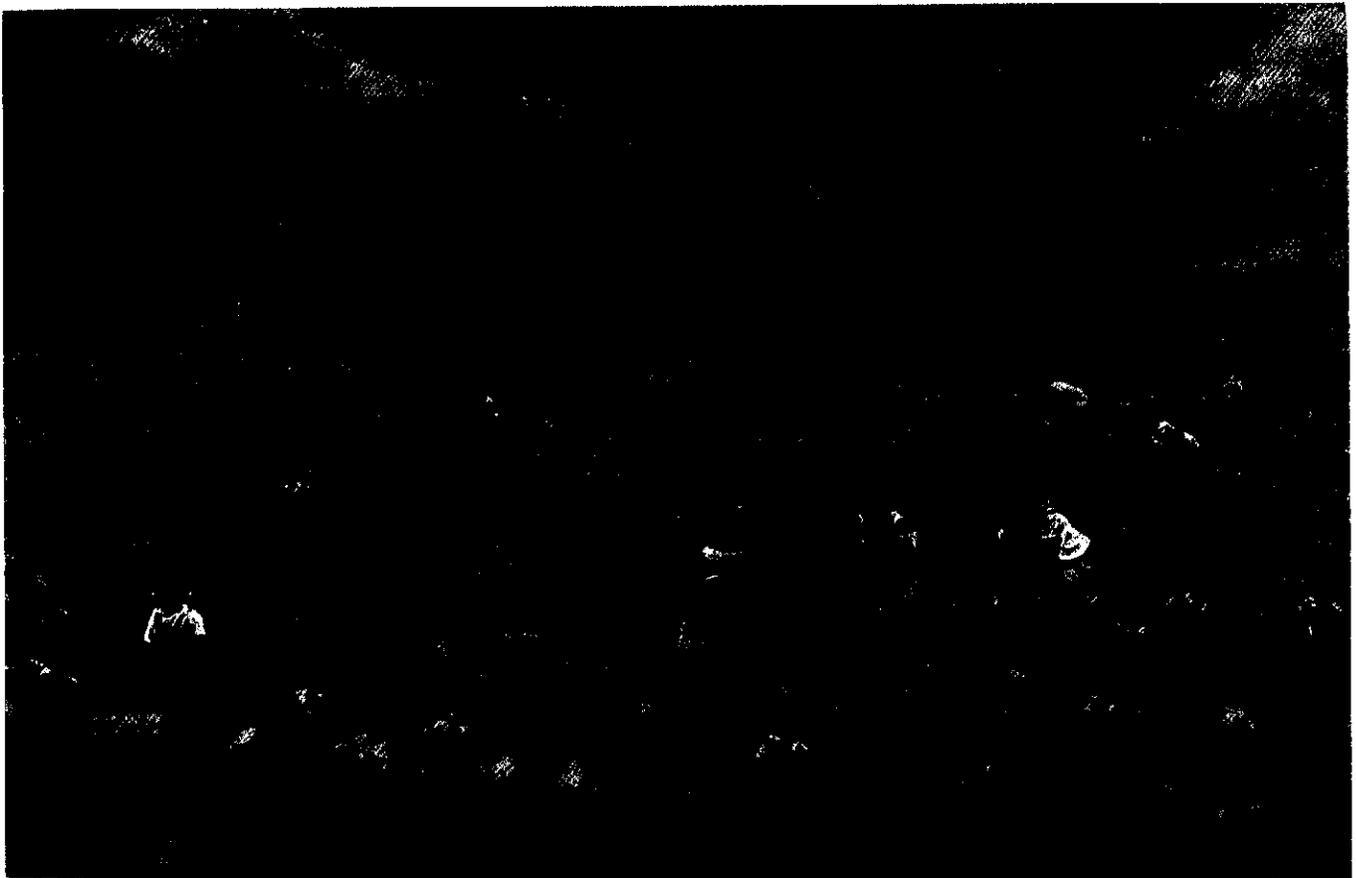


## *D. Open Space Conservation & Natural Resource Element*

Studies have shown that open spaces (farmlands, wetlands, and forests) provide benefits to communities by improving air quality, protecting drinking water sources, and providing a savings in local tax dollars. Open spaces and conservation areas place little, if any, demand on municipal services such as the school system, police and fire departments, and water and sewer services. Additionally open space preservation and conservation efforts reduce flooding, provide natural water filtration, and provide protective wildlife habitat. Residents today, as well as future generations, will be able to enjoy cleaner air, cleaner water, and new places for recreation because of the Township's investment in open space and conservation.

Limited open land resources will become more scarce with each passing day. It is important that the Township be aware of those areas that present an opportunity for the preservation of open space and those that are suitable for recreational activities. The acquisition and preservation of open space today, will insure a better quality of life for future residents of the Township.



*Painting of Springdale Farm*

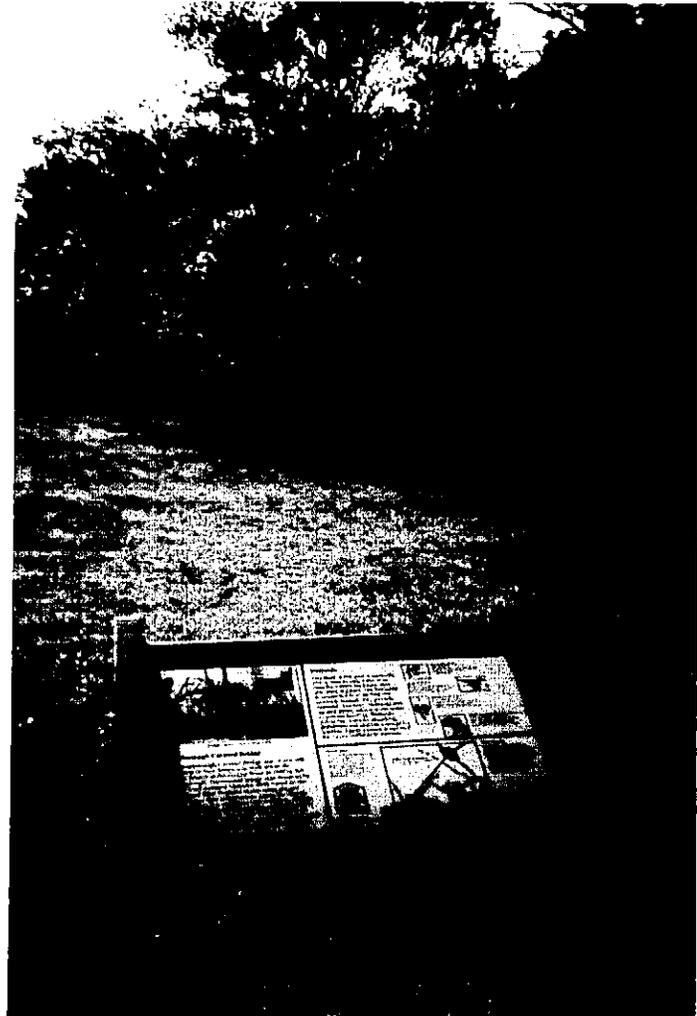
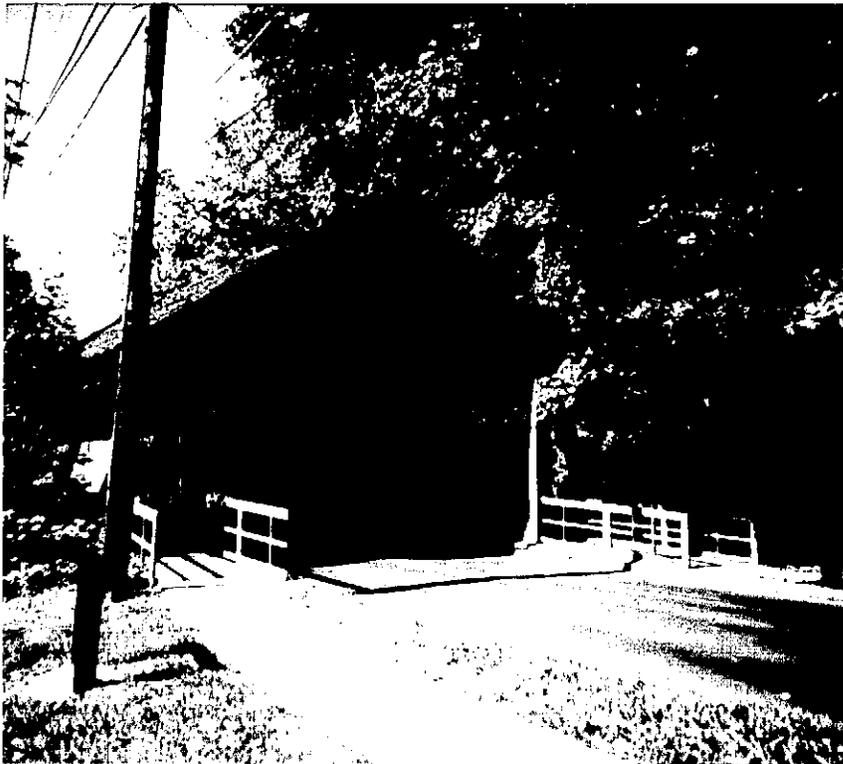
## Goals

- Preserve environmentally sensitive lands, particularly along rivers and streams, which are characterized by the presence of natural features such as wetlands, steep slopes, stream corridors, unique ecological areas, and prime wildlife habitats. Areas of preservation should include the North Branch of the Cooper River, the South Branch of the Pennsauken Creek and a variety of other unnamed streams and tributaries.
- Prioritize land acquisition parcels as identified in the Open Space and Recreation Plan prepared by Bay Pointe Engineering and adopted in February 2002.
- Preserve and protect contiguous open space and riparian corridors.
- Create linkages between open space areas and residential neighborhoods.
- Provide a continuous network of open spaces along stream corridors, and scenic and environmental areas wherever possible.
- Discourage development in critical environmental areas such as flood plains, and wooded areas.
- Preserve and protect open space areas with scenic views and/or important historical or cultural significance.
- Preserve valuable visual amenities, with special emphasis on river and stream views, wetland marshes, and woodland vistas.
- Preserve and enhance the tree-lined character of residential streets.
- Develop a series of preservation strategies to meet the demands of individual landowners, developers and maximize alternatives for funding.

