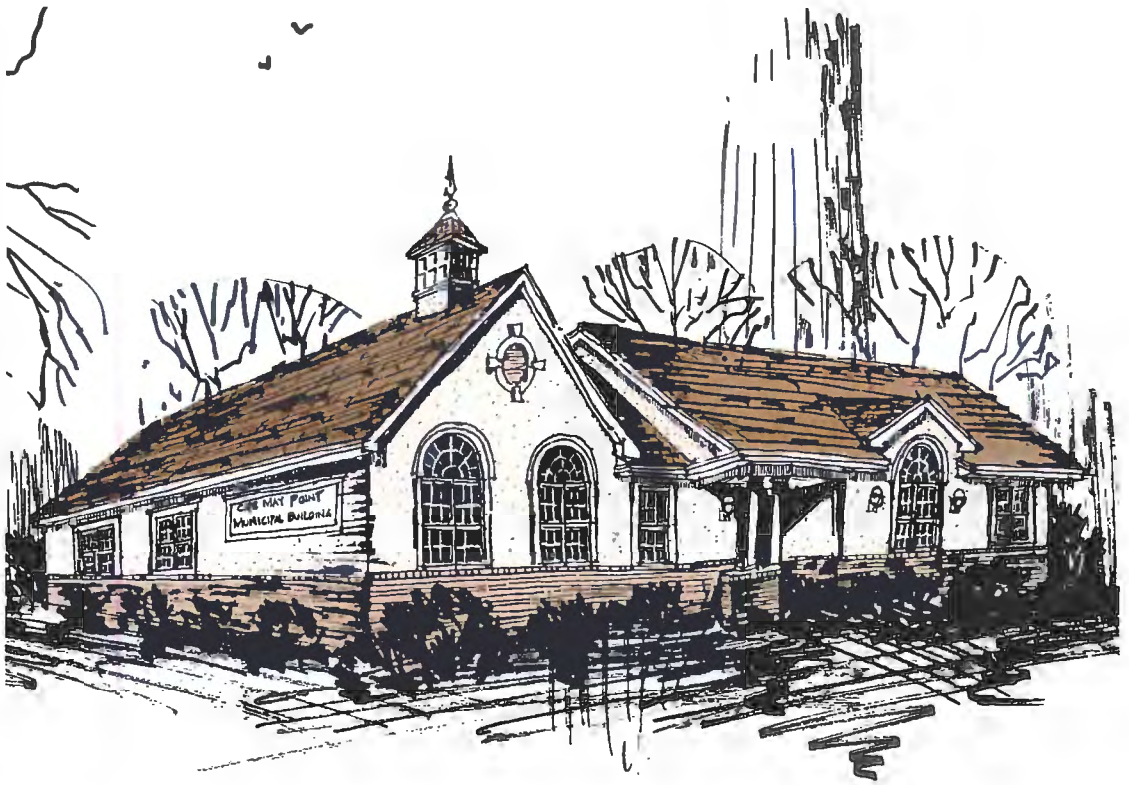
98-015

THE BOROUGH OF CAPE MAY POINT



ENVIRONMENTAL RESOURCE INVENTORY

1999

This document was developed with the aid of a grant from
The New Jersey Department of Environmental Protection,
Office of Environmental Services
and the
Borough of Cape May Point.

Prepared for The Cape May Point Environmental Commission by
Catherine F. Werick-Fine, Consultant, with assistance from The Cape May County Health Department

1999

TABLE OF CONTENTS

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

The Cape May Point Environmental Commission is extremely grateful for the help provided by the following individuals:

The Delaware Aquarium Society for the Lily Lake fish list

Ronald Dietrick, a retired employee of the New Jersey State Forestry Service, for conducting an identification tour of Cape May Point's trees, shrubs, and vines

Bruce Graham, Borough Engineer for the infrastructure maps

Mayor Malcolm Fraser for supplying infrastructure information and attendance at meetings

Matt Pelligrine, Cape May Point State Park naturalist

David Sibley for the list of birds

Jim Smith, Cape May County Planning Director

Bob Squires for his help with our open space maps

Ken Soltesz and Bob Barber for the list of dragonflies and damselflies

Pat Sutton of the Cape May Bird Observatory for the list of butterflies

Kevin Thomas of the Cape May County Department of Health for the GIS Maps

Joan Walsh of the Cape May Bird Observatory for the list of breeding birds

FOREWORD

The Cape May Point Environmental Commission came into existence on February 10th, 1969 as a result of Ordinance 135-69, and was titled the Conservation Commission. The name later changed to the Environmental Commission when the State of New Jersey legislated the formation of said commissions at the municipal level.

The impetus for the Commission lay in the desire to protect the unique, country-like quality of this tiny peninsular town. Covered with trees and natural in its strategic geographical location, it affords an important "stopover" for migrating birds and butterflies.

In the late nineteen eighties, Cape May Point experienced a period of rapid development. Trees were felled and lawns were replaced with stone to reduce lawn maintenance. It became apparent that habitat for resident and migratory birds was vanishing. A compromise was needed between the push for development and the desire to preserve this critical habitat.

In 1990, the Environmental Commission, under the Chairmanship of Irma Plunkett and with legal assistance, wrote a Landscape Ordinance that was adopted by the Borough government as Ordinance 150.21. The thrust of the ordinance lay in the requirement of a Landscape Plan to be submitted prior to the issuance of a building permit; the intent, to protect as much natural vegetation and to replace that which was destroyed. The New Jersey Audubon Society so valued the ordinance they awarded the Commission their annual Conservation Award in 1990. Other communities lauded the ordinance and requested copies.

In 1996, the Environmental Commission decided to compile an Environmental Resource Inventory (ERI). The ERI is a collection and interpretation of available information about local conditions and resources with regard to soils, water, air, flora, fauna, geography, history, and protection and enhancement of the visual environment. This information is required for the proper development of a Master Plan which must, by law, take environmental conditions into account in the Land Use Plan element. The Zoning Ordinances that implement the Master Plan should be evaluated in terms of ERI information to determine what environmental impacts will result from the land use it specifies. Not only will the ERI assist the Planning and Zoning Boards but also it will assist the Borough Commission and other interested persons.

With the assistance and encouragement of the Association of New Jersey Environmental Commissions (ANJEC), our parent organization, the Commission applied for an Office of Environmental Protection Grant in 1997. The Borough agreed to match the grant. After approval by the New Jersey Department of Environmental Protection, the Commission began its compilation of data in July 1998. Chapters were assigned to Commission members according to each individual's interests and expertise. Catherine Fine, a professional Environmental Consultant familiar with organizing and developing Environmental Resource Inventories, was hired to compile the information into book form.

As a result of doing this ERI, the Environmental Commission has come to realize that Cape May Point is much more than the sum of all these resources, for it combines and displays them in an indefinable yet palpable atmosphere we feel as a presence in our hearts.

Sally B. Sachs, Chair
Cape May Point Environmental Commission

CAPE MAY POINT GOVERNING BODY

Mayor
Malcolm Fraser

Deputy Mayor
Craig Pilczuk

Commissioner
James Handley

ENVIRONMENTAL COMMISSION

Chair
Sally B. Sachs

Vice Chair
Toni Keiser

Secretary
Marie Rice

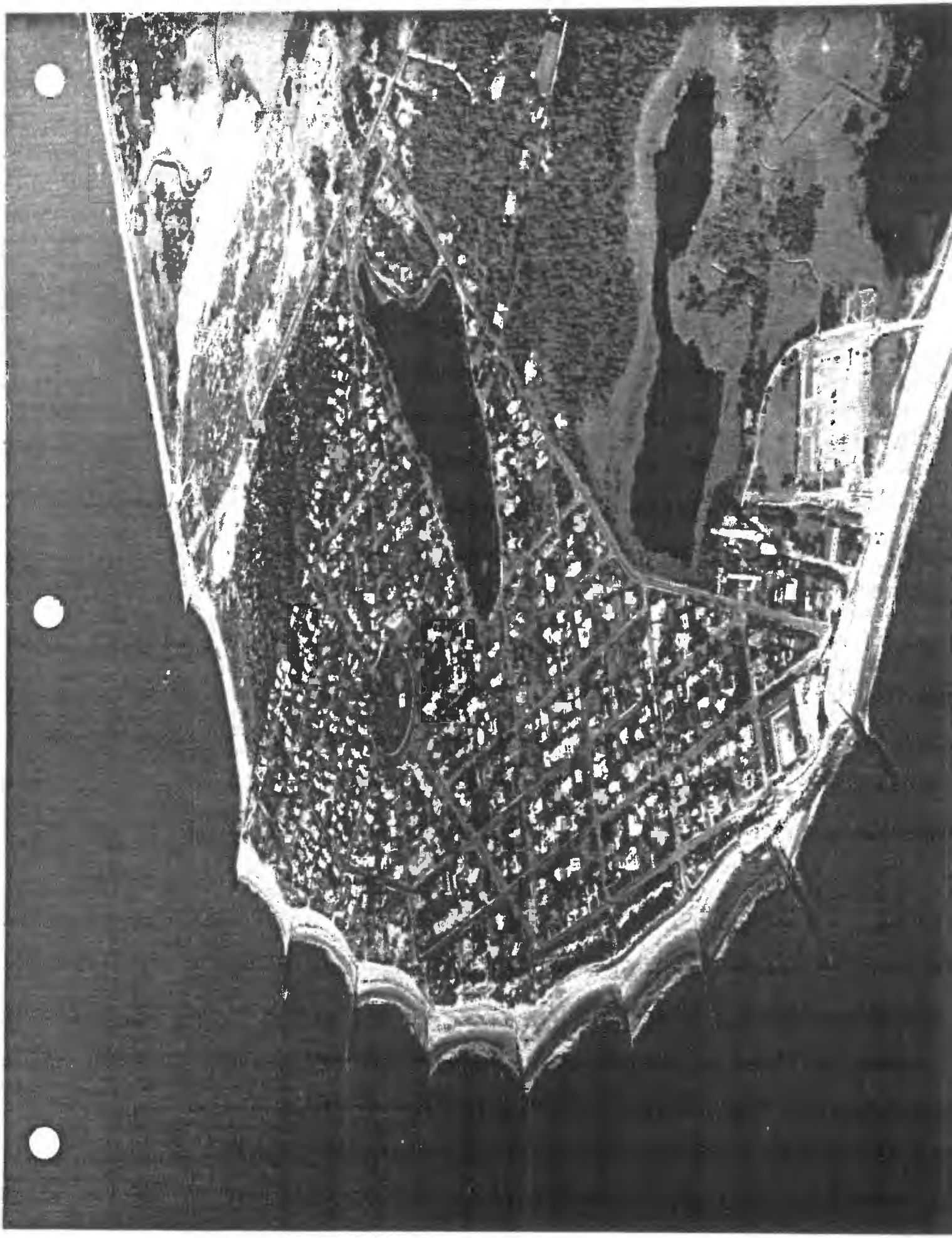
Borough Liaison
James Handley

Commissioners
Warren Jensen
Elizabeth Lehman
Kass Pilczuk
Carl Schupp

Environmental Consultant
Catherine Werick-Fine

GEOGRAPHY

The science of geography describes man, land and climate. Cape May Point's unique geographic location at the southernmost tip of the New Jersey peninsula has affected all three parameters.



GEOGRAPHY

The science of geography deals essentially with man, land and climate. Geographic information provides a good general description of an area and can contribute to improved understanding of more specific topics.

The Borough of Cape May Point is located at the southern tip of New Jersey where the Delaware Bay meets the Atlantic Ocean. With a total area of 192 acres (0.3 square miles) it is the smallest municipality in Cape May County both in area and population. Cape May Point was one of the first communities to be accepted into the New Jersey State Plan as a "Designated Village Center." It was described by the Plan as "...a compact village cluster of homes, unique in character, totally surrounded by natural areas isolating it from nearby communities...."

The community is composed primarily of individual building lots established in a grid pattern and radiating from a circular public park ("Pavilion Circle Park"). A 16-acre freshwater inland lake (Lake Lily) occupies the greater part of the northeastern sector. The landscape is a portion of the low, sandy peninsula that comprises the southern tip of New Jersey. Elevations range from 0 to 15 feet. The beach from Cape Avenue to Alexander Avenue is considered bay shore; the beach from Lehigh Avenue to Cape Avenue is considered ocean shore. The shoreline consists of a man-made sand dune topography with beachfronts sculpted by nine rock jetties.

