropriate zoning standards that would preclude the need for Board of Adjustment relief for minor dwelling additions without increasing the density in the community. Highland Lakes community prepared a master plan concerning the future management and development of its community. The establishment of this new zoning district would complement the objectives of the Highland Lakes master plan. The Highland Lakes master plan indicates that it is very important that homes be permitted to improve and the zoning should be so structured to permit these improvements. This will also achieve the same objective for the other lake communities.

The R-3 zone for other subdivided areas should also be studied to ascertain if this zone fits all lot sizes of the subdivisions or if a higher lot size zone such as the R-2 could be applicable to larger

lot subdivisions now in R-3. Part of the R-3 zone is developed, but a few interspersed vacant parcels remain. No new R-3 zones are proposed given the absence of utilities and the potential septic problems.

The zoning map indicates a second medium density zoning category consisting of the R-4 zone which requires a 25,000 square foot lot. The reduction of 5,000 square feet between the R-3 or 30,000 square foot requirement and the R-4 should be examined. The Master Plan recommends that a 30,000 square foot R-3 zone should serve as the median density residential land use category.

Residential-High Density

There is one high density residential zone within the Township, namely the R-5, which permits single-family attached residences as townhouses and multi-family residences in apartments. The density for the zone is set at four units per gross acre, but the net density on the tract may be a maximum of eight units for townhouses and 12 units for apartments. The zoning ordinance contains special regulations respective to each land use. The ordinance also sets a distinction in that the R-5 also permits motels on a minimum five acre tract. Most of the R-5 areas are developed and are not served by water or sewer utilities. However, areas of the R-5 zone should be reexamined for lower density uses. No new high density areas are proposed in the plan.

Seasonal Residential

The Master Plan recognizes the existence of the seasonal recreational campgrounds, however, no permanent year-round occupancy of the campsites is permitted. The developed campsites around Sleepy Hollow Lake east of Glenwood Road is the only area designated seasonal recreation.

Nonresidential Use

There are three distinct commercial land use categories in the Master Plan; Neighborhood Commercial, General Business and Office Commercial. A new land use designated as Agri-Eco Tourism is also proposed in this Master Plan.

Neighborhood Commercial

The C-1 Neighborhood Commercial area is limited to retail and service establishments providing for the day to day needs of a neighborhood area. Presently, five neighborhood commercial zones exist in Vernon Township as follows:

1. Warwick Turnpike adjacent to West Milford Township;
2. Wawayanda Road by Lake Wanda;
3. Route 515 south of the C-2 zone;
4. Route 517 at the intersection with Glenwood Road;
5. Route 565 at the intersection of Wallkill Road and Glenwood Road.

The C-1 zone on Route 515 has been changed to a C-2 zone since the land area is utilized as a community shopping center which is only permitted in the C-2 zone. Also, the C-1 zone at the intersection of Route 517 and Glenwood Road has been expanded to the western side of Route 517 but in alignment with the current C-1 zone and extending to Shawassee Drive.

General Business

The second commercial category is a general business zone or C-2 which requires a minimum lot area of 20,000 square feet but also permits shopping center development on a minimum of three acres and motels and automobile sales on three acres. This district is designed to provide retail services to the community but it also contain uses that attract customers from adjacent communities. Presently there are three general business zones.

The C-2 located on Route 94 at the southern entrance to the community and extending north to McAfee consists of a number of small stores and one shopping area. At the intersection of Route 517 and Route 94, the C-2 zone still contains 55 vacant acres that would be ideal for a "theme type" shopping area outlet center or a major food store and department store. Until this area is

utilized, no additional C-2 should be added in this area. The zoning ordinance should also be amended to encourage shared driveways, proper setbacks and landscaping along Routes 94 and 517 in order to preclude the area from functioning or appearing like a "strip" shopping area.

The second C-2 area exists along Route 94 and extends to the intersection of Route 515. This community commercial area encompasses a large part of Vernon Village. Based on an air photo land use analysis, the C-2 zone was expanded to include the commuter shopping center now zoned C-1.

The third and fourth business zones, although on a much smaller scale, are located at the intersection of Vernon Crossing and Route 517, Sand Hill Road and further west on Vernon Crossing near Church Street.

Office Professional

An office professional land use category has been established permitting professional offices, parks and business corporate offices on a 30,000 square foot lot. The conditional use section also permits funeral homes, theaters and child care facilities. This C-3 exists only along Route 94 from the southern side of Cumulus Drive to the southern side of Baldwin Drive. Since residential development exists in this area of Route 94, the office professional zone acts as a good transitional zone between the traffic on Route 94 and the residential areas.

Agri-Eco Tourism

A new land use category Agri-Eco Tourism, is established in the Master Plan. This land use category is located on the eastern side of Route 94 and west of Route 94 in areas inundated with wetlands.

The primary objectives of this new land use category are: to preserve the rural scenic attributes of the northern portion of Route 94, preserve the steep slope areas of Wawayanda Mountain,

recognize the agricultural uses in this area and permit their diversification and expansion, thereby encouraging the economic expansion and vitality of this area.

The principal uses under the Agri-Eco Tourism would include riding farms and stables, nurseries, Inns or Bed and Breakfast and cross-country skiing. Specialized retail such as gift shops, antique shops, art stores and farm produce from enclosed buildings would be permitted as a conditional use. Passive recreational activities related to the Appalachian Trail, which crosses Route 94 in the central portion of this land use are also envisioned. Activities such as biking or mountain hiking in order to enjoy the spectacular vistas from the top of Wawayanda Mountain State Park. are an example. In addition, a limited number of light commercial recreational uses, such as golf courses, botanical gardens and tennis pavilions, should be permitted as conditional uses. The area south of Maple Grange Road is also designated for larger type retail facilities which should only be permitted as a conditional use. Given the scenic aspects of this zone, special zoning controls for this type of retail center should be incorporated in the Zoning Ordinance including a low floor area ratio and adequate setbacks to preserve the scenic qualities. A portion of the property is also shown as CR and could be developed as a golf course as per the applicant's current approval status.

This stretch of Route 94 has been described as one of the State's most scenic drives and was mentioned in periodicals for its scenic New England like qualities. The preservation of its unique qualities, including the current agricultural land use while permitting economic development of the land, can be achieved through the agri-eco tourism land use. The present agricultural uses would also be permitted and encouraged.

The intent is to creatively use existing buildings through adoptive reuse of existing structures such as barns to further the objectives of this land use category. The limited and specialized retail facilities should be closely regulated in the Zoning Ordinance through limitation on size and parking area in order to prevent the subversion of the intent of this land use and the rural character of the area.

Industrial

Currently there are three areas zoned for industrial uses, one located south of the intersection of Route 94 and Route 517 in McAfee and a second extensive industrial area located west of Route 94, north of Vernon Crossing and extending west to Route 517 and northerly to Maple Grange Road. This industrial area extends across Maple Grange Road between the railroad and Black Creek.

The McAfee industrial area has good access via Route 94 and Route 517 and most importantly lies adjacent to a sewer service area and is traversed by the Upper Wallkill Interceptor. It is suggested therefore that this industrial area be expanded west to Route 517. Given that this area has the potential for sewer utilities, a variety of industrial uses could be permitted without potential detriment to ground water resources. The only environmental constraints are found in the western portion consisting of some wetlands and steep slopes that could, however, act as a buffer to the residential zones in the west. The rail line provides rail access to this industrial site and serves as the eastern border. The sewer service area should be amended to include this industrial district. If this is not feasible, potential industrial uses should be carefully monitored in terms of septic suitability.

The Vernon Crossing industrial area presents many potential problems. The three most important factors are that the area does not contain utilities, the site from the western side of the railroad is subject to extensive wetlands and an underlying aquifer recharge area. In view of this, the Master Plan recommends that the industrial district be redrawn to exclude the wetlands and orient the industrial activity towards Route 94 which is the area that also has rail access. Since this area lacks utilities and the underlying geology consists of aquifer recharge soils, the permitted use should be limited in terms of septic use and the performance standards should be stringently enforced to avoid any groundwater contamination. In view of this, these areas should be reclassified as a light industrial area and the industrial zoning categories should be reviewed with the intent of establishing a more restrictive "Light" Industrial zone.

The portions of the Light Industrial zone extending to the Appalachian Trail should be required to provide 200 foot buffers in order not to infringe on the aesthetics function of the trail. This buffer could be part of the rear yard setback. Also, a 100 foot buffer standard should be established where the light industrial zone abuts a residential zone. Essentially this light industrial zone recognizes existing industrial uses in the area and permits areas for modest expansion. A floor area ratio control should be established and the lot coverage should be reviewed in order to insure low land coverage in view of the low density character of the area.

A third small industrial area also exists on the west side of Route 94 and should be included within the sewer service area which is immediately adjacent to this land use.

The uses of the Research Office and Laboratory (ROL) zone which has been deleted, should be permitted in the Light Industrial zone. The same stringent scrutiny for septic suitability and type of product discharge should apply to any of these uses. A modern office building or research laboratory would complement the light industrial uses within these zoning districts.

Mixed Land Use

Commercial Recreation

The largest land use in Vernon Township is Commercial Recreation (CR) consisting of the Seasons hotel and golf course, Great Gorge and Vernon Valley Ski areas, Action Park and condominiums along ski slopes such as the Spa, Stone Hill and Great Gorge Village and Hidden Valley. This zoning category permits these commercial recreational facilities, lake community development and as a conditional use resort oriented housing in conjunction with a ski area, regulation size golf course or lake community. A minimum tract area of 100 acres is required for residential development with a maximum permitted gross density of 1.5 units per acre and a maximum permitted gross density of four units per acre of the developable area. This aspect of the zoning ordinance should be reviewed in view of the "Manalapan" case as previously discussed. It is also recommended that more specific standards be established as to the size of a ski area that is to support the recreational oriented housing. The area consists of about 3,000

acres and is approximately 50 percent developed, although there are approved and pending applications that have not been constructed. With the exception of the Seasons Resort and Hidden Valley, the other uses are clustered near or on Route 94. The CR district, except for Hidden Valley, is also served by utilities in that Seasons has a treatment plant and the remaining CR district on Route 94 is in the Sussex County Municipal Utility Authority (S.C.M.U.A.). Presently a limited amount of sewerage capacity is available to serve this area. The Master Plan proposes to retain the CR zone as presently delineated since vacant land still remain in this zone for future growth subject, however, to revised zoning regulations.

There is also a CR zone north of Vernon on both sides of Route 94 and extending to Meadowburn Road. This zone reflects a golf course that was applied for in 1984 and received preliminary approval in 1991. However, due to the presence of extensive wetlands, the matter is being reviewed by DEP as to its status. The area is not served by utilities and requests for CR land uses other than the golf course should be seriously reviewed.

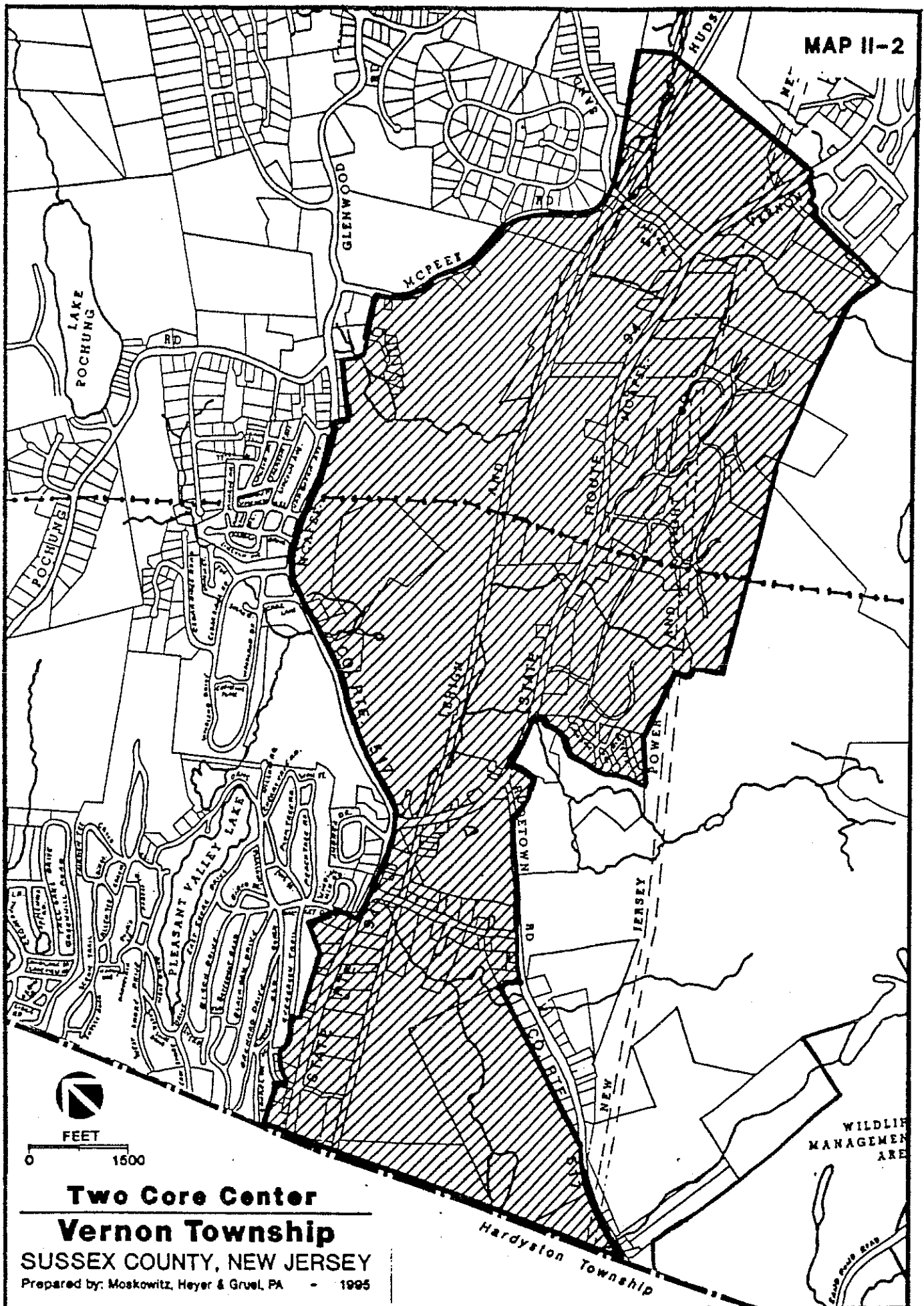
A third CR zone is designated for the Hidden Valley ski resort located south of Breakneck Road. The recent amendment to that zone is also included in the Land Use Plan.

CENTERS

Two Centers are proposed for Vernon Township in conjunction with the State Development and Redevelopment Plan: a two core center consisting of the McAfee Multi-Use Center and the Regional Commercial Recreation Center and the Vernon Center. The Centers are shown in Maps II-2 and II-3.

Two Core Center

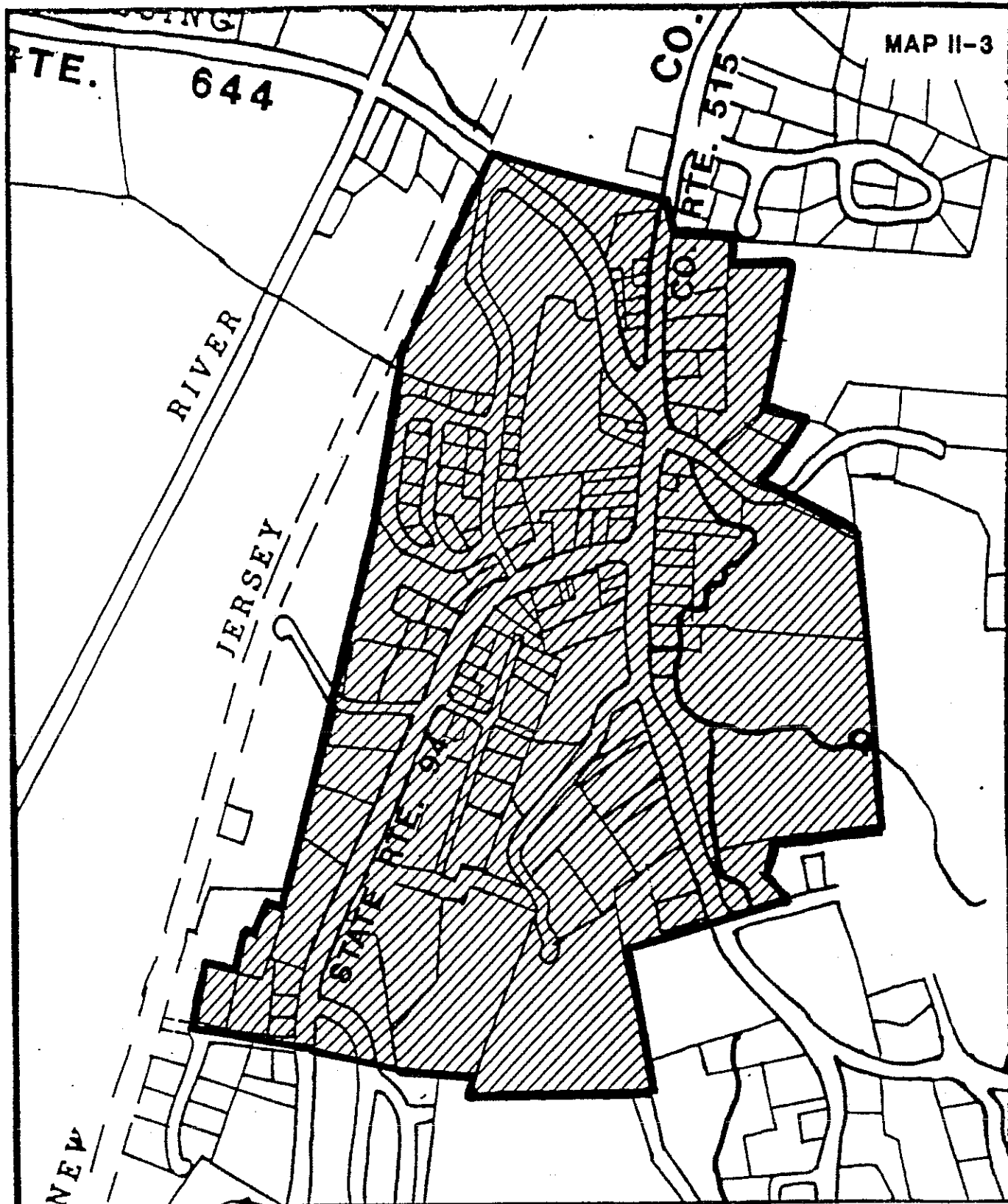
The two core Center extends from the southern boundary of Vernon to Vernon Valley ski area. Specifically, the McAfee Center would be a multi-use center including the C-2 zone on Route 94 and Route 515 and the industrial zone east of Route 94. There is ample vacant C-2 property which could be developed as a "theme type" community shopping or outlet center. An industrial



Two Core Center
Vernon Township
SUSSEX COUNTY, NEW JERSEY
 Prepared by: Moskowitz, Hoyer & Gruel, PA - 1995

WILDLIFE
MANAGEMENT
AREA

Hardyston Township



Vernon Center
Vernon Township
SUSSEX COUNTY, NEW JERSEY
Prepared by: Moskowitz, Heyer & Gruel, PA - 1995

park subdivision was recently approved in the industrial zone and it is recommended that the industrial zone be expanded as shown on the Land Use Plan. It is also recommended that the 208 Wastewater Management Plan be amended to include the McAfee Center.

The Regional Commercial Recreation Center encompasses the existing commercial recreational facilities such as Four Seasons Hotel, Great Gorge and Vernon Valley Ski area and associated condo housing and action park. This center is served by sewer utilities and essentially recognizes the existing land uses and their regional commercial function. Vacant land exists within this Center for combined growth within the parameters as set forth in the Zoning Ordinance.

Vernon Center

A second center, known as the Vernon Center, is proposed from Vernon Crossing and extending southerly to include Route 94 and Route 515. The Center will encompass the main commercial and Township governmental land uses. Ideally, this would become the "Town Center" and all future government activities should be directed into this area. Most of the zoning is C-2 Commercial.

A comprehensive plan should be developed for this area and since this Center contains a number of historic homes and sites, an overall architectural theme which would regulate the development of this Center, is recommended. Open space areas within this Center should also be preserved and serve as a "village green" or town or become settings for other governmental functions. The sewer service area should also be expanded to include this entire Center and the 208 Wastewater Management Plan should be amended accordingly.