## Objectives

- Open space is to be retained as a community resource in the form of public land and preservation areas within all new developments. Recognized for its inherent value including ecological functions and recreation, open space is never to be regarded as left over land unsuited to development, but rather should be carefully chosen and maintained as a key community resource.
- Adopt ordinances that protect the remaining natural features within the community as recommended by the Cherry Hill Civic Association and endorsed by the Cherry Hill Environmental Protection Advocates. Ordinance amendments will be subject to consistency with the Planning Board policy and State Laws.
- Riparian corridors should be linked via a path system. Investigate the purchase of parcels adjacent to these areas. Solicit assistance from the Association of New Jersey Environmental Commissions (ANJEC) for funding of this objective.

- Review site plans to minimize environmental disturbance and encourage development of landscapes and streetscapes.
- Investigate the purchase of properties that have been developed in low lying areas and the conversion of these lands back into open naturalized areas.
- Recommend the purchase of specific parcels of lands to complement existing open space and conservation areas.
- Develop a management strategy that will insure the continued implementation and monitoring of the open space program.



*Scarborough Park*

## Open Space

Open Space may include publicly or privately held undeveloped lands to be used for preservation or protection of natural resources (steep slopes, stream corridors, wetlands, etc.) or managed production of resources (agricultural lands, forest, etc.) or any combination. Open Space also includes lands with minimal improvements made for a specific purpose (active or passive recreation areas, greenways, etc.) with improvements complementing or being compatible with surrounding land uses and having a minimal impact on the environment. To preserve Open Space in the Township will require a collective effort with concerned citizens, individual property owners and various local and state agencies.

Planning for the preservation of Open Space takes education, flexibility, perseverance and determination in order to achieve the goals and objectives of the plan. It is not something that is realized over a short period but rather may take several years with periodic setbacks along the way. This is best accomplished through the various Township Civic Associations. The success of the program is also related to the landowner's willingness to participate. The greater the flexibility of options to the landowner, the more willing he becomes to participate in the program. The long-term success of this open space plan will depend on the participation of landowners and citizens working together to achieve the defined goals and objectives.

## Analysis and Recommendations

There are approximately 1,380 acres (2.16 square miles) of developed and undeveloped open space and recreation lands in public ownership in Cherry Hill Township. This acreage equals 8.9 percent of the total area of Cherry Hill Township.<sup>3</sup> Based on the National Recreation and Parks Association guidelines, Cherry Hill has adequate open space based on the current population. However, residents and the governing body are opposed to total development of the remaining vacant land in the community and wish to preserve the remaining undeveloped land as open space. To this end, in November of 2000, the Cherry Hill voters approved a dedicated open space tax to provide a steady source of funding for open space preservation. This tax generates over four hundred thousand dollars (\$400,000) per year in revenue. The Township Environmental Advisory Committee has provided recommendations to the Township Council as to which parcels should be targeted for preservation for the coming year. This process should continue on a yearly basis. Township Council will then decide which parcels to purchase.

To achieve the goals and objectives of this plan, the Environmental Advisory Committee and Township Council should perform the following tasks on an on-going basis:

- Identify and rank potential acquisition parcels. Table D1 includes a listing of parcels proposed for acquisition and their location. In addition, from a long-range perspective (6-10 years) it is recommended that other parcels

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<sup>3</sup>Open Space and Recreation Plan Element, Bay Pointe Engineering, February 2002

also be considered (**table D2**) and conservation options be developed on some parcels and discussed with the property owners. The parcels proposed for consideration are shown on **Map D1**.

- Apply to the County and State Green Acres Program for additional funding.
- Develop an annual budget based upon the goals and objectives of the Open Space and Conservation Plan. Assist the Township Council in seeking additional funding sources in the form of grants from individual and non-profit agencies, and partner with, or act as a liaison to non-profit agencies in their efforts to obtain open space parcels within the Township.
- Prepare a program for tracking “open-space critical” properties within the Township to insure their incorporation into the open space preservation plan.
- Provide information on estate planning and the tax benefits of donations of land and easements. Collaborate with non-profits that may have more expertise in these areas.



**Table D1**  
**Proposed Acquisition Parcels**  
**Cherry Hill Environmental Advisory Committee**

<b>Priority Rank</b>	<b>Blocks/Lots</b>	<b>Acreage</b>	<b>Description</b>
1	513.50/ 1&2	38.8	"Bridge Hollow", off Cropwell Road, behind Villagio
2	404.01/ 1-6	7.9	"Ludlum"/Pam's path
3	526.07/ 1&5	6.2	Hillman School Site, across from the Ecology Site on Kresson Road
4	463.09/ 1	17.6	"Frontage Road Trees", adjacent to the Landmark
5	111.01/ 20	4.7	"Still Park", between Main & Merchant
6	528.01/ 3	1.3	"1798 Berlin Road", across from Walt Whitman Blvd.
7	404.34/ 4	0.5	"107 Willow Way"
8	409.01/ 23	0.6	"Mansfield Blvd." Adjacent to Tindale Run Park
9	343.03/ 4&5	1.2	"Warren Ave", near CHW fields
10	404.43/ 14	2.2	"Munn Ave.", at Brace Road
11	470.01/ 24	2.2	"Route 70 East"
12	429.03/ 2&3	0.7	"Old Ice House Lane", behind Uxbridge
13	470.1/ 3	11.2	In front of "Lakeview", adjacent to the Highlands, Route 70 East

**Table D2**  
***Proposed Additional Acquisition Parcels***

<b>Priority Rank</b>	<b>Blocks/Lots</b>	<b>Acreage</b>	<b>Description</b>
1	510.02 / 3 510.01 / 3&4	121.5	Lands owned by the Apostolic Faith Church
2	438.01/3&3	59	Springdale Farm west of Springdale Road
3	463.06 / 21 463.09 / 1 467.10 / 1	6	Vacant wooded parcels adjacent to Frontage Road.
4	433.01/8	40	Vacant parcel adjacent to the Rosa International Middle School.
5	224.03 / 1 224.04 / 1 224.01 / 1	28	Vacant parcel located at the end of Fifth Avenue in the Barlow neighborhood.
6	450.01 / 1,2,3,4 & 8	1	Vacant parcels fronting Ormond Avenue.
7	404.02 / 15	7	Vacant and wooded parcel located at the end of Willow Way Court.
8	306.01 / 7,12, & 23	2	Vacant, wooded & wet parcels located along Lake Drive East.
9	282.01 / 33	5	Vacant, wooded parcel adjacent to the Yale School.
10	98.01 / 10	6	Vacant land at the end of Birch Street.