Cape May Point's geography has made it both blessed and precarious. With spectacular ocean views and cool summer breezes, the Point has been an attraction for summer vacationers for many years. However, coastal storms from both the ocean and across the twenty-mile-wide Delaware Bay buffet this tiny borough and, occasionally, inflict significant damage. No two beachfronts face in the same direction. As a result, weather originating from the east, south, or west can pose a threat to Cape May Point's beaches. The Point has been inundated several times in the past by major storms and has lost a considerable amount of real estate and seaside frontage.

Drainage

Cape May Point is located within the Pond Creek Watershed Area. However, surface water runoff and groundwater within the bounds of the Borough drain to the freshwater inland lake. A man-made system drains overflow from the lake to Lighthouse Pond or to the Delaware Bay.

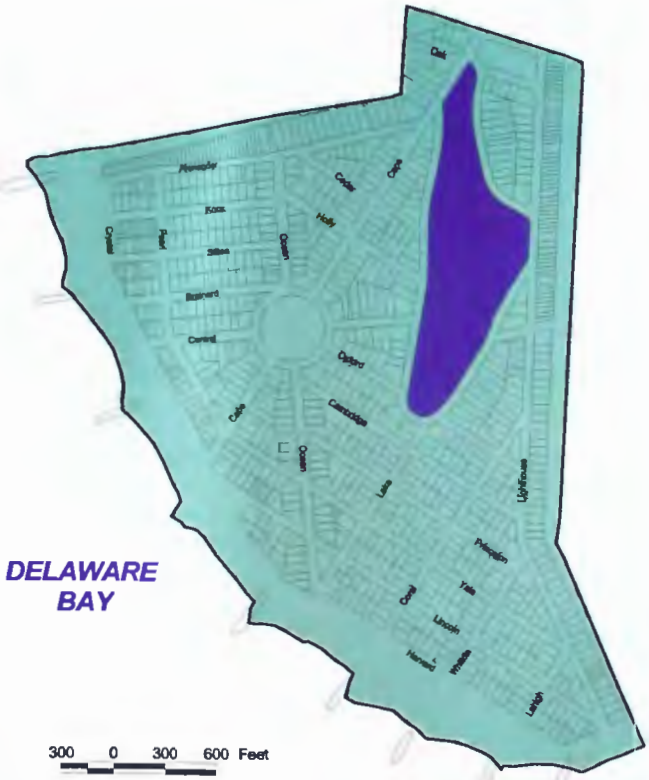
Population

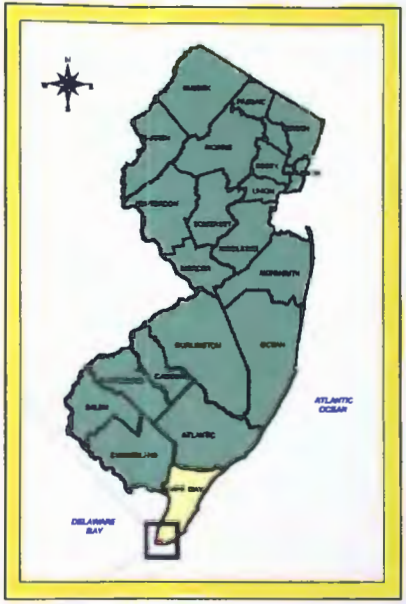
The Borough of Cape May Point has a year-round population of 288 residents according to the 1990 census. The population swells to a peak of 4200 in the summer season. Projected statistics put the Borough's population at 308 year-round residents and 5100 seasonal residents by the year 2010.

THE BOROUGH OFCAPE MAY POINT GEOGRAPHIC LOCATION MAP

The Borough of Cape May Point Geographic Location Map shows, in the upper right-hand corner, where Cape May County is situated within the state of New Jersey. A square drawn in heavy black lines frames the location of Cape May Point, which is depicted as a small red-colored area at the tip of the peninsula. The enlarged section at the left side of the map shows the shape of the Borough, the pattern of roads and the location of the freshwater lake within it.

CAPE MAY POINT GEOGRAPHIC LOCATION





GEOLOGY

For most of us, common time increments are minutes or days or years. For geologists, the smallest meaningful time increment is one million years. Fluctuations in ocean levels and climactic changes over eons of time have defined the stratigraphy of Cape May Point.

GEOLOGY

Geologic factors influence the availability of groundwater and the bearing strength for structures and buildings. Early geologists had to rely on exposed geologic formations (e.g. the Grand Canyon) to study the relationship of rock layers to one another and to time. Today, scientists are able to use drilling equipment to expose the underground landscape in core samples. Analysis of rock, clay and sand layers reveals information on the age of the layer and the conditions under which it was formed.

Cape May Point is fortunate enough to be very close to the location of the deepest boring ever to be accomplished in the state of New Jersey. In 1994, Kenneth Miller of Rutgers University led a team of scientists in designing the "New Jersey Sea-level Transect" project. The primary goals of the project were to 1) date glacial periods, 2) compare the dates to current estimated data, 3) estimate the rate and amplitude of sea level change and 4) evaluate the geologic layers. Boreholes were dug at Island Beach, Atlantic City and Cape May. The Cape May borehole was 1500 feet deep.

The Geology of Cape May Point

The science of geology deals with layers of materials deposited over time.

Layers

The earth beneath our feet is made up of many layers. A geologic layer is called a ***stratum.*** Strata are made up of similar materials deposited under similar conditions. ***Stratigraphy*** is the study and description of geologic strata, especially their content, depositional condition and age. Geologic strata are grouped in ***formations*** that are given specific names. These formations represent certain geological time periods. Formations are sometimes divided into smaller ***members***.

Time

While most of us speak in terms of seconds or even centuries, geologists deal in millions of years. This vast expanse of time is divided into smaller sections and sub-sections. The largest divisions are called ***eras*** (e.g. Mesozoic). Eras are broken up into ***periods*** such as the Jurassic or Triassic periods. Periods are made up of ***epochs*** (e.g. Holocene or Miocene). Epochs are divided into upper, middle and lower sections. Each section of an epoch represents the depositional period of a geologic formation.

Depositional Environments

Even though the Cape May boring was taken from a single location, varying ***depositional environments*** are represented. This is because, over millions of years. surface conditions change dramatically. Some layers were deposited when the surface area was an estuary, some when the area was a sea bottom, some during warm, dry periods and some during an ice age. The depositional sequences represented in a core sample are sometimes affected by tectonic activities.

Soil Composition

The formations underlying Cape May Point all consist of varieties of silt, sand and clay. Because depositions occurred in a marine environment, bedrock is located very far below the surface. No layers of bedrock are represented between the surface and the 1500-foot level.

Formations

Soils are typically formed of materials that vary in grain size and composition. In order to understand the following descriptions of geologic formations, it is helpful to understand the way soil scientists describe soils. The soils beneath Cape May Point are made up of varying mixtures of sand, silt and clay, sand having the largest grain size and clay the smallest. The first word in a soils description is a modifier and represents the material present in the smallest amount. The last word represents the material present in the largest amount. So a "sandy clay" would indicate a soil made up of clay mixed with some sand.

A chart depicting the stratigraphy beneath Cape May Point has been provided at the end of this section for reference.

Cape May Formation

The shallowest formations represent layers deposited by streams and estuaries as well as shallow marine environments.
The Cape May Formation is divided into two sections, each deposited in a different epoch—the upper Pleistocene to Holocene and the lower Pleistocene. The upper-Pleistocene-to-Holocene section consists of alternating organic-rich clays and shelly sands that were deposited in an inlet-marsh environment. Lower Pleistocene inlet sands and the underlying estuarine clays are tentatively assigned to the lower Cape May Formation (there is some doubt about the dating because of the nature of the depositional environment). The Cape May Formation extends from 5 to 140 feet below ground level.

Upper Miocene-Pliocene Formation

The upper Miocene-Pliocene formation is made up of thick estuarine sands and clays that contain little fossil material. This formation covers the 140-foot to 357-foot levels.

The Kirkwood Formation

The Kirkwood Formation is divided into five members: the Kirkwood-Cohansey, the Belleplain Member, the Wildwood Member, the Shiloh Marl Member, and the Brigantine Member.

Deposited in shallow-water, marine shelf and marine delta environments, the Kirkwood Formation consists of successions of unconsolidated silty clay and sands. Aquifers are formed with clay confining units at the base and water-bearing quartz sand at the top. This large formation extends from the 357-foot level to 1180 feet below the surface. It represents the entire middle and lower Miocene epochs, stretching from approximately 12 million years ago (abbr. Ma) to over 23 million years ago.

The Atlantic City Formation

The Atlantic City Formation consists of mingled layers of clays, greensand (glauconitic quartz sands) combined with sandy clay, and greensand mixed with some clay (clayey quartzose glauconitic sands). This formation corresponds to the upper Oligocene epoch and is located at the 1180 to 1270-foot level.

The Sewell Point Formation

The Sewell Point Formation consists of clayey, silty fine-grained greensands and sandy clays. It represents the lower Oligocene epoch and extends from 1270 feet to 1360 feet.

The Absecon Inlet Formation

The Absecon Inlet Formation comprises uniform clay deposited in shallow-water environments. It was deposited during the upper Eocene epoch and extends downward from 1360 feet past the 1500-foot mark.

THE STRATIGRAPHY OF THE BOROUGH OF CAPE MAY POINT

The following chart depicts the formations observed beneath the Cape May Point area. A design symbol represents the soil types found in each depositional sequence. The key on the right side of the chart explains the meaning of each design.

The epochs during which the formations were deposited are marked and named at the right side of each column.

Cape May
Depth (ft)
0
50
100
150
200
250
300
350
400
450
500
Cape May
?Cape May
upper Miocene-Pliocene
Kirkwood-Cohansey
Belleplain Mbr.
75
90
140
357
421
432
503
upper Pleist. to Holocene
lo. Pleistocene
upper Miocene
middle Miocene
500
550
600
650
700
750
800
850
900
Kirkwood Formation, Shiloh Marl Member
Kirkwood Formation, Wildwood Member
503
576
615
710
850
942
lower Miocene
Depth (ft)
950
1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500
Kirkwood Formation, Brigantine Member
Atlantic City
Sewell Point
Absecon Inlet
940
1062
1160
1210
1240
1270
1300
1350
1385
21b-22
P19
P18
P17
P16
P15-16
upper Oligocene
lower Oligocene
upper Eocene
Key
Pebbles or pebbly
Sands
Silt
Silty/sandy clay
Clay
Chalk or chalky clay
Porcellanite
Indurated
Shell beds
Glauconitic Glauconites
Lignite
Disconformity

SOILS

Soil is a very live and active material involved in a constant process of breaking down organic matter and grinding up bedrock. Therefore, soil scientists are usually a bit miffed when soil is referred to as "dirt!"

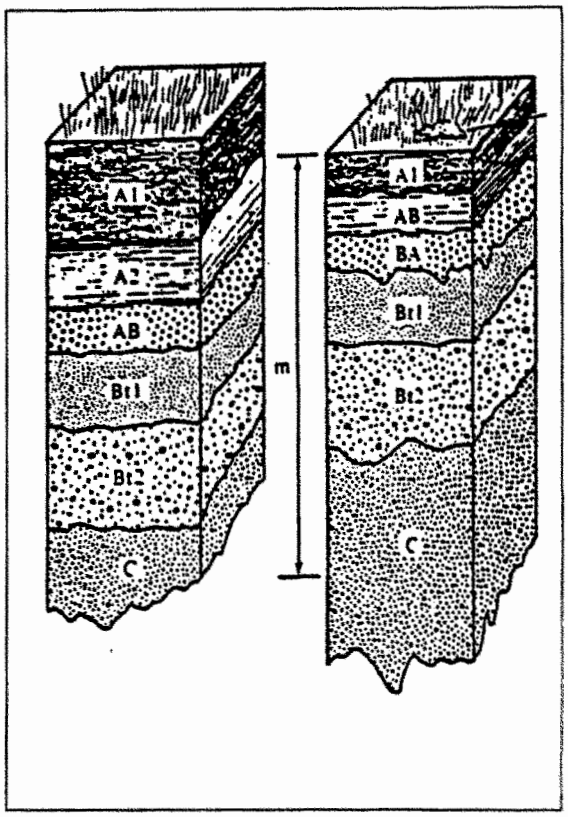
Cape May Point has relatively few soil types, since most of the community has actually been built on the beach.