III. HOUSING PLAN

III. HOUSING PLAN

The New Jersey Council on Affordable Housing (COAH) was established and given the responsibility for implementing the Fair Housing Act (N.J.S.A. 52:27D-301 et seq.). The fair share obligation of the Township of Vernon is based upon the fair share calculations and methodology utilized by the Council on Affordable Housing (COAH).

Using the methodology set forth in the COAH Substantive Rules (N.J.S.A. 5:93A), the Township of Vernon has a total pre-credited need of 131 affordable units, as detailed in Table III-1. Pre-credited need is the cumulative 1987 through 1999 housing obligation of the Township which can be reduced by credits and adjustments.

Table III-1

COAH CALCULATION OF PRE-CREDITED NEED FOR THE TOWNSHIP OF VERNON 1987-1999

<u>Housing Need Type</u>	<u>Units</u>
Indigenous Need	79
Reallocated Present Need	44
Present Need (1993)	123
Prospective Need (1993-1999)	29
Total Need (present & prospective) (1993-1999)	152
Prior Cycle Prospective Need (1987-1993)	4
Modifications:	
a. Filtering	-19
b. Residential Conversions	-2
c. Spontaneous Rehabilitation	-8
d. Demolitions	4
Total Modifications	-25
Pre-Credited Need	131 ⁽¹⁾

Source: New Jersey Council on Affordable Housing, Substantive Rules - NJSA 5:93.

⁽¹⁾ As published by COAH.

COMPONENTS OF THE PRE-CREDITED NEED

Indigenous Need

Indigenous need is an estimate of the total number of deficient housing units occupied by low and moderate income households within a community. It is estimated through the use of 1990 census data of substandard housing units for the subregion of which the Township is a part. Six housing quality surrogates are used to determine housing deficiency.

The factors used in the Council on Affordable Housing's approach include:

1. The year the structure is built. A distinction is made between units built before and after 1940.
2. Persons per room. 1.01 or more persons per room is an index of overcrowding.
3. Availability of water or sewer. The unit is unacceptable if it has unsanitary sewerage disposal or less than adequate water supply.
4. Plumbing facilities. A household must have the exclusive use of complete plumbing facilities.
5. Telephone. The unit must have a telephone.
6. Heating fuel. The unit cannot use inadequate heating fuel (i.e. coal, coke or wood) or no fuel.

A unit must have at least two characteristics to be classified as a deficient unit provided it is occupied by a low or moderate income household.

The pool of low and moderate income families living in deficient housing calculated at the subregional level is distributed to individual communities on the basis of the six indices of

deficient housing at the local level to the total deficient housing at the regional level, also measured by these indices. The Township of Vernon has an indigenous need of 71 units.

Reallocated Present Need

Reallocated present need is a share of the excess deteriorated units in a region transferred to all communities of the region with the exception of selected Urban Aid Cities: Typically, urban centers have a disproportionate share of substandard units occupied by low and moderate income households. Excess deficient units are redistributed to all of the other municipalities in the region to no more than the level that would bring them to the regional average.

Low and moderate income housing is distributed to each community using both economic and land use factors. The factors were selected as measures of both municipal responsibility and capacity.

The factors used in distributing reallocated present need include:

1. Equalized nonresidential valuation (commercial and industrial).
2. Undeveloped land.
3. Aggregate income difference.

Using the allocation formula, the Township of Vernon has a reallocated present need of 44 units.

Prospective Need

According to COAH, prospective need is a projection of low and moderate income housing needs based on development and growth which is reasonably likely to occur in a region or municipality. Prospective low and moderate income housing need is derived by projecting the population by age cohort from 1993 to 1999 and converting this to households.

The following factors are used to distribute prospective need to each municipality:

1. Change in equalized nonresidential valuation from 1980 to 1990.
2. Undeveloped land.
3. Aggregate income difference.

Applying this allocation formula to Vernon, the Township has a total 1993-1999 prospective need of 29 housing units.

Total Need - (1993 - 1999)

The Township of Vernon's present and prospective need number for the 1993 to 1999 time period is 152 units as reflected in Table 19. Under COAH methodology, this total need number is modified by prior cycle prospective need as well as demolition, filtering, residential conversions, and spontaneous rehabilitation.

Prior Cycle Prospective Need (1987 - 1993)

Prior cycle prospective need is a method which addresses any inactivity that characterized the prior cycle. The formula brings forward the prior cycle prospective need after it has been recalculated to reflect the most current projection information available and after it has been netted down to true new construction need by altered secondary sources of supply. Recalculated demolition (1987-1993) are added to prior cycle prospective need before the sum is netted down by reduced secondary sources of housing supply.

The Township of Vernon has a prior cycle prospective need of 4 units.

Modifications

Demolition. The fair share formula identifies demolition as a factor which eliminates housing opportunities for low and moderate income households. Therefore, the number of demolition is added to the total need number.

The number of municipal demolition which occurred during 1988, 1989 and 1990 are averaged and multiplied by six (6) to obtain the projected 1993 to 1999 demolition estimate. Total demolition are tallied by municipality and the share affecting low and moderate income housing is estimated by a multiple of the subregional low and moderate income housing deficiency percentage.

In Vernon, this represents one additional unit added to the previously calculated total need.

Filtering. Filtering is a factor which causes a reduction in the total need number, based upon the recognition that housing needs of low and moderate income households are partially met by sound housing units formerly occupied by higher income sectors of the housing market. That is, as higher income households vacate certain units, they become available to households of lower income. Filtering is positively correlated with the presence of multi-family housing units. Filtering is measured by using the American Housing survey over the 4 year period 1985 - 1989.

In Vernon, filtering will reduce the total housing obligation by 19 units.

Residential Conversions. Residential conversion is the creation of dwelling units from already existing residential structures. Residential conversion will cause a reduction in total municipal need. Residential conversion is positively correlated with the presence of two- to four-family housing units.

Converted units are measured using the Decennial Census over the period 1980 to 1990. Conversions are the difference between the net change in total housing units minus the net

housing units constructed and demolition lost over the period. The Township of Vernon's residential conversions will reduce the total affordable housing obligation by two (2) dwelling units.

Spontaneous Rehabilitation. Spontaneous rehabilitation measures the private market's ability to rehabilitate deficient low and moderate income units up to code standard. It will cause a reduction to the total municipal need. Spontaneous rehabilitation is positively correlated with income.

In Vernon Township, spontaneous rehabilitation will cause a net reduction of eight (8) units from the indigenous need.

Total Pre-Credited Need

As indicated in Table III-1, the total pre-credited need based upon COAH methodology is 131 units. This fair share obligation consists of indigenous need, reallocated present need, prospective need, plus prior cycle prospective need. The total need is modified by the four factors previously discussed.

Reductions

A reduction is granted for land that has been zoned for low and moderate income housing. No reduction is claimed since the Township did not zone any sites for Mt. Laurel Housing during the previous cycle.

Credits

The Fair Housing Council's guidelines include a provision for crediting. According to N.J.A.C. 5:93-3, credits are granted for all qualified units created after April 1, 1990, when the new housing unit is either funded, financed, or otherwise assisted by a government program specifically designed to provide low or moderate income housing. A unit which was rehabilitated after April 1, 1990, under COAH guidelines and is presently occupied by either the

original low or moderate income household or a subsequent low or moderate income household is also credited. No adjustments are requested.

Municipal Adjustments

The fair housing criteria and guidelines provide for municipal adjustments in the fair share number based upon available land capacity, public facilities, and infrastructure. Adjustments may only be applied to reallocated present and prospective need.

FAIR SHARE PLAN

The Township of Vernon has a total net low and moderate income housing obligation of 131 units. In order to address the Township's affordable housing need, the Fair Share Plan consists of the following components which are summarized in Table III-2.

Rehabilitation Component

The indigenous need of 71 units can be satisfied through the rehabilitation of individual units. Over a 6 year period, therefore, 12 units would have to be rehabilitated with 11 units in the last year for a total of 71 units. The Township will apply for Community Development Block Grant funds from the Department of Community Affairs through the Housing Rehabilitation Program and any other eligible funds that are available. A Housing Trust Fund from development fees may be used to supplement other funding sources.

Inclusionary Component

The inclusionary component consisting of 60 units can be met through the following alternative methods. First, under 5:93-6.1(a), the municipality can enter into a Regional Contribution Agreement (RCA) with a receiving community as designated by COAH but usually within the same region (Bergen, Hudson, Passaic, Sussex). Up to 60 units can be transferred if an acceptable RCA is established. The municipality may elect to transfer 60 units in order to meet the inclusionary obligation.

Secondly, if the community selects not to transfer the inclusionary component, the municipality under 5:93-5.13(a) must require that 25 percent or 15 units of the inclusionary component (60 units) have to be rental units. However, there is a two for one credit for the rental units which in effect means that the construction of 15 rental units equals 30 units of the inclusionary component leaving 30 additional units to be constructed.

Thirdly, the municipality under 5:93-5.12(a)3 can reserve up to six (6) units for senior citizens with a 1 for 1 credit on three (3) units of credit.

Considering the options, it is recommended that the Township pursue a Regional Contribution Agreement (RCA) and transfer the inclusionary component of 60 units to a receiving community within the housing region. This will require, however, that the community establish a Housing Trust Fund. Under this provision, all new construction would be assessed a small percentage of its assessed value and these funds would finance the regional contribution. The financial per unit share is determined between the sending and receiving community with a minimum of \$20,000 per unit as established by COAH.

TABLE III-2

1987-1999 PRE-CREDITED NEED	131 units
Rehabilitation Component	71 units
INCLUSIONARY COMPONENT	
Regional Contribution Agreement	<u>60</u> units

IV. DEMOGRAPHICS

IV. DEMOGRAPHIC CHARACTERISTICS

INTRODUCTION

This element presents general demographic and housing information for Vernon Township which influences the present and future development of the Township. While it is difficult to generalize about the "average resident of Vernon Township," it is important to understand demographic conditions and populations trends in an effort to comprehensively plan for the Township. The Demographic element analyzes the changes that have taken place over time in population, housing and income characteristics. Although past trends do not necessarily guarantee those of the future, they do provide an historic sense of direction and call attention to emerging trends.

SUMMARY OF DEMOGRAPHIC CHARACTERISTICS

Major demographic trends in Vernon Township can be summarized as follows:

- Between 1970 and 1990 both Vernon Township and Sussex County experienced an increase in population.
- Like the rest of the country, Vernon's population increases are being led by the baby boom generation.
- The Township's 1989 median household income was higher than that of the County and the State.
- Vernon's 1990 median housing value was \$3,100 lower than Sussex County's median housing value.
- Vernon Township experienced a sharp increase in the number of dwelling units authorized by building permits between 1984 and 1988.

DEMOGRAPHIC CHARACTERISTICS

Population Trends

Sussex County and Vernon Township both experienced large population increases from 1950 to 1990. Vernon's population increase, however, was much more significant than that of the County. Overall, Vernon's population increased by 19,683 individuals, or 1,288 percent from 1950 to 1990. The major increases occurred in the 1960s and 1970s which saw population increases of approximately 181 and 169 percent, respectively.

Sussex County, in turn, experienced an overall population increase of 96,520 individuals or 280 percent. The County sustained its largest increases in the 1950s, 1960s, and 1970s, when population increased approximately 43, 57, and 50 percent, respectively.

Table IV-1
POPULATION CHANGE, 1950-1990
Township Of Vernon

Year	Population	Population Change	
		Number Changed	Percent
1950	1,528	N/A	N/A
1960	2,155	627	41.03
1970	6,059	3,904	181.16
1980	16,302	10,243	169.05
1990	21,211	4,909	30.11

Source: Housing Element and Fair Share Plan: Master Plan Report #1, prepared by Dorram Associates, Inc., 1992.

Table IV-2
POPULATION CHANGE, 1950-1990
Sussex County

<u>Year</u>	<u>Population</u>	<u>Population Change</u>	
		<u>Number Change</u>	<u>Percent</u>
1950	34,423	N/A	N/A
1960	49,255	14,832	43.09
1970	77,528	28,273	57.4
1980	116,119	38,591	49.78
1990	130,943	14,824	12.77

Source: Housing Element and Fair Share Plan: Master Plan Report #1, prepared by
Dorram Associates, Inc., 1992.

Population Age Distribution

Vernon followed national trends with its age-segmented population increases. The 35-44 and 45-54 age cohorts experienced the largest increases, 79 and 80 percent respectively, from 1980 to 1990. These individuals are part of the baby boom generation, which is comprised of individuals born from the late 1940s through the early 1960s. This cohort represents the major population force in this country. Therefore, the increases in the baby boom generation seen in Vernon conform to those experienced on a national level.

Table IV-3
POPULATION BY AGE, 1980 & 1990
Township of Vernon

	1980		1990		1980-1990 Change	
	Number of Persons	Percentage of Total	Number of Persons	Percentage of Total	Number	Percent
Under 5	1,706	10.46	2,101	9.91	395	23.15
5-14	3,344	20.51	3,801	17.92	457	13.67
15-24	2,199	13.49	2,556	12.05	357	16.23
25-34	3,733	22.9	4,143	19.53	410	10.98
35-44	2,398	14.71	4,302	20.28	1,904	79.4
45-54	1,151	7.06	2,074	9.78	923	80.19
55-64	878	5.39	1,039	4.9	161	18.34
65 & Over	<u>893</u>	<u>5.48</u>	<u>1,195</u>	<u>5.63</u>	<u>302</u>	<u>33.82</u>
Totals	16,302	100	21,211	100	4,909	275.78

Source: Vernon Township 1985 Master Plan & 1990 Census

Race And Gender

Vernon Township, like Sussex County, is a predominantly white community. As indicated in Table IV-4, whites comprise 98.68 and 97.62 percent of the 1990 Township and County populations, respectively. In 1990, minorities constituted 1.32 percent of the Township population and 2.38 percent of the County population. These are slight increases from 1980. In 1990, 50.22 percent of the population was male and 49.78 of the population was female.

Table IV-4
PERSONS BY RACE AND GENDER, 1980 AND 1990
 Vernon Township and Sussex County

	1990				1980			
	Vernon Township		Sussex County		Vernon Township		Sussex County	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
RACE								
White	20,932	98.68	127,831	97.62	16,194	99.34	114,418	98.54
Black	79	0.37	1,242	0.95	6	0.04	651	0.56
American Indian, Eskimo, Aleut	27	0.13	196	0.15	14	0.09	167	0.14
Asian or Pacific Islander	125	0.59	1,222	0.93	72	0.44	664	0.57
Other Race	48	0.23	452	0.35	16	0.1	219	0.19
TOTAL	21,211	100	130,943	100	16,302	100	116,119	100
GENDER								
Male	10,652	50.22	64,967	49.61	8,106	49.96	57,345	49.38
Female	10,559	49.78	65,976	50.39	8,119	50.04	58,774	50.62
TOTAL	21,211	100	130,943	100	16,225	100	116,119	100

Source: U.S. Bureau of the Census, 1980 and 1990.

EXISTING HOUSEHOLD CHARACTERISTICS

Household Size

Household size decreased in Vernon Township from an average of 3.46 persons per household in 1970, to an average of 3.35 persons per household in 1980, to an average of 3.15 persons per household in 1990. Likewise, as is shown in Table IV-5, the two and four person households were the largest percentage of Vernon's population. Similar results are seen on a County basis.

The decline in household size is a nationwide trend. Several factors have led to this decline. These include individuals marrying later in life, increased divorce rates, married couples having fewer children, and the elderly living alone.

Table IV-5
1990 HOUSEHOLD CHARACTERISTICS
Township of Vernon and Sussex County

Household Size	Township Number	Township Percent	County Number	County Percent
1 person	795	11.81	7,193	16.18
2 person	1,728	25.68	13,182	29.65
3 person	1,394	20.71	8,965	20.17
4 person	1,734	25.77	9,332	20.99
5 person	767	11.4	4,033	9.07
6 or more person	<u>312</u>	<u>4.64</u>	<u>1,751</u>	<u>3.94</u>
TOTALS	6,730	100	44,456	100

Median Persons Per Household

	<u>Township</u>	<u>County</u>
1970	3.46	3.33
1980	3.35	3.08
1990	3.15	2.91

Source: 1985 Vernon Township Master Plan & 1990 Census

Household Income

Vernon Township is wealthier than Sussex County as a whole and the State of New Jersey. Vernon's 1990 median household income was \$50,987. This was over \$10,000 greater than the 1990 median income for the State and over \$2,000 greater than Sussex County's 1990 median income level.

Table IV-6
MEDIAN HOUSEHOLD INCOME, 1979 & 1989
Township of Vernon, Sussex County, and New Jersey

Median Household Income	
1989	
(Current Dollars)	
State	\$40,927.00
County	\$48,823.00
Vernon Twp.	\$50,987.00

Source: U.S. Bureau of the Census, 1980 and 1990.

Housing Data

Table IV-7 provides an overview of the housing units in Vernon Township. Approximately 85 percent of the housing stock in Vernon consists of single-family detached homes. Over 70 percent of the homes are owner occupied. Lastly, in 1990 almost 80 percent of Vernon's housing stock contained five or more rooms. This is consistent with the rest of the country; the popular trend is for bigger houses with many rooms.

Table IV-7
HOUSING DATA IN 1990
Township of Vernon

<u>Characteristics</u>	<u>Number</u>	<u>Percent</u>
Tenure of Occupied Units		
Owner Occupied	6,047	70.56
Renter Occupied	683	7.97
Vacant	1,840	21.47
Year Structure Built		
1989-March of 1990	267	3.12
1985-1988	1,192	13.91
1980-1984	1,042	12.16
1970-1979	2,670	31.16
1960-1969	1,533	17.89
1950-1959	834	9.73
1940-1949	410	4.78
Before 1940	622	7.26
Units in Structure		
One (single family detached)	7,307	85.26
One (single family attached)	150	1.75
Two or More Units	1,054	12.3
Mobil Home & Other	59	0.69
Number of Rooms		
One	27	0.32
Two	115	1.34
Three	423	4.94
Four	1,206	14.07
Five	1,608	18.76
Six	1,621	18.91
Seven	1,504	17.55
Eight	1,186	13.84
Nine or More	880	10.27
1990 Total Housing Units	8,570	100

Source: U.S. Bureau of the Census, 1980 and 1990.

Housing Values

The homes in Vernon are relatively affordable. As shown in Table IV-8, over 76 percent of Vernon's owner occupied housing stock is valued between \$100,000 and \$199,999. Less than one percent of the housing stock is valued over \$400,000. The 1990 median value for homes in Vernon Township was \$153,200, which is comparable to Sussex County's 1990 median housing value of \$156,300.

Rent prices, however, are higher in Vernon than in the rest of Sussex County. The 1990 median contract rent in Vernon was \$675. This is \$81 more than Sussex County's 1990 median contract rent.

Table IV-8
HOUSING VALUES, 1990
Township of Vernon

Owner Occupied Housing

<u>Value Range</u>	<u>Number</u>	<u>Percent</u>
Less than \$99,999	332	6.13
\$100,000 - \$199,999	4,141	76.43
\$200,000 - \$299,999	782	14.43
\$300,000 - \$399,999	127	2.34
\$400,000 - \$499,999	25	0.46
\$500,000 or more	11	0.2
TOTALS	5,418	100

Median Value: \$153,200

Renter Occupied Housing

<u>Contract Rent</u>	<u>Number</u>	<u>Percent</u>
Less than \$399	50	7.74
\$400 - \$499	49	7.59
\$500 - \$599	101	15.63
\$600 - \$699	119	18.42
\$700 - \$999	227	35.14
\$1000 or more	31	4.8
Total With Cash Rent	577	89.32
No Cash Rent	69	10.68
TOTALS	646	100

Median Contract Rent: \$675

Source: 1990 U. S. Census

Housing Construction

Table IV-9 details the dwelling units authorized by building permits since 1980. Over the 14 year period, there were a total of 3,031 building permits issued. Approximately 58 percent of these permits were issued for the construction of 1,768 single family homes. Approximately 42 percent of the permits were issued for the construction of five or more family dwellings. The most active years were 1984-1988. This is consistent with national trends as much of the country experienced a major increase in new construction during this time period. Lastly, 29 residential units were demolished during the 14 year period detailed in Table IV-9 .