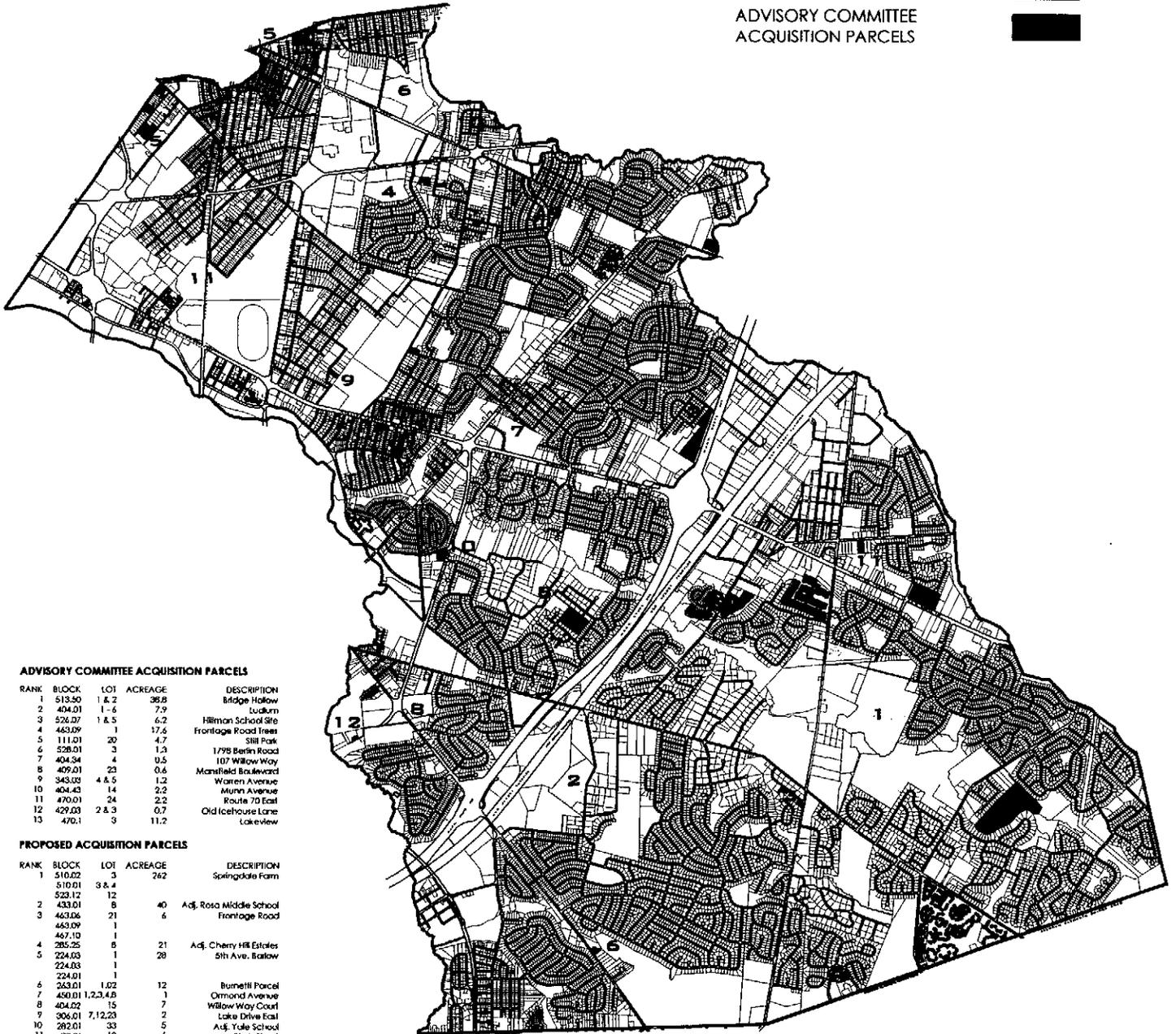
# CHERRY HILL TOWNSHIP

## PROPOSED ACQUISITION PARCELS MAP MAP D1



### LEGEND

- PROPOSED ACQUIRED PARCELS
- ADVISORY COMMITTEE ACQUISITION PARCELS



#### ADVISORY COMMITTEE ACQUISITION PARCELS

RANK	BLOCK	LOT	ACREAGE	DESCRIPTION
1	513.50	1 & 2	36.8	Bridge Hollow
2	404.01	1-6	7.9	Ludlum
3	526.07	1 & 5	6.2	Hillman School Site
4	463.09	1	17.5	Frontage Road Trees
5	111.03	20	4.7	5th Park
6	528.01	3	1.3	1798 Berlin Road
7	404.54	4	0.5	107 Willow Way
8	409.01	23	0.6	Manfield Boulevard
9	343.03	4 & 5	1.2	Watten Avenue
10	404.43	14	2.2	Moran Avenue
11	470.01	24	2.2	Route 70 East
12	429.03	2 & 3	0.7	Old Icehouse Lane
13	470.1	3	11.2	Lakeview

#### PROPOSED ACQUISITION PARCELS

RANK	BLOCK	LOT	ACREAGE	DESCRIPTION
1	510.02	3	242	Springdale Farm
	510.01	3 & 4		
	523.12	12		
2	433.01	8	40	Adj. Rosa Middle School
3	463.06	21	6	Frontage Road
	463.09	1		
	467.10	1		
4	285.25	8	21	Adj. Cherry Hill Estates
5	224.03	1	28	5th Ave. Ballow
	224.03	1		
	224.01	1		
6	243.01	102	12	Burnett Parcel
7	450.01	1,2,3,4,5	1	Ormond Avenue
8	404.02	15	7	Willow Way Court
9	306.01	7,12,23	2	Lake Drive East
10	282.01	33	5	Adj. Yale School
11	98.01	10	4	Birch Street

Scale : 1" = 1200'

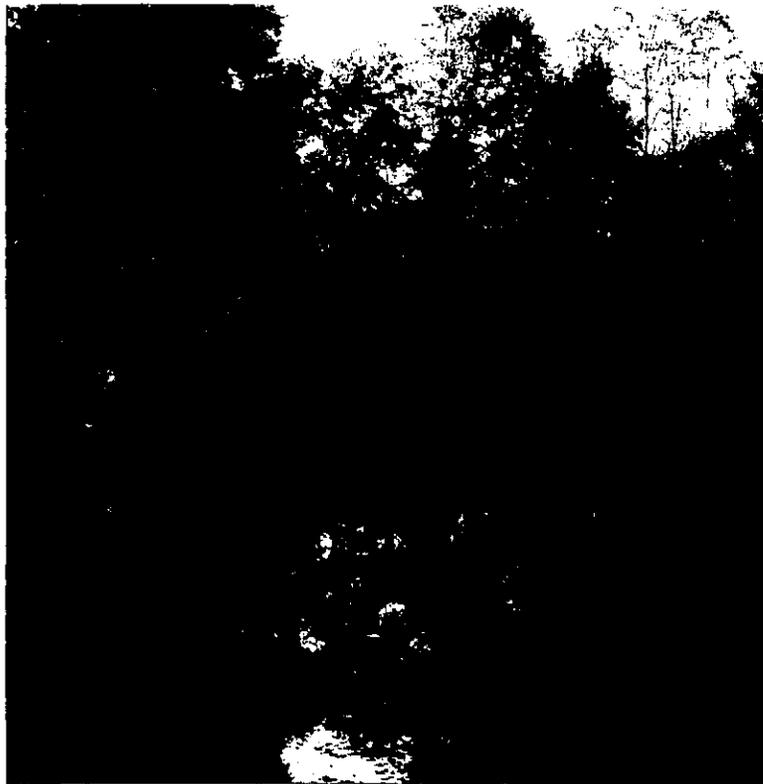
Boundary Source : JCA Associates, Inc.  
1786 North Church St., Suite 3  
Hightstown, NJ 08520  
Source : NJDEP GIS Resource Data  
Also : New Jersey Engineering Associates, Inc.  
205 Hightstown Avenue  
PO Box 1791  
Hightstown, NJ 08520

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## Conservation

Although suburban by definition, Cherry Hill Township has environmental qualities such as the diversity of soils, riparian corridors, and waterways that it make unique. The preservation of these sensitive lands, such as streams, flood plains, wetlands and significant stands of upland forest is not only environmentally important but proves invaluable in providing a natural habitat for wildlife. The conservation of these resources should not be overlooked when attempting preservation through easements, deed restrictions, out right purchase or through the review of development applications. Public access to streams and rivers is equally important. It is essential to consider the location of these features when identifying conservation areas. The proper alignment and connectivity of existing land for open space and conservation will enhance and protect the environmental qualities of the Township. Maintenance of existing scenic corridors, major woodland areas and open space should be encouraged.

Cherry Hill Township has widespread areas of riparian corridors. Most of these corridors run east to west and lead to the Delaware River. The major corridors in Cherry Hill Township are tributaries of the Cooper River (north and south branches), the south branch of the Pennsauken Creek, Tindale Run, and Woodcrest Creek. There are 18 lakes including Wallworth Lake, Columbia Lake, Willowdale/Oriole Lake and Lakewiew Lake. Map C-2 entitled Streams and Lakes diagrams the location of the major streams and lakes in Cherry Hill Township.



*Riparian Corridors lead to the Delaware River*

Adjacent to these lakes and streams are a series of floodplain and freshwater wetland areas. The floodplain areas are regulated by the National Flood Insurance Program that issues maps identifying floodplain areas. Wetlands that adjoin the creeks are protected under the New Jersey Wetlands Act. Generalized wetlands maps are issued through the New Jersey Department of Environmental Protection, which regulate wetland areas. Both floodplains and wetland areas provide many environmental benefits including flood protection, water purification, and creating wildlife habitat. Wetland buffers between 50 and 150 feet are generally required along all of these corridors. Cherry Hill Township has an opportunity to designate these buffer areas and wetland corridors into major conservation districts. Streams and lakes are shown on **Map D2**.

Riparian corridors are narrow strips of land located along streams and rivers that provide environmental benefits. A natural riparian corridor provides the ability to clean water that runs through it. Natural corridors with a diversity of plants and habitats provide a rich resource to the community. In addition, with increased attention on open space preservation in Camden County, many municipalities have identified riparian corridors as essential open space attributes.



*Conserving trees enhances air quality and maintains natural beauty  
Camden County Parks*