SOILS

Soil Characteristics

Soil characteristics affect native vegetation and wildlife, agriculture and engineering. The soils of Cape May Point have been tested, categorized and mapped by soil scientists, and this information is available to and vital for land-use planners.

The soils that make up the land are in a dynamic, ongoing formation process. They develop in a series of layers called horizons (see illustration at right). These horizons have specific characteristics. They are:



SOIL HORIZONS

Permeability: How rapidly water can pass through the soil

Color: Soil samples are compared to a standard color chart

Thickness: The vertical height of the layer or horizon

Structure: The form the soil maintains; e.g. columns or blocks

Consistence: The feel of the soil; e.g. crumbly, hard, sticky

Texture: The size of the individual grains of a soil.

Grain sizes are:

Gravel:	80 mm (approx. 3 inches) to 2 mm
Sand:	2 mm to .05 mm
Silt:	.05 mm to .002 mm
Clay:	Less than .002 mm
Loam:	A mixture of approximately half sand and half clay/silt.

A description of the specific horizon characteristics for any given soil is called a soil profile. There are groups of soils that have similar profiles, and these groups are called a **soil series**. Each individual member of a soil series is called a **soil phase**. Soil phases differ in their surface layer, which can have variations in texture, slope, stoniness or some other characteristic that affects the use of soil by man.
The various locations where each soil phase occurs are plotted on the soil map. These areas are called **mapping units**, and are named for the soil phase they represent. The soil phases are given a symbol, which occurs in bold type at the beginning of the soil phase descriptions in the following soil description section. They are also listed at the end of the soil description section.

Descriptions of Soils

The following soils are represented in The Borough of Cape May Point: the Coastal Beach-Urban Land Complex, Fill Land, and the Evesboro, Fort Mott, Hammonton, Pocomoke, and Woodstown series. The soil profiles are described below, along with their soil phases and characteristics of each. The soil phases are each introduced by a symbol, called a mapping unit, that shows how each area consisting of that soil phase is labeled or represented on the soil map.

Coastal Beach-Urban Land Complex

Coastal beach-Urban Land Complex (**CU**) consists of undeveloped coastal beaches and of coastal beach areas used for residential or commercial purposes. The percentage of each is normally about equal, but urban land dominates in Cape May Point.

Coastal beach soils are on narrow strips of beach along the Atlantic Ocean and the Delaware Bay. Sand Dunes of up to 15 feet normally occur where the beaches have not been developed. During the development of Cape May Point, the natural dunes were leveled and fill was added in many places. The natural dunes were eventually replaced with man-made ones. Berms were established along the urban-beach interface and wind action eventually deposited sand to form dunes that now reach heights of 25 feet.

Vegetation on the undeveloped beaches is controlled by the very low fertility of the soils, the effect of wave and tidal forces, and the effect of salt spray and wind action. Native vegetation consists of American beachgrass, seaside goldenrod, sea rocket, sandbur, bayberry, beach plum, greenbriar, sumac, poison ivy, eastern red cedar, seaside daisy, and other shrubs. In many places, trees and shrubs become shaped by the wind. Sometimes the drifting sand covers the vegetation. Extensive areas have been planted in American beachgrass to stabilize the drifting sand.

Natural drainage is excessive and permeability rapid. Coastal beach-Urban land soils have severe limitations for every type of community use including building construction with or without basements, recreational uses, landfills, roads, agriculture and landscaping. The fertility and available water capacity are low, permeability is high and the land is subject to severe flooding.

Approximately 159 acres of the Borough of Cape May Point consist of CU soils. Ideally, the land should never have been allowed to experience development and a large number of beachfront homes have already succumbed to the sea. However, since the precedent has been set, and because of the high market value of the land, development is restricted only on the dune and beach areas.

Evesboro Series

Evesboro soils are deep, loose, excessively drained sandy soils; they are nearly level to gently sloping. These soils have rapid permeability and their available water capacity is low. Organic matter content and natural fertility are low and they revert to woodland if left idle. If left undisturbed, native vegetation on Evesboro soils consists of oaks, scattered pitch, and shortleaf pines. The soils are strongly acid unless limed and fertilizer leaches easily. Soil blowing is a problem.

***Evesboro Phase*:**

EvB. Evesboro sand, 0 to 5 percent slopes.

There are 5.0 acres of Evesboro soils in the Borough.

Fill Land

Fill land is mapped as Fill Land, sandy, and Fill Land, sandy organic substratum. Cape May Point has only areas of Fill Land, sandy.

Fill land sandy (FL) consists primarily of areas on the mainland that have several feet of fill material. These areas are quite sandy, are infertile, and have low available water capacity. Permeability is rapid, and the organic-matter content is low. Unless topsoil is brought in, vegetation that is not tolerant to sandy, droughty sites is difficult to establish.

Included in mapping are areas of soils that have been excavated to a depth that exposes the substratum. Also included are some residential developments where much of the soil material was disturbed by construction.

Fill land accounts for 4.3 acres of the Borough. It is suitable for construction with and without basements, depending on the thickness of the fill.

Fort Mott Series

The Fort Mott series consists of well drained soils that are nearly level to gently sloping. The permeability is moderately rapid in the subsoil and rapid in the surface layer and the substratum.

If left undisturbed, native vegetation on Fort Mott soils consists of mixed hardwoods with an understory mainly of blueberry; scattered pines would be numerous and could produce nearly pure pine stands if left idle. Organic matter and natural fertility are low. Unless limed, these soils are very strongly acid or extremely acid; soil blowing is severe if the land is bare.

Fort Mott soils are suitable for building and road construction, but have severe limitations for landscaping and recreation due to rapid permeability, low fertility and dust hazard.

***Fort Mott Phase*:**

FrB. Fort Mott sand, 0 to 5 percent slope. Some included soils need drainage and cover crops are recommended to reduce blowing.

About 1.4 acres of Borough land are Fort Mott soils.

Hammonton Series

Hammonton soils are nearly level, moderately well drained soils, typically on broad terraces above dominantly wet areas. Permeability is moderately rapid and the available water capacity moderate, but plants can draw additional water from the water table before it drops in summer. The water table is at 5 feet in summer, so deep-rooted plants can benefit even then.

If left undisturbed, native vegetation on Hammonton soils would include southern red oaks, hickories, willow and scattered pines; sour gum would be common.

Natural fertility is low or medium and the organic-matter content is low. Unless limed, Hammonton soils are very strongly acid or extremely acid; fertilizer and lime leach rapidly. These soils occasionally need drainage due to the seasonally high water table.

Hammonton soils have few serious limitations for community use. The seasonal high water table does pose severe limitations for road building.

***Hammonton phase*:**

HaA. Hammonton loamy sand, 0 to 3 percent slopes. The surface layer and subsurface

layer are more than 20 inches thick in some areas. This soil needs drainage.

Hammonton soils make up 2.9 acres of the Borough.

Pocomoke Series:

The Pocomoke series consists of nearly level, very poorly drained loamy soils in broad, swampy depressions and narrow drainageways. Some narrow areas are adjacent to surface water bodies. If the soils are drained, permeability is moderate and available water capacity is only moderate.

The soils have a seasonal high water table at the surface. During periods of normal rainfall the water table starts to rise in September, reaches its peak early in December, remains at or near the surface until May, and drops to a depth of about two feet in summer. Where these soils are adjacent to surface water bodies, they are subject to occasional flooding and surface ponding occurs in the small depressions. If left undisturbed, native vegetation on Pocomoke soils would consist mostly of blackgum, sweetgum, red maple, bay magnolia, pin oak, willow oak, and holly. The dense understory would consists mostly of blueberry, sweet pepperbush, and greenbrier.

Pocomoke soils have medium natural fertility and high content of organic matter, but, unless limed, Pocomoke soils are extremely acid in the surface layer and extremely acid or very strongly acid in the subsoil. Because of the high water table, these soils warm late in spring and become wet early in fall. Most areas are wooded.

These soils have severe limitations for all types of community development, including home construction and recreational uses. One small Ps area on Lighthouse Avenue is owned by the state so there is no development pressure there. However, the Ps area near Lighthouse Avenue and Lake Drive is privately owned. The Pocomoke soil area near Lake Drive has been subdivided and six new homes have been constructed as of this writing. The remaining wooded portion will in all probability be developed as sewage and water become available. Since the Flood Hazard area has been redesignated, almost all of the Borough is now in the flood zone. Therefore pilings are required for all new construction and most renovations.

Pocomoke Phase:

Ps. Pocomoke sandy loam. This soil is saturated for six months or more, which severely limits its uses.

There are 1.1 acres of Pocomoke soils in Cape May Point.

Woodstown Series

The Woodstown series consists of moderately well drained, nearly level soils. Permeability is moderate and the available water capacity is high; deep-rooted plants can draw additional water early in the season.

If left undisturbed, native vegetation on Woodstown soils would consist mostly of oaks, hickories, blackgums, sweetgums, and scattered pines.

The natural fertility is medium and the organic matter content moderate.

Unless limed, these soils are very strongly or extremely acid.

The only limitations presented by these soils are due to the seasonal high water table, which poses moderate limitations for buildings with basements.

Woodstown Phase:

WmA. Woodstown sandy loam, 0 to 2 percent slopes.

Woodstown soils make up 2.3 acres of the Borough.

THE BOROUGH OF CAPE MAY POINT SOILS MAP

On the following page is a soil map. The individual soil phases found in Cape May Point are each represented by a different color on this map. On the lower left-hand corner of the map there is a key that lists the soil phase symbols and their corresponding colors. Following is a list of the map symbols and their corresponding phase.

Map Symbol	Soil Phase	Acreage
CU	Coastal beach-Urban land	159.0
EvB	Evesboro sand, 0 to 5 percent slopes	5.0
FL	Fill land	4.3
FrB	Fort Mott sand, 0 to 5 percent slopes	1.4
HaA	Hammonton loamy sand, 0 to 3 percent slopes	2.9
Ps	Pocomoke sandy loam	1.1
WmA	Woodstown sandy loam, 0 to 2 percent slopes	2.3

CAPE MAY POINT SOILS

SOIL LABEL

- Cu
- EvB
- FL
- FrB
- HaA
- Ps
- W
- WmA

N
W E
S

200 0 200 400 600 Feet

HYDROLOGY

Only one percent of the earth's water is available to us for use. This critical supply is all too often threatened by human activities. Pumping beyond the safe yield of an aquifer is one practice that has played a part in changing the sources of available water for Cape May Point.

HYDROLOGY

Groundwater

Aquifers

The aquifers underlying the Borough of Cape May Point are as follows:

Holly Beach water-bearing zone	0 – 50 ft.
Estuarine Sand	75 – 125 ft.
Cohansey	300 – 400 ft.
Rio Grande water-bearing zone	550 – 600 ft.
Atlantic City 800-Foot Sand	800 – 900 ft.

Salt-Water Intrusion

Cape May Point's early residences were supplied at first by private wells that probably drew from the Holly Beach aquifer or the Estuarine sand. However, the resort soon provided a municipal water system served by a central well. The first distribution line was installed in 1898 along Yale Avenue. The well was shut down in 1961 due to salt-water intrusion.

A second well was dug at the public works building and funding was provided for a water line by the U.S.D.A. That well was abandoned in 1974.

Salt-water intrusion has made it impractical or impossible to obtain potable water from a local well. The Borough therefore now obtains its water supply from the Cape May City Water Department, which is supplied by a desalinization plant along with a backup well for periods of peak demand.

Characteristics

- The groundwater moves fairly rapidly through the highly permeable Coastal-Urban soil.
- Even though the Borough is technically part of the Pond Creek Watershed, groundwater in Cape May Point all flows to Lake Lily.
- The average depth to groundwater in the borough is three to four feet.
- The groundwater has a high mineral content and is brackish. It is also very alkaline with an average pH of 8.0 to 8.5.