Table IV-9
DWELLING UNITS AUTHORIZED BY BUILDING PERMITS,
1980-1994

Township of Vernon					
<u>Year</u>	<u>Total</u>	<u>Single-Family</u>	<u>2-4 Family</u>	<u>5+ Family</u>	<u>Demolitions</u>
1994	80	78	2		1
1993	116	104		12	3
1992	168	114	2	52	3
1991	82	82			3
1990	82	82			1
1989	113	111	2		2
1988	384	238		146	2
1987	417	219		198	
1986	440	198		242	3
1985	411	114		297	
1984	323	101		222	1
1983	113	113			2
1982	142	54		91	1
1981	67	67			7
1980	93	93			
TOTALS	3,031	1,768	6	1,260	29

Source: New Jersey Department of Labor, Summary of Residential Building Permits, 1980-1994.

Population Projection

A population projection of 24,391 individuals was predicted for Vernon for the year 2000. This projection was based on existing state and regional economic trends and conditions. It was obtained by studying the number of building permits issued from 1990 through 1994. Earlier years, such as 1983 through 1989, were excluded because Vernon, like much of the northeast, was experiencing a massive construction boom. Therefore, this time period was excluded because it does not represent the Township's typical construction activity. The complete methodology used to determine the projection is as follows.

As shown in Table IV-10, the average number of building permits issued for the construction of single-family and 2-4 family dwelling units from 1990 through 1994 was obtained. This average (92.8 permits) was multiplied by the Township's 1990 median household size of 3.15 individuals to determine the average annual population increase related to most new residential construction. This figure approximated 292 persons. In addition, the average number of building permits issued for the construction of five and more family dwelling units was obtained for the same time period. These building permits were attributed to the construction of resort condominium units. Therefore, it was assumed that each unit contained approximately two persons rather than the average household size of 3.15 persons. The average (12.8 permits) was multiplied by two rather than the average household size to obtain the average annual population increase related to the construction of five and more family dwelling units. This figure approximated 26 persons.

The average annual population increases of 292 and 26 persons were added to compute the total average annual increase of 318 individuals. This figure was multiplied by 10 to determine the ten-year population increase of 3,180 persons, which was added to the 1990 population of 21,211. Vernon's 2000 population was then determined to be 24,391 persons. This projection is consistent with Sussex County's population estimates as the County approximates Vernon's 1994 population at 22,686. This represents a 1,475 person from the 1990 Census population while the 2000 projection estimates a 3,180 increase over a ten year period.

Table IV-10
2000 POPULATION PROJECTION
1990-1994
Vernon Township

	<u>1-4 Family Dwelling Bldg. Permits Issued</u>	<u>5+ Family Dwelling Bldg. Permits Issued</u>
1994	80	0
1993	104	12
1992	116	52
1991	82	0
1990	82	0
Totals	464	64
Five Year Averages	92.8	12.8

1990 Population	21,211
Average Annual Increase	317.92
10 Year Increase	3,179.2
2000 Projected Population	24,390.2

Source: Prepared by Moskowitz, Heyer & Gruel, PA.

V. CIRCULATION PLAN

V. CIRCULATION PLAN

INTRODUCTION

This section presents an overview of the current circulation system, including road jurisdiction, traffic volumes, functional road classification system and planned road improvements for Vernon Township based on County and State Plans.

Regional System

Vernon Township is served by one State road, Route 94, and nine County roads. These roads traverse the Township in a north-south direction respective of the existing topography. Regional east-west access is very limited due to the existence of Wawayanda State park to the east. The only access to the west is by way of the Route 642 bridge into Wantage Township. Route 94 connects into State Highway Route 15 which is a dualized road and provides the major regional access to the community. Route 23 in Hamburg also serves in this capacity although it is not a dualized road. Regional access therefore is adequate but limited by the current two lane design of Route 94 and the two lane county roads. This system is sufficient to handle the current level of rural-suburban development although the traffic generated from the resort-commercial uses during peak hours strains the capacity of these roads. Any future proposals for intensive land uses should be cognizant of the limited regional access system serving one of the northernmost municipalities in New Jersey.

Road Jurisdiction

Most of the major traffic bearing roads in the Township are under the jurisdiction of the County or in the case of Route 94, the DOT of New Jersey, as shown on Map V-1. All other streets are under municipal jurisdiction or, as indicated, are private roads within the Lake Communities or part of the State Wawayanda Park. The total mileage of the public roads in the Township is as follows:

PUBLIC STREETS AND ROADS

In Vernon Township, public roads include:

a. State Highways	8.7 miles
b. County Roads	30.7 miles
c. Township Streets	<u>85 miles</u>
Total	124.4 miles

State Roads

Route 94 is a two lane State Highway with a traffic light at Vernon Road and McAfee Road and a pedestrian overpass at the Vernon Valley Ski Resort and Action Park. This highway is limited in its traffic carrying capacity by the lack of adequate pavement width which varies between 25 to 35 feet, curve design and the overall design of the road. The New Jersey Department of Transportation (NJDOT) does not have any current plans for improving Route 94, except through the implementation of the State Highway Management Access Code.

County Roads

The Sussex County Roads in Vernon include the following:

1. County Road 515, Vernon-Stockholm Road; Prices Switch Road
2. County road 517, McAfee-Glenwood Road; Rudetown Road
3. County Road 565, Glenwood Road
4. County Road 642, Owens Station Road
5. County Road 665, Bassetts Bridge Road
6. County Road 667, Lake Wallkill Road (in part only)
7. County Road 641, Drew Road (in part only)
8. County Road 644, Vernon Crossing

9. County Road 638, Highland Lakes Road.

Private Roads

The Lake Communities of the Township are all served by private roads with the exception of Highland Lakes Country Club. This community is served by five miles of public roads including Highland Lakes, Breakneck, Wawayanda, and Canistear Roads. The remaining Lake Communities are served by 26 miles of private roads which is part of the privacy and restricted access characteristics of these communities.

There are also private roads which are maintained by the condominium association of the newer recreational-resort housing developments including Great Gorge Village, Stonehill, Mountainside and Hidden Valley.

Pavement Width

Pavement width varies considerably in Vernon Township due to the age of development and the age of the collector roads. The newer roads in the Township are of uniform width usually with a 50 foot right-of-way, a 30 foot curb to curb paved travelway and with proper drainage. This is a result of the current land use and subdivision regulations that govern new development application.

Traffic Volumes

A review of traffic volumes from 1992 as set forth in the previous Master Plan study indicates that the greatest traffic volumes occur at the intersection of Route 94 and 515 in Vernon. In fact, the highest average daily traffic volume occurs north of the intersection on Route 94 with a volume of 16,044 vehicles per day. Route 515, south of this intersection, had a 1990 volume of 13,690 while Route 94 had a volume of 11,660.

As indicated by these volumes, the intersection of Route 94 and Route 515 should be monitored on an annual basis in order to determine if improvements to this intersection are needed. The State Highway Management Access Code will also address this intersection and applications for higher intensity uses are required to submit traffic studies in order to assess the impact of the proposed development on the capacity of the two roads.

Roadway Classification

A roadway classification system is necessary to develop standards for rights-of-way and roadways, such as widths and improvements. Roadway classification is shown on Map V-2. Efficient and safe operation of the system requires that facilities be designed to serve a specific purpose within the street hierarchy. For example, a freeway is not intended to carry local traffic, while the cul-de-sac is not designed for through traffic.

Classification of roadways should be made according to the movement served on the roadway and based on the functional classifications of roads as established by the respective jurisdiction. The functional classification for Route 94 was established by New Jersey DOT.

Table V-1
FUNCTIONAL CLASSIFICATION OF ROADS

Freeway/Expressway	Primary function is to serve through traffic and provide high speed mobility. Access provided from major streets at interchanges. Limited or no access to abutting land uses.
Major Arterial	Intended to provide a high degree of mobility and serve longer trips than minor arterials. Principal function is movement, not access. Should be excluded from residential areas.
Minor Arterial	Interconnects and augments the major arterial system. Operating speeds and service levels are lower than major arterials. Should be excluded from identifiable residential neighborhoods.
Collector	Provides both land access and movement within residential, commercial and industrial areas. Penetrates but should not continue through residential areas.
Local Access	Provides land access and can exist in any land use setting. Movement is incidental and involves travel to and from a collector facility.

Source: Transportation and Land Development. Institute of Transportation Engineers, 1988.

The County has indicated that it requires a right-of-way width of 66 feet for all County Routes as listed in Table V-1.

Any local road that has been designated a collector road should have a right-of-way width of 60 feet.

State Highway Access Management Code

The purpose of the State Highway Access Management Code is to improve coordination between transportation and land use planning. The Access Code is a set of uniform standards to manage vehicular access to and from all State highways. The Code was adopted in early 1992 and became fully effective in September 1992.

The NJDOT has assigned an "access level" and a "desirable typical section" (DTS) to each State highway. The access level refers to the allowable turning movements to and from access points on a State highway segment. The DTS reflects the NJDOT's long range plan for State highway configurations showing the number of through lanes.

Route 94 in Vernon Township has been designated an access level "4" with a DTS classification of 4C. Access level "4" permits vehicles to access nonresidential uses. A DTS classification of 4C calls for a four (4) lane undivided cross-section, with shoulders and desirable rights-of-way of 102 feet. The Access Code classification for Route 94 requires that this roadway be upgraded, depending on the traffic generated by the proposed adjacent land use. A diagram from the New Jersey State Access Management Code is presented herein. Based on estimated traffic counts, all major applications along Route 94 that generate 500 trips per day or 200 peak hour trips are required to prepare a traffic impact study for DOT review. However, all applications along Route 94 will have to file for an access permit.

The Clean Air Act

The Federal Clean Air Act Amendments of 1990 set new goals and requirements aimed at bringing New Jersey's air quality into compliance with federal health standards. State officials are currently developing the State Implementation Plan (SIP) which will identify the measures New Jersey will implement. The Clean Air Act Amendments dictate penalties that may be imposed on the State which fail to develop an adequate SIP or meet air quality goals.

The NJDOT has established regulations that require an employer with more than 100 employees to file a Trip Reduction Plan indicating the methods and incentives that will be utilized to reduce employee trips in conformance with State standard for the area. This may include car pooling, van transportation or telecommuting (working at home). The Township should be aware of this requirement with regard to any prospective establishment that would meet the State requirement.

Public Transportation

Public transportation is very limited. Although a rail line exists, no passenger service is available in that the line only handles limited freight. With regard to bus transportation, the County offers a limited bus service and the Township provides a bus service for senior citizens.

Passenger Rail Service In Vernon Township

New Jersey Transit is currently studying the feasibility of implementing rail service on the New York-Susquehanna-Western rail line. One option being considered is for the line to end as far west as Warwick, New York. Vernon would be one of the stops on this line. Other options would result in rail service beginning east of Vernon. The final decision on which of the options, if any, will be implemented, is not expected until late 1995 or early 1996.

If approved, the rail line would use the existing, but upgraded rail line, running parallel to Route 94. The line would run to Hawthorne where it would merge with New Jersey Transit's main line that goes to Hoboken. The main line would stop at the Hackensack Meadowlands where transfers to New York City and Trenton bound trains will be available.¹

Rail service would help alleviate Vernon's existing traffic congestion; it would offer transportation options to both commuters and visitors. Rail service would be a bonus for the resort industry. Of course, a rail stop in Vernon would require the construction of a train station. An appropriate location for the station would be in the McAfee section of the Township. The rail line passes through this area and tracts of land which front on the tracts are currently available. Furthermore, this area is in the proposed McAfee center as is outlined in the Land Use Element. Centers are the appropriate locations for rail stations. Route 94 and Route 517 provide good access to this area for commuter train connections.

¹ Source: New Jersey Transit.

Local Road Proposals

Due to the existing traffic volumes and the development of the C-2 zone, it is recommended that as future site plans are filed for this zone, a study be undertaken on the location of two new roads. One would be a parallel service road on the east side of Route 515 with the objective of providing for traffic movement among various commercial facilities that may locate on either side of the existing shopping center. The objective would be to connect the service road to Pond Eddy Road.

The second road is proposed to run behind the Firemans Pond and then exit onto Route 94 near the ice cream store.

Official Map

The Township should consider an official map if a future road location or park site is designated and the Township would like to protect the site from development. This can be done by use of an official map as outlined herein.

The official map is a legal document, adopted by the governing body of the municipality, designating lands which shall be reserved for future streets, drainage rights-of-way and parks and playgrounds. It also serves as the official statement of the governing body as to which streets, drainage rights-of-way and parks and playgrounds it has accepted for maintenance. Areas may be reserved for a period of one year or for such further time as is agreed to by a prospective developer. If during this period the municipality has not instituted condemnation proceedings or entered into a contract to purchase the land, the developer is entitled to just compensation for the actual loss found to be caused by such temporary reservation and deprivation of use.

The official map is legally binding upon the governing body. The official map must be an engineered document with detailed, measured dimensions and must be produced and certified by a licensed engineer or land surveyor.

VI. UTILITY PLAN

VI. UTILITY PLAN

SEWERED AREAS AND SEWAGE TREATMENT PLANTS

Vernon Township has prepared a comprehensive Wastewater Management Plan (WMP). The WMP has been submitted to the New Jersey Department of Environmental Protection and Energy for approval so that it may be incorporated into the Sussex County 208 Water Quality Management Plan. The plan provides for the protection of water quality and the natural environment while permitting appropriate residential, commercial and industrial development.¹ This information presented herein is taken from this Waste Water Management Plan.

Presently, there are four sewerage areas with separate sewage treatment facilities in Vernon Township comprising only a small portion of the Township. The sewer service areas include:

1. The Great Gorge / Vernon Valley / Action Park recreation areas and Great Gorge Village residential developments that are served by the Mid-Atlantic Utilities Corporation. (formally Vernon Valley Sewer Company). Mid-Atlantic Utilities Corporation pumps the wastewater via a force main to the Sussex County Municipal Utilities Authority facility in Hardyston Township, New Jersey;
2. The Seasons Resort Hotel Facility;
3. Vernon Township High School; and
4. Rolling Hills School / Lounsberry Hollow School / Cedar Mountain School.¹

These locations and areas served by each treatment facility are shown on Map VI-1.

As the map indicates, the south central or Vernon Valley portion of the community is serviced by the sewer service area of the Seasons Resort facility and the sewer service area of Sussex County

¹ Wastewater Management Plan, Township of Vernon, Sussex County, New Jersey, dated October 1992, revised to August 1995.

Municipal Utility Authority (S.C.M.U.A.) which connects via a pumping station as an interceptor to the Upper Wallkill Valley Water Pollution Control Plant in Hardyston Township.

The Mid-Atlantic Utilities Corporation (formerly Vernon Valley Sewer Company) sewer service area presently processes 79,500 gallons per day which would include 35,000 gallons from the Evergreen Campground. The S.C.M.U.A. sewer area has a capacity of 380,000 gallons per day to be piped to the Hardyston Plant. This capacity is committed to various industrial and commercial projects as more specifically outlined in Wastewater Management Plan. The 208 Wastewater Management Plan should be amended to include the two centers that have been designated in the Master Plan.

NON-SURFACE DISCHARGE AREAS

The existing development outside these service areas is served by Non-Surface Discharge Systems. Various areas of Vernon Township contain soils that present difficulties to non-surface discharge systems. These are shallow depth to bed rock, shallow depth to the seasonal high water table, areas of frequent flooding, highly permeable or highly impermeable soils. According to N.J.D.E.P., soils are identified and rated by category I, II and III with the higher the numeric symbol, the more severe the limitation. Generally, the soils for a majority of the Township fall within the Level III severity limitations classification within Vernon Township. Areas of level I and II exist in the central portion of Vernon. Extra care should be taken in reviewing any Environmental Impact Statement (EIS) for proposed subdivisions to ensure proper soil conditions with regard to septic suitability.

Since a majority of Vernon Township is proposed to remain unsewered, the WMP suggests that a septic system management plan should be undertaken by the Township through a joint effort of the governing body and Township Health Department. There are a number of monitoring and enforcement requirements outlined in the revised Chapter 199 (N.J.A.C. 7:9A) "Standards for Individual Subsurface Disposal Systems." These requirements include registration of

homeowners as licensed operators of their system, inspection, pumping and alteration requirements.

The Township may wish to strengthen the Septic Ordinance in order to reflect the requirements of Chapter 9A and more clearly define septic management principles. The County of Sussex would also be able to assist the Township in developing a Septic Management Plan.

WATER SUPPLY SYSTEM

Various developments in Vernon Township are supplied by a number of water companies as listed in the table below which also indicates the number of units served. Homes or businesses not served by these systems rely on individual wells.

WATER COMPANIES

<u>Public Community Water Companies</u>	<u>No. of Units</u>
Mid-Atlantic Utilities (Stonehill Condos)	1200±
Vernon Water Company	146±
Barry Lakes Water Company	44±
Sunset Ridge Water Company	78±
Highland Lakes Improvement Company	20±
Oak Hills (now owned by Vernon Water Co.)	18±
Sussex County Water Company:	
1) Aspen Woods	37±
2) Cliffwood Lakes	27±
3) Grandview Estates (Andrea Estates)	20±
4) Sussex Hills #1 & #2	40±
D.C. Water Company	13±
Baldwin Water Company:	
1) Predmore Estates	14±
2) Sammis Road	21±
3) Lake Conway	27±
4) Omega Drive	17±
5) Vernon Heights:	
a) Cortland Road Well	64±
b) Mott Road Well	
6) Vanderhoof Court	6±
7) Warren Drive	6±
White Swan	10±
<u>Public Individual Water Companies</u>	
Lake Wallkill Seasonal System	110±
Highland Lake I. Co. Seasonal System	130±

The companies obtain the water from wells within Vernon Township. New Jersey DEP has determined that the wells within the Township rely on a sole source aquifer. Although wells

capable of yielding sufficient water for individual homes can be drilled almost anywhere in the Township; higher yields can be obtained from large diameter wells located in the Wallkill and Black Creek Valley. The WMP states that:

"About 30 percent of the bedrock aquifers underlying Vernon Township consist of carbonate bedrock. The carbonate aquifers are vulnerable to contamination. Extensive solutioning of fractures leads to the formation of channels, which short circuit the natural flow and swiftly spread contamination. Future commercial, industrial and residential development should be constructed to avoid significant increases in contaminant loading to the aquifer system."

Great care, therefore, should be taken to properly design and maintain septic systems.

WELL HEAD PROTECTION PROGRAM PLAN

The 1986 Federal Safe Drinking Water Act Amendments (Section 1428)² requires that all states develop a Well Head Protection Plan. In response, the New Jersey Department of Environmental Protection developed a Well Head Protection Plan for the State in order to ensure the quality of public water supply wells. The WHPP states that:

The purpose of the WHPP is to minimize the risk of water supply well pollution due to discharges of ground water pollutants. Controls on both potential pollutant sources and the location of new wells, at all levels of government and by the private sector, comprise the heart of the program. Pursuant to state laws, "discharges" included both point and nonpoint discharges that are intentional, accidental or incidental to an activity.

This program focuses on prevention of new discharges that may impair well water quality. However, efforts to mitigate ground water pollution will benefit from and be integrated with the WHPP; easier identification of well pollution sources and higher priorities for pollution cases in well head protection areas will result.

The WHPP focuses on protection of water resources within a specific geographic area. Most NJDEPE programs regulate categories of pollutant sources in all parts of the state. The technique of "geographic targeting" is a critical mechanism for

² New Jersey Well Head Protection Program Plan, New Jersey Department of Environmental Protection and Energy, December 1991.

addressing myriad smaller pollutant sources. These sources may not pose a major risk to general ground water resources but can pollute nearby wells.

PROGRAM SUMMARY

The WHPP will rely on state, county and local regulatory authorities to regulate the location and operation of potential and actual sources of significant pollutant discharges, and to regulate the location and operation of new wells. Nonregulatory actions also will play crucial roles. Several key steps in developing the WHPP are:

1. Definition of the Affected Wells

As noted above, the NJDEP has determined that all public water supply wells (community and noncommunity) will be included. Public community systems provide piped, potable water to a regular consumer base of at least 25 individuals or 15 service connections throughout the year. Public noncommunity wells provide the same service for at least 60 days of the year but not for the full year.

2. Delineation Method for Well Head Protection Areas

Well Head Protection Areas (WHPAs) are portions of the Zone of Contribution that are close to the wells. It is within the WHPAs that pollutant sources are most likely to cause well pollution.

3. WHPA Delineation

Maps will be prepared by NJDEP for all public community water supply maps and for 200 of the largest public noncommunity water supply systems. For all other public noncommunity wells, narrative regulations will be established. Steps 4, 5 and 6 will consist of: Identification of Potential Pollutant Sources, Management of Potential Pollutant Sources and Regulations of New Wells. There is also a Planning and Outreach Program and Evaluation

and Revision procedure. Vernon Township should ensure that all well heads will be prohibited from pollution through this program.