# CHERRY HILL TOWNSHIP

## STREAMS & LAKES MAP MAP D2

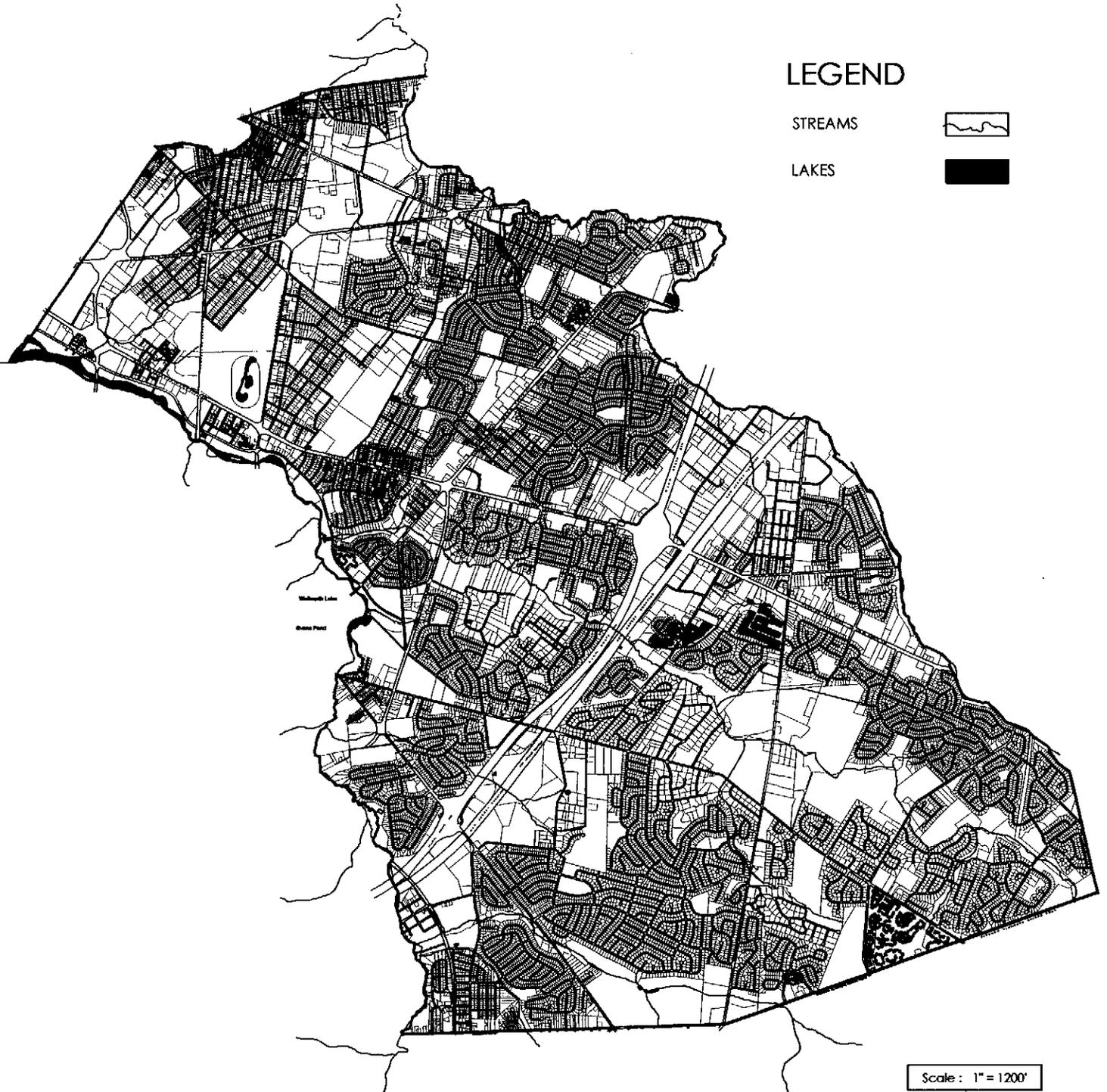


### LEGEND

STREAMS



LAKES



Scale : 1" = 1200'

Surveying Source : JCA Associates, Inc.  
1384 HORTON Church St., Suite 2  
Horseneori, NJ 08038  
Source : NJDEP GIS Resource Data  
Also : B&B FORGE Engineering Associates, P.C.  
204 East Orange Avenue  
PO Box 1721  
Pine Bluff, AR 71601

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When a riparian corridor is maintained in its natural state, it will help drain floodwaters, control erosion and sedimentation and protect water quality. In addition, riparian corridors often link open spaces together providing contiguous recreational and educational opportunities.

Throughout Cherry Hill Township, there are pockets of passive and active open spaces. In an effort to identify areas where open space can be linked, a group of residents prepared a greenway petition seeking an endorsement for a greenway plan through the community. The connection of riparian corridors is the major component of this greenway plan. Their efforts include the preparation of a brochure and a map that indicates areas for potential linkage. Greenways identified by this initiative, as a combination of natural and man-made trails, sometimes separated and sometimes linked or adjacent to each other, should be considered for the development of a greenway system through the Township. While the objective of each network or system differs, all are related to the concept of connecting open spaces and facilitating movement between them.

- *Natural Areas:* A system of preserved natural areas (public and privately held) such as wetlands, forests, or areas bordering some other valued natural feature.
- *Greenway:* A linear park, generally wooded, usually with a clearly defined beginning and end. It often links larger natural areas and may provide for ease of movement by wildlife and people via trails (walking and/or cycling) between them.
- *Pathway and Trail System:* A circulation system for walking, hiking, and bicycling, which may be located within roads, rights of ways, greenways, or with appropriate permission within public or private natural areas.



*Cooper River Corridor*

Members of the four Civic Associations that include; Barclay, Erlton North, Erlton South, and Surrey Place East have petitioned the Township Council seeking an endorsement for the adoption of a Natural Resource Protection Overlay Zone. The purpose of this zone is to: "(1) Protect the natural areas of the Township against human disturbance. Preserve the Township's forests, woodlands, wetlands, floodplains, streams and creek corridors, lakes, greenways, and meadows; (2) Maintain the ecological balance between wildlife, plant and aquatic life on Township owned open space; (3) Retain variety and contrast in the Township's landscape, provide natural buffers, and prevent further degradation of unique and irreplaceable land types." Applicable parcels would include all Township owned parcels, and all undeveloped privately owned parcels that have been voluntarily dedicated or set aside as open space. The proposal further states that "...all land designated within the overlay zone remain in its natural state except for passive environmental activities such as unpaved walkways, wildlife sanctuaries, fishing areas and the like." The development of such an overlay zone could provide protection of lands that may not be protected by other means such as regulated flood plains and wetland areas where development is prohibited.

Perhaps the initial step should be the creation of a Township-wide "Map of Potential Conservation Lands" that would include both "Primary Conservation Areas" (wet, flood-prone, steep) and "Secondary Conservation Areas" (otherwise buildable woodlands, farmland, riparian corridors, cultural landscapes, scenic view sheds, and other noteworthy features that define the Township's special character). The proposed natural resources protection overlay zone would include provisions for potential recreation or playground sites, so that the Township is not precluded from meeting the active recreation needs of the residents.

### Analysis and Recommendations

The connection of riparian corridors in a greenway system along with the development of a map of potential conservation lands are suggested as approaches to establishing connections between wetland areas, existing parks and Township owned open spaces. Conservation corridors will enable pedestrian movements generally running in an east/west direction throughout the Township. In preserving these areas, the establishment and preservation of open space will be advanced. Since land resources are limited, it is important that the Township be aware of those areas which present an opportunity for the conservation of open space as well as those areas suited for recreational activities to serve the needs of current and future residents of Cherry Hill. The Greenway system will also enable regional connections with other municipalities

- Identify the long-range acquisition and preservation needs necessary to complete the riparian/greenway corridor system. Obtain easements in developments and from other applicable property owners. Purchase land for greenways when easements and other strategies prove inadequate.
- Inventory easements with conservation potential in conjunction with community associations, large property owners and land trusts. Inform property owners of tax and environmental benefits, and encourage them to participate.

- Prepare a map that locates land with the potential for conservation including primary and secondary conservation areas. Create connections that are 100 to 150 feet in width without affecting potential infill development sites.
- Create a mechanism for on-going monitoring and evaluation of protected open space areas.

## Natural Resources

The natural environment of geology, soils, vegetation, streams, ground water, and climatic conditions represents our living environment. Various elements of this environment are extremely sensitive to intrusion. The quality of ground water resources must be preserved and replenished. Surface waters and fresh water wetlands are natural recharging basins for our geologic aquifer stratas. Preservation of vegetation is important in purifying the air. The rich soils represent an agricultural opportunity that must be preserved.

### *Critical Areas*

#### **Geology**

Geology plays an important role in identifying appropriate uses for land. Geological characteristics determine the suitability of land for development. Geology also assists in the identification of aquifer recharge areas. Lastly, the parent material of soils is derived through geologic formations.

New Jersey is divided into four major physiographic provinces. These are identified by their possession of a similar geological history and recognizably different physical landscape features and soil formation. The state's largest physiographic province is that of the Atlantic Coastal Plain. Cherry Hill Township falls within the Coastal Plain province of the eastern United States. This comprises about 4,500 square miles, or about three fifths of the entire state. It can most simply be divided into an Inner Coastal Plain and an Outer Coastal Plain. Both consist of relatively loose sedimentary materials.

The Inner Coastal Plain, facing Raritan Bay and the Delaware River, has been eroded down to older sediments richer in finer soil building materials, such as silts and clays, and is thus generally quite fertile. It was derived, in part, from sediments eroded from the Appalachian Mountains and carried downstream by rivers from 135 to 65 million years ago. The Outer Coastal Plain consists of more recent deposits, richer in sand and thus much poorer, in general, for agriculture. The Outer Coastal Plain has deposits that range to about one million years ago. More than half the coastal plain lies below 100 feet in elevation but a considerable area in the central portion lies at more than 200 feet above sea level. The coastal plain faces the Atlantic with a series of barrier islands and lagoons that are widely used for recreational purposes.

Like several other communities in southwestern New Jersey, Cherry Hill is located along the Inner Coastal Plain. A line beginning south of Wenonah and drawn in a northeast direction towards Medford roughly describes the boundary between the Inter Coastal and Outer Coastal Plains in Camden County. In

Cherry Hill, this line is generally located at the boundary with Voorhees Township. There are four geologic formations present in Cherry Hill. These include the Mt. Laurel Sand, the Woodbury and Merchantville Clays, the Hornerstown Marl, the Kirkwood Sand, and the Pennsauken Formations. The locations of these geologic formations are represented on **Map D3**.

### ***Soils***

Soil information is valuable in determining the potential use of a parcel of land. It can determine if land is suitable or unsuitable for farming or other types of development. The United States Soil Conservation Service grades and maps soils throughout the country. Eight major soil groups exist throughout Camden County. Of these, five are located in Cherry Hill Township. These soils include the Howell-Urban Land association, the Freehold-Homdel-Collington association, the Marlton-Kresson association, the Westphalia-Nixonton association, and the Muck-Alluvial association. Following is a discussion of these associations and a Soil Analysis (**Table D3**) that characterizes the soil types and identifies the building suitability of lands conveying these soils. Additionally, the location of these soils is represented on **Map D4**.

#### ***Howell-Urban Land Association***

This soil is classified as having a slow permeability rate and a low ph level resulting in soils that are acidic. Acid producing soils that have been exposed adjacent to streams tend to lower the ph of water thereby inhibiting fish production and plant life. Soils that have been uncovered oxidize promoting algae growth that further pollutes the stream.