Surface Water

Hydrography

The surface waters of Cape May Point consist of one freshwater inland lake named Lake Lily. The lake covers a sixteen-acre area and has an elevation of 3.5 feet above mean sea level. The pH value of the lake water is normally on the basic side--8.0 to 8.5.

Scooped out by ancient winds, the lake is a natural retention basin and is fed by storm water runoff and groundwater flow. There has long been debate about the source of the lake water. Some believe that at one time the lake may have been spring-fed but is now clogged due to eutrification. Some believe Lake Lily is still spring-fed and some that it has never been spring-fed. When the lake is dredged as planned and brought back to healthier conditions, these questions may be answered once and for all.

State Policies/Surface Water Classification

Lake Lily functions as the headwaters for the South Meadows Natural Area of the State Park. The South Meadows water ponds are the first fresh-water adjacent to the coast south of Monmouth County. These fresh water ponds are an important oasis for wildlife. As the actual southern tip of continental New Jersey, Cape

May Point is internationally renowned as a bird migration resting place along the Atlantic Migratory Flyway.

The general policies of the State as regards freshwater bodies are as follows:

- Water is vital to life and comprises an invaluable natural resource that is not to be abused.
- It is State policy to restore, maintain and enhance the chemical, physical and biological integrity of its waters, to protect the public health, safeguard the aquatic plants and animals, protect scenic and ecological values, and to enhance the domestic, municipal, recreational, industrial, agricultural and other reasonable uses of State waters.
- Toxic substances in waters shall not be at levels that are toxic to humans or aquatic animals and plants, or accumulate in edible plants in toxic amounts.
- Discharge of carcinogenic substances is strictly controlled.
- Existing uses shall be maintained and protected. Designated uses shall be attained as soon as technically and economically feasible.
- The State has a goal of restoring saline waters to levels that permit unrestricted shellfish harvesting.

Surface water bodies are classified by the State of New Jersey, which designates them to be everything from pristine trout streams, to waters into which controlled amounts of wastewater effluents may be discharged.

Lake Lily is classified as **FW2/NT.** The meaning of this classification is described below.

FW--Fresh Waters.
The general surface water classification applied to fresh waters.

FW-2
The general surface water classification applied to those fresh waters that do not originate in and are not wholly within Federal or State parks, forests, fish and wildlife lands, are not special holdings that are to be maintained in their natural state of quality (set aside for posterity) and not subjected to any man-made wastewater discharges, and are not Pinelands Waters.

NT--Nontrout Waters
Waters that do not support the maintenance or production of trout.

History

Lake Lily has a colorful and interesting history.

Before Cape May Point was settled, the Lenni-Lenape Indians used the area surrounding the lake as a summer residence, drawing fresh water from the lake and harvesting a variety of fish and shellfish from the nearby ocean. They hunted game in the lush wooded area of the Cape that teemed with wildlife.

Ship's pilots whose job it was to guide sailing ships over the "Delaware Rips" often suggested to the captains that they might want to drop anchor outside the Cape and send barges in to fill up their casks with fresh water from the lake before making the long journey upriver.

During the War of 1812, British warships, anchored at the mouth of the Delaware to form a blockade, would use Lake Lily to replenish their freshwater supply, as well as plunder local farms for cattle and fowl. If met with resistance, the British ships threatened to lay the village to waste with their guns. By 1814 frustrated early settlers sought their revenge. From 1814-1815 they hand dug a ditch from the lake to Pond Creek, a small tidal waterway located about a mile away. Brackish water from the creek entered the lake, and when the British

next attempted to fill their casks, they found the water undrinkable.

The ditch was filled in after the war and the lake regained its freshwater character and became the attraction, so near the confluence of the Delaware Bay and the Atlantic Ocean, that brought the founders of the Presbyterian Camp Ground to Sea Grove in 1875. Sea Grove became the Borough of Cape May Point in 1878.

The charming and beautiful lake was named for the myriad of white water lilies with yellow centers that covered its surface. A description written in a booklet entitled *The Sea-Side Resorts of New Jersey*, published in 1877 by Allen, Lane and Scott of Philadelphia, Pennsylvania, reads as follows:

> "Lake Lily is a sheet of fresh water, about half a mile long, with irregular width and beautiful, picturesquely wooded banks, around which runs Lake Avenue, a handsome drive, with great variety of scenery. The water is perfectly fresh and clear, and is constantly supplied from springs in the bottom, the driest weather not affecting its depth or purity.
>
> For boating and sailing, the lake affords fine facilities for ladies and children to enjoy themselves in safety. A large number of comfortable pleasure-boats are kept for the use of visitors, at a reasonable rate, at the boat-house, a handsome rustic structure, open at all times as a resting-place and lookout.
>
> The lake is well stocked with perch, sunfish, etc., giving fine sport to those who do not care to tempt the bay or sea waters. A number of black bass were imported early in the spring, which will doubtless multiply quickly, and add zest to the fisherman's pleasure."

Inundated several times by seawater, the lake turns fresh again in time. The September 1944 hurricane and the three-day storm of 1962 caused the ocean to flood into Lighthouse Pond which, in turn, overflowed into Lake Lily. The October 1991 and January 1992 nor'easters caused similar flooding. Each time this happens, Lake Lily fades a bit more and does not quite come back to what it was before.

It is still beautiful, though, as is the wildlife it attracts. Any summer day will draw artists and picnickers to Lake Lily's shores to enjoy the graceful moments.

Lake Maintenance and Improvement

The Lake Lily Committee has planted over one hundred shrubs and trees around the lake. Volunteers from the borough are always eager to help with planting and grooming the area. The Borough has built berms and has installed curbing as a flood control measure recommended by the United States Department of Agriculture. That project was funded by the Federal Emergency Management Agency (FEMA). Funds for lake beautification projects are raised by organizations such as the Civic Club and the Taxpayers Association and are donated by private individuals.

Lake Management

Because of the volume of birds utilizing the lake, many staying year-round, the lake reached an advanced state of eutrophication in the late 1990's. Groundwater and surface water runoff are sometimes not sufficient to supply the lake and certain areas actually dry up during long periods without rainfall, so that ducks and geese are able to walk across to the center island.

The lake bottom is covered with a thick layer of organic muck. Algae and plant growth are augmented by the elevated level of nutrients and add to the muck layer each year. The shallow water warms quickly in summer and fish,

although some are able to survive, do not thrive and remain small in size and number of species.

F.X. Browne, Inc., of Lansdale, Pennsylvania, an environmental engineering company, was hired to develop a long-term plan of corrective action. This plan includes dredging and extensive sampling and testing of the lake to determine how the dredging should be done. If natural springs once fed Lake Lily, it is hoped that the dredging would reactivate them. The Borough applied for several State grants to fund the restoration, but each time the application failed to meet the necessary criteria for approval. As of this writing, thanks to the efforts of the Lake Committee, there is a bill pending in the New Jersey State Government to provide the necessary financial support to restore the lake to health. Funding is supplied preferentially to lakes that support active recreational activities. However, local legislators are optimistic that the bill will be passed.

Borough ordinances at present prohibit the following activities on or near Lake Lily:

- Hunting
- Trapping
- Fishing
- Boating
- Discarding trash
- Discarding brush

Wetlands

Wetlands were once considered the stepchildren of the environment. Known as bogs, bottom lands, marshes, fens, and just plain swamps, wetlands were seen as areas that needed remediation in the form of filling, draining and clearing. An alarming number of these vital natural areas have disappeared as a result of those activities.

Today, we recognize the importance of wetlands and the enormous diversity of life forms found there. They supply water to upland species, provide cover and moisture for nest sites and subsequent young, and provide vital rest areas for migratory birds. Cape May Point has 2.8 acres of wetlands within its borders.

Defining a Wetland

Freshwater wetlands are found between dry upland areas and inland waters--along rivers and streams, around lakes and ponds, and where springs erupt on slopes. Wetlands include marshes, which are most often covered with water; swamps and wet meadows which are covered with water for only a portion of the year; and bogs, which have a very restricted inflow and outflow of water, and often provide habitat for plant species that will not survive elsewhere. Wetlands depend on the presence of surface or ground water from rainfall, flooding, snow melt, and/or subsurface water.

The presence of water is not always obvious in a wetland and is sometimes determined by indicators, such as high water marks on tree trunks, moss lines on trees and elevated roots.

Three conditions must exist to classify an area as a wetland: the soil must be a **hydric soil**, the vegetation must be **hydrophytic vegetation**, and the area must be either flooded or saturated for enough of the time to support that vegetation.

Hydric Soil

Hydric soils are wetland soils which contain excess water long enough to inhibit oxygen content (needed for normal vegetation). There

are two categories of hydric soils--organic and mineral.

-Organic soils contain a high organic matter content due to the slow breakdown of materials because of the lack of oxygen. These soils are very dark in color.

-Mineral soils have a low organic content and have been saturated long enough to substantially change their properties. They are usually gray mottled and can have dark vertical streaks, brown or orange channels left by old roots and/or the odor of hydrogen sulfide.

Hydrophytic Vegetation

Hydrophytic plants are adapted to living in wet soil conditions and are unique in that they grow in soils that lack oxygen because of the water content. Examples of hydrophytic vegetation in Cape May Point are Marsh mallow, phragmites, water lilies and cattails.

Wetlands Classifications

The Freshwater Wetlands Protection Act recognizes three classifications of wetlands. They are as follows:

-Exceptional resource value wetlands that discharge into protected waters or trout production streams, or provide habitat for threatened or endangered species.

-Ordinary resource value wetlands that are small isolated areas not tributaries of lakes, rivers or streams, and are surrounded by development, such as drainage ditches, swales or detention facilities.

-Intermediate resource value wetlands that are any not defined as exceptional or ordinary.

Cape May Point wetlands are of intermediate resource value.

Transition Areas

Transition areas occur between wetlands and uplands and act as buffer zones to minimize the impact of human activities. These areas are important habitat for plants and wildlife as they contain both wet and dry land portions. Transition areas are also protected and their size depends on the classification of wetlands they surround. Exceptional resource value wetlands require a standard transition area of 150 feet; intermediate resource value wetlands require a standard transition area of 50 feet.

The southernmost wetland area within the Borough is owned by the State of New Jersey as Cape May Point State Park. Development on adjacent lands may involve transition areas and may require permitting.

The Freshwater Wetlands Protection Act

The freshwater wetlands in Cape May Point are protected by the New Jersey Freshwater Wetlands Protection Act, which is one of the most comprehensive wetlands protection acts in the country and supercedes any municipal land use plan or zoning ordinance.

Activities. Nearly all activities intended to be carried out in freshwater wetlands and many activities intended in transition areas and state open waters require a permit. Examples of activities include removal, excavation, dredging, dumping, discharging, filling, destruction of plant life, erection of structures and placement of pavement.

Site classification. The Act uses a federal method of identifying wetlands, which has four basic approaches: routine onsite determination, intermediate-level onsite determination, comprehensive onsite determination, and

disturbed area and problem area determinations. Once it is decided that an area is a wetland, it is then classified; exceptional resource value wetlands have additional restrictions and limits on the types of permits issued. Intermediate and ordinary resource value wetlands allow a greater range of activities, as do transition areas.

Permits. To obtain a permit from the DEP, applicants can request a Letter of Interpretation (LOI) which will establish what permits may be required. Public comment is welcomed on LOIs and applicants are required to send notice of their applications to the municipal clerk and construction official of their Borough (who in turn, must inform the Environmental Commission), as well as all property owners within 200 feet of the proposed site.

Individual permits are evaluated for their ability to show no practicable alternatives to the site, including other freshwater wetlands where the impact might be less. Permits for exceptional resource value wetlands must show compelling public need or extraordinary hardship. The environmental impact must then meet three criteria: (1) that it will not be a threat to any threatened or endangered species; (2) it will not be a violation of water quality standards; and (3) it does not violate any marine sanctuary.

A mitigation plan is required before any activity can be approved. Mitigation takes the form of restoration, creation or enhancement of wetlands, or contribution of money to wetlands restoration funds. There are some exemptions and grandfathered activities allowed by the Act. The NJ Department of Environmental Protection can provide information on these. The DEP recommends that an applicant schedule a pre-application conference to provide an informal and non-binding guidance for what may be involved.