VII. COMMUNITY FACILITIES PLAN

VII. COMMUNITY FACILITIES PLAN

INTRODUCTION

Community facilities are an important component to the quality of life in a community. A thorough knowledge of their overall condition and capacity is necessary to determine future needs for the growth and development of Vernon Township. Specifically, this element addresses Municipal services, emergency services, the library and public schools. These facilities are shown on Map VII-1. This plan also evaluates existing resources and service levels as well as potential deficiencies and considers future community facilities and service needs.

COMMUNITY FACILITIES INVENTORY

Municipal Services

All of Vernon Township's administrative offices are contained in the Municipal Building located at 21 Church Street. At the present time, there are 33 employees who work in the building. The building houses the following municipal functions:

1. Administration
2. Township Clerk
3. Finance Department, which includes the Treasury, Collection and Assessment Divisions
4. Municipal Court
5. Public Services, which consists of the Construction, Planning/Zoning, Health, Public Assistance, and Fire Inspection Divisions

The Municipal Building also houses the Township's Senior Center and Police Department. Vernon's Municipal Building was constructed in 1978 and expanded in 1992 to its current size of 31,520 square feet. The expansion effectively doubled the building's space. The Municipal

Building conforms to the requirements of the Americans with Disabilities Act in that barrier-free access is provided.

Police Services

The Vernon Township Police Department consists of 32 sworn police personnel, nine full-time civilian employees and four part-time communications operators. The Vernon Township Police Department headquarters is located in the lower level of the Municipal Center. The equipment used by the department consists of nine patrol cars, three four-wheel drive patrol vehicles used during poor weather, seven unmarked cars and two police boats.

The Vernon Police Department performs a myriad of functions in addition to the customary daily functions of police departments. These duties include: cooperation and coordination with local security forces, forensic photography, trained identification of criminal suspects with composites, arson investigation, the Fatal Accident Investigation Team, a full-time Juvenile Officer and a School Resource Officer Program.

The department's main need is an all-weather firearm practice facility in that an enclosed pistol range would best serve the department's firearm practice needs.

Standards

State and national standards are often used to determine the appropriate number of police officers per population. The Federal Bureau of Investigation's (FBI) standards are two police officers per 1,000 individuals. Based on a 1990 Census population of 21,211 persons, Vernon should have 42 officers; the Township currently has 32. In addition, the State of New Jersey averages 2.4 officers per 1,000 individuals. Using this standard, Vernon should have 51 officers.

Public Works

The Department of Public Works is located at 2 Riggs Way. The department employs a total of 28 personnel. The crew is responsible for road maintenance, street sign production and

installation, municipal vehicle and ancillary services. The Public Works facility needs additional garage space and enclosed storage space for vehicles and equipment.

Animal Control

The Animal Control facility is located on Church Street. It currently houses an animal shelter and employs three full time and one part time employees.

Township Parks And Recreation Facilities

The Township has three park facilities, Veterans Memorial Park, Old Orchard Park, and Hunter Ridge. Township parks and open space facilities, including the Township's recreation needs, are discussed in detail in the Parks, Recreation and Open Space Element of this Master Plan.

Fire Department

Vernon Township is served by four fire companies: the Highland Lakes Fire Department, the Pochuck Valley Fire Department, the Vernon Fire Department Company Number One and the McAfee Fire Department.

The firehouses are fairly evenly dispersed throughout the Township. However, the northwestern section of the Township may need its own firehouse and fire company as development occurs in this area. This is presented as a long term recommendation. Currently, the Township is adequately served by its existing fire stations.

Highland Lakes Fire Department

The Highland Lakes Fire Department operates out of the Highland Lakes Firehouse, located on Canistear Road. The company consists of 36 members. The equipment used by the department consists of one Chief's car, one 1,250 gallons per minute 1,000 gallon pumper, one 1,000 gallons per minute 1,000 gallon pumper, one 1,250 gallon per minute 2,500 gallon tanker pumper, and one 14 foot boat.

The fire company indicated the following future needs. First, the department needs a fire support vehicle which could be used to transport manpower and equipment to and from fires. The department also needs a four-wheel drive mini pumper for access to areas that the larger vehicles are physically unable to reach, such as forested areas and steep driveways. Lastly, a building addition is needed at the department's headquarters.

Pochuck Valley Fire Department

The Pochuck Valley Fire Department operates out of the firehouse on Lake Wallkill Road and Woodland Terrace. This 38 member company primarily serves the Pochung Mountain section of the Township. The equipment used by the department consists of one 1,000 gallon per minute 3,500 gallon Mack tanker-pumper, one 1,000 gallon per minute 750 gallon Mack pumper, one 1,000 gallon per minute 1,000 gallon Mack pumper, and one Chief's car.

The company' identified its future needs as a mini pumper and an addition to the existing firehouse.

Vernon Fire Department

The Vernon Fire Department Company Number One's headquarters is on Route 94 near the Route 515 intersection. The fire company recently received site plan approval for the conversion of the existing pavilion at Firemen's Pond to a five-bay garage. The building will be used to store firefighting equipment and hazardous material equipment.

The Vernon Fire Department is the largest fire company, consisting of 48 members. The equipment used by the company consists of a 1954 American LaFrance Pumper, a 1979 Ford Tanker with a 2,500 gallon tank, a 1988 Grumman Pumper with a 1,000 gallon tank, and a 1990 Grumman Pumper with a 1,000 gallon tank.

The company has two major needs. First and foremost, the company needs a new tanker truck with a 3,500 gallon holding capacity. Second, the department's five portable radios also need upgrading.

McAfee Fire Department

The McAfee Fire Department headquarters is located at the intersection of Routes 517 and 94. The fire company consists of 36 total members. The equipment used consists of one 1,250 gallon per minute 1991 International Pumper which holds 750 gallons of water, one 1989 Pierce Aerial ladder with a 105 foot height which also has a 1,500 pumper that holds 2500 gallons of water, and one 2,000 gallon per minute 2,500 gallon Hahn Pumper Tanker.

The company identified two needs. First, the 1982 pumper-tanker needs to be replaced with a newer model. Second, the firemen need new fire gear.

Volunteer Ambulance Services

The Township is served by two volunteer ambulance companies, the Vernon Township Ambulance Squad and the Glenwood-Pochuck Ambulance Squad.

The Vernon Township Ambulance Squad

The Vernon Township Ambulance Squad was established in 1964 and has 70 members. The squad serves 62 square miles of Vernon Township. The squad has two buildings; one is located on Route 94 and the other is on Breakneck Road in the Highland Lakes Section of the Township.

The company has six main functions: first aid education, rescue services, lending services, transport services, stand-by services and mutual aid. The first aid education consists of cardio-pulmonary resuscitation (CPR) and Emergency Medical Technicians (EMT) training, as well as Red Cross First Aid Certification. The rescue functions are performed by a rescue team consisting of 15 active members of the ambulance squad. These members receive special certification to perform these functions. The company's lending services involves the lending of

items such as wheelchairs and crutches. The transport services involves transporting Vernon residents to and from the hospital and home, or from one hospital to another hospital. The stand-by services include support services to the Fire Departments, Police Departments and the community on an as needed basis. The mutual aid services are extended to surrounding towns when needed.

The Glenwood-Pochuck Ambulance Squad

The Glenwood-Pochuck Ambulance Squad was established in 1980 and consists of 48 members. This squad serves the western section of the Township. The Glenwood-Pochuck Ambulance Corps provides four basic functions: first aid education, lending services, stand-by services and mutual aid. The first aid education includes cardio-pulmonary resuscitation (CPR) and Emergency Medical Technicians (EMT) training, as well as Red Cross First Aid Certification. The company's lending, stand-by and mutual aid services are similar to those provided by the Vernon Township Ambulance Squad.

Library

The Dorothy Henry Memorial Library is located on Route 94 in Vernon Township. This the Vernon Branch of Sussex County's library system. The County maintains a main library in Frankford Township as well as five branch libraries. The Vernon Branch serves Vernon, Wantage and Hardyston Townships as well as Hamburg Borough.

The library is located on a 4.5 acre tract in a building constructed in 1981. The library contains a circulation area, a staff work area, the reference desk and reading area, study carrels, micro film readers, an adult reading area, a children's section, a periodical reading room, and a community meeting room. The staff consists of six full-time and five part-time employees.

The library has 25,000 books, 80 periodicals, 200 audio tapes and 600 video tapes available for circulation. In addition, the library contains a variety of reference sources. The library also

provides services to the communities it serves, such as adult and children's programs and inter-library loans.

The library's three main needs. First and foremost, a building expansion and/or additional floor space is required as the library's services and collections continue to expand. The library also needs access to computerized information as well as a new computerized and automated Circulation System to replace the current library card catalogue and filing system. The latter should be a county-wide database instituted by the Sussex County Library system.

School Facilities

The Vernon Township Public School District employs 538 individuals and operates a grades K-12 education program. The program consists of six schools as shown in Table VII-1.

Table VII-1
VERNON TOWNSHIP PUBLIC SCHOOLS BY GRADE AND LOCATION:

1995

Vernon, New Jersey

<u>Name</u>	<u>Grades</u>	<u>Location</u>
Walnut Ridge Primary School	K-1	625 Route 517
Cedar Mountain Primary School	2-4	17 Sammis Road
Rolling Hills Primary School	2-4	60 Sammis Road
Glen Meadow Middle School	7-8	7 Sammis Road
Vernon Township High School	9-12	1834 Route 565
Lounsberry Hollow Middle School	5-6	30 Sammis Road

Source: Vernon Township Superintendent of Schools' Office.

At this time, the Vernon School District is not planning to construct another school. However, 1992 construction referendum approved the following additions:

1. Construction of six additional classrooms at Walnut Ridge Primary School.
2. Construction of six additional classrooms at Lounsberry Hollow Middle School.
3. Conversion of the metals and auto shop at the High School to three full-size classrooms.
4. Replacement of the High School's roof.

The above additions have been completed and are now being used. In addition, a September, 1993 addition at the High School resulted in the construction of two new classrooms and a training room for the athletic program.

The Vernon Township Public School District also maintains separate administrative offices on Route 515 and office space for the Department of Special Services on Route 94.

Enrollment History

Table VII-2 shows the enrollment history for the Vernon Township public schools from the 1991/1992 school year to the 1994/1995 school year. Table VII-3 shows the special education enrollment history. The enrollments have generally been increasing with the exception of the 1994-1995 special education classes which declined by 52 students from the 1993-1994 school year. Approximately half of this decline can be attributed to the absence of high school special education students in self-contained classrooms. There were, however, students who received special services such as the resource center and in-class support for classified students; these students are included in the public school enrollment data as they were not in self-contained classrooms.

Table VII-2
PUBLIC SCHOOL ENROLLMENT HISTORY, 1991-1995
Vernon Township, Sussex County, New Jersey

<u>Grade</u>	<u>1991- 1992</u>	<u>1992- 1993</u>	<u>1993- 1994</u>	<u>1994- 1995</u>
K	444	468	419	476
1	440	468	516	443
2	398	443	484	493
3	400	404	441	459
4	345	396	404	443
5	384	360	387	407
6	349	390	355	410
7	403	353	375	357
8	334	401	345	381
9	333	317	386	360
10	309	311	309	349
11	259	305	313	310
12	<u>291</u>	<u>238</u>	<u>281</u>	<u>292</u>
Totals	4,689	4,854	5,015	5,180

Source: Vernon Township Superintendent of Schools' Office.

Table VII-3
ENROLLMENT HISTORY: SPECIAL EDUCATION CLASSES, 1991-1995
Vernon Township Public Schools

<u>Grade</u>	<u>1991- 1992</u>	<u>1992- 1993</u>	<u>1993- 1994</u>	<u>1994- 1995</u>
K-4	119	122	129	109
5-8	62	76	86	83
High school (9-12)	<u>34</u>	<u>41</u>	<u>22</u>	<u>0</u>
Totals	215	239	244	192

Source: Vernon Township Superintendent of Schools' Office.

Enrollment Projections

The Vernon Township Board of Education has prepared a long range facility plan for Vernon, which includes enrollment projections for the Township. Table VII-4 details Vernon's projected enrollment by grade level for the years 1996-2000. The projected enrollment shows an increase of 364 school children over the next four years.

The enrollment projections are consistent with the 2000 population projection of 24,391 persons estimated in this Master Plan. There were 5,372 enrolled school children in the 1994-1995 school year as is indicated in Tables VII-2 and VII-3. This is approximately 23 percent of Sussex County's 1995 population projection of 23,100 persons for Vernon Township. Assuming that the percentage of the population comprised of school children remains at 23 percent for the year 1000, an estimated 5,610 students, out of a total estimated population of 24,391, would be enrolled in Vernon's public schools. The Superintendent of Schools is projecting a 1999-2000 enrollment of 5,632 students. Both figures are consistent.

The Superintendent of Schools has indicated that the increase in school children will not result in the need for a new school. Instead, the construction approved in the 1992 referendum will provide sufficient space for the next five years. In addition, the Board of Education has created a standing Housing Review Committee that continuously monitors enrollment trends and school capacities.

Table VII-4
ENROLLMENT PROJECTIONS, 1996- 2000

Vernon Township Public Schools										
Grade	1995-1996 *		1996-1997		1997-1998		1998-1999		1999-2000	
	Reg.	Spec. Ed.	Reg.	Spec. Ed.	Reg.	Spec. Ed.	Reg.	Spec. Ed.	Reg.	Spec. Ed.
K	483	0	439	0	442	0	401	0	444	0
1	466	0	493	0	448	0	451	0	409	0
2	398	0	458	0	484	0	440	0	443	0
3	425	0	394	0	453	0	479	0	435	0
4	416	0	425	0	394	0	453	0	479	0
5	419	0	420	0	429	0	398	0	457	0
6	388	0	422	0	423	0	432	0	401	0
7	410	0	402	0	437	0	438	0	447	0
8	362		413	0	405	0	440	0	441	0
9	376	0	356	0	406	0	399	0	433	0
10	330	0	354	0	335	0	382	0	376	0
11	337	0	324	0	348	0	329	0	376	0
12	<u>284</u>	<u>174</u>	<u>317</u>	<u>178</u>	<u>305</u>	<u>180</u>	<u>327</u>	<u>181</u>	<u>309</u>	<u>182</u>
Totals	5,094	174	5,217	178	5,309	180	5,369	181	5,450	182

Source: Vernon Township Superintendent of Schools' Office.

* Actual enrollments for the 1995-1996 school year were not available at the time of this writing.

Functional Capacity

The Vernon Township School District's total functional capacity is 5,700 students. This represents a 432 student surplus when compared to the projected 1995 enrollment of 5,268 students. Functional capacity of schools is based on a statistical formula and not on the required educational space needed at the specific grade levels. The functional capacity figure addresses the plumbing and ventilation needs of the school and not its curriculum and education needs. The functional capacity of Vernon's public schools is detailed in Table VII-5 .

Table VII-5

FUNCTIONAL CAPACITIES OF
VERNON PUBLIC SCHOOLS: 1995

<u>School</u>	<u>Functional Capacity</u>
Walnut Ridge Primary School	795
Rolling Hills Primary School	827
Cedar Mountain Primary School	814
Lounsberry Hollow Middle School	907
Glen Meadow Middle School	899
Vernon Township High School	1,458
Total	5,700

Source: Vernon Township Superintendent of Schools' Office.

Table VII-6 shows the projected school building needs through a comparison of capacities and projected enrollment. As shown in the table, there is a projected deficit in the Walnut Ridge School from the current school year through the 1999/2000 school year. The Superintendent indicated that this possible capacity problem at Walnut Ridge School is an ongoing concern of the Housing Review committee. The committee reviews this situation on an ongoing basis.

Table VII-6

PROJECTED SCHOOL BUILDING NEED

Vernon Township Public Schools

<u>School</u>	<u>1995 - 1996</u>			<u>1996 - 1997</u>			<u>1997 - 1998</u>			<u>1998 - 1999</u>			<u>1999 - 2000</u>		
	<u>Proj</u> <u>Enr</u>	<u>Surplus</u> <u>Cap</u>	<u>Deficit</u> <u>Deficit</u>	<u>Proj</u> <u>Enr</u>	<u>Surplus</u> <u>Cap</u>	<u>Deficit</u> <u>Deficit</u>	<u>Proj</u> <u>Enr</u>	<u>Surplus</u> <u>Cap</u>	<u>Deficit</u> <u>Deficit</u>	<u>Proj</u> <u>Enr</u>	<u>Surplus</u> <u>Cap</u>	<u>Deficit</u> <u>Deficit</u>	<u>Proj</u> <u>Enr</u>	<u>Surplus</u> <u>Cap</u>	<u>Deficit</u> <u>Deficit</u>
Vernon Twp High	1327	1458	131	1351	1458	107	1394	1458	64	1437	1458	21	1494	1458	-36
Cedar Mountain School	644	814	170	662	814	152	693	814	121	714	814	100	713	814	101
Glen Meadow	813	899	86	858	899	41	886	899	13	924	899	-25	935	899	-36
Lounsberry Hollow	851	907	56	888	907	19	898	907	9	876	907	31	905	907	2
Rolling Hills	644	827	183	665	827	162	691	827	136	712	827	115	717	827	110
Walnut Ridge	988	795	-193	971	795	-176	927	795	-132	888	795	-93	889	795	-94

Source: Vernon Township Superintendent of Schools' Office.

VIII. PARKS, RECREATION & OPEN SPACE

VIII. PARKS, OPEN SPACE & RECREATION PLAN

INTRODUCTION

Parks, open space and recreation facilities are important components of the quality of life within a community. Vernon Township has an abundance of open space areas which provide passive recreation opportunities to its residents. It is particularly important, however, to evaluate how the entire park and recreation inventory meets local demands for both passive and active recreation.

INVENTORY OF PARK & RECREATIONAL FACILITIES

Vernon contains approximately 11,967 acres of open space, parks and recreation areas. This includes national, state, and local parks and facilities. In total, these areas comprise approximately 27 percent of the Township. The locations of the existing park and recreation facilities are shown on Map VIII-1.

Approximately 11,861 acres of the Township's parkland are comprised of national and state owned parkland. These include 8,968 acres of Wawayanda State Park, approximately 903 acres of the Appalachian Trail, 1,579 acres of the Wallkill River Wildlife Refuge, and 411 acres of the Hamburg Mountain Wildlife Management Area. The Appalachian Trail, the Wallkill River Wildlife Refuge, and the Hamburg Mountain Wildlife Management Area will be discussed in greater detail in this element.

Township owned facilities comprise 106 acres, which is less than one percent of Vernon's total parkland. The Township parks include Veterans Memorial Park (67 acres), Old Orchard Park (11 acres), and Hunter Ridge (28 acres). Hunter Ridge is undeveloped parkland. Table VIII-1 provides a summary of Township owned parkland.

Table VIII-1
TOWNSHIP PARK FACILITIES
Vernon Township

<u>Park Name</u>	<u>Location</u>	<u>Acreage</u>	<u>Passive/Active</u>
Veterans Memorial Park	Vernon Crossing Rd.	67	Active
Old Orchard Park	Route 565	11	Active
Hunter Ridge	Route 565, near High School	28	Passive
Totals		106 acres	2 active; 1 passive

Source: Land Use & Community Facilities: Master Plan Report #3, prepared by Dorram Associates, Inc., 1993.

ACTIVE RECREATION

The Vernon Township Recreation Department provides a variety of recreation programs. Veterans Memorial Park contains two basketball courts, two baseball fields, one soccer field, one softball field, one football field, one pavillion/gazebo, one tot lot for pre-school aged children, and one playground equipped for use by handicapped children. Old Orchard Park contains the Little League fields and soccer fields.

The Township's private lake communities also have recreation areas available for their residents. This provides the residents of the lake communities with a wonderful amenity. However, these lands are not available to the remainder of Vernon's residents. In addition, they are not used for organized Township recreation activities such as Little League.