#### ***Freehold-Homdel-Collington***

These soils are fertile and slow to moderately permeable. The Holmdel soils have a seasonal high water table that inhibits development. Where the water table is less than 5 feet, there is a higher potential for wet basements, alteration of plant life and frost action on footings and paving.

#### ***Marlton-Kresson Association***

This band of soils is characterized as having a slow permeability rate and they tend to drain slowly after heavy rains. As with the Holmdel soils, the Marlton-Kresson soils are limited for development without proper design of adequate drainage systems.

#### ***Westphalia-Nixonton-Barclay Association***

These soils are a narrow band defined as nearly level to gently sloping with a high water table. The Several soils occur most frequently in Cherry Hill Township. Soils are limited for development without proper design of adequate drainage systems.

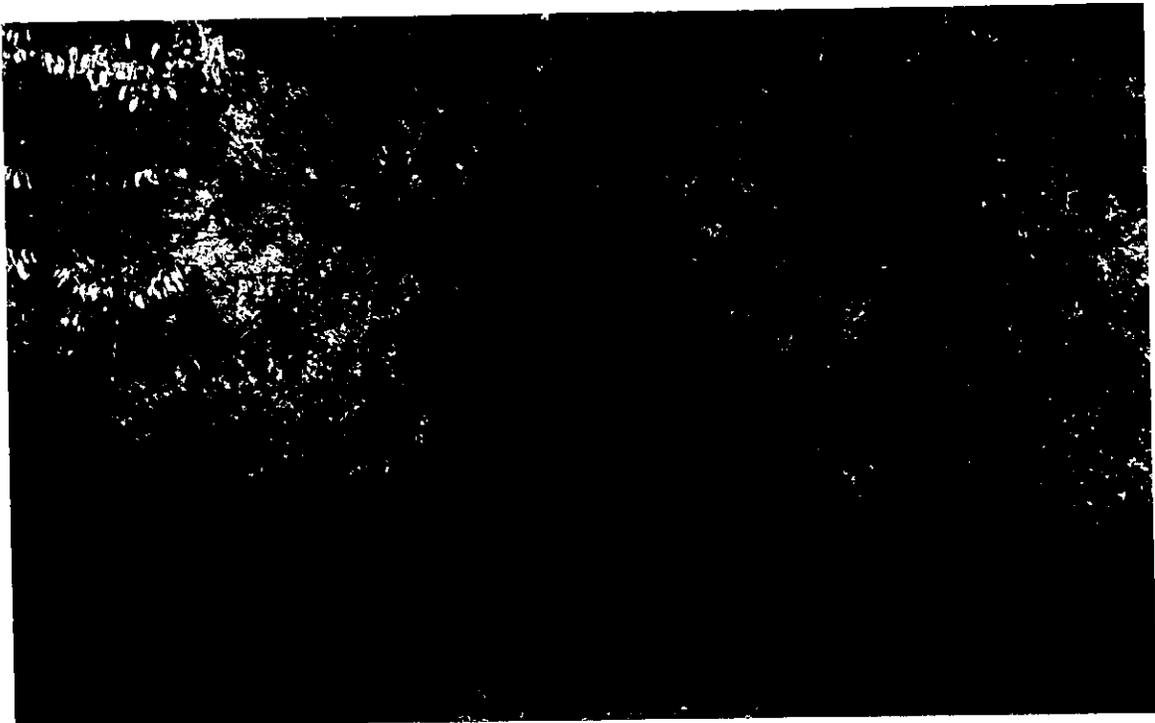
### *Muck-Alluvial Association*

These soils occur adjacent to streams. Flooding is a frequent occurrence therefore, development cannot occur in these areas. These soils exist along the Cooper River from the boundary of Pennsauken Township and extending east to Kings Highway and along the North Branch of the Cooper River slightly west of Springdale Road.

### **Aquifers**

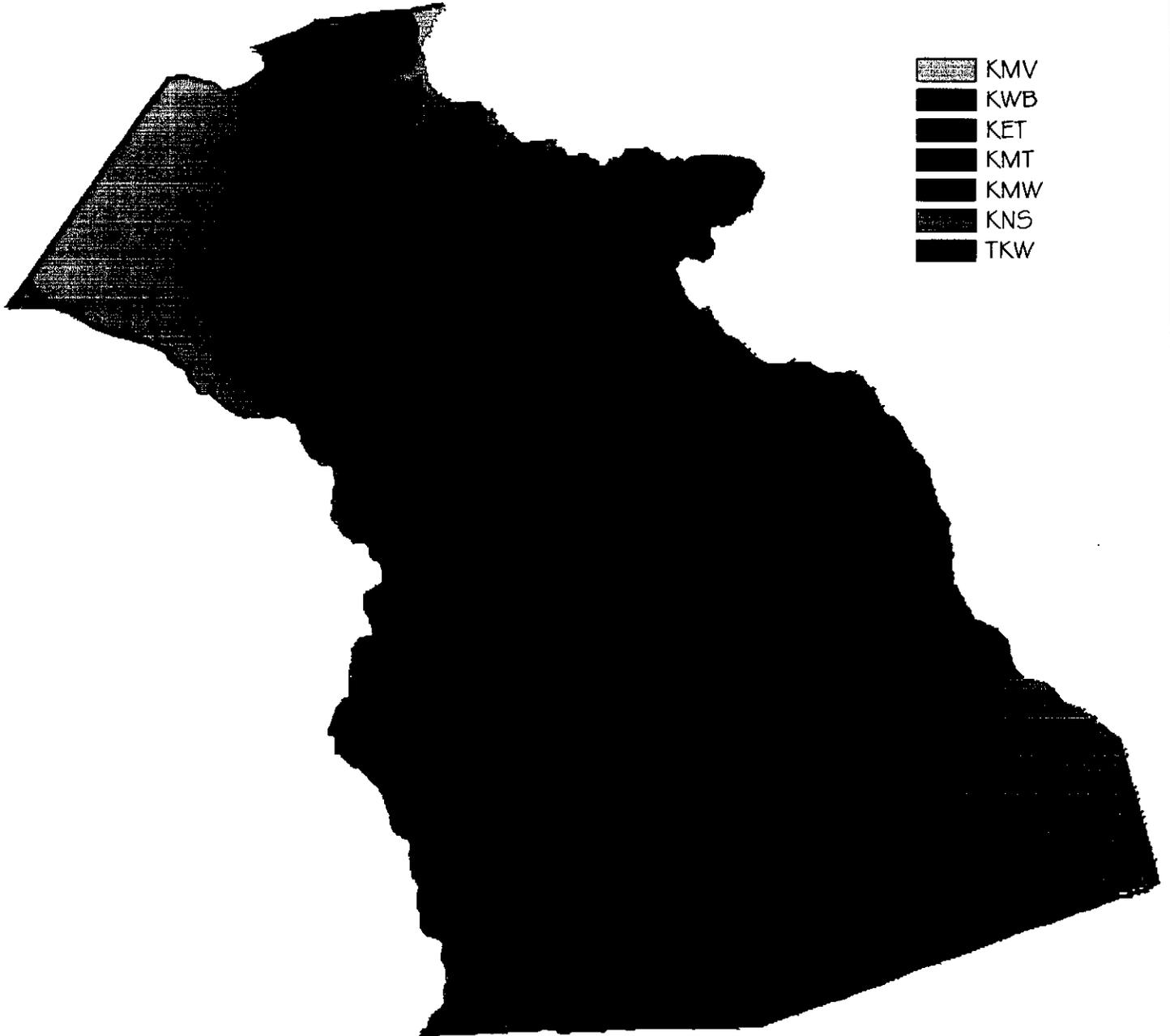
In Cherry Hill, there are two geologic formations that are water-bearing deposits, also known as aquifers. They are the Kirkwood-Cohansey and the Wenonah-Mt. Laurel Sand formations. In this region there is also an underlying geologic formation known as the Potomac-Raritan-Magothy formation. This is the primary source of drinking water for the residents of southern New Jersey.

The replenishment of aquifers occurs through the infiltration of precipitation, or the downward seepage of streams and wetland areas. Additionally, these lands act as natural filters. They have the ability separate out harmful substances that wash off impervious surfaces during rainstorms before discharging the runoff back into the aquifers. Since stream corridors and the associated wetlands play an important role in aquifer recharge the preservation of these areas should be made a part of the Township's conservation policy. While the quality of aquifer recharge is affected by the soil characteristics, the rate of replenishment is greatly affected by the type of land use. Due in part to excessive demand, the PRM aquifer is not being replenished as quickly as it is being mined. This has created a "cone of depression" under wells where the water table has dropped. The well in South Erlton has the largest cone of depression in the region. If this over mining of water persists, eventually saltwater will be drawn from the ocean into the aquifer rendering the wells unusable. Therefore, it is imperative that intensity of land use be considered as it relates to the demands on the water supply system.