Enforcement. Penalties for violating the Freshwater Wetlands Protection Act can be severe--up to $10,000 a day and restoration of damaged wetlands. Persons violating the act are also subject to civil and sometimes criminal penalties. Permits must be posted on-site for all activities involved. The public is encouraged to notify the DEP of possible violations.

Master Plan and Zoning

Master Plan. The master plan identifies the physical character of the municipality and establishes appropriate uses for all lands. The Environmental Resource Inventory can be used as a source document to identify freshwater wetlands in the Borough. The master plan can then use maps to show generally where wetlands are located and designate uses for them consistent with their environmental sensitivity. They can also be used as parts of conservation, greenways, stream corridors, or open space plans.

Suggestions for Municipal Action

1. Establish procedures for applications involving wetlands.
2. Amend master plan and zoning to reflect location of wetlands.
3. Amend development application checklist to include:
    a. copy of Letter of Exemption
    b. copy of Letter of Interpretation
4. Amend final site plan and/or subdivision application requirements to include submission of a map showing a state-approved wetland delineation and transition area boundaries at the same scale as the municipal tax map, when wetlands exist on the subject or adjacent tract.

5. Report violations of the Freshwater Wetlands Protection Act to the Department's Enforcement Office at 609-292-2402.

Long Term Protection of Fresh Water Wetlands

Deed restrictions or public ownership of wetlands provides the surest long-term protection. A portion of Cape May Point wetlands are owned by the State of New Jersey. The areas surrounding Lake Lily are owned by the municipality.

New Jersey legislation has directed tax assessors to take conservation easements and wetlands into account when they are valuing land. It has been ruled by the NJ Supreme Court that property encumbered by a perpetual easement that benefits the public should be assessed at a lower value. Municipalities should encourage reassessment of properties with wetlands.

Benefits of Wetlands Preservation

Wetlands preservation benefits both the public and the individual property owner. Property owners or developers who preserve wetlands:

-may enjoy tax benefits;

-complete projects more easily by avoiding some regulatory requirements;

-finish projects for lower costs;

-gain satisfaction for protection of a valuable natural resource.

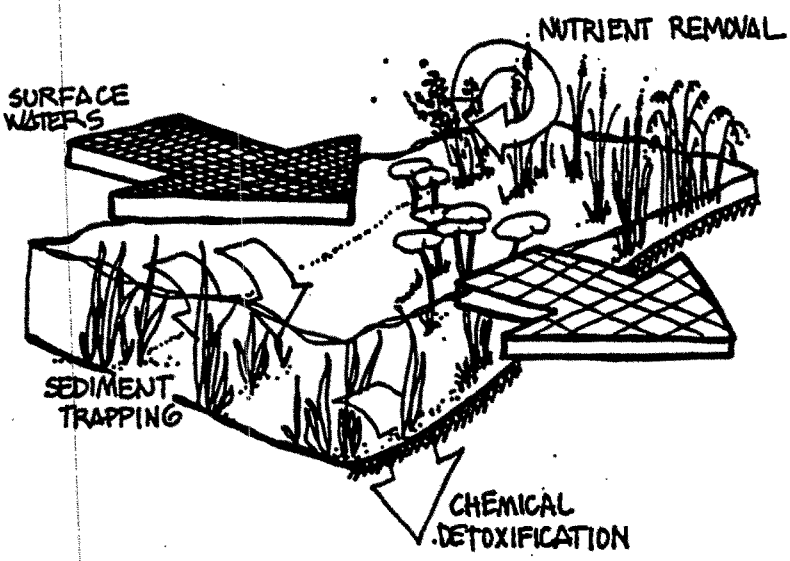
The public gains a unique resource—special areas that shelter wildlife and endangered species, prevent flooding and protect water quality.

Local governments need to make a concerted effort to provide information about the benefits of wetlands preservation and the options for protection available to their boards and residents.

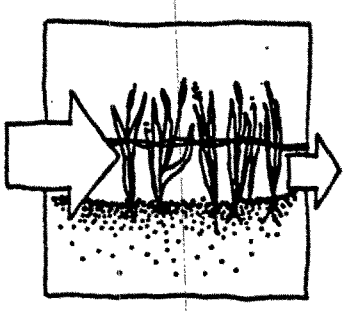
Wetlands Diagram

On the following page is a diagram depicting ways in which wetlands function.

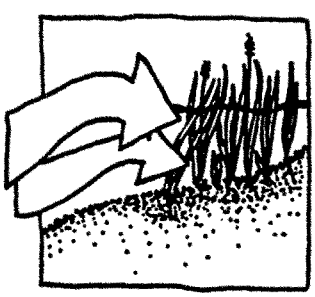
WETLAND VALUES AND FUNCTION:
• WATER QUALITY PROTECTION



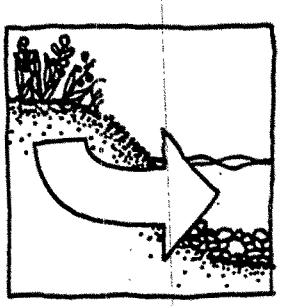
• FLOOD PROTECTION



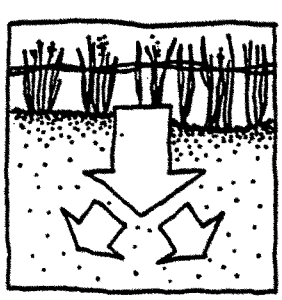
• SHORELINE STABILIZATION



• STREAMFLOW MAINTENANCE



• GROUNDWATER RECHARGE

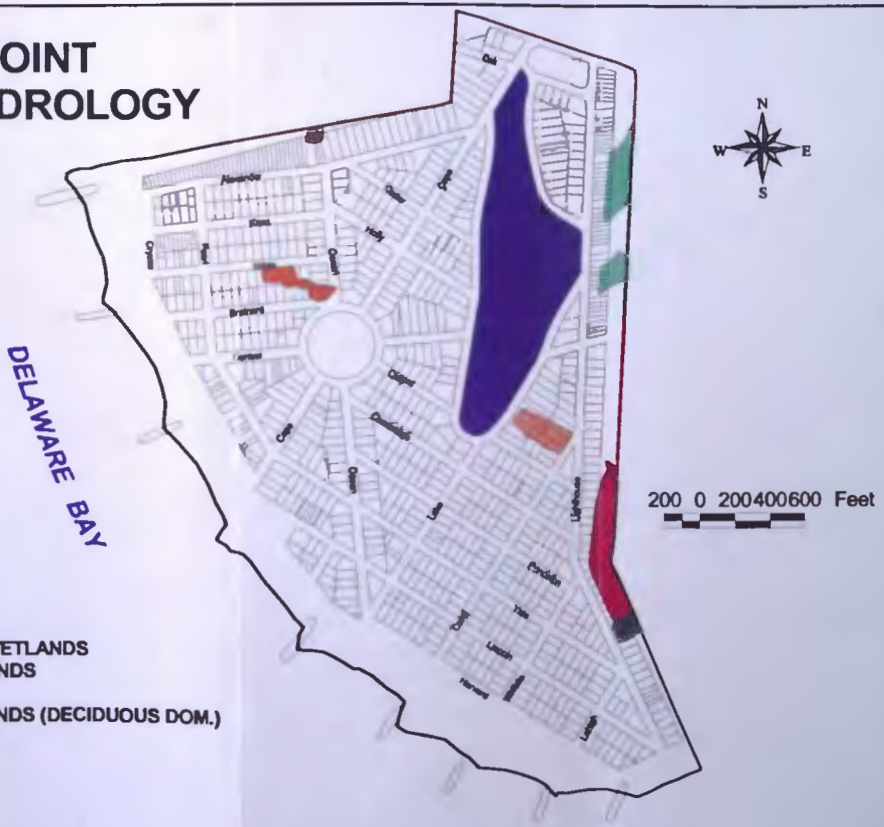


"Wetland Regulations Guidebook"
Washington State Department of Ecology, Olympia, Washington.
1988

FRESHWATER WETLANDS MAP

The following map shows the location of Lake Lily and the areas of Cape May Point that are classified as freshwater wetlands.

CAPE MAY POINT
WETLANDS & HYDROLOGY



Floodprone Areas

Floodplains are relatively flat areas that are naturally subject to flooding. Undeveloped floodplains act as storage basins, lowering flood crests and minimizing erosion. Development in floodplains destroys these natural flood controls, causing increased public costs for storm drains, dams and other man-made flood controls.

Flood Insurance.

The National Flood Insurance Program is a Federal program that allows property owners to purchase federally backed flood insurance in return for floodplain management measures taken by the community to reduce flood risks to new development. Cape May Point is the only municipality in the state with a 15% discount on flood insurance due to the extensive flood control measures initiated in the Borough.

FEMA develops data concerning flood-risk areas and uses that data both for floodplain management and to determine insurance rates. Flood hazard frequency is measured by the average frequency with which a flood will occur in a given area. The agency has identified and mapped areas within the Borough that have a 100 year or a 500 year flood hazard frequency. The term "100 year flood" can be misleading; although it represents the long term average interval for a flood of a certain size to occur, this "representative flood" can occur in any given year of that 100 year period. In many instances, communities have sustained two or even three 100-year or greater floods within a several-year period. So the standard works as a tool for measuring the frequency of a flood of a certain magnitude, but it cannot predict its timing. Every year there is a 1% chance that a 100-year flood will occur. The 100-year flood is also referred to as the "base flood."

Of special interest to lenders is the fact that within the special flood hazard area there is a 26% chance (about one in four) of experiencing such a flood over a typical 30-year mortgage period. By contrast, there is only a 1% chance of suffering a fire loss over the same period.

Cape May Point controls flood-hazard risk through Borough ordinances. The most significant of these required ordinances are those which regulate acts such as issuing building permits for new residential construction in flood hazard areas. Since most of Cape May Point is vulnerable to a 100-year storm, buildings in the entire Borough must be constructed so that the lowest floor will be located at a minimum of 10.5 feet above mean sea level.

The document prepared by FEMA depicting flood hazard areas in the Borough is called a Flood Insurance Rate Map (referred to as a FIRM). This map shows the 100 and 500 year flood hazard areas, the base elevations and the flood insurance zones that determine insurance rates based on flood risk.

The FIRM is distributed to a wide range of users--private citizens, community officials, insurance agents and brokers, lending institutions, and Federal agencies. The map is generally used to determine the degree of flood hazard in specific areas of the Borough so that properties at risk can be properly insured. It allows the user to identify special flood hazard areas, identify the location of a specific property, estimate the base flood elevation at a specific site, and determine the flood insurance zone at a specific site. The flood insurance studies done by FEMA are also presented in a

report. This report (FIS Report) is a technical document that provides information used mainly by community officials for floodplain management, and can be reviewed at Borough planning, zoning, or engineering offices.

Under the current Federal Insurance Rate Map

- 96% of the Borough of Cape May Point is rated zone **AE** which is the 100-year flood zone.
- 4% of the Borough is rated zone **X** which is a 500-year flood zone.
- Block 52 Beachfront and the 100 block of Lighthouse Avenue is rated **VE** zone which is subject to high-velocity wave action. Municipal Ordinance 150-17 prohibits building in the VE Zone.

FLOODPRONE AREAS OF CAPE MAY POINT

The following map depicts the flood zones in the Borough.

Zone **X** is a 500-year flood zone.
Zone **AE** is a 100-year flood zone.
Zone **VE** is a high-velocity wave action zone.

CAPE MAY POINT FLOOD ZONES

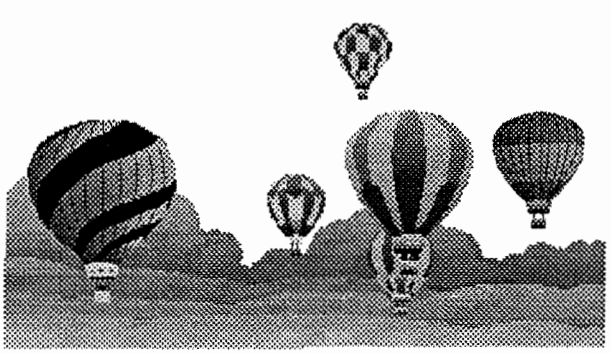
Zone VE High Velocity Wave Action

Zone AE 100 Year Flood Zone

Zone X 500 Year Flood Zone

METEOROLOGY

Meteorology deals with the blanket of air that surrounds us. What is its range of temperature? How much moisture does it produce? What sort of storms does the area experience?