Township Recreation Needs

The Township is lacking in playing fields for soccer, baseball, and football. Ames Rubber, a business located on Vernon Crossing Road, provides playing fields for the soccer program. In

addition, the fields on the two developed parks are used as well as the fields at the public schools. A total of 13 fields are used at Vernon's five public schools. However, these playing areas are inadequate and cannot accommodate the large numbers of children who participate in the recreation programs. The fields are also limited in size and thus the type of sports that can be played on them is also limited. For example, one field at the Walnut Ridge School is small enough to be limited to "pee-wee" soccer. The field at the Rolling Hills School is also limited to "pee-wee" softball and baseball. Older children cannot play organized sports on these fields. Lastly, the public schools' fields are all one dimensional, meaning that they can be used for one sport at a time. For example, some of the soccer fields may be used for softball or baseball in the spring. However, the fields can accommodate one game at a time. A multi-dimensional field would allow two or more games to be played simultaneously. The Kittatinny High School has such a facility; six games can be played at the same facility at once.

The use of fields on Board of Education lands and on Ames Rubber property is not a long term, permanent solution. The Township needs to identify fields appropriate for active recreational use and move toward acquiring those lands. Specifically, the Township Recreation Board recommends that the Township obtain three or four new baseball fields, four or five soccer fields and two basketball fields. Some of these fields can be used for two sports, such as football in the fall and baseball in the spring. The Recreation Board also recommends that the fields have lights and adequate parking for spectators. A multi-dimensional facility is also recommended. Lastly, the board also recognizes that there are no active recreation facilities for the Township's senior citizens such as shuffleboard and tennis and has identified this as another of Vernon's recreation needs. Reviewing the community facilities map, it is notable that the southern and the western portions of the community are in need of recreational areas and facilities.

PASSIVE RECREATION

Open space areas are a source of passive recreational activities, including nature trails, jogging paths, and bicycle paths. The benefits of open space, however, extend far beyond its recreational

value. Open space protects resources, whether natural, cultural or historic, and provides visual relief in populated areas.

Vernon is fortunate to have the Wallkill National Wildlife Refuge, the Wawayanda State Park, 12 miles of the Appalachian Trail, and 411 acres of the Hamburg Mountain Wildlife Management Area within its borders. These parks provide open space opportunities for Vernon's residents and visitors.

Wallkill National Wildlife Refuge

The Wallkill River National Wildlife Refuge is located along nine miles of the Wallkill River in Sussex County, New Jersey and Orange County, New York. Currently, approximately 2,649 acres of the refuge have been acquired by the federal government. Approximately 60 percent (1,578 acres) of the acquired land is located in Vernon Township. A total of approximately 6,438 acres exist within the refuge's approved acquisition boundary which contains the maximum limits of acquisition for the refuge. Approximately 2,934 acres (46 percent) of this land is in Vernon Township.

The Wallkill River National Wildlife Refuge, which was established in 1990, is one of approximately 500 refuges in the National Wildlife Refuge system operated by the United States Fish and Wildlife System. The National Wildlife Refuge System is an almost 92 million acre land and water network which serves to protect wildlife and wildlife habitats and a secondary benefit in that it preserves environmentally sensitive lands. Refuges are located nationwide, as well as the Caribbean and South Pacific. They boast a diverse natural inventory and represent the most comprehensive wildlife management program worldwide.

The Wallkill Refuge is a considerable ecological resource. It surrounds two important migration paths for waterfowl traveling between eastern Canada and the Atlantic Coast, and the Delaware River and Hudson River corridors. Waterfowl traveling both routes often relax and feed in the Wallkill River's wetland network. In fact, the Wallkill River bottomland is one of the few, large areas of high quality waterfowl habitat remaining in northwestern New Jersey. It supports a

diverse range of species, including nineteen of the state's documented threatened and endangered species and five of New York's registered species. The refuge itself hosts over 225 different bird species, including 21 species of waterfowl, 32 species of water birds, 24 species of raptors, and 125 species of songbirds. The refuge is also home to many different mammals, including the cottontail rabbit, gray squirrel, raccoon, beaver, muskrat, red fox, gray fox, coyote, white-tailed deer, and the occasional black bear. Lastly, the river is also an exceptional warm water fishery for largemouth bass, pickerel, perch, sunfish, and bullheads. Most of the land within the Refuge delineation line consists of wetlands and flood plains.

The Hamburg Mountain Wildlife Management Area

The Hamburg Mountain Wildlife Management Area is located in both Hardyston and Vernon Townships. Approximately 83 percent of this 2,442 acre wildlife management area is in Hardyston; only 411 acres are located in Vernon Township.

The New Jersey State Division of Fish, Game and Wildlife administers and maintains the approximately 210,000 acres contained in the 86 wildlife management areas located throughout the state. The wildlife management areas offer wildlife oriented recreation. This includes various low intensity uses, such as hunting, fishing, hiking, cross-country skiing and bird-watching.

The main wildlife habitats found in the Hamburg Mountain Wildlife Management Area are deer and upland game, such as squirrels and grouse. The Hamburg Mountain Wildlife Management Area basically maintains itself. The State Division of Fish, Game and Wildlife provides signs which indicate the wildlife management area's boundaries, maintains the parking area, and collects the garbage generated on-site. The tract is mountainous and forested; unfortunately, the rough terrain limits access to and parking at the management area.

The Appalachian Trail

The Appalachian National Scenic Trail is a 2,144 mile continuously marked footpath that extends from Maine to Georgia. The Appalachian Trail (the "Trail") traverses the crest of the

Appalachian mountain range to form a linear park. The Trail crosses 14 states, including New Jersey, which contains seventy Trail miles. Vernon Township contains seventeen percent, or 12 miles, of New Jersey's section of the Trail. Visitors traveling along the Vernon section of the Trail are exposed to a variety of natural wonders ranging from waterfalls and streams to black bears.

The Trail is the largest recreational resource in the country that the federal government does not supervise; volunteers maintain it nationwide. In 1984, the United States Department of the Interior, National Park Service, declared the Appalachian Trail Conference responsible for managing those portions of the Trail and its corridor lands which are outside official park and forest areas. The Conference is a nonprofit volunteer organization which was established in 1925. The Appalachian Trail Conference subsequently delegated the day-to-day maintenance and development of New Jersey's 70 miles of the Trail to the New York - New Jersey Trail Conference. The New York - New Jersey Trail Conference is another nonprofit organization, which was founded in 1920.

Trail History

Volunteers completed the first continuous Appalachian Trail in 1937. Unfortunately, the Trail's quality declined in the following years due to hurricane damage and lack of public attention. However, public interest in the Trail soon peaked again, and the entire Trail was relocated, opened and marked for all to enjoy by 1951. In 1968 Congress adopted the National Trails System Act which officially established the Appalachian Trail as a linear national park. The legislation also authorized funds to purchase the land surrounding the Trail in an effort to buffer the Trail from conflicting land uses.

Ten years later the Appalachian Trail Amendment was signed into law which required that a corridor of land to act as buffer for the Trail be established. The amendment authorized ninety million dollars for the purchase of the corridor. Subsequent to the adoption of the amendment, the State of New Jersey utilized Green Acres funds to purchase a land corridor for the Trail's permanent location.

The Corridor

The National Park Service established a 1,000 foot wide corridor standard to insulate and protect the Appalachian Trail and its environs from nearby non-wilderness uses. The National Park Service has been acquiring supplemental property in critical areas as a protection program. Still, in many places where the National Park Service has acquired corridor lands, existing land uses prevent the achievement of a the 1,000 foot wide corridor.

Fortunately, the State of New Jersey owns the full 12 mile length of the Trail located in Vernon Township thereby guaranteeing it will remain a permanent public open space. One of Vernon's current challenges is the need for further buffering of the Trail, which will insulate its wilderness character from adjacent developments. Local planning can help achieve additional protection for this national resource in Vernon Township; examples of these planning techniques are discussed at the end of this section.

RECREATION STANDARDS

The Wallkill River National Wildlife Refuge, Appalachian Trail, the Hamburg Mountain Wildlife Management Area and the Wawayanda State Park provide Vernon's residents with over 11,000 acres of passive recreation. This is sufficient for a Township with a population of 21,211 individuals.

However, Vernon does not have adequate local park facilities, which are especially needed to serve the recreation demands of the existing population. The National Recreation and Parks Association (NRPA) suggests that a park system consist of at least 6.25 to 10.5 acres of "close-to-home" developed parkland per 1,000 people. Based on a 1990 population of 21,211, this places the range of minimum parkland for Vernon Township at between 132.6 and 222.7 acres. Vernon's 78 acres of developed parkland is 54.6 acres less than the minimum recommended amount.

Other NRPA recommendations include the following.

1. One and one-half acres of tot lots and playgrounds per 1,000 residents. These facilities are primarily used by preschool age children and younger children and have a minimum recommended size of 4,000 square feet with a service radius of one-eighth of a mile. Based on a 1990 Census population of 21,211 persons, Vernon would need approximately 32 acres of these types of facilities.
2. One acre of neighborhood parks and playgrounds per 1,000 population. Based on a 1990 Census population of 21,211 individuals, Vernon would need approximately 21 acres of these facilities.
3. Five acres of neighborhood and community parks per 1,000 residents. These facilities serve all age groups. Based on its 1990 Census population, Vernon needs approximately 106 acres of these facilities.
4. One and one-half acres of playfields per 1,000 residents. As with the tot lots and playgrounds, Vernon should have approximately 32 acres of these facilities.

Regardless of whether Vernon's facilities fall within the NRPA's minimum standards, the true measure for a park system's adequacy is community satisfaction. The NRPA standards only reflect the number of facilities, ignoring the location of the parks and the quality of the parks in terms of apparatus, design, access and other important factors. As has been explained, the Township Recreation Board considers Vernon to have a deficit of recreational space.

Proposed Parks And Recreation Facilities

The lack of "close to home" park facilities and active recreation facilities signifies the need for a greater variety of recreational resources in Vernon. In addition, new residential and commercial development will increase the demand for recreational facilities. The following actions are recommended to increase the quality and availability of parks and recreation facilities:

1. New residential development are an appropriate place to employ subdivision techniques which will create open space and parks. Developers of residential subdivisions should be encouraged to utilize development techniques which could result in the creation of open space that is easily accessible to the residents of the development. Methods for obtaining these open space areas are discussed below.
2. Developers of industrial parks and other nonresidential uses that employ a large number of people should be encouraged to provide recreational facilities or open space, such as walking or bicycle trails which connect to other open space/recreational facilities.

Proposed Open Space Areas

Vernon's residents are fortunate to have four large open space systems within their Township. These open spaces provide recreational opportunities for Vernon's residents as well as providing a resource which can be used to promote eco-tourism. However, the Township could also benefit from an internal open space network, such as a local greenway system. Such a system would consist of walking or bicycle trails which would connect residential areas with open space and recreational facilities, such as the Wallkill National Wildlife Refuge. The proposed greenway system could appear on the Township's official base map as a guide for developers who are donating land as part of the development process.

A variety of techniques to acquire these open space areas as well as to supplement the Appalachian Trail Corridor and to obtain land within the Wallkill National Wildlife Refuge are recommended. These are as follows.

Easements

Easements provide an economic approach to open space acquisition. They cost less than direct purchase and are advantageous to landowners since the land is still owned and may be used by them. Several types of easements are proposed to preserve open space. A scenic easement limits development to preserve a view or scenic area. Scenic easements may be used to protect important scenic views, such as along the Appalachian Trail. The conservation map indicates the

areas of the Appalachian Trail that should have additional land as buffer areas. These easements could connect to other open space or recreational facilities to create a greenway park system throughout the Township. A conservation easement precludes the additional development of an area in order to preserve existing natural conditions.

Conservation easements are appropriate to preserve the land along Vernon's stream corridors and to create the greenway park system. Vernon's current Zoning Ordinance requires that buildings be set back at least 50 feet from the edge of any pond or lake. This section could be updated with more stringent requirements. For example, Vernon could require that the 200 foot area from the center line of all stream corridors to be preserved. Another option is to require that the 75 feet from the edge of a stream or other water body be preserved.

Cluster Subdivision Ordinance

Vernon currently has a cluster subdivision ordinance which allows a modest reduction in the minimum lot size permitted in the zone district and thereby creates an area to be used for open space purposes. The open space is either dedicated to the Township or owned by a neighborhood association. The cluster subdivision ordinance does not involve a density bonus; the number of units produced under a cluster subdivision is the same as if the development were constructed as a conventional subdivision. The ordinance requires a minimum tract size of 20 acres for a cluster subdivision and a minimum open space requirement of 20 percent of the total tract size.

The cluster subdivision provides many benefits. First, a new open space area is created. This tract is easily accessible to the residents of the development from which the land originated. Second, the infrastructure costs and maintenance is lower in a cluster subdivision as the dwelling units are "clustered" close together thereby reducing the development's sprawl effect. Lastly, the open space preservation not only ensures an open space tract for Vernon but also provides environmental benefits as less of the land in the development is disturbed therefore it produces less impervious coverage, run-off and other negative polluting effects.

There are ways to update Vernon's cluster subdivision ordinance to provide the Township with different types of open space tracts. For example, the Township could increase the amount of land to be reserved for open space within a subdivision. Under the current regulations, a 20 acre tract would yield 4 acres of open space. The Planning Board should instead consider an open space yield of 25 percent.

Another possible revision to the ordinance pertains to the type of land which is donated to the Township or a neighborhood association. Specifically, the ordinance could restrict the percentage of open space that contains a detention basin or severe environmental constraints. Such lands could be the minority of the open space land while the majority could be open space suitable for active recreation.

IX. CONSERVATION PLAN

IX. CONSERVATION PLAN

INTRODUCTION

Vernon Township contains an abundance of environmental characteristics that should be protected or given strong consideration during the development process. Its quality of life and unique character are greatly enhanced by its natural resources. The Township has 1,579 acres of the Wallkill National Wildlife Refuge and twelve miles of the Appalachian Trail within its borders. In addition, Vernon's open fields, wooded areas, agricultural lands, and scenic views offer the Township's residents and visitors an undisturbed natural presence within the Township's built environment. Preservation of Vernon's natural assets is one of the primary goals of this Plan.

CONSERVATION PLAN

A brief inventory of the Township's natural resources is provided, followed by specific recommendations to implement the Conservation Plan. Sources of information include the Vernon Township Natural Resources Inventory, the draft Conservation Element prepared by the Township Environmental Commission, the Sussex County Planning Department and the New Jersey Department of Environmental Protection Wetland Regulations. The major natural resources of the Conservation Plan are shown on Map IX-1.

Topography

Topography describes the surface elevations of a place. Vernon's topography is characterized by three topographic types: valley floors, ridges, and plateaus. Valley floors have an elevation of approximately 400 feet. Vernon Valley is the Township's foremost valley, running basically north to south through the Township's center along the Black Creek. Vernon's other major valley is the Wallkill River Valley. The Wallkill River, which is also the Township's western boundary, is the center of this valley. Ridges are long and narrow strips of land that are at a constant elevation, and plateaus are land areas which are elevated above the adjacent land. The

Wawayanda Mountains create the ridge and plateau areas east of Vernon Valley; the Pochung Mountains create similar features in the western portion of the Township.

Vernon's variety of topographic characteristics create an aesthetic beauty distinct to the Township. Some believe that hilly terrain is a more pleasant and attractive living environment than a flat area. Unfortunately, sloping terrain limits land use. It is advisable to make the proper match between land use and slope to avoid costly damage to the environment or to structures and utilities. Detailed knowledge of the soil, bedrock, and drainage, as well as the degree of slope are all factors that should be considered during the subdivision review process. The most severe slope areas have been mapped and included in this element. Their development should be limited by the use of cluster subdivision development.

Vernon Township currently has a critical areas ordinance which excludes environmentally sensitive areas, such as flood hazard areas and steep slopes, from lot and floor plan calculations. However, critical area ordinances similar to Vernon's have been ruled invalid. In response, many New Jersey municipalities have adopted steep slope ordinances that comply with the Manalapan decision. Vernon Township should adopt such an ordinance. A detailed mapping of the Township's slope areas has been completed, which will aid this effort.

Soils

Soil characteristics determine the development suitability and potential land uses. Soil characteristics include slopes, depth to bedrock, depth to seasonal high water and building site development limitations. Major development constraints include soils with a shallow depth to water table and soils severely restricted for septic systems. Vernon Township has a wide variety of soil types all of which are listed in the Township's Natural Resources Inventory.

Soil mining has been, and remains, a prevailing activity which affects the Township's soil quality. Sand, gravel, humus and clay are the main mining products. The Township's clay resources demand special attention and management. The Township's Environmental

Commission recommends that the site plan ordinance be amended to encourage the reclamation of soil mining sites. The Commission also recommends the adoption of an ordinance which regulates clay mining operations in the Township.

Prime Agricultural Land / Farming

The United States Department of Agriculture defines prime farmland as land that is best suited to producing food, feed, forage, fiber, and oilseed crops. Prime farmland produces the highest yield while requiring minimal amounts of fertilizers.

Vernon Township has a long history of farmland operations. Agricultural uses still comprise approximately 5,708 acres or 13 percent of Vernon Township's total land area. The majority of the agricultural land is located in the Vernon Valley floor area, north of the central business district near Route 94. According to data provided by the Township's farming community, the 15 largest of Vernon's active farms produce \$4.4 million of agricultural products annually.

Preservation of the Township's farmland should be a priority. Vernon Township recently began participating in the County's farmland preservation program. Four landowners applied to the Sussex County Agriculture Development Board (SCADB) for evaluation for 1996 funding. The Board selected one of these four to proceed. If this venture is successful, it could be the beginning of a new preservation movement in Vernon. The State makes the final decision on funding for farmland preservation. Several factors are used by the State when ranking farms for funding priority. These include, but are not limited to, soil type, tillable acreage, buffers and boundaries, size of the site, local commitment and adjoining land uses.

Other owners of agricultural properties in Vernon should be encouraged to participate in Sussex County's Farmland Preservation program as it has great potential. Currently, 626 acres of farmland in Sussex County are permanently preserved within the Farmland Preservation Program. The bulk of this land (505 acres) is in Wantage Township, and the remaining 121 acres

are located in Green and Andover Townships. In addition, a 330 acre application in Wantage Township has been approved but a closing has not yet occurred.

The Farmland Preservation Program provides four preservation options to owners of agricultural land. The most popular of the four options is the Easement Purchase Program. This program allows a landowner to voluntarily agree to sell his or her development rights. A permanent deed restriction is placed on the property, which ensures that the property will only be used for agricultural purposes. Property owners of land that is permanently deed restricted continue to pay property taxes. The state, county, and in many instances, the municipality, share the cost of purchasing the easement. Municipalities in Sussex County do not contribute towards purchasing the easement.

The Eight Year Municipally Approved Farmland Preservation Program (MAFPP) and the Eight Year Farmland Preservation Programs are the second and third programs. Property owners accepted into these programs are required to keep their farms in active agriculture for eight years. In return, they may apply for farm management benefits, such as a 50 percent cost sharing on conservation projects approved by the New Jersey Soil Conservation Committee. The land owner may reapply to the program after the initial eight years has expired. Both of these programs provide the property owner with greater protection from eminent domain takings as well as additional "right to farm" protection in situations involving conflicts between farmland and adjacent conflicting land uses. The fundamental difference between these two programs is that the MAFPP requires a municipal ordinance endorsing the landowners enrollment in the program.

The fourth program is the Fee Simple Purchase, in which the farm is sold outright to the state. The state then places permanent deed restrictions on the property to prevent future non-agricultural development. The property is then resold. This is the least frequently used option within the state's Farmland Preservation Program.

The Sussex County Farmland Preservation Program creates an opportunity for Vernon Township and its residents. The Township should encourage more landowners to participate and, perhaps, assist them with the process.

The Township should also recognize the many positive benefits that agricultural activity provides to the Township. They foster Vernon's rural character and provide the town with a different form of open space. Farms are aesthetically pleasing and provide scenic vistas which enhance the Township's charm.

Scenic Vistas

The scenic vistas in Vernon Township are unique and in part establish the rural image and character of the Township. Preservation of the Township's farmland and wooded areas is necessary to maintain these important views.

A scenic vista is a visual panoramic experience from a public area which helps maintain the image of a community by protecting its visual and aesthetic characteristics. Scenic vistas generally include areas with characteristics of community importance such as mature woodlands, historic or cultural resource landmarks or landscapes, unique topographic features, long views and panoramic vistas of a natural or built environment. Vernon's important vistas include its many acres of farmland and the tree line along the Wawayanda and Pochuck Mountains. The Master Plan proposes to preserve these scenic vistas by encouraging easement purchases and cluster and lot averaging development.