# CHERRY HILL TOWNSHIP

## GEOLOGY MAP MAP D3



-  KMV
-  KWB
-  KET
-  KMT
-  KMW
-  KNS
-  TKW

Scale : 1" = 1200'

Inventory Source : JCA Associates, Inc.  
1386 North Church St., Suite 3  
Morristown, NJ 07952  
Source : NJDP GIS Resource Data  
Also : Bay Partners Engineering Associates, Inc.  
204 Newburgh Avenue  
PO Box 1751  
P.O. Box 1751  
P.O. Box 1751  
P.O. Box 1751

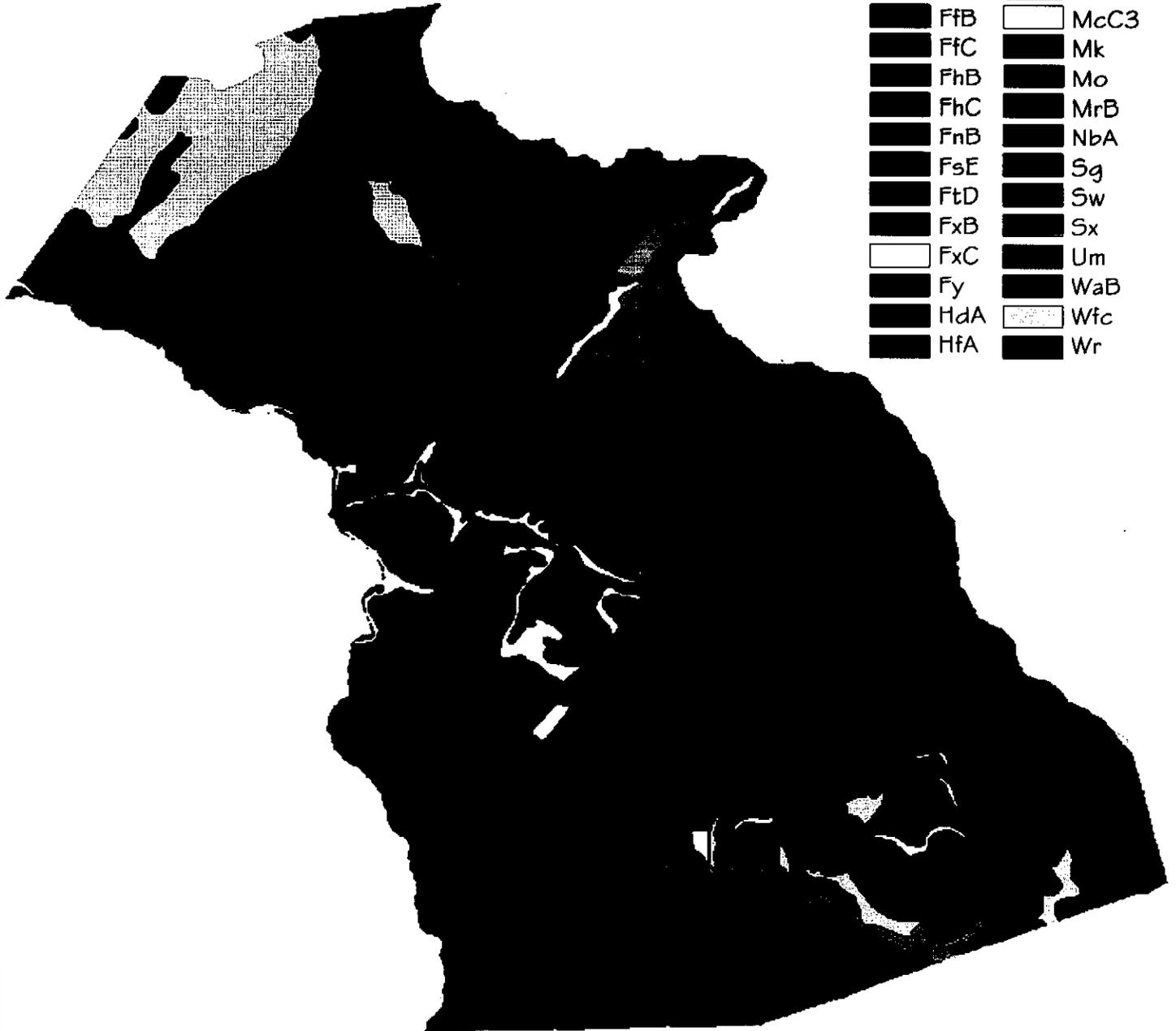
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# CHERRY HILL TOWNSHIP

## SOILS MAP MAP D4



 Arb	 Hn
 Ax	 HoB
 Cm	 HoC
 CoA	 KrA
 CoB	 Lv
 FfA	 Ma
 FfB	 McC3
 FfC	 Mk
 FhB	 Mo
 FhC	 MrB
 FnB	 NbA
 FsE	 Sg
 FtD	 Sw
 FxB	 Sx
 FxC	 Um
 Fy	 WaB
 HdA	 Wfc
 HfA	 Wr



Scale : 1" = 1200'

Soilmap Source : JCA Associates, Inc.  
 156 North Church St., Suite 2  
 Morristown, NJ 07957  
 Source : NCEM GIS Resource Data  
 Also : Bay Profile Engineering Associates, Inc.  
 300 North Home Avenue  
 PO Box 1731  
 P.O. Box 1731, Morristown, NJ 07957

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 N.J. License No. A1 0827 P.A. License No. PA 87883 X

## **Floodplains**

Floodplains are defined as areas that have a high probability of significant flooding during intensive rainfall. The lands that comprise the floodplains are stream corridors and adjacent upland. The Federal Emergency Management Agency has delineated floodplains as part of the National Flood Insurance Program that is used to determine flood insurance rates. Land within the 100-year floodplain has at least a one percent chance of being severely flooded in an average year. Severe floods may result from spring thaws or above average spring rains. These areas generally coincide with alluvial soils as well as areas where the seasonal high water table is within one foot of the ground surface. Not all areas susceptible to flooding are designated by FEMA as floodplains. These lands are referred to as flood prone and are characterized by poor draining soils and high water tables. However, unlike the floodplain areas, these lands are not adjacent to stream corridors.

When first developing, many New Jersey communities lacked the foresight to build outside of the floodplains. Now they are dealing with the consequences of repeated flooding of business and homes that results in considerable loss of property. In the past, the Kingston Estates section of the Township has experienced significant flooding and property damage. In 1999, a three-stage drainage improvement program was initiated in this neighborhood to mitigate this problem.

To insure the health and safety of residents, it is important to regulate development in areas where there is a presence of high water table and poorly drained soils. The Stream Encroachment Permit process as administered by the Department of Environmental Protection regulates land development in the floodplain. Additionally, the state's uniform construction code also requires the flood proofing of structures in these areas. **Map D5** represents the location of the floodplains in Cherry Hill Township.

## Wetlands

Wetlands are areas where water covers the soil, or is present either at or near the surface of the soil all year or for varying periods during the year, including during the growing season. Water saturation largely determines soil development and the types of plant and animal communities living in and on the soil. Wetlands may support both aquatic and terrestrial species. The prolonged presence of water creates conditions that favor the growth of specially adapted plants and promote the development of characteristic wetlands soils. Wetlands generally include swamps, marshes, and bogs and vary widely because of regional and local differences in soils, topography, climate, hydrology, water chemistry, vegetation, and other factors, including human disturbance.



*Wetlands provide wildlife habitat*

# CHERRY HILL TOWNSHIP

## FLOOD PLAINS MAP MAP D5



### LEGEND

FLOOD PLAINS



Scale : 1" = 1200'

Survey Source : JCA Associates, INC.  
1384 North Church St., Suite 3  
Haddonfield, NJ 08033  
Source : HUDP GIS Resource Data  
Also : Site Plans Engineering Associates, INC.  
201 Sandbarre Avenue  
PO Box 1791  
Pine Plains Road, NJ 08242

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Wetlands are among the most productive ecosystems in the world. Some of the ways they provide value are:

- ◆ Improving water quality through the absorption and filtering out of pollutants and sediments in the water.
- ◆ Storing floodwaters, acting like natural sponges and slowing down the force of flood and storm waters as they travel downstream.
- ◆ Offering habitat for wildlife. Many migratory birds and other wildlife depend on the ecological settling of wetlands for their survival.
- ◆ Supporting biodiversity. The variety of living organisms found in wetlands contributes to the health of our planet and our own lives by ensuring our food supply, regulating the atmosphere and providing raw materials for industry and medicine. Many natural products found in our economy come from wetlands, including shellfish, cranberries and timber.
- ◆ Providing valuable open space and creating recreational opportunities.

New Jersey regulates wetlands under the New Jersey Freshwater Wetlands Protection Act, N.J.S.A. 13:9B. This law also protects transition areas or "buffers" around freshwater wetlands. It requires the DEP to regulate virtually all activities proposed in the wetlands, including cutting of vegetation, dredging, excavation or removal of soil, drainage or disturbance of the water level, filling or discharge of any materials, driving of pilings, and placing of obstructions. Development activities in an area within 150 feet of a wetland may also require regulation. This is known as a transition area (sometimes called a buffer) and may need a DEP transition area waiver. A transition area is a strip of land bordering the wetlands. The width of the transition area may vary from 150 feet down to zero, depending on the value of the particular wetland. Wetlands with an intermediate resource value generally require a 50 foot transition/buffer area. For example, a wetland containing endangered species habitat would be classified as exceptional and require a 150 foot wide transition area.

A small wetland in a ditch would fall under ordinary classification and therefore might not require any transition area at all. Most freshwater wetlands in Cherry Hill are classified as intermediate and require a 50-foot transition area. Approximately 10% of Cherry Hill's total land area or 1,560 acres are identified as freshwater wetlands. Freshwater wetland areas are shown on **Map D6** and the Depth to Seasonal High Water Table is shown on **Map D7**.