METEOROLOGY

Climate

Because of its position as part of a peninsula, Cape May Point has a humid, temperate climate with a moderate temperature range and mild winters. The average January temperature is 34.5 degrees. Average July temperatures are 75.2 degrees. The growing season averages 192 days; the average date of the first frost occurs about October 13 and the average date of the last frost occurs about April 19.

Precipitation

Rainfall is fairly evenly distributed throughout the year. The average annual precipitation, measured over the last thirty years is 41.8 inches.

Prevailing Air Currents

The prevailing wind during the summer is from the southwest; northwest winds prevail during the winter. Winter storms and occasional hurricanes have caused extensive loss of property due to beach erosion and flooding.

Historic Storms

A hindcasting study was done of thirty of the most severe storms to have impacted the Delaware Bay and the New Jersey coast selected from a 102-year period of record. Included were fifteen hurricanes and 15 nor'easters. From these thirty, fifteen were assessed as being the most severe.

Storm selection was based on the potential for wind, wave and storm surge generation by the events. Coastal erosion and inundation are primarily a function of water level; however, waves are a significant consideration. For this study, the population of storms was considered applicable to the New Jersey Atlantic coast area due to the large size of the nor'easters that make up the majority of historic extreme storms in the area.

The occurrence of hurricanes is sparse in the historic storm population. Screening of historic hurricanes was done to determine the most severe events based upon track and intensity. This screening, which yielded a list of storms that passed within 100 miles of the study area, was refined by assessing documented or reported storm severity based on storm damage along the coast and oceanographic data.

The most severe historic storms are listed in the table on the following page.

Table of Historic Storms

HURRICANES
Oct 1891
Aug 1899
Sep 1903
Aug 1924
Sep 1933
Sep 1936
Sep 1944
Aug 1953
Aug 1954 (Carol)
Sep 1954 (Edna)
Sep 1958 (Daisy)
Sep 1960 (Donna)
Sep 1967 (Doria)
Aug 1976 (Belle)
Sep 1985 (Gloria)

NORTHEASTERS
Nov 1950
Oct 1953
Mar 1962
Jan 1964
Jan 1966
Dec 1973
Nov 1974
Mar 1977
Oct 1977
Feb 1978
Oct 1980
Mar 1984
Oct 1991
Jan 1992
Dec 1992

Fogbound Areas

Fog occurs throughout the borough in all seasons. It is most prevalent in the spring and in late summer.

Topographic Protection

Cape May Point has little remaining natural topographic protection. Natural dune formations of up to fifteen feet in height were leveled during development. However, in 1968 the natural dunes were replaced with man-made ones. Berms were established along the urban-beach interface and wind action eventually deposited sand to form dunes that now reach heights of 25 feet.

Air Quality

Air quality in Cape May Point is usually excellent due to constant sea breezes and a lack of industrial activity.

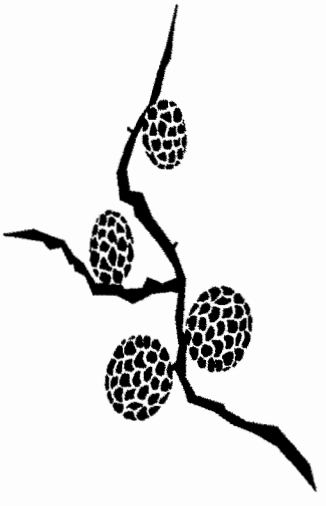
History

The Cape May Point area suffered a historical period of air pollution that caused great damage to its vegetation and wildlife. In 1942, a magnesite plant was built to secure a supply of refractory bricks used in the steel industry. It was the only plant of its kind in the country and was located at Sunset Beach in Lower Township. The process used to manufacture the bricks released plumes of alkaline material into the atmosphere. Native vegetation in the form of pines and cedars, require an extremely acid soil. The natural forests were soon

reduced to scrub, destroying habitat for many species of wildlife. The plant was dismantled in 1984, but some areas are still very alkaline. Lake Lily has a pH range of 8.0 to 8.5 and that range affects the type and vitality of its aquatic life.

VEGETATION AND WILDLIFE

Cape May Point boasts one of the most extensive lists of migratory and residential bird species in the world. Poised at the edge of the Delaware Bay, the Point is an important stopover point for migrating birds and butterflies.



VEGETATION

Native vegetation in the Borough is found in one of three habitats: water bodies; beaches and dunes; and urban areas, including parks.

Water Bodies

The saline waters of the Atlantic Ocean and the Delaware Bay are habitat to a class of vegetation commonly known as seaweeds or sea vegetables. Some found in the Cape May Point area are listed as follows:

1. Sea Lettuce
2. Enteromorpha
3. Rockweed or Fucus
4. Ceramium
5. Chondus crispus

The fresh water of Lake Lily supports the following plants:

1. Marsh mallow
2. Phragmites
3. Pond weed (pomegeton)

Beaches and Dunes

The native vegetation on the undeveloped beaches is controlled by the very low fertility of the soils, the effect of wave and tidal forces, and the effect of salt spray and wind action. Borough residents have planted vegetation on the man-made dunes over the years. Some indigenous and introduced beach and dune plants are listed below.

Indigenous

1. American beachgrass
2. Seaside goldenrod
3. Sea rocket
4. Bayberry
5. Beach Plum
6. Sumac
7. Poison Ivy
8. Eastern red cedar
9. Sandburr
10. Seaside daisy

Introduced

1. Rosa rugosa
2. Japanese Black pine
3. Norway Spruce
4. Blue Spruce
5. Bradford Pear

Urban areas, Natural Areas and Parks

Indigenous

Trees

1. American holly
2. Black cherry
3. Black gum
4. Black willow
5. Eastern red cedar
6. Honey locust
7. Mockernut hickory
8. Persimmon
9. Pond pine
10. White poplar
11. Post oak
12. Sassafras
13. Southern red oak
14. Sweet gum
15. Sycamore
16. White mulberry

Shrubs

1. Arrowwood (Spirea)
2. Elderberry
3. Groundsel
4. Honeysuckle
5. Polygonia (Mexican Bamboo)
6. Sumac
7. Wax myrtle
8. Wild rose (Multiflora)

Vines

1. Blackberry
2. Carolina rose
3. Fox grape
4. Greenbriar
5. Pasture rose
6. Trumpet Vine
7. Virginia Creeper
8. White avens
9. Wild Clematis
10. Wild Grapevine
11. Wild Sweet Pea

Introduced

Trees

1. American Basswood
2. Autumn Olive
3. Black (Japanese) Pine
4. Blue Atlas Cedar
5. Blue Spruce
6. Bradford Pear (Calgary and Aristocrat)
7. Catalpa
8. Chinese Elm
9. Crimson Maple
10. Dogwood
11. Flowering Plum
12. Green Ash
13. Hornbeam
14. Ironwood (Amelanchier)
15. Japanese Larch
16. Kwansan Cherry
17. Leland Cypress
18. Mimosa
19. Narrow Leaf Arborvitae
20. Nelly Stevens Holly
21. Norway Maple
22. Post Oak
23. Pin Oak
24. Red Maple
25. Silver Maple
26. Southern Magnolia
27. White Spruce

Shrubs

1. Boxwood
2. Bridal Wreath
3. Butterfly Bush
4. Crepe Myrtle
5. Euonymus
6. Lilac
7. Privot
8. Rosa Rugosa
9. Vitex

Vines

1. Mock Orange

Landscaping Ordinance

In 1990, the Environmental Commission, under the Chairmanship of Irma Plunkett and with legal assistance, wrote a Landscape Ordinance that was adopted by the Borough government as Ordinance 150.21. The thrust of the ordinance lay in the requirement of a Landscape Plan to be submitted prior to the issuance of a building permit. The intent, of the ordinance was to protect as much natural vegetation as possible and to replace that which was destroyed. The New Jersey Audubon Society so valued the ordinance they awarded the Commission their annual Conservation Award in 1990. Other communities lauded the ordinance and requested copies.

When Cape May City (who now supplies Cape May Point with water) was deprived of its natural water source due to salt-water intrusion, the City applied for a permit to build a desalinization plant. The New Jersey Department of Environmental Protection required, as an element of the permit, that Cape May City develop a landscape ordinance using the Landscape Ordinance written by Cape May Point as a model. The rationale for the ordinance, according to Larry Niles, chief of the Endangered and Non-game Species program, a

part of the NJDEP Fish, Game and Wildlife division, lay in the need to protect habitat that could be lost from increased development due to increased water supply. Not only would a landscape ordinance benefit habitat, it would facilitate water recharge because of its pervious surface requirements.

Thus, in an important way, the Landscape Ordinance 150.21 so valued by the Audubon Society in 1990 stands as one of Cape May Point's *creative* (not natural) resources.

Because Cape May Point is so proud of this model ordinance, it is included in this inventory in its entirety.

150.21. Landscaping and vegetation plan.

A. Prior to the issuance of any zoning permit for additions to an existing structure which increases the lot coverage in excess of 10% or, construction of a new dwelling unit or, conversion of larger dwelling units to apartments or condominiums or the removal of more than 40% of the vegetation covering of a lot, a landscaping and vegetation plan for the parcel in question must be submitted to and approved bay the Cape May Point Zoning Officer to ensure substantial compliance with the criteria and requirements set forth in this section, which landscaping and vegetation plan must constitute a minimum of 60% overall vegetation coverage of the lot and incorporate the parameters of Subsection E(1) hereafter.

B. The landscaping and vegetation plan must constitute a minimum of 60% of the overall lot, either left in its natural state or covered in vegetation, incorporating the parameters of Subsection E(1), hereafter. The utilization of natural indigenous vegetation is encouraged.

C. The Zoning Officer may require such information as is reasonably necessary to enable him to make the determinations required under the provisions of this chapter.

D. All driveways and parking areas shall be a pervious surface.

E. Trees
   (1) All existing trees outside a building footprint having a three-inch-diameter trunk measured from three feet above the ground shall remain if said trees are in excess of six feet from the outside of the exterior wall of the proposed structure. In the event that an applicant wishes to remove a tree or trees as above described, that applicant shall then be required to plant two trees for each tree removed, which such replacement trees shall be of at least two inches in diameter at three feet above the ground at a location on the property to be chosen by the applicant.
   (2) In addition to replacement of removed trees above described, the applicant shall replace, at a location of his or her choice on the property, any trees located within the footprint of the proposed structure if said trees have a trunk at least three inches in diameter measured at three feet above the ground according to the same formula above. Therefore, in addition to the above-required replacement of removed trees outside the proposed footprint, plus six feet, the applicant shall plant one tree along the side yard and rear yard,

which tree shall be of the same size as the replacement tree above described excepting that the applicant shall be permitted to plant two bushes in lieu of a tree if said bushes are a minimum of two feet in diameter and are classified by the Backyard Habitat for Birds, A Guide for Landowners and Communities in New Jersey, published by the New Jersey Audubon Society. This requirement is to make up for the replacement of shrubs and is in addition to the requirement for replacement trees above described where said trees are to replace removed trees from outside the building envelope. However, the applicant shall not be required to plant trees closer than 10 feet between the two, said distance measured from center trunk to center trunk. The replacement trees need not be of the same species as the trees removed, however, they shall be of the same height classification as the tree removed. The guide to height classifications contained in the Backyard Habitat for Birds shall be considered as sufficient evidence of compliance.

F. Except as otherwise herein provided, the landscaping and vegetation plan shall retain as much of the natural vegetation as is possible.

G. Nothing herein is to be interpreted as indicating that an applicant is prohibited from planting additional trees, bushes, grasses or flowers.

H. Existing lots.

(1) Any existing improved lots with structures shall be allowed to exist in their current state, together with routine maintenance, expansion, trimming, planting and replanting of vegetation.

(2) Existing improved lots with structures having less than 60% overall vegetation coverage will be allowed to remain as such, but will be considered an existing nonconforming landscaped property in which the nonconformity must be corrected should the primary structure be altered, outbuildings added or the property be significantly altered or re-landscaping, new landscaping and vegetation plan must constitute a minimum of 60% overall vegetation coverage of the lot, and incorporate the parameters of Subsection E(1).