Vernon's Zoning Ordinance should be updated to encourage, or in some cases, require these techniques in an effort to maintain the Township's important rural views. The updates should include diagrams of proposed developments to clearly demonstrate the Ordinance's intention. Another possible amendment to the Zoning Ordinance includes increasing the setback requirements for developments on farmland so that the construction occurs farther back from the road, thus leaving the rural view readily visible. Lastly, tree clearing along the ridge line should

be limited so that this tree line, which is one of the Township's most impressive rural views, remains intact. It is recommended that the Township adopt a ridge protection ordinance which would achieve the objectives outlined herein.

Wetlands

A significant amount of the land in Vernon Township contains wetlands. Wetlands are described as land area containing three characteristics: the presence of usually shallow water on the land surface all or part of the year; the presence of distinctive soils which often have a high organic content and are clearly different from upland soils; the presence of vegetation composed of species adapted to wet soils, surface water, and/or flooding.

Wetlands are an important aspect of the hydrologic characteristics of the Township and serve several purposes. They act as a retention basin for floodwaters and prevent various types of water pollution. They support wildlife and distinct plant life species. They also have extreme water recharge potential. In New Jersey, the Department of Environmental Protection regulates wetlands and has mapped their location. The New Jersey Wetlands Protection Act distinguishes three types of wetlands: exceptional value, intermediate value, and ordinary value. Depending on the resource value of the wetland, buffers of 50 to 150 feet are required.

Vernon Township is characterized by a number of wetland areas, identified in the Palustrine Lake (lacustrine), and river (riverine) ecological systems. A major wetland area, locally known as the Vernon Flats, is located within the Black Creek basin. This is an area where the natural resources limit the development potential. The Township may wish to examine the zoning regulations for this area to determine if they are appropriate based on the wetlands in the area.

Flood Plains

Flood plains are low, flat areas located on the sides of a stream channel. They are prone to frequent flooding. Flood plains typically contain either hydric soils (wetlands) or soils with a high water table. Development in flood plains should be limited because of the potential for

flood damage. The master plan delineates flood plains as mapped by the Federal Emergency Management Agency (FEMA).

Water - Surface & Ground Resources

Surface and groundwater resources are a function of geology and topography. Vernon is equally divided between the Highlands Province and the Ridge and Valley Province. The Black Creek Valley provides a rough boundary between these entities. The portion of Vernon in the Highlands Province is comprised of upland ridges and narrow, steep-walled valleys while the Valley and Ridge Province is characterized by gently sloping ridges and wide valleys.

Surface Water Management/ Drainage

Vernon Township is occupied by portions of four watersheds. Theoretically, under natural conditions, a portion of the precipitation which falls in a watershed is eventually routed either as an overland flow or subsurface flow to the surface water bodies which drain the area. The portion of precipitation which does not get routed to the drainage surface water bodies is transferred back to the atmosphere by evaporation.

Surface streams and rivers within the northeastern United States, including Vernon Township, are sites of groundwater recharge. The surface water bodies occupy low points in the land surface and are kept flowing by discharging groundwater and precipitation. Groundwater flows from higher recharge zones, such as Hamburg and the Pochuck Mountains, into lower discharge zones, such as the Wallkill River and the Black Creek. Wetlands and lakes which are also located in lower areas may either be discharge zones or act as flow-through zones in which the wetlands or lake water surface is simply a window into the actual groundwater table surface.

Watershed management is an important aspect of land use planning. Activities which artificially transfer groundwater and surface water from one watershed to another should not be conducted without adequate study of the impacts of such transfers. Proposed development within Vernon should be viewed within the context of the particular watershed where the project is located, the

quality of the receiving waters, and the impact the project would have on downstream property owners and recreation facilities, such as the lake communities.

Vernon Township should monitor development to protect the Flats area and the Wallkill Valley Wildlife Refuge. In addition, the use of Stormwater Quality Detention Facilities and utilization of natural drainage patterns whenever appropriate which would reduce potential non-point source pollution into the surface water bodies, including the lake communities, can be utilized to enhance environmental protection within the Township. Consideration should be given to the utilization of non-structural methods of drainage control such as infiltration trenches and sedimentation basins during construction activities.

Surface Water Supply

Highland Lakes and Lake Wallkill are the Township surface water bodies which provide a water supply for public consumption. Captured precipitation and run-off are the sources of this water. The water supplies from Highland Lakes and Lake Wallkill are reported seasonally and provide approximately 42,900 and 36,300 gallons per day, respectively.

Groundwater Supply

Aquifers are geological formations that contain significant quantities of saturated permeable materials and yield water to wells and springs. Aquifer recharge areas are porous soil or rock formations where water can percolate from the surface into the aquifer as shown on Map IX-2. Protection of aquifer recharge areas assures that the aquifer can continue to yield adequate quantities of water and remain free of contamination.

Any changes in the surface environment, especially those involving land use activity, affect groundwater in some way. In Vernon, groundwater exists in aquifers composed of unconsolidated stratified glacial materials (the Vernon Valley Aquifer) and fractured Precambrian crystalline gneiss (upland regions) and carbonate (low lying valley floors) bedrock. Kame deposits, which also occur in Vernon, are glacial materials and are a less common type of

unconsolidated aquifer characterized by material of coarse sand and gravel suitable for mining. These deposits occur on mountain flanks and act as rapid groundwater recharge zones.

Bedrock aquifers in Vernon can be subdivided into the fractured crystalline and carbonate bedrock aquifers. Groundwater storage and movement in bedrock aquifers are controlled by the occurrence of fractures. Fractures in the crystalline bedrock, which occupies the upland areas, are typically smaller than fractures in the more soluble carbonate bedrock that is typically located on the valley floors. In general, the stratified glacial and carbonate bedrock aquifers are capable of yielding more water, and are more susceptible to contamination than the fractured crystalline aquifer.

The Vernon Valley aquifer is the Township's single source of water. It was declared a sole source aquifer because of its sensitivity to groundwater contamination. The Hamburg, Wawayanda, and Pochuck Mountains are the aquifer recharge zones where rainfall replenishes the groundwater. Based on these sensitive environmental characteristics, the development potential of the Vernon Valley aquifer and its recharge zones should be examined. Special care must be exercised with regard to land use policy and development to avoid contamination of the groundwater supplies upon which the Township depends. Open space maintenance, cluster development and low density zoning are land use policies which could be implemented to protect aquifer recharge areas. In addition, since many areas of Vernon contain soils which pose constraints to septic tank development, it is important that zoning be sufficient to mitigate potential contamination from leakage, as well as from other impacts of development such as surface runoff, pesticides, etc. High density uses or industrial uses should ideally be served by utility systems.

Another method of protecting surface water from pollutants is to require conservation easements along stream corridors. This recommendation is discussed further in the Open Space Element as a method of establishing a greenway system in the Township.

Woodlands & Trees

Woodlands serve many beneficial purposes, including shelter and habitat for wildlife and soil stabilization. In addition, woodlands, vegetation, and trees are necessary to prevent both noise and air pollution as well as prohibiting the pollution of wetlands, streams and rivers from erosion runoff. Vernon Township is comprised of a variety of natural vegetation habits. The mesic upland forest, which is primarily located in the Newark Watershed region, the Wallkill Valley and the Pochuck Mountains, covers the majority of the Township. Removal of the Township's forested areas could result in severe vegetation loss and soil erosion.

The Township Environmental Commission proposed the following recommendations to preserve and protect woodland and forestry resources in the Township.

1. The Township's critical area ordinance needs to be modified. The amended ordinance should limit disturbance on steep slopes. Unmonitored development and subsequent loss of the forests will produce rapid stormwater runoff and severe erosion along with habitat loss. The preservation of the vegetation holding the thin soil cover on the steep slopes is also vital to prevent soil erosion. Special consideration must be used in the commercial/recreation zones where campsites and other recreational activities can negatively impact vegetation and cause severe stormwater runoff.
2. The Township could adopt a Woodland Protection Ordinance which would strictly limit tree removal in residential subdivisions and prohibit significant tree removal without appropriate Township approvals. The Landscaping and Buffers section of Vernon's current Land Use Ordinance provides basic regulations for landscaping on site plan and subdivision developments. However, the regulations are vague and imprecise. For example, the tree planting requirements are only for the open space areas; there are no requirements for subdivisions constructed on farmland or other unforested areas. Developers of such subdivisions should be required to plant trees natural to the area as part of the required landscaping. In addition, the ordinance states that efforts should be made to preserve existing

vegetation and trees. However, developers are not required to preserve a certain percentage of a wooded area.

3. Tree planting along the sides of roads should be encouraged as such enhancements strengthen the Township's rural character. Street trees should be required in all new residential developments at a minimum of 30 - 35 feet from the center of the road. It is recommended that the roadside trees be deciduous hardwoods and meet specific criteria: these trees be cast moderate to dense shade in the summer, be long lived and tolerant of heat and pollution, require little maintenance, not require irrigation for at least two years after establishment, and be of native origin.
4. Tree cutting along roadways should be limited to preserve the wooded view from the roadway unless a traffic safety issue is involved. Tree clearing for utility installations should be kept to a minimum. A maximum clearing width of 10 feet from utilities is recommended and can be implemented through modification of the existing site plan and subdivision ordinances.

Wildlife

Vernon's forest and wetland areas provide a vast range of habitats, which, in turn, promote excellent living conditions for an abundance of wildlife, including rare and threatened or endangered species. Rapid growth of adjacent areas and deterioration of the forest and wetland areas will impact the forest, wetlands and water and hence the balance of the wildlife.

Vernon is also home to resident and migrating birds. The Township's many acres of open fields, including agricultural lands, wetlands, and woodlands encourage a resident bird population. Farm fields and the edges of field shrub habitats provide excellent feeding and breeding areas. Vernon Township also plays a key role in the migration route linking North America to wintering areas of South America. The Wallkill Refuge is a sanctuary for migrating birds as well as endangered and threatened species. The Refuge is discussed in greater detail in the Open Space and Recreation Element.

It is recommended that development applications before the Township Planning Board or Zoning Board of Adjustment provide Natural Heritage data in the Environmental Impact Statement (EIS) on the presence or proximity of rare, threatened and endangered species. The Board members should carefully consider the consequences of waiving the EIS requirement during the review process. In addition, as part of the zoning revision to implement the Master Plan, the EIS requirements should also be reexamined and strengthened where necessary. Where appropriate, specific information should be requested from the New Jersey Department of Environmental Protection and the United States Fish and Wildlife Service .

X. ECONOMIC PLAN

X. ECONOMIC PLAN

INTRODUCTION

The purpose of the Economic Plan element is to evaluate the economic stability of a community and determine job and/or industry deficiencies. In order to provide a comprehensive view of the present and future economic development of Vernon Township, county-wide and township-wide economic trends are analyzed. Specifically, employment categories and occupational characteristics were reviewed and commuting patterns are discussed. Future employment projections are also presented. A brief review of current tax revenues is also discussed.

EMPLOYMENT TRENDS AND LABOR FORCE

Vernon Township's labor force commutes to employment centers in Sussex and Morris County and beyond. While the labor force in 1990 consisted of 11,055 persons, the private sector covered employment in the Township consisted of 2,189 jobs. Since 1980, there had been modest growth in this sector with a 284 job increase or 15 percent gain. Further employment growth, therefore, is dependent to a large extent on new job formation in Sussex, Passaic and Morris counties, and other employment centers.

Commuting Patterns

In order to determine future employment sources for the Township labor force, the employment commuting patterns of Sussex County were analyzed. The data indicates that of the total Sussex County labor force 27,667 commuted within Sussex County, 18,619 commuted to Morris County, 4,149 to Essex County and 3,927 to Bergen County.

A review was also undertaken of the Vernon Township workers 16 years and over residing in Vernon but working outside the home by workplace and destination by County. This data was provided by the New Jersey Department of Transportation and indicated the following totals for counties or other political jurisdiction. Within each county the places receiving a number of

employees from Vernon has also been shown. The total labor force commuting from Vernon Township was 10,070.

Table X-1

COMMUTING PATTERNS OF
VERNON TOWNSHIP LABOR FORCE

<u>County or Political Jurisdiction</u>	<u>Number of Employees From Vernon Township</u>
<i>Bergen County</i>	<i>1,443</i>
Mahwah	83
Montvale	77
Paramus	87
Ramsey	83
Teaneck	87
<i>Essex County</i>	<i>679</i>
Fairfield	142
Newark	133
<i>Hudson County</i>	<i>159</i>
Jersey City	83
<i>Morris County</i>	<i>1,428</i>
Butler	68
Dover	73
Hanover	81
Jefferson	136
Lincoln Park	70
Morristown	77
Parsippany-Troy Hills	215
Riverdale	71
<i>Passaic County</i>	<i>1,524</i>
Bloomingtondale	80
Clifton	110
Paterson	107
Totowa	122
Wayne	539
West Milford	219

<u>County or Political Jurisdiction</u>	<u>Number of Employees From Vernon Township</u>
<i>Sussex County</i>	<i>3,770</i>
Branchville	101
Byram	161
Franklin	281
Hamburg	231
Hardyston	102
Newton	168
Sussex	603
Vernon	1,755
Wantage	82
 New York State	 756
Manhattan	333
Warwick	141
Wallkill	23

It is apparent from Table X-1 that the sources of employment for the Vernon Township workforce are well distributed although Sussex, Passaic, Morris and Bergen counties have the more significant commuter share. Excluding Manhattan and vicinity commuters, about 350 persons from Vernon Township commuted to places of employment in southern New York State.

Sussex, Passaic And Morris Counties Employment Projections

The employment projections for the three Counties are provided in Table X-2. The State Department of Labor projects an annual employment growth rate of 1.5 percent from 1990 to 2005 for Sussex County and 1.2 percent for this period for Morris County.

Table X-2

SUSSEX COUNTY¹ INDUSTRY EMPLOYMENT PROJECTIONS
BY MAJOR INDUSTRY SECTOR, 1990-2005

SIC	Industry	Employment				Change: 1990-2005		
		1990	Percent	2005	Percent	Number	Total	Annual
	Total Non-Agricultural	31,800	100	39,500	100	7,700	24.3	1.5
10-14	Mining	300	1.0	300	0.8	0	-2.9	-0.2
15-17	Construction	1,700	5.3	1,900	4.8	200	12.5	0.8
20-39	Total Manufacturing	3,100	9.8	2,800	7.1	(300)	-10.5	-0.7
	Nondurable Manufacturing	2,100	6.6	1,900	4.7	(200)	-11	-0.8
	Durable Manufacturing	1,000	3.2	900	2.4	(100)	-9.6	-0.7
40-49	Transport, Comm., Utilities	1,500	4.7	1,800	4.5	300	18.3	1.1
50-59	Trade	7,500	23.6	9,300	23.6	1,900	24.7	1.5
50-51	Wholesale Trade	1,000	3.1	1,400	3.4	400	35.7	2.1
52-59	Retail Trade	6,500	20.4	8,000	20.2	1,500	23	1.4
60-67	Finance, Insurance & Real Estate	2,300	7.3	3,100	7.8	800	33.3	1.9
70-89	Services	8,500	26.8	12,800	32.3	4,300	49.9	2.7
91-93	Government, Except Education	2,500	7.8	2,500	6.4	100	2.9	0.2
	Education, Public & Private	4,400	13.7	5,000	12.6	600	14.3	0.9

¹ Source: New Jersey Department of Labor, Division of Labor Market and Demographic Research
Projections 2005 Volume I Industry and Employment
Projections for New Jersey: Year 2005, September 1994

Table X-3

**MORRIS COUNTY¹ INDUSTRY EMPLOYMENT PROJECTIONS
BY MAJOR INDUSTRY SECTOR, 1990-2005**

SIC	Industry	Employment				Change: 1990-2005		
		1990	Percent	2005	Percent	Number	Total	Annual
	Total Non-Agricultural	249,200	100	298,000	100	48,900	19.6	1.2
10-14	Mining	400	0.2	400	0.1	0	-8.9	-0.6
15-17	Construction	9,400	3.8	10,800	3.6	1,400	14.8	0.9
20-39	Total Manufacturing	43,500	17.4	40,500	13.6	(2900)	-6.8	-0.5
	Nondurable Manufacturing	24,100	9.7	24,900	8.4	800	3.4	0.2
	Durable Manufacturing	19,400	7.8	15,600	5.2	(3800)	-19.4	-1.4
40-49	Transport, Comm., Utilities	20,300	8.2	24,900	8.4	4,600	22.5	1.4
50-59	Trade	50,800	20.4	63,900	21.5	13,200	25.9	1.5
50-51	Wholesale Trade	15,400	6.2	24,000	8.1	8,600	56.1	3
52-59	Retail Trade	35,400	14.2	39,900	13.4	4,500	12.8	0.8
60-67	Finance, Insurance & Real Estate	24,300	9.8	31,600	10.6	7,300	30	1.8
70-89	Services	65,700	26.4	90,500	30.4	24,800	37.7	2.2
91-93	Government, Except Education	17,500	7	16,800	5.6	(700)	-3.8	-0.3
	Education, Public & Private	17,300	6.9	18,600	6.2	1,300	7.6	0.5

¹ Source: New Jersey Department of Labor, Division of Labor Market and Demographic Research
Projections 2005 Volume I Industry and Employment
Projections for New Jersey: Year 2005, September 1994

The top five Sussex, Passaic and Morris County Industries in terms of employment by the year 2005 are expected to be wholesale trade; services; finance, insurance, real estate; transportation, County utilities. The biggest declines are expected in the manufacturing segment. This is similar for Passaic County which received the second largest share of Vernon Township commuters, as shown in Table X-4.

Table X-4

PASSAIC COUNTY
INDUSTRY EMPLOYMENT PROJECTIONS
BY MAJOR INDUSTRY SECTION, 1990-2005

SIC	Industry	Employment				Change: 1990-2005		
		1990	Percent	2005	Percent	Number	Percent	
							Total	Annual
	Total Non-Agricultural	195,400	100	207,600	100	12,300	6.3	0.4
10-14	Mining	-	-	-	-	-	-	-
15-17	Construction	8,100	4.2	8,600	4.1	500	5.6	0.4
20-39	Total Manufacturing	52,100	26.6	43,100	20.8	(9,000)	-17.2	-1.3
	Nondurable Manufacturing	30,000	15.4	23,900	11.5	(6,200)	-20.5	-1.5
	Durable Manufacturing	22,000	11.3	19,200	9.3	(2,800)	-12.7	-0.9
40-49	Transport, Comm., Utilities	6,500	3.3	6,600	3.2	0	0.4	0
50-59	Trade	47,500	24.3	53,800	25.9	6,300	13.3	0.8
	Wholesale Trade	15,000	7.7	17,500	8.4	2,400	16.1	1
	Retail Trade	32,500	16.6	36,300	17.5	3,900	12	0.8
60-67	Finance, Insurance & Real Estate	10,600	5.4	11,100	5.4	500	4.8	0.3
70-89	Services	43,900	22.5	55,300	26.6	11,400	26	1.6
91-93	Government, Except Education	13,200	6.8	14,300	6.9	1,100	8.2	0.5
	Education, Public & Private	13,300	6.8	14,800	7.1	1,500	11.1	0.7

Occupations And Employment In Vernon Township

The following two tables present the 1990 Census information on occupations and employment by industry for Vernon Township residents.

Table X-5
OCCUPATIONS, VERNON TOWNSHIP, NJ 1990¹

Employed persons 16 years and over	10,507
Executive, administrative and managerial occupations	1,717
Professional specialty occupations	1,513
Technicians and related support occupations	451
Sales occupations	1,327
Administrative, support occupations, including clerical	1,702
Private household occupations	32
Protective service occupations	251
Service occupations, except protective and household	729
Farming, forestry, and fishing occupations	145
Precision production, craft, and repair occupations	1,495
Machine operators, assemblers, and inspectors	374
Transportation and material moving occupations	433
Handlers, equipment cleaners, helpers, and laborers	338

¹ Source: U.S. Census 1990

Review of the table indicates that the largest occupational groups were executives and managers numbering 1,717, administrative and support occupations were a close second with 1,702 while professional specialty occupations were 1,513, and precision production, craft and repair followed with 1,495.

Table X-6
EMPLOYMENT BY INDUSTRIAL CLASSIFICATIONS¹
VERNON TOWNSHIP, NJ 1990

Employed persons 16 years and over	10,507
Agriculture, forestry, and fisheries	174
Mining	26
Construction	891
Manufacturing, nondurable goods	847
Manufacturing, durable goods	960
Transportation	517
Communications and other public utilities	418
Wholesale trade	552
Retail trade	1,683
Finance, insurance, and real estate	840
Business and repair services	574
Personal services	237
Entertainment and recreation services	208
Health services	728
Education services	899
Other professional and related services	535
Public administration	418

¹ Source: U.S. Census 1990.