# CHERRY HILL TOWNSHIP

## FRESHWATER WETLANDS MAP MAP D6



### LEGEND

FRESHWATER WETLANDS



Scale: 1" = 1200'

Boundary Source: JCA Associates, Inc.  
1288 Holly Church Rd., Suite 2  
Averettown, NJ 08027  
Source: NHTSP GIS Database Data  
Also: San Pedro Engineering Associates, Inc.  
304 Highways Avenue  
PO Box 1701  
Palm Beach Gardens, FL 33462

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# CHERRY HILL TOWNSHIP

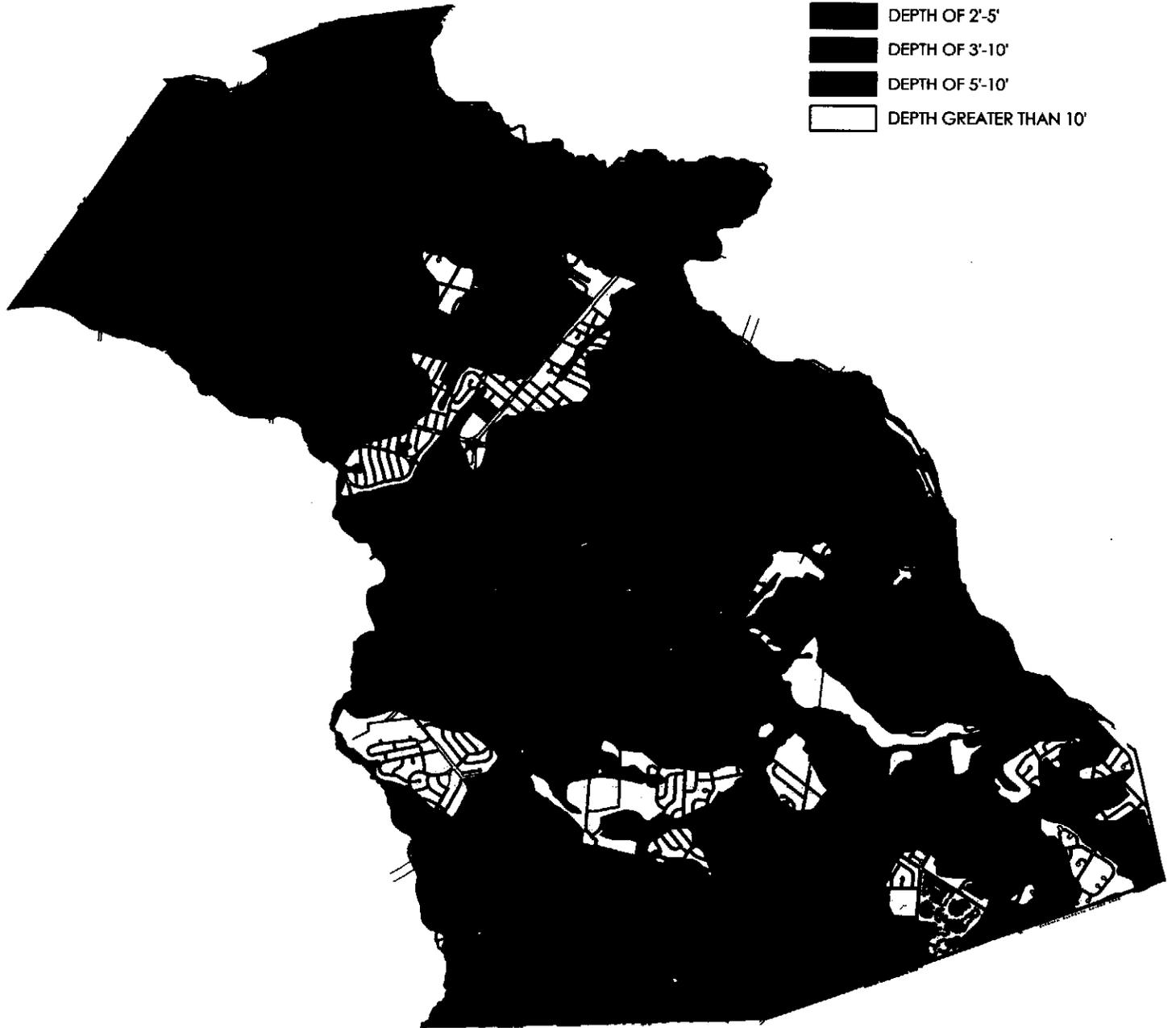
## DEPTH TO SEASONAL HIGH WATER MAP MAP D7



### LEGEND

DEPTH TO SEASONAL HIGH WATER

-  DEPTH OF 0'-1'
-  DEPTH OF 1'-3'
-  DEPTH OF 2'-5'
-  DEPTH OF 3'-10'
-  DEPTH OF 5'-10'
-  DEPTH GREATER THAN 10'



Scale : 1" = 1200'

Base Map Source : JCA Associates, Inc.  
1264 North Church St., Suite 2  
Hightstown, NJ 08520  
Source : NJDEP GIS Resource Data  
Also : Bay Profile Engineering Associates, Inc.  
301 Main Street  
PO Box 178  
Parsippany, NJ 08859

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## **Topography**

Topography plays an important role in conservation planning. The slope of the land is an indicator of the appropriateness and type of development that can occur in that area. Steeper slopes are less suitable for any type of construction than is lower grade land. The land in Cherry Hill Township can be grouped into three categories: 0<8 percent, 8<15 percent, and 15 percent or greater. Ninety percent of the Township's land falls into the first category.

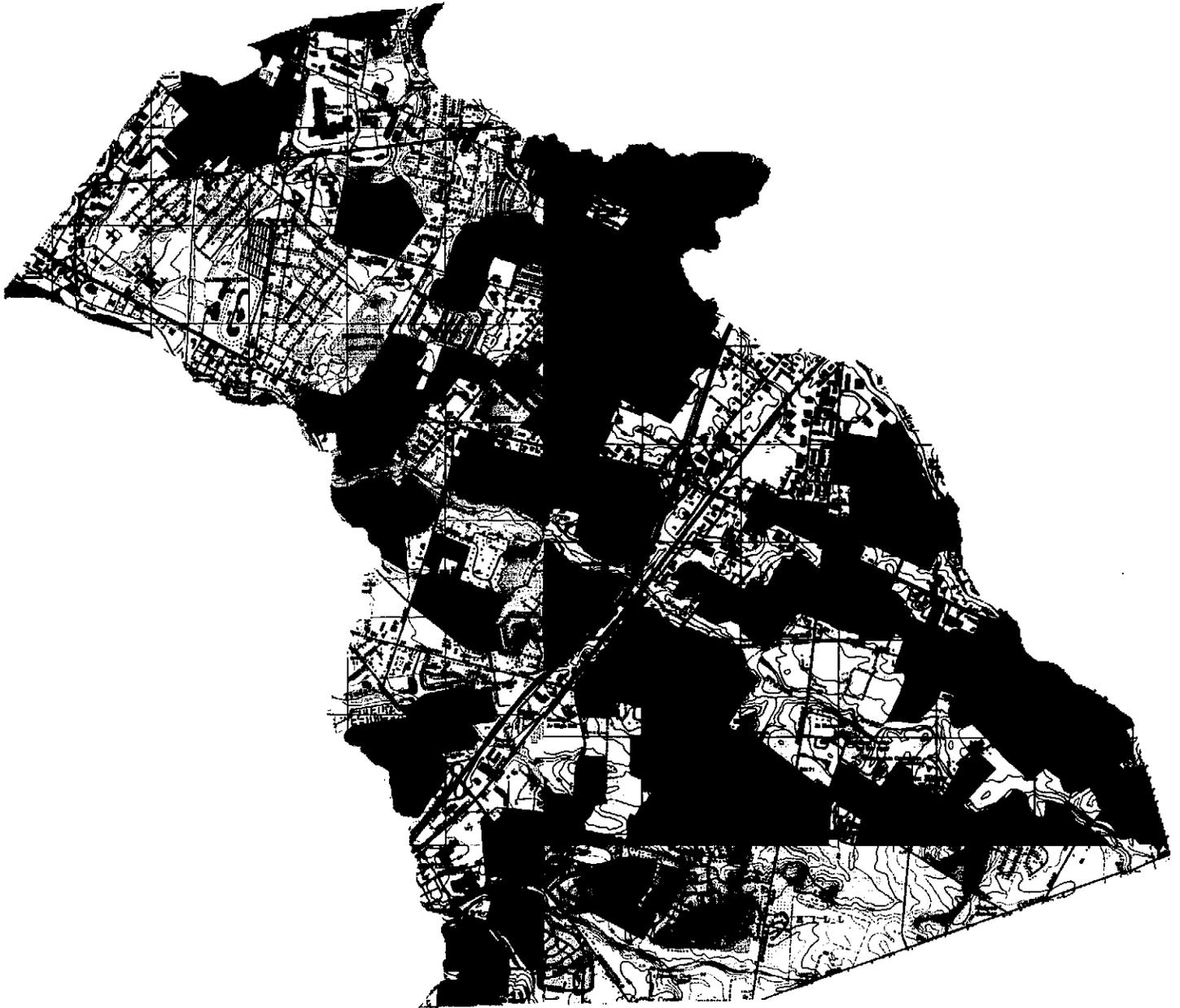
The 0<8 percent slope is found throughout the Township. These areas produce the lowest peak rates of water run-off. Consequently, this land is less limiting and most suitable for nearly every type of residential, commercial, and industrial development. Most of these areas either have been developed or are designated as Township owned open space or recreation areas.

Slopes within the 8<15 percent range are found approximately 5 percent of the Township. These areas are found within the Willowdale and Woodcrest neighborhoods and in the area of Cropwell and Kresson Roads. Generally, areas with slopes of 8<15 percent can not be modified for development without causing a negative impact on the environment. Careful evaluation must be given to development proposals for these slopes. Lands with this slope topography can be incorporated into tracts being developed, but should not be re-graded or improved. Instead, they should be creatively planted and used as open space or incorporated into yard area. The installation of walks and utilities in these areas prove to be more costly and will require run-off and erosion management techniques.