I. In lieu of replacing bushes, vines and grasses, the applicant shall plant of leave in place one tree at approximately twenty-foot intervals along the side yard and rear yard, which trees shall be at least two inches in diameter, or the applicant shall plant two bushes of a minimum of two feet in diameter in lieu of every second replacement tree. The requirements of this subsection are in addition to other tree requirements.

J. In the case of the issuance of a zoning permit for alteration of construction, the property owner shall be required to plant any new vegetation provided for by the landscaping and vegetation plan within six months of the issuance of a certificate if occupancy for such structure. In the case of the issuance of a permit only for the removal of natural vegetation, the property owner will be required to plant any new vegetation provided for by the landscaping and

vegetation plan within six months of the issuance of said permit.

K. Any property owner or person aggrieved by a determination of the Zoning Officer under the provisions of this chapter may appeal to the Cape May Point Board of Adjustment; provided, however, that said appeal is filed, in writing, within 45 days after said property owner or person receives notice of the decision by the Zoning Officer.

WILDLIFE

Cape May Point has both permanent and transient wildlife populations. Its position as the southernmost point of New Jersey makes it a primary resting place for migrating birds and butterflies preparing to cross the Delaware and Chesapeake Bays. The list of birds sighted in the Point alone is larger than that compiled by an entire state anywhere else in the country.

Wildlife habitats are the marine (ocean and bay; beaches); palustrine (Lake Lily); and terrestrial (wooded areas; urban areas and parks).

Marine Life

Colenterates (Jellyfish)
1. Comb jelly
2. Lion's mane
3. Moon disc
4. Sea anemone
5. Star coral

Echinoderms
1. Common or Eastern starfish
2. Purple sea urchin
3. Sea Cucumber

Arthropods
1. Barnacles
2. Black-fingered mud crab
3. Blue crab
4. Calico crab
5. Ghost crab
6. Green crab
7. Hermit crab
8. Horseshoe crab
9. Isopods
10. Japanese shore crab
11. Lobster
12. Mole crab
13. Sand hoppers or beach fleas

Mollusks
1. Angel wing
2. Ark shell
3. Blue mussel
4. Channeled whelk
5. Common periwinkle
6. Coquina
7. Eastern oyster
8. Jacknife clam
9. Jingle shell
10. Knobbed whelk
11. Moonshell
12. Northern quahog
13. Oyster drill
14. Razor clam
15. Ribbed mussel
16. Shipworm
17. Slipper shell
18. Surf clam

Chordates

Cartilagenous fish
1. Blue shark
2. Brown shark
3. Dog shark
4. Dusky shark
5. Eel
6. Hammerhead shark
7. Mako shark
8. Skate
9. Sting Ray
10. Tiger shark
11. White shark (occasional)

Boney Fish

Caught from jetties, shore or boats:
1. American eel
2. Atlantic Bonito
3. Atlantic Croaker
4. Black drum

5. Black sea bass
6. Blowfish
7. Blue fish
8. Blue marlin
9. Cobia
10. Cod Amberjack
11. Dolphin
12. Grey trout
13. Kingfish
14. Ling
15. Oyster Cracker
16. Pollack
17. Porgy
18. Red drum
19. Sea robin
20. Shad
21. Silverside
22. Speckled trout
23. Spiney dogfish
24. Spot
25. Stargazer
26. Striped killifish
27. Sturgeon
28. Tautog (blackfish)
29. Wahoo
30. White marlin
31. Whiting
32. Winter flounder

Caught primarily from boats:

1. Blue fin tuna
2. Long fin albacore
3. Spanish Mackerel (spring run)
4. Boston Mackerel
5. Atlantic Mackerel
6. Swordfish
7. Yellow fin Tuna

Mammals

1. Harbor porpoise (winter and spring)
2. Bottlenose dolphin
3. Harbor seal
4. Gray seal

Reptiles

1. Diamondback turtle
2. Loggerhead turtle

Palustrine Life (Lake Lily)

Fish

1. Banded killifish
2. Bluegill sunfish
3. Common mummichogs
4. Mosquito fish (Gambusia)
5. Pumpkinseed sunfish
6. Rainwater killifish
7. Sheepshead minnow
8. Silversides
9. Sticklebacks
10. Striped killifish
11. Three-spined stickleback

Amphibians

1. Bull frog
2. Green frog
3. Grey frog
4. Leopard frog
5. Wood frog
6. Spring peeper

Reptiles

1. Painted turtle
2. Snapping turtle
3. Northern water snake
4. Ribbon snake

Mammals

1. Muskrat

Terrestrial Life

Amphibians

1. Fowler's toad

Reptiles

1. Painted turtle
1. Snapping turtle
2. Northern water snake
3. Ribbon snake

Mammals (found in wooded and urban areas)

1. Deer
2. Eastern mole
3. Grey Squirrel
4. House mouse
5. Least shrew
6. Little brown bat
7. Long tail weasel

8. Meadow vole
9. Norway rat
10. Opossum
11. Rabbit
12. Raccoon
13. Red bat
14. Red fox
15. Short tail shrew
16. Skunk
17. White-footed mouse

Birds

Cape May Point is world-famous for bird study. Its position on the peninsula, diversity of habitat and strategic position along the East coast migratory route combine to make it attractive to a rich variety of birds.

In the following checklist of birds each bird is identified as a migrant (M), a breeder (B) and/or a resident (R).

Loons to Cormorants

M Red-throated Loon
M Common Loon
M B Pied-billed Grebe
M Horned Grebe
M Red-necked Grebe
M Cory's Shearwater
M Sooty Shearwater
M Audubon's Shearwater
M Wilson's Storm-Petrel
M American White Pelican
M Brown Pelican
M Northern Gannet
M Great Cormorant
M Double-crested Cormorant

Bitterns to Ibises

M American Bittern
M B Least Bitern
M Great Blue Heron
M Great Egret
M Snowy Egret
M Little Blue Heron
M Tricolored Heron
M Cattle Egret
M B Green Heron
M Black-crowned Night-Heron
M Yellow-crowned Night-Heron
M White Ibis
M Glossy ibis

Waterfowl

M Tundra Swan
R B Mute Swan
M Snow Goose
M Brant
M Canada Goose
M B Wood Duck
M Green-winged Teal
M B American Black Duck
R B Mallard
M Northern Pintail
M B Blue-winged Teal
M Northern Shoveler
M B Gadwell
M Eurasian Wigeon
M American Wigeon
M Canvasback
M Redhead
M Ring-necked Duck
M Greater Scaup
M Lesser Scaup
M Common Eider
M King Eider
M Harlequin Duck
M Oldsquaw
M Black Scoter
M Surf Scoter
M White-winged Scoter
M Common Goldeneye
M Bufflehead
M Hooded Merganser
M Common Merganser
M Red-breasted Merganser
M Ruddy Duck

Diurnal Raptors

M Black Vulture
M Turkey Vulture
M Osprey
M Swallow-tailed Kite
M Mississippi Kite
M Bald Eagle
M Northern Harrier
M Sharp-skinned Hawk
M Cooper's Hawk
M Northern Goshawk
M B Red-shouldered Hawk
M Broad-winged Hawk
M Swainson's Hawk
M Red-tailed Hawk
M Rough-legged Hawk
M Golden Eagle
M Anerican Kestrel
M Merlin
M Peregrine Falcon

Grouse to Cranes

M Ringed-necked Pheasant
M Ruffed Grouse
M B Northern Bobwhite
M Clapper Rail
M King Rail
M Virginia Rail
M B Sora
MB Purple Galinule
M B Common Moorhen
M American Coot
M Sandhill Crane

Shorebirds

M Black-bellied Plover
M American Golden-Plover
M Semipalmated Plover
M B Piping Plover
M B Killdeer
M American Osytercatcher
M Black-necked Stilt
M American Avocet
M Greater Yellowlegs
M Lesser Yellowlegs
M Solitary Sandpiper
M B Willet
M Spotted Sandpiper
M Upland Sandpiper
M Whimbrel
M Hudsonian Godwit
M Marbled Godwit
M Ruddy Turnstone
M Red Knot
M Sanderling
M Semipalmated Sandpiper
M Western Sandpiper
M Least Sandpiper
M White-rumped Sandpiper
M Pectoral Sandpiper
M Baird's Sandpiper
M Purple Sandpiper
M Dunlin
M Stilt Sandpiper
M Buff-breasted Sandpiper
M Ruff
M Short-billed Dowitcher
M Long-billed Dowitcher
M Common Snipe
M B American Woodcock
M Wilson's Phalarope
M Red-necked Phalarope
M Red Phalarope

Jaegers to Alcids

M Pomarine Jaeger
M Parasitic Jaeger
M Laughing Gull
M Little Gull
M Black-headed Gull
M Bonaparte's Gull
M Ring-billed Gull
M Herring Gull
M Iceland Gull

M Lesser Black-backed Gull
M Glaucous Gull
M Great Black-backed Gull
M Black-legged Kittiwake
M Gull-billed Tern
M Caspian Tern
M Sandwich Tern
M Royal Tern
M Roseate Tern
M Artic Tern
M Common Tern
M Forster's Tern
M B Least Tern
M Black Tern
M Black Skimmer
M Dovekie
M Razorbill

Pigeons to Woodpeckers

R B Rock Dove (Feral Pigeon)
M White-winged Dove
R B Mourning Dove
M B Black-billed Cuckoo
M B Yellow-billed Cuckoo
R B Barn Owl
M Eastern Screech-Owl
R B Great Horned Owl
M Snowy Owl
M Barred Owl
M Long-eared Owl
M Short-eared Owl
M Northern Saw-whet Owl
M Common Nighthawk
M B Chuck-will's-widow
M Whip-poor-will
M B Chimney Swift
M B Ruby-throated Hummingbird
M Belted Kingfisher
M Red-headed Woodpecker
R B Red-bellied Woodpecker
M Yellow-bellied Sapsucker
R B Downy Woodpecker
R B Hairy Woodpecker
B Northern Flicker

Flycatchers and Swallows

M Olive-sided Flycatcher
B Eastern Wood-Pewee
M Yellow-bellied Flycatcher
M Acadian Flycatcher
M Alder Flycatcher
M B Willow Flycatcher
M Least Flycatcher
M Eastern Phoebe
M B Great Crested Flycatcher
M Western Kingbird
M B Eastern Kingbird
M Scissor-tailed Flycatcher
M Horned Lark
M B Purple Martin
M B Tree Swallow
M B No. Rough-winged Swallow
M Bank Swallow
M Cliff Swallow
M B Barn Swallow

Jays to Wrens

R B Blue Jay
R B American Crow
M B Fish Crow
R B Carolina Chickadee
R B Tufted Titmouse
M Red-Breasted Nuthatch
M White-breasted Nuthatch
M Brown Creeper
R B Carolina Wren
M B House Wren
M Winter Wren
M Sedge Wren
M B Marsh Wren

Kinglets to Starlings

M Golden-crowned Kinglet
M Ruby crowned Kinglet
M B Blue-gray Gnatcatcher
M Eastern Bluebird
M Veery
M Gray-cheeked Thrush
M Bicknell's Thrush
M Swainson's Thrush
M Hermit Thrush
M Wood Thrush
M B American Robin
M B Gray Catbird
R B Northern Mockingbird
M B Brown Thrasher
M American Pipit
M B Cedar Waxwing
M Northern Shrike
M Loggerhead Shrike
MB European Starling

Vireos and Warblers

M B White-eyed Vireo
M Blue-headed Vireo
M Yellow-throated Vireo
M Warbling Vireo
M Philadelphia Vireo
M B Red-eyed Vireo
M Blue-winged Warbler
M Golden-winged Warbler
M Tennessee Warbler
M Orange-crowned Warbler
M Nashville Warbler
M Northern Parula
M B Yellow Warbler
M Chestnut-sided Warbler
M Magnolia Warbler
M Black-throated Blue Warbler
M Yellow-rumped Warbler
M Black-throated Green Warbler
M Blackburnian Warbler
M Yellow-throated Warbler
M B Pine Warbler
M B Prairie Warbler
M Palm Warbler
M Bay-breasted Warbler
M Blackpoll Warbler
M Cerulean Warbler
M Black-and-white Warbler
M American Redstart
M B Prothonotary Warbler
M Worm-eating Warbler
M Ovenbird
M Northern Waterthrush
M Louisiana Waterthrush
M Kentucky Warbler
M Connecticut Warbler
M Mourning Warbler
M B Common Yellowthroat
M Hooded Warbler
M Wilson's Warbler
M Canada Warbler
M B Yellow-breasted Chat
M B Swainsons Warbler