The retail trade led this employment classification with 1,683 jobs followed by manufacturing (durable goods) 960, education 899, construction 891 and manufacturing nondurable goods 847.

Employment Growth In Vernon

Both tables indicate that Vernon Township has a skilled labor pool which should be a positive factor in attracting prospective industries for the industrial zone. This labor pool presently commutes to Sussex and Morris County jobs. It is recommended that the Economic

Development Committee promote this labor resource of the Township in an effort to attract technical industries and professional office centers to the areas so designated in the Master Plan.

Tax Base Analysis

The majority of the Township tax base is residential as shown in Table X-7. This is logical given the Township residential growth over the last 30 years. The next largest category is commercial with a Tax value of \$129,565,466 which would also include the commercial recreation facilities. Vacant land with a tax value of 94,181,800 and farms (regular) with a tax value of 25,562,000 also indicated a significant contribution.

Table X-7

AGGREGATES OF TAXABLE PROPERTY

Real Property Classification Summary

	<u>Items</u>	<u>Tax Value</u>
1. Vacant Land	3,239	94,181,800
2. Residential	9,661	1,124,110,000
3A. Farm (Regular)	154	25,562,000
3B. Farm (Qualified)	211	1,640,010
4A. Commercial	284	129,565,466
4B. Industrial	20	7,762,400
4C. Apartment	3	1,117,700
Total Class 4A, 4B, 4C		138,445,566
Total All Classes		1,383,939,376

Table X-8
REAL PROPERTY CLASSIFICATION SUMMARY
Vernon Township

		1990 <u>Line Items</u>	<u>Tax Value</u> (In Dollars)	% of <u>Total</u>	1995 <u>Line Items</u>	<u>Tax Value</u> (In Dollars)	% of <u>Total</u>	1990-1995 <u>Increase (%)</u>
1.	Vacant Land	3,816	53,980,302	7.50	3,239	94,181,800	6.80	57.3
2.	Residential	9,146	572,362,462	79.57	9,661	1,124,110,000	81.23	50.9
3.	Farm (3A & B)	355	15,542,086	2.16	365	27,202,010	1.97	57.1
4A.	Commercial	276	73,606,151	10.23	284	129,565,466	9.36	56.8
4B.	Industrial	18	3,798,300	0.53	20	7,762,400	0.56	48.9
4C.	Apartments	3	<u>488,000</u>	<u>0.01</u>	3	<u>1,117,700</u>	<u>0.08</u>	43.6
			719,277,301	100		1,383,939,376	100	

Source: Vernon Township Tax Assessor

A comparison was also conducted of the changes in the tax base from 1990 to 1995. This is shown in Table X-8. As indicated, there has been an increase in the number of items and tax value for all real property classifications since 1990, except for vacant land which declined in line items but increased in tax value. The largest increase in tax value occurred in the residential category followed closely by the commercial category.

The aggregate of taxable property value was then compared to a percent of total taxable property as shown in column 3 and 6 of Table X-8. For the current decade from 1990 to 1995, the percent distribution of tax value by land category indicated that residential has continued to be the largest contributor to the tax base with 81.23 percent and commercial and the second largest contributor with 9.36 percent. Also, the residential category increased slightly at a rate of 0.33 percent per year or from 79.57 percent in 1990 to 81.23 percent in 1995.

This distribution remained constant because the community continued to experience residential growth during the 5 year period but the commercial section also grew with eight new line items and an increase assessed value of \$55,959,315. As a general rule, commercial development will usually follow population growth and given the Township's rapid population growth during the last 20 years, retail and office professional services are now entering Vernon Township in response to this population growth.

The Master Plan recognizes this trend and has retained the office professional zone and the C-2 zone which still has ample room for additional development. Also, both C-2 zones have been included in the "center" designation in accordance with the State Plan regulations which would permit utility expansion into these areas which should foster further commercial development. The Master Plan encourages the growth of industrial, commercial and office professional growth in order to provide for jobs and services and also to contribute a larger proportion of ratables to the tax base of the community.

XI. HISTORIC PRESERVATION PLAN

XI. HISTORIC PRESERVATION PLAN

INTRODUCTION

Vernon Township has a rich history, consisting of prehistoric activity, Native American settlements, mining operations and colonial settlements. On November 19, 1792 the New Jersey State Legislature approved the separation of Vernon Township from Hardyston Township. The act became effective on April 8, 1793.

THE HISTORY OF VERNON TOWNSHIP

The exact dates of the first settlements in the Vernon area are unknown. However, Vernon also has its share of evidence of prehistoric human activity found within geologic formations, such as caves, sink holes, mine shafts, and caverns. Native American populations inhabited some of the older caves and it is believed that the more recent caves may be attributable to the limestone quarrying operation which occurred in McAfee in the nineteenth century.

NATIVE AMERICAN SETTLEMENTS

The Native Americans who inhabited the Vernon Valley area were nomadic tribes. They traveled through the region following their food source in order to survive. Remnants of their existence, such as arrowheads, pottery and cemeteries are still present in the Township, although the specific locations of these objects may not reflect their origin due to movement of artifacts by flood water activity.

Vernon Township's Planning Board should be cognizant of the location of these geologic sites within the Township. The historic sites map which locates these significant remains of human activity are included for use by the Planning Board. The subdivision and site plan ordinances should be amended so that these areas are preserved during the development process; perhaps these sites could one day be included in the open space network.

LIME, LIME KILNS, AND THE LIMESTONE INDUSTRY

Lime manufacturing was an important industry in Vernon as there was plenty of lime in the region. At one time, every farm in Vernon had a lime kiln. The largest commercial lime kiln operation was located in the village of McAfee behind the McAfee Church.

Lime is a soft material and can be obtained by using a drill or a chisel and hammer. When the limestone is broken into smaller pieces, it is brought to a nearby kiln. Kilns were typically built into the hillside so that the apex was readily accessible. Workers were then able to drop the limestone into the kiln along with wood and brush for a hot fire.

The early residents used lime for a variety of tasks. It decreased the acid in the soil where manure had been used, it was used to whitewash buildings, and it was used in the tanning process. The quarrying and burning of limestone became big business in 1872, a year after the railroad was established in McAfee.

THE IRON MINES

Iron mining was also a major industry in Vernon. Between 1700 and 1900, approximately 400 underground iron mines were opened in New Jersey. Fifteen of these mines were located in Vernon Township. During the 1880's the iron market experienced a boom which greatly increased prospecting for iron ore. In fact, many of Vernon's farms were explored. However, some of the sites categorized as mines yielded little or no ore.

New Jersey was a main iron ore producer for the region until 1900 and this mining activity led to economic prosperity for the region. However, the demand for iron ore declined at the beginning of this century, and many of Vernon's mines were closed and abandoned by 1900. A remnant of the iron mining era exists in Wawayanda State Park. A well preserved stone iron ore furnace which was built by the Ames Brothers in 1846 is located in the park.

EARLY SETTLEMENTS

Vernon Township's early settlements were comprised of scattered, self-sufficient hamlets and villages. Many of these settlements disappeared over time although their names remain familiar. For example, Wawayanda was originally a mining community known as Double Pond. It is believed that Wawayanda is an Indian word which means "winding way". Another example is the Pochuck settlement, which was named in honor of a local Indian chief.

However, some of Vernon's early settlements prospered and grew over the years. In particular, Glenwood, McAfee, and the village of Vernon prospered and survived more so than the others. Further detail is provided on these three communities to provide a historical overview of Vernon.

Glenwood

Some of Glenwood's earliest deeds date back to 1764. The first schoolhouse was built in 1795, and the first mill was built in the early 1800's. Jacob Dodder constructed a sash and blind factory and built a planing mill in 1830.

A Methodist and Baptist Church were present in Glenwood by the mid nineteenth century. A schoolhouse, grist mill, turning shop, saw mill, wagon shop, two blacksmith shops, creamery, general store and a distillery were also present during this time period.

McAfee

McAfee's earliest deeds date back to 1826; the village was known as West Vernon at that time. In 1845 Dr. Allen, a physician, settled in the village. In 1851 Stephen Smith built a tavern. In 1860 William Simpson rebuilt the blacksmith shop. Mr. Simpson also constructed a store across the road from the blacksmith shop in 1856. A shoe shop, a wheelright shop, a harness shop and a cooper shop were also present during this time. Then, in 1873, Mr. Simpson built a hotel.

Eventually McAfee became the end of the Warwick Valley and the Sussex Railroads. Both rail lines maintained a depot and a station in the village.

The White Rock Lime and Cement Company was established in 1882. One year later the McAfee kilns were producing 35 barrels of lime per day for chemical and manufacturing uses, and 25 bushes for agricultural uses.

The Village Of Vernon

The initial settlement of the village is unclear. By 1840 it was home to 200 residents and contained three stores, two blacksmith shops, two wheelright shops, a grist mill and two cheese factories.

HISTORIC SITES

Vernon's history began in prehistoric times. Thus, the Township has many historic sites, remnants and landmarks. However, the Barrett Farm is Vernon's only site that is on the New Jersey and National Registers of Historic Places. It is recommended to catalogue the historic places and prioritize the need for preservation.

Vernon Township's 1970 Master Plan promoted an evaluation of all historic sites as well as recommendations of those most deserving preservation, which, in turn, prompted the completion of a historic sites survey. In 1992, the historic sites survey was updated and expanded to a list of 50 historic sites recommended for preservation. This list is provided in the Historic Element which Dorram Associates, Inc. prepared but was not adopted by the Vernon Township Planning Board. The Historic Element prepared by Dorram Associates also provided a listing of 116 sites in the Township. These lists may be useful references for the Township in its historic preservation efforts. Map XI-1 shows the location of these 116 historic sites and Map XI-2 shows the location of the Township's 103 historic homes. The maps show that these historic treasures are evenly located throughout the Township thus providing Vernon with a historic flavor and character.

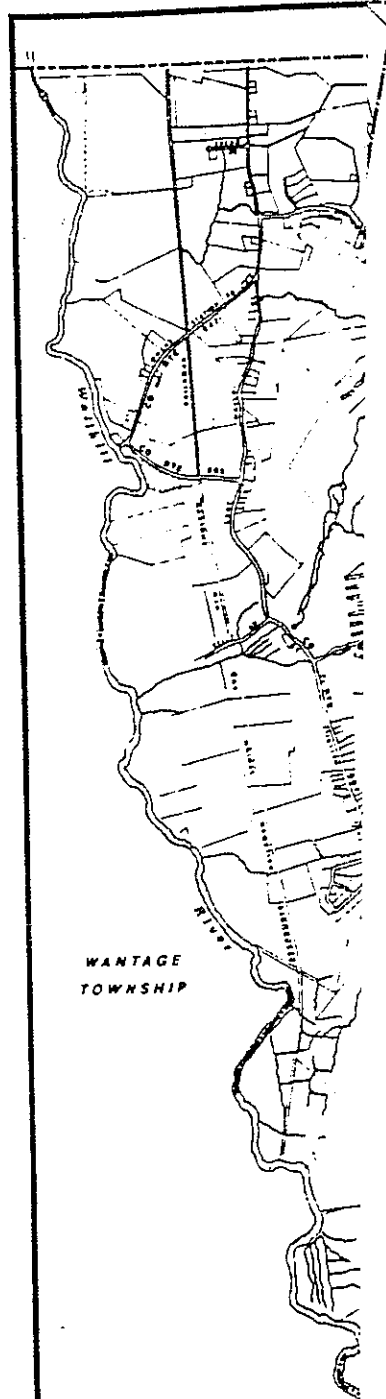
The following list of seventeen sites are those most in need and deserving of identification and evaluation by a Historic Commission. The location of these sites is depicted on Map XI-3.

1. **Glenwood Store/ Post Office:** Block 22, Lot 3/ Route 565. This structure was used as a post office from 1868 until July 26, 1975, when a post office was established in North Vernon.
2. **Glenwood Grist Mill:** Block 22, Lot 1.01/ Route 565. This is the only remaining operable grist mill in the Township although this property currently serves as a private dwelling and an antique shop. This mill was built in 1805.
3. **Edsall-Drew Homestead:** Block 31, Lot 9/ Prices Switch Road. The slave quarters from this homestead remain in the basement.
4. **Edsall Homestead:** Block 32, Lot 6/ Prices Switch Road. Richard Edsall built the rear section of the homestead, which contains one room and a loft, circa 1731. These rooms have been maintained in their original condition.
5. **School House:** Block 33.01, Lot 11. This school museum was the last one-room school used in Sussex County. This school was originally located on Route 94.
6. **Wawayanda Iron Furnace:** Block 101, Lot 1. Ames Brothers built the furnace in 1846-1847. Green Acres owns this structure, which is the only remaining furnace in the Township.
7. **Kampe Post Office:** Block 150.17, Lots 2-12/ Cherry Ridge Road and Canistear Road intersection. This property, which may date back to the 1700s, was used as a general store, post office and boarding house.
8. **Sea Captain's House:** Block 145, Lot 2/ Route 515. Sea Captain William Vibbert built this house in 1817. Captain Vibbert unfortunately drowned off Sandy Hook, New Jersey in a ship wreck on December 22, 1819. Ross Winans invented a miniature steam engine on the

third floor of this house. Dr. Edward Livingston, who co-authored a book on cancer with Dr. Pack, also lived here.

9. **First Stage Coach Stop:** Block 145, Lot 4. This building was constructed around the time of the Revolution. This was the Township's first stage coach stop, inn, and tavern and served as the Township's first post office. The stage coach stop was originally known as the White Horse Inn.
10. **Boyd Family Homestead:** Block 145, Lot 6/ Routes 94 and 515. This property was Vernon's first library and is now a legal office.
11. **Railroad Station:** Block 140, Lot 6/ Vernon Crossing Road. The station was built in 1880-1881. The Wawayanda Railroad Company acquired the property on March 15, 1880.
12. **St. Thomas Episcopal Church:** Block 148, Lot 4. Located on Route 94, this is the oldest church standing in the Township although not the first built in the Township.
13. **Perry Homestead:** Block 183, Lot 15/ Route 94. Joseph Perry constructed this house in 1740. This remains one of the oldest houses in Vernon although it is not the first house that was constructed in the Township.
14. **Lime Kilns:** Block 231, Lot 1 (approximately)/ Intersection of Routes 94 and 517. The kilns are located in the rear of the McAfee Union Church in McAfee.
15. **Crabtree Corners:** McPeck Road and Route 517 intersection. This property has gained considerable attention as a result of reported "hidden treasures" there. Tradition has it that a British officer hid his gold here and never returned to claim it. A wheelright was located at this property, which dates back to pre-Revolutionary Times.
16. **Trading Post:** Block 171.17, Lot 6/ Route 565. This building, which was built in 1760, was said to have been used as a trading post.

MAP XI-3



Legend

1. Glenwood Store/Post Office
2. Glenwood Grist Mill
3. Edsall-Drew Homestead
4. Edsall Homestead
5. School House
6. Wawayanda Iron Furnace
7. Kampe Post Office
8. Sea Captain's House
9. First Stage Coach Stop
10. Boyd Family Homestead
11. Railroad Station
12. St. Thomas Episcopal Church
13. Perry Homestead
14. Lime Kilns
15. Crabtree Corners
16. Trading Post
17. Sleepy Hollow Complex

Source: - Dorram Associates, Inc. - 1992.

Historic Sites Survey by:
J. Sweetman & C. Ryerson Jr. - 1978 & 1992.

Historic Sites for Preservation

Vernon Township

SUSSEX COUNTY, NEW JERSEY

Prepared by: Moskowitz, Heyer & Gruel, PA - 1995

17. Sleepy Hollow Complex: Block 171.01, Lot 1/ Sleepy Hollow Road and Lake Wallkill Road. The homestead on this property was constructed circa 1786. The former carriage house and mills still remain.

HISTORIC PRESERVATION COMMISSION

The Municipal Land Use Law provides the procedure for the establishment of a Historic Preservation Commission and details the commission's responsibilities. Vernon does not have a historic preservation commission although it does have the Vernon Historical Society. The Township Administration and Committee may wish to discuss the establishment of a Vernon Historic Preservation Commission to further the Township's preservation efforts.

XII. RECYCLING PLAN

XII. RECYCLING PLAN

INTRODUCTION

As the State's landfills are reaching capacity, solid waste collection, processing and disposal in New Jersey have reached a critical stage. While landfill technology has made advances in recent years, the environmental problems associated with landfills, such as leachate, methane gas and water contamination still pose problems. Alternatives to landfills, such as incineration, also have significant environmental impacts. New landfills are difficult to locate because of strong community opposition and they are expensive to finance because of costly environmental mitigation requirements. Recycling of solid waste materials is essential to reducing the solid waste stream to landfills and preserving the environmental quality of the State.

In response to these environmental concerns, the New Jersey Statewide Mandatory Source Separation and Recycling Act was passed in 1987. Furthermore, the Municipal Land Use Law mandates that municipalities include a Recycling Element in their Master Plans. This element incorporates the State's recycling goals for solid waste.

RECYCLING IN VERNON

Vernon Township adopted a recycling ordinance in March of 1988 which established a mandatory program for the separation of designated materials for collection, disposal and recycling. The ordinance sets forth the type of material to be recycled and the method of removal. All recyclable materials are either brought to the recycling center or deposited through private collection services.

Recyclables are collected at the recycling depot on Church Street. The Township collects newspapers, magazines, junk mail, glass, cardboard, tin and bi-metal cans, office paper, dairy jugs, leaves and, on Saturday only, used motor oil. An informational pamphlet which details the

Township's recycling services is available at the Municipal Building. The Township also has a designated recycling coordinator.

SOLID WASTE COLLECTION

Solid waste in Vernon is collected by private haulers contracted by individual homeowners, businesses and lake communities. The waste is hauled to the Sussex County Municipal Utilities Authority (MUA). The landfill at the Sussex County MUA is expected to reach capacity by the year 2014.

RECOMMENDATIONS

In addition to municipal recycling ordinances, localities are also required to adopt regulations which guarantee that future development is designed to accommodate the recycling of solid waste. As required by the Municipal Land Use Law, Vernon Township's site plan and subdivision ordinances should be amended to require development applications for construction of 50 or more single family units or 25 or more multi-family should provide for the collection, disposition and recycling of recyclable materials. Similarly, commercial or industrial development application for construction of 1,000 square feet or more of building space should provide for the collection, disposition and recycling of recyclable materials.

XIII. COMPARISON WITH OTHER PLANS

INTRODUCTION

The Municipal Land Use Law requires that all municipal master plans consider the relationship of the master plan to plans of contiguous municipalities, county plans, and the New Jersey State Development and Redevelopment Plan (SDRP). The intent is to coordinate planning and land use activities among communities and to reduce potential conflicts. This element reviews the zoning ordinances of the municipalities bordering Vernon Township, as well as the Sussex County Land Use Plan and the SDRP.

COMPARISON TO ADJACENT MUNICIPALITIES

For the most part, the Vernon Township Master Plan is substantially consistent with the land use patterns in adjacent municipalities. This section compares the zoning of municipalities that are adjacent to Vernon Township with this edition of the Vernon Township Master Plan. West Milford, Wantage, and Hardyston Townships are the New Jersey municipalities which are contiguous to Vernon. Warwick Township in New York State borders Vernon to the north.

West Milford Township

Generally, the land uses recommended in this Master Plan are consistent with West Milford's zoning. The bulk of the land in Vernon along the West Milford border is either in the Wawayanda State Park or the Newark Watershed. The land in the park will never be developed and this Master Plan recommends that the land in the watershed be rezoned to a very low density residential use. The most recent update to the West Milford Zoning Ordinance was in 1994. The zoning map which was also updated at that time indicates that the majority of the land in West Milford is zoned R-4, which is a very low density residential use and is consistent with the corresponding land uses in Vernon Township.

A small area in Vernon along the West Milford border is neither located in the park nor in the Newark watershed. This area is recommended for a low density residential use in the Land Use Element of this Master Plan. This area generally conforms to the permitted land uses in the corresponding area in West Milford. In West Milford, the corresponding area contains three zone districts. The first district is the R-4 low density residential zone. The second district is the R-2 zone, which permits moderate density residential development. In addition, the R-2 zone has a special overlay district in which moderately priced housing or least cost housing is permitted. Lastly, a small area along the border is also zoned for NC, which is a neighborhood commercial use.