Less than 1 percent of Township land is characterized by slopes of 15 percent or greater. The majority of this land is along undisturbed stream banks. Steep slopes can be found along the South Branch of the Pennsauken Creek and on the tributaries of the Cooper River. Some of these areas have slopes in excess of 25 percent. Steep slopes also occur in the Downs Farm, Cuffy's Run, and Ashland neighborhoods. Small pockets of steep slopes are also present along Kings Highway in Brandywoods, Kings Croft, and in Wilderness Acres. These lands should be left in its natural condition or maintained in grass or tree cover. Disturbing the vegetation on steep slopes can produce considerable erosion. Once this occurs, it is extremely difficult to reestablish vegetation. Topography is shown on a U.S.G.S. Map on **map D8**.

# CHERRY HILL TOWNSHIP

## TOPOGRAPHY MAP MAP D8



Scale : 1" = 1200'

Base Map Source : JCA Associates, Inc.  
7784 North Church St., Suite 2  
Hockessin, NJ 08040  
Source : NJDEP GIS Resource Data  
Also : Bay Public Engineering Associates, Inc.  
201 South Orange Avenue  
PO Box 1731  
Parsippany Beach, NJ 08054

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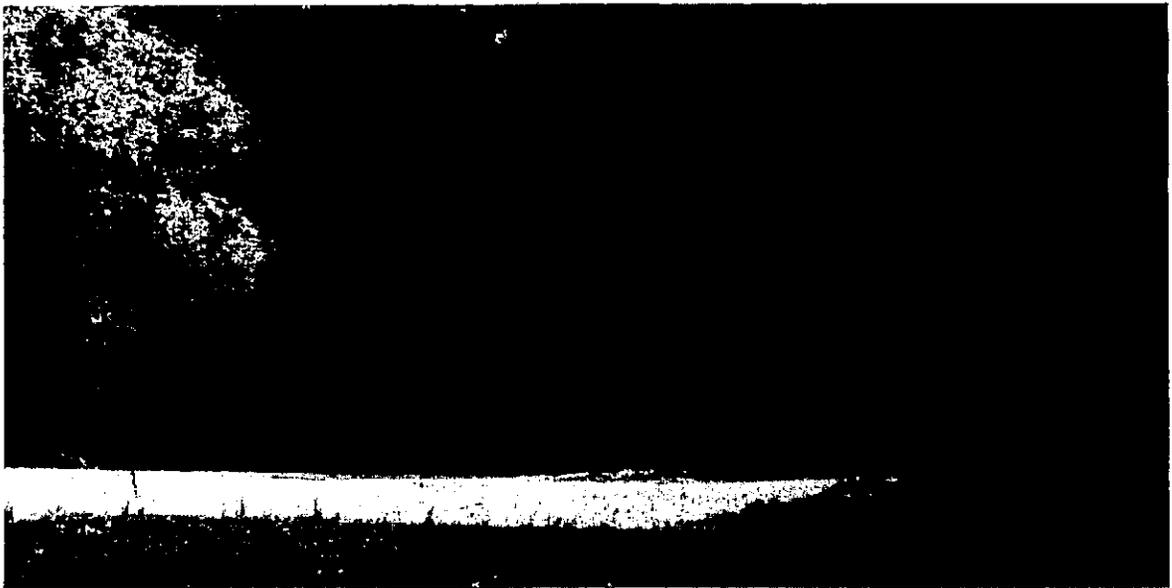
## Analysis and Recommendations

The protection of natural resources can be used as a planning strategy to preserve the remaining natural resources of the community. These include the safeguarding of floodplains, wetlands, steep slopes, mature woodlands, and the minimization of development in aquifer recharge areas. Preservation of natural resources protects the ecological and scenic resources of the Township.

- Development activity should be prohibited in any flood plain or wetland area. Consequently, these areas are identified as areas recommended for conservation.
- Encourage land development that preserves natural amenities and does not aggravate drainage problems affecting the Township.
- Due to the increasing scarcity of forested land it is recommended that all wooded areas within the Township be considered as sensitive areas. Trees greater than or equal to 8" diameter measured 12" above the natural ground line should be maintained and incorporated into the final design of all subdivisions and site plans. Every effort should be made to conserve trees through the design and approval process.
- A municipal tree-planting and maintenance program should be developed.
- A shade tree commission or advisory board should be established. Successful indigenous or naturalized species such as red oak, sugar maple, red maple, green ash, and white ash are recommended as street trees.
- Site planning and subdivision layouts that use natural factors to their advantage can reduce energy demand by approximately 20 percent. These benefits accrue both to the homeowner by reducing operating expenses and to regional energy users by reducing aggregate energy demand. The following techniques are recommended for all new land development.
  - New structures should be oriented toward the southern exposure.
  - Window openings on northern exposures should be limited in size and number.
  - Windbreaks of evergreen material are recommended both on northern exposures of residential structures and on northern property exposures.
  - Deciduous trees are recommended on western exposures to intercept summer's setting sun and to admit the energy of the winter sun.



*Land set aside for conservation adds a permanent resource for generations to come.*



*Flood plains protect the human environment from storm related flooding.*

**Table D3  
SOILS ANALYSIS**

KEY	SOIL TYPE	Depth to Seasonal High	Wet Land Potential	High Erosion Potential	Building Site Suitability		Susceptibility to Frost Action
					Residential	Industrial	
ARB	Aura sandy loam 2%-5% slope	5 to 10 feet			Slight	Slight	Low to moderate
AX	Aura-Urban, complex	5 to 10 feet			Slight	Slight	Low
Cm	Colemantown loam	1 foot	Yes		Severe; local flooding hazard		High
CoA	Collington fine sandy loam, 0%-2% slope	5 to 10 feet or more			Slight	Slight	Low to moderate
CoB	Collington fine sandy loam, 2%-5% slope	5 to 10 feet or more			Slight	Slight	Low to moderate
FfA	Freehold fine sandy loam, 0%-2% slope	5 to 10 feet or more			Slight	Slight	Low
FfB	Freehold fine sandy loam, 2%-5% slope	5 to 10 feet or more			Slight	Slight	Low
FfC	Freehold fine sandy loam, 5%-10% slope	5 to 10 feet or more		Yes	Moderate	Slight	Low
FhB	Freehold loamy fine sand, 0%-5% slope	5 to 10 feet or more			Slight	Slight	Low
FhC	Freehold loamy fine sand, 5%-10% slope	5 to 10 feet or more		Yes	Moderate	Slight	Low
FhB	Freehold sand, thick surface variant, 0%-5% slope	5 to 10 feet or more			Slight	Slight	Low
FSE	Freehold, 15%-30% slope	5 to 10 feet or more		Yes	Severe; steep slopes	Severe; steep slopes	Low
FtD	Freehold & Collington, 10%-15% slope	5 to 10 feet or more		Yes	Severe; steep slopes	Severe; steep slopes	Low
FxB	Freehold & Downer Urban, complex,	5 feet or more			Slight	Slight	Low
FxC	Freehold & Downer-Urban, complex, sloping	5 feet or more		Yes	Moderate	Slight	Low
Fy	Freehold & Downer, clayey substrata, Urban, complex	3 feet or more			Slight	Slight	Low

KEY	SOIL TYPE	Depth to Seasonal High	Wet Land Potential	High Erosion Potential	Building Site Suitability		Susceptibility to Frost Action
					Residential	Industrial	
Had	Holmdel fine sandy loam, 0%-3% slope	2 to 3 feet	Yes		Moderate	Moderate	Low
HfA	Holmdel loamy fine sand, 0%-3% slope	2 to 3 feet	Yes		Moderate	Moderate	Low
Hn	Holmdel-Urban, complex	2 to 3 feet	Yes		Moderate	Moderate	Low
HOB	Howell-Urban, complex gently sloping	4 feet or more			Moderate	Slight	Low
HOC	Howell-Urban, complex sloping	4 feet or more			Moderate	Slight	Low
KrA	Kresson sandy loam, 0%-3%	2 to 3 feet	Yes		Moderate	Moderate	Moderate
Lv	Loamy alluvial	0 to 1 foot	Yes		Severe; local flooding hazard	Severe; local flooding hazard	Moderate
Ma	Made land	Variable			Variable	Variable	N/A
Mcc 3	Marlton soils, 5%-10% slopes, severely eroded	3 to 10 feet or more		Yes	Moderate	Slight	Low to moderate
Mk	Marlton & Kresson, urban complex	2 to 4 feet or more	Yes		Moderate	Moderate	Low to moderate
Mo	Moderately wet land	2 to 3 feet	Yes		Moderate	Moderate	Moderate to high
Mrb	Marlton sandy loam, 2%-5% slope	3 to 10 feet or more			Moderate	Slight	Low to moderate
NbA	Nixonton & Barclay fine sandy loam, 0%-3% slope	1 to 3 feet	Yes		Moderate	Moderate	Low to moderate
Pa	Pasquotank fine sandy loam	1 foot	Yes		Severe; local flooding hazard	Severe; local flooding hazard	Moderate to high
Sg	Sand & gravel pit	N/A			N/A	N/A	N/A
Sw	Shrewsbury fine sandy loam	1 foot	Yes		Severe; local flooding hazard	Severe; local flooding hazard	Low to moderate
Sx	Shrewsbury, complex	1 foot	Yes		Severe; high water table	Severe; high water table	Low to moderate
Um	Urban-Moderately wet complex	2 to 3 feet	Yes		Severe; high water table	Severe; high water table	Moderate to high
Wab	Westphalia fine sandy loam, 0%-5% slope	5 to 10 feet or more			Slight	Slight	Low to moderate
WfC	Westphalia loamy fine sand, 5%-10% slope	5 to 10 feet or more		Yes	Moderate	Slight	Low to moderate
Wt	Westphalia & Nixonton - Urban complex	2 to 5 feet or more			Slight	Slight	Low to moderate