Wantage Township

The Wallkill River and the Wallkill River National Wildlife Refuge form the common boundary between the two municipalities.

Hardyston Township

Hardyston Township borders Vernon to the south. The portion of Vernon along the municipal border is mostly residential or an environmentally sensitive region that requires conservation. In general, the land uses proposed in the Vernon Township Master Plan conform to the existing zoning in Hardyston Township. The portion of Hardyston adjacent to the Newark Watershed is in a Minimum Impact Development District (MIDD). This zone is consistent with the low density use recommended for the watershed area. There is a very small area west of the MIDD zone that is zoned R-2, which is a rural residential zone. This, too, conforms to the corresponding residential use in Vernon.

Route 94 in both Hardyston and Vernon Townships is zoned for commercial use. The area of Hardyston west of Route 94 is primarily zoned R-2; this is consistent with the low density use proposed in Vernon Township. Both municipalities also have lake communities in this area. The area immediately east of Route 94 is zoned for industrial use in both municipalities. The Hamburg Mountain Wildlife Management Area, which is located in both Vernon and Hardyston,

is east of the industrial areas. This portion of Hardyston is zoned for Commercial Recreation (CR) use. The CR zone is basically an R-2 zone in which specific commercial recreation uses are permitted. Like the CR zone in Vernon, the permitted recreational uses are limited as are the possible sites appropriate for commercial recreation use. The limited nature of the CR zone supersedes any need for concern over conflicting land uses in the CR zone and the wildlife management area.

Warwick Township

Warwick Township borders Vernon to the north. Some of the land in Vernon along the border is State or Federal parkland. This Master Plan proposes that the remainder of the land in Vernon along the border be zoned for low density residential use. Specifically, three acre minimum lot sizes are recommended. This is consistent with Warwick's current zoning. The area in Warwick along the Township's border is also zoned for low density residential use. Minimum lot sizes range from two to four acres. Lastly, agricultural uses are also permitted in Warwick on certain areas along the border.

Highland Lakes

The Highland Lakes Country Club Association, a private lake community in Vernon Township, has prepared its own Master Plan. The Municipal Land Use Law does not require that a municipality compare its Master Plan to private communities' plans such as Highland Lakes. However, the Planning Board recognizes the effort made by Highland Lakes to compile their plan and it has been utilized when preparing policy statements pertaining to Highland Lakes, and in a broader sense, the other lake communities. For example, Vernon's Master Plan recommends the creation of a new zone district for the Township's lake communities. Currently, the lake communities are in zone districts that are more suited to conventional housing. As a result, many of the properties are nonconforming in nature and variances are often required for simple improvements. Creating a zone that has bulk regulations more suited to the types of homes in lake communities will reduce the number of nonconforming properties and, likewise, variances.

In addition, this Master Plan stresses conservation of the Township's natural resources. Policy recommendations have been regarding development in critical areas, such as wetlands, steep slopes and aquifers. The Highland Lakes community is aware of the possible negative effects of such development and has expressed these concerns in its Master Plan. This information was utilized while preparing Vernon Township's Master Plan. Therefore, the Vernon Township Master Plan is consistent with the Highland Lakes Master Plan.

SUSSEX COUNTY MASTER PLAN

The Sussex County Planning Department is in the process of preparing a new County Master Plan which will be completed in 1996. The current Sussex County Master Plan was prepared in August of 1977. It is difficult to determine the level of consistency between the Vernon Township Master Plan and the Sussex County Master Plan since the County Plan is almost 20 years old.

Plate 14 of the 1977 Sussex County Master Plan details the 1990 future land use plan. This map shows the Wawayanda State Park and the Newark Watershed as recreation and conservation areas. In addition, the exhibit shows most of Vernon as having either rural development or suburban development.

NEW JERSEY STATE DEVELOPMENT AND REDEVELOPMENT PLAN (SDRP)

Vernon Township's Master Plan is substantially consistent with the plans and policies of the SDRP. The SDRP was adopted on June 12, 1992. The plan's preparation process compared the planning policies among various government levels with the purpose of attaining compatibility among local, county, and State plans.

Centers

The SDRP emphasizes center-oriented development patterns that create "communities of place." Centers are compact forms of development to which growth and development should be geared. They deplete fewer natural resources compared to typical sprawl development. Each center

should have a core of services and an area surrounding the core defined as a "Community Development Boundary," which is the geographic limit of planning for development of the Center. Land outside the Centers' community development boundaries contains the environs of the Centers. The SDRP recommends that the environs be protected from development and any negative effects it may have.

The philosophies of the SDRP reflect the goals and objectives of the Vernon Township Master Plan. Specifically, Vernon's Master Plan promotes the conservation of natural resources, retaining the Township's rural character, and recognizing existing growth areas.

The SDRP identified 16 existing Centers in Vernon. One is classified as an existing Regional Center, four are classified as existing Villages, and eleven are classified as existing Hamlets. A description of these Center classifications as well as a listing of the Centers in Vernon are as follows.

Regional Centers

According to the State Plan, Vernon itself is an existing Regional Center. In rural areas, Regional Centers often are population cores and county seats. While Vernon is obviously not Sussex County's seat, it does have small business districts that serve its residents, another trait of Regional Centers. Having the entire community designated as a regional center is inconsistent with the goals and policies of the State Plan. Therefore, the Master Plan recommends two centers as follows: The Vernon Center which would be a community commercial and town center and a two core regional center containing the regional commercial recreation facilities and the McAfee mixed use center.

Villages

Villages are compact communities that provide basic consumer services for their residents and nearby residents. Villages are primarily residential in use and typically do not provide regional

shopping or employment services. The SDRP identified Glenwood, Highland Lakes, McAfee, and Sussex Hills as the existing Villages in Vernon Township.

Hamlets

Hamlets are the smallest sites eligible for Center designation. Many existing hamlets are found in rural communities, often at crossroads. Hamlets are chiefly residential, but they have a small core where limited services are available. The SDRP identified Barry Lakes, Cliffwood Lake, Drew Lakes, High Breeze, Lake Conway, Lake Glenwood, Lake Panorama, Lake Wallkill, Pleasant Valley, Tall Timbers, and Vernon Valley Lakes as the existing Hamlets in Vernon Township.

The SDRP recommends that municipalities formally designate centers in their communities. As was discussed in the Land Use Element of this Master Plan, two centers are proposed for designation in Vernon Township: the McAfee Center and the Vernon Center. The proposed locations of the two centers have been delineated on the Land Use Element map.

Center Designation Process

The SDRP recommends that municipalities formally designate centers in their communities. Any interested party, such as a municipality, private organization or concerned citizen, can apply to the State Planning Commission for formal Center designation. As was discussed in the Land Use Element of this Master Plan, two centers are proposed for designation in Vernon Township: the McAfee two core Center and the Vernon Center. The proposed location of the two centers have been delineated on the Land Use Element map. It is recommended that Vernon Township proceed with the designation process.

Planning Areas

The SDRP allocates land into five main categories known as Planning Areas. Vernon Township contains two different planning areas, including the Rural Planning Area (PA4), and the Environmentally Sensitive Planning Area (PA5). In addition, Vernon contains the Rural

Environmentally Sensitive Planning Area (PA4B), a "subplanning area". Map XIII-1 identifies the planning areas for Vernon Township. The type of low density residential uses as well as the attempts to conserve land and maintain rural character is consistent with the planning area designations that the SDRP assigned to Vernon Township.

Planning Area 4

Planning Area 4 contains most of the State's farmland with potential for long term agricultural viability. It may also include lands related to other economic activities such as fishing and mining. The intent of PA4 is to maintain large masses of prime agricultural farmland interspersed by sparse residential, commercial and industrial development; wooded tracts and rural towns and villages. Within PA4 is a "subplanning area" identified as Planning Area 4B which is the Environmentally Sensitive Rural Planning Area. This subplanning area is meant to identify productive farmland which also contains valuable ecosystems and wildlife habitats. Land area in subarea 4B is considered part of PA4 until the land changes from an agricultural use and is developed at which time it becomes part of PA5.

Planning Area 5

Planning Area 5 has large contiguous land areas with valuable ecosystems and wildlife habitats. These lands have remained somewhat undeveloped and rural in character. They are characterized by watersheds of pristine waters, trout streams and drinking water supply reservoirs, recharge areas for potable aquifers, habitats for endangered or threatened plant or animals species, coastal and freshwater wetlands, prime forested areas, scenic natural landscapes, and other significant topographical, geographical, or ecological features. These resources are critically important not only for the residents of Vernon Township, but for all New Jersey citizens. The future environmental and economic integrity of the State rests in the protection of these irreplaceable resources. Therefore, the main intent of the PA5 Environmentally Sensitive Planning Area is to protect these critical natural resources and maintain the balance of ecological systems while providing for beneficial growth.

Lastly, the Appalachian Trail, the Wallkill River Wildlife Refuge, the Hamburg Mountain Wildlife Management Area and the Wawayanda State Park are identified as parks on the Planning Areas Map.

In general, the SDRP recognizes the environmentally sensitive nature of the land areas along the West Milford border. These areas consist of the Newark Watershed lands and the Wawayanda State Park which are all in PA5 and PA8. The portions of the Township that either have a public water and sewer system or have been the subject of recent residential development are in PA4.

WANTAGE
TOWNSHIP

Adopted: Dec. 27, 1995.

- BASE MAP PREPARED BY: DORRAN ASSOCIATES, INC. - 1991
- REVISED BY: MOSKOWITZ, HEYER & GRUEL, PA - JUNE 1995
- REVISIONS BASED ON TOWNSHIP TAX MAPS - JAN. 1994

HARDYSTON
TOWNSHIP

TOWNSHIP

NEWARK
WATERSHED

NEWARK
WATERSHED















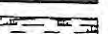



CANNISTEAR
RESERVOIR

WEST

MILFORD
Passaic County

TOWNSHIP

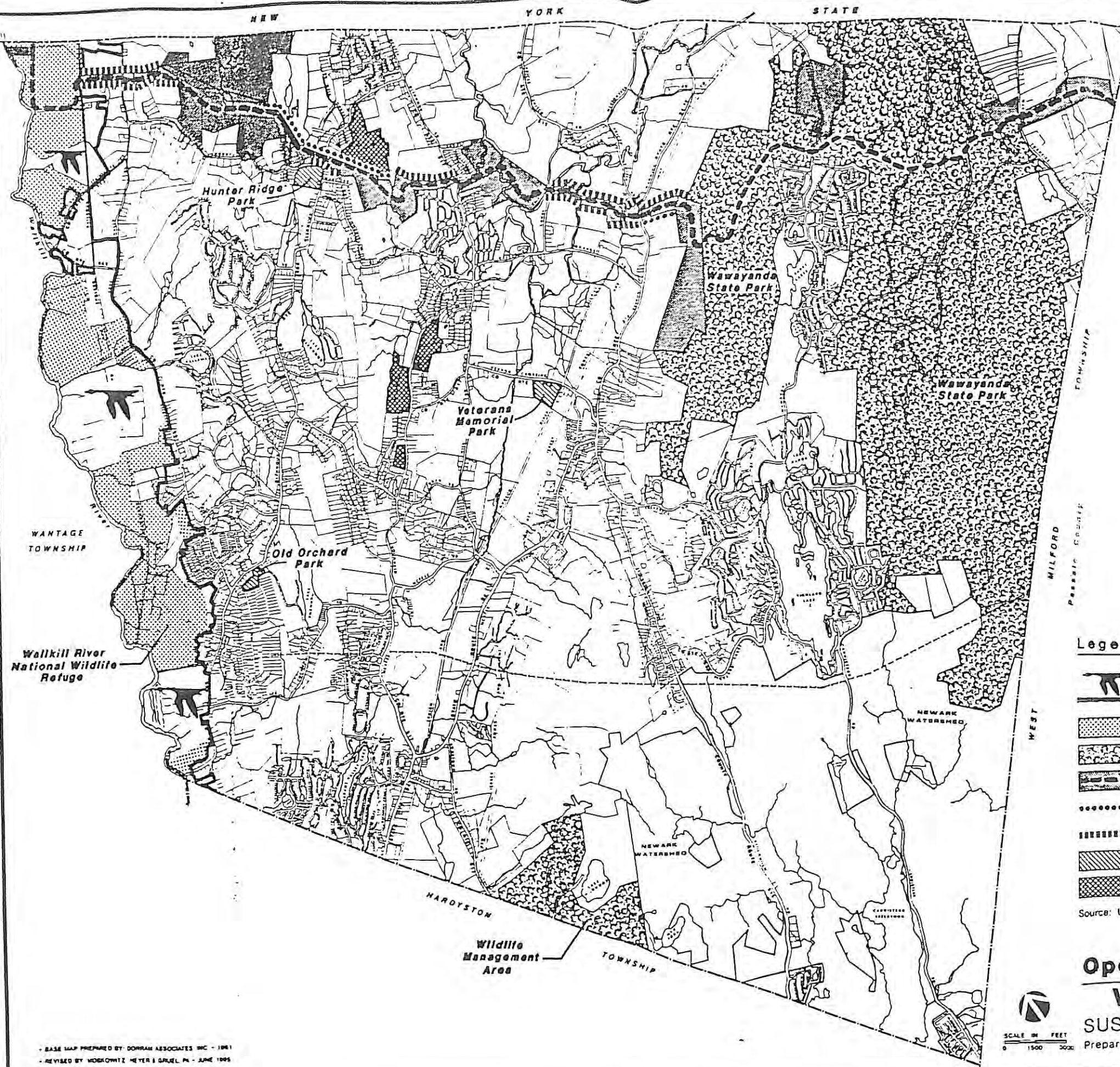
Legend

-  CONSERVATION DISTRICT - 1 DU/5 ACRES
- Economic Tourist Overlay Zone
-  RURAL/RESIDENTIAL - 1 DU/3 ACRES (R-1)
-  LOW DENSITY RESIDENTIAL - 1 DU/3 ACRES (R-2)
-  LAKE COMMUNITY RESIDENTIAL (R-3)
-  MEDIUM DENSITY RESIDENTIAL - 1DU/30,000 SF (R-3)
-  HIGH DENSITY RESIDENTIAL - 4 DU/ACRE
-  SEASONAL RECREATION (SR)
-  NEIGHBORHOOD COMMERCIAL (C-1)
-  GENERAL BUSINESS/SHOPPING CENTER (C-2)
-  OFFICE PROFESSIONAL (C-3)
-  AGRI-ECO TOURISM (AET)
-  COMMERCIAL RECREATION (CR)
-  LIGHT INDUSTRIAL (LI)
-  TOWNSHIP LANDS
-  STATE PARK AND LANDS
-  APPALACHIAN TRAIL
-  WALLKILL RIVER NATIONAL WILDLIFE REFUGE,
DESIGNATED REFUGE AREA BOUNDARY
-  WETLANDS




SCALE IN FEET
0 1500 3000

**Master Plan
Land Use Plan
Vernon Township**
SUSSEX COUNTY, NEW JERSEY
Prepared by: Moskowitz, Heyer & Gruel, PA - Nov. 1995



Legend

-  DESIGNATED REFUGE AREA BOUNDARY
-  PROPERTIES ALREADY ACQUIRED
-  PARKS
-  APPALACHIAN TRAIL
-  100' BUFFER
-  200' BUFFER
-  TOWNSHIP PARKS
-  SCHOOL PROPERTIES

Source: U.S. Dept. of Interior, Fish & Wildlife Service.

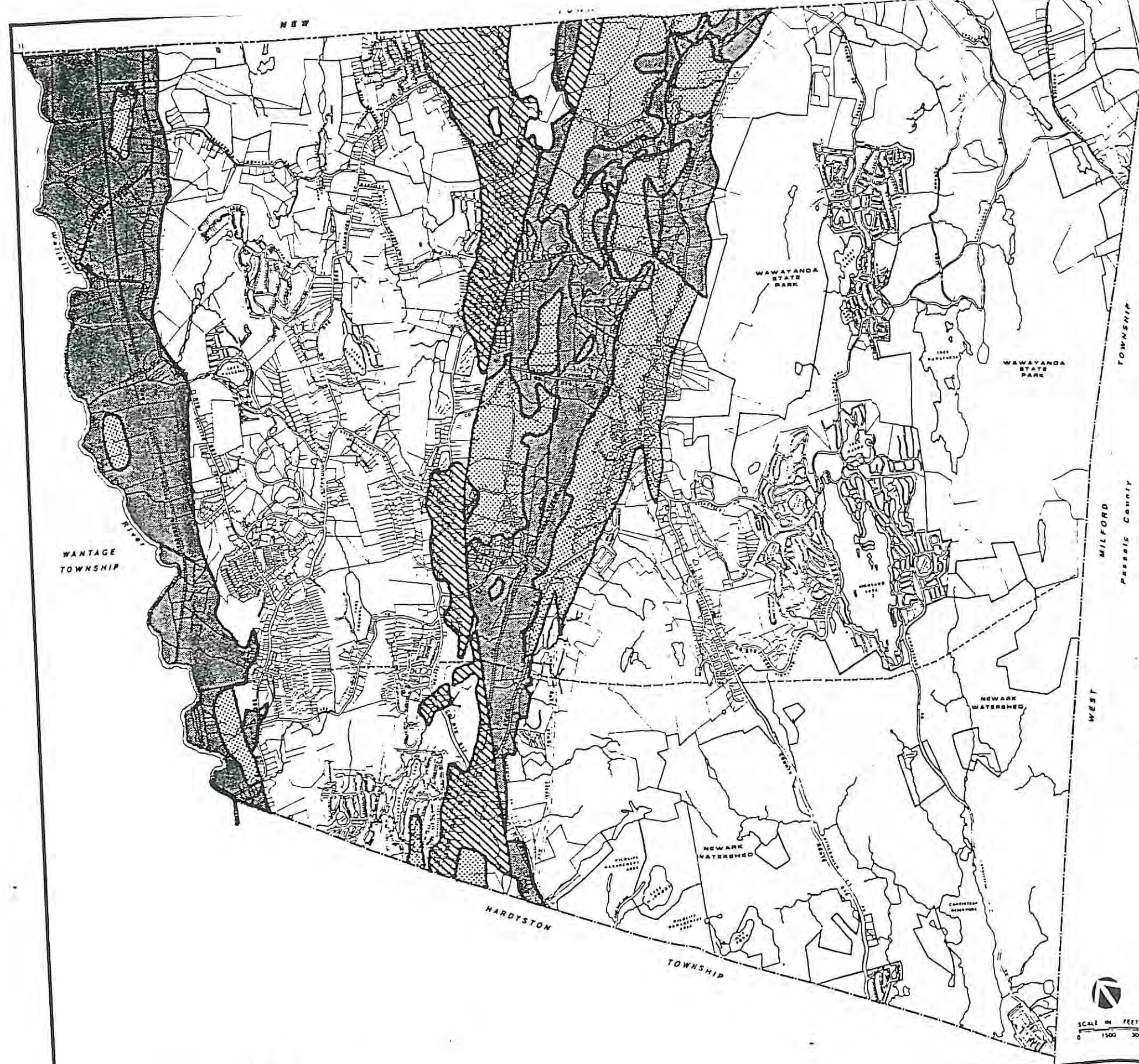
Open Space/Recreation

Vernon Township
SUSSEX COUNTY, NEW JERSEY





Prepared by: Moskowitz, Heyer & Gruel, PA - 1995

- BASE MAP PREPARED BY: DORRAN ASSOCIATES, INC. - 1981
- REVISED BY: MOSKOWITZ, HEYER & GRUEL, PA. - JUNE 1995
- REVISIONS BASED ON TOWNSHIP TAX MAPS - JAN. 1984





Legend

-  CRYSTALLINE BEDROCK AQUIFER
-  UNCONSOLIDATED DEPOSITS AQUIFER
-  CARBONATE BEDROCK AQUIFER
-  UNCONSOLIDATED DEPOSITS AQUIFER (Not Underlain by Carbonate Bedrock)

Source: - Leggett, Brashears & Graham, Inc., 9/12/90.
 - Dorram Associates, Inc., 1992



SCALE IN FEET
 0 1500 3000

Aquifers
Vernon Township
 SUSSEX COUNTY, NEW JERSEY
 prepared by: Moskowitz, Heyer & Gruel, PA - 1995

- BASE MAP PREPARED BY DORRAM ASSOCIATES, INC. - 1991
 - REVISED BY MOSKOWITZ, HEYER & GRUEL, PA - JUNE 1995
 - REVISIONS BASED ON TOWNSHIP T&E MAPS - JAN 1994