Tanagers to Sparrows

M Summer Tanager
M B Scarlet Tanager
R B Northern Cardinal
M Rose-breasted Grosbeak
M B Blue Grosbeak
M B Indigo Bunting
M Dickcissel
M B Eastern Towhee
M American Tree Sparrow
M B Chipping Sparrow
M Clay-colored Sparrow
M B Field Sparrow
M Vesper Sparrow
M Lark Sparrow
M Savannah Sparrow
M Grasshopper Sparrow
M Saltmarsh Sharp-tailed Sparrow

M Nelson's Sharp-tailed Sparrow
M Seaside Sparrow
M Fox Sparrow
R B Song Sparrow
M Lincoln's Sparrow
M Swamp Sparrow
M White-throated Sparrow
M White-crowned Sparrow
M Dark-eye Junco
M Lapland Longspur
M Snow bunting

Blackbirds to Old World Sparrows

M Bobolink
M B Red-winged Blackbird
M Eastern Meadowlark
M Yellow-headed Blackbird
M Rusty Blackbird
M Brewer's Blackbird
M B Boat-tailed Grackle
M B Common Grackle
M B Brown-headed Cowbird
M B Orchard Oriole
M Baltimore Oriole
M Purple Finch
M Red Crossbill
R B House Finch
M Common Redpoll
M Pine Siskin
MB American Goldfinch
M Evening Grosbeak
R B House Sparrow

Raritities

This is a list of species (the total number of records in Parentheses) that have been adequately documented fewer than 10 times since 1980. Observers lucky enough to encounter any of these species should document the record with careful notes, sketches, and photographs. Please make every effort to contact CMBO (609-884-2736) and other birders as soon as possible.

1. Eared Grebe (13)
2. Northern Fulmar (5)
3. Black-capped Petrel (1)
4. Manx Shearwater (5)
5. White-faced Storm-Petrel (1)
6. Leach's Storm Petrel (2)
7. Band-rumped Storm-Petrel (1)
8. Brown Booby (3)
9. Anhinga (4)
10. Magnificent Frigatebird (3)
11. White-faced Ibis (4)
12. Wood Stork (8)
13. Fulvous Whistling-Duck (7)
14. Greater White-fronted Goose (6)
15. Eurasian Kestrel (2)
16. Yellow Rail (12)
17. Long-billed Curlew (1 since 1900)
18. Long-tailed Jaeger (5)
19. Franklin's Gull (12)
20. Sabine's Gull (6)
21. Bridled Tern (6)
22. Sooty Tern (15)
23. Whiskered Tern (1)
24. Common Murre (7)
25. Thick-billed Murre (8)
26. Atlantic Puffin (8)
27. Black-backed Woodpecker (1)
28. Pileated Woodpecker (7+)
29. Ash-throated Flycatcher (9)
30. Fork-tailed Flycatcher (7)
31. Violet-green Swallow (1)
32. Cave Swallow (6)
33. Common Raven (3 since 1940)
34. Rock Wren (1)
35. Bewick's Wren (2)
36. Northern Wheatear (6)
37. Mountain Bluebird (1)
38. Bell's Vireo (2)
39. Black-throated Gray Warbler (7)
40. Swainson's Warbler (5)
41. Western Tanager (14)
42. Painted Bunting (7)
43. Spotted Towhee (1)

44. Lark Bunting (2)
45. Henslow's Sparrow (6 since 1970)
46. Harris' Sparrow (1)
47. Smith's Longspur (1)
48. Chestnut-collared Longspur (1)
49. White-winged crossbill

Invertebrates

Butterflies

Cape May Point is blessed with a wide variety of butterflies. Butterflies migrate far less than birds and most are permanent "breeders" in the township. Habitat diversity is the key to a large butterfly fauna. Also the town's peninsular tip occasionally receives vagrant butterflies arriving from southern locations. Aaron's skipper, discovered in 1890 by Dr. Henry Skinner of Philadelphia, is still common in the Cape May Point area, which is one of the few places it is still found in New Jersey.

The Monarch migration through Cape May Point each fall (mid-September through November, though some years beginning as early as August) is as dramatic and as famous as the bird migration. The Cape May area is a link in the chain of critical habitats for Monarchs, a chain that reaches all the way to Mexico.

The following list catalogs the recorded butterfly species sighted in Cape May Point. The species are listed by class and notated as to relative abundance and status. The following is a key to that notation:

a abundant; species observable in great numbers
c common; species which should be seen in proper habitat
u uncommon; species present in limited numbers and not certain to be seen
r rare; species seen only at intervals of several years
l only found in very localized/specialized habitat
s stray, vagrant; irregularly immigrates into area; not part of local fauna and not seen most years (rare)
***** known to be migratory (some regular); not considered to be permanent resident; temporary breeding possible, yet most can not survive in or near New Jersey for multiple seasons
h *historically present but may no longer occur*

Swallowtails

1) Pipevine swallowtail **(r*)**
2) Black swallowtail **(c)**
3) E. tiger swallowtail **(c)**
4) Spicebush swallowtail **(c)**

Whites and Sulphurs

1) Cabbage white **(a)**
2) Clouded sulphur **(c)**
3) Orange sulphur **(a)**
4) Cloudless sulphur **(c)**
5) Little yellow **(u)**

Harvesters, Coppers, Hairstreaks

1) American copper **(c)**
2) Coral Hairstreak **(c)**
3) Banded Hairstreak **(c)**
4) Striped Hairstreak **(u)**
5) Henry's elfin **(c)**
6) Olive Juniper Hairstreak **(c)**
7) White M Hairstreak **(u)**
8) Gray Hairstreak **(c)**
9) Red-banded Hairstreak **(c)**
10) Eastern tailed blue **(a)**
11) 'Spring' spring azure **(a)**
12) Cherry gall spring azure **(a)**
13) Summer azure **(a)**

Snouts

1) American snout **(c)**

Brushfoots

1) Gulf fritillary **(s*)**
2) Variegated fritillary **(c*)**
3) Pearl Crescent **(a)**
4) Question mark **(c)**
5) Eastern comma **(u)**
6) Mourning Cloak **(c)**
7) American Lady **(c-a*)**
8) Painted Lady **(u*)**
9) Red Admiral **(c-a)**
10) Common Buckeye **(c-a)**
11) Red-spotted purple **(c)**
12) Viceroy **(c)**

Hackberry Butterflies

1) Hackberry emperor **(u-c)**
2) Tawny emperor **(u)**

Satrys and Wood Nymphs

1) Little wood satyr **(c)**
2) Common wood nymph **(c-a)**

a) Milkweed Butterflies

1) Monarch **(a*)**

Skippers

1) Silver-spotted skipper **(c)**
2) Long-tailed skipper **(s*)**
3) Southern cloudywing **(c)**
4) Northern cloudywing **(c)**
5) Hayhurst's scallopwing **(u)**
6) Juvenal's duskywing **(c-a)**
7) Horace's duskywing **(c)**
8) Common checkered skipper **(c*)**
9) Common sootywing **(c)**
10) Swarthy skipper **(c)**
11) Clouded skipper **(s*)**
12) Least skipper **(c)**
13) Fiery skipper **(c)**
14) Crossline skipper **(c)**
15) Sachem **(c)**
16) Delaware skipper **(c)**
17) Zabulon skipper **(c)**
18) Aaron's skipper **(c)**
19) Broad-winged skipper **(c-a)**
20) Dun skipper **(u)**
21) Brazilian skipper **(s*)**
22) Salt marsh skipper **(c)**
23) Ocola skipper **(s*)**

Dragonflies and Damselflies

The Cape May Observatory provides a complete description of the listed species along with their seasons.

1. Slender Spreadwing
2. Citrine Forktail
3. Fragile Forktail
4. Rambur's Forktail
5. Familiar Bluet
6. Orange Bluet
7. Common Green Darner
8. Comet Darner
9. Swamp Darner
10. Delta-spotted Spiketail
11. Stripe-winged Baskettail
12. Mantled Baskettail
13. Four-spotted pennant
14. Halloween Pennant
15. Eastern Pondhawk
16. Seaside Dragonlet
17. Blue Corporal
18. Spangled Skimmer
19. Slaty Skimmer
20. Common Whitetail
21. Needham's Skimmer
22. Twelve-spotted Skimmer
23. Painted Skimmer
24. Great Blue Skimmer
25. Blue Dasher Glider
26. Spot-winged Glider
27. Wandering Glider
28. Eastern Amberwing
29. Blue-faced Meadowhawk
30. Variegated Meadowhawk
31. Cherry-faced Meadowhawk
32. Yellow-legged Meadowhawk
33. Striped Saddlebags
34. Carolina Saddlebags
35. Black Saddlebags
36. Red-mantled Saddlebags

Rare, Threatened and Endangered Species

The following rare, threatened and endangered species have been identified in Cape May Point:

Vertebrates

1. Piping Plover--on federal and state endangered species lists; considered critically imperiled in NJ.
2. Cope's Gray Treefrog—on state endangered species list and considered imperiled in NJ.
3. Pied-billed Grebe
4. Red-Shouldered Hawk
5. Black Skimmer
6. Least tern

Invertebrates

1. Mudbank Ambersnail—rare in the state and considered critically imperiled due to low population

Vegetation

1. Drummond's rock cress—endangered and critically imperiled in NJ.
2. Dog-fennel thoroughwort—endangered and critically imperiled in NJ.
3. Swamp-pink—on federal threatened species list, on pinelands endangered and threatened species list and considered endangered and imperiled in NJ.
4. Cut-leaved water milfoil — occurred historically in NJ; endangered in NJ.
5. American cupscale — endangered and critically imperiled in NJ.

LAND USE

How we use our space is critical to our well-being and that of all living things. Preservation of habitat and development have always formed a delicate balance in this largely urban community.

Cape May Point considers itself to be a village that is vitally concerned with preserving as much remaining open space as possible and views this land as extremely valuable and beneficial as habitat and flyways for migrating bird species.

LAND USE

Cape May Point can best be described as a quiet, residential resort community compacted into one-third square mile, and totally surrounded by natural areas. An attractive mix of residential and recreational land use compliments and enhances the old-fashioned family resort ambiance.

Existing Land Use

Natural areas

The natural areas within the Borough of Cape May Point are as follows:

- Entranceway Park (Block 30)
- Beach Park and sand dunes (Block 52)
- Lake Lily (Block 53)
- Pavilion Circle Park (Block 54)
- Cape May Point State Park (Block 40, Lot 35)

Roads

Since Cape May Point is almost entirely urban, a significant portion of the land is paved with eight miles of roads. Main avenues radiate out from a central circle. Picturing the circle as a wheel, there are roads, or "spokes" that run north and south (Ocean Avenue) and east and west (Central Avenue), forming four quadrants. Two more "spokes" (Cape Avenue) bisect the southwest and northeast quadrants and serve as the main entranceway into town.

The eastern quadrants are laid out in a grid pattern with a southeast /northwest diagonal orientation to Ocean Avenue. A large portion of this grid is interrupted by the presence of a sixteen-acre inland fresh-water lake. Lake Drive follows the contours of the lake for almost its entire boundary.

The northwest quadrant is laid out in a grid pattern perpendicular to Ocean Avenue and Central Avenue. The cross streets in the bisected southwest quadrant run like a spider's web between Ocean, Cape, and Central Avenues to accommodate the curve of the shoreline.

Lighthouse Avenue runs parallel to the entire eastern boundary of the Borough and Sunset Boulevard forms the northern boundary.

All reconstructed roads are built to state medium highway specifications and are twenty-four feet wide. Some of the original roads are wider.

Pipelines

Lake Lily drains east to Lighthouse Pond through a 1200-foot long eighteen-inch wide cast iron pipe.

A structure known as "Drainage East" consists of a 300-foot long, 24-inch diameter ductile iron pipe fed by a concrete inlet drop structure. The pipe runs from Shallow Pond through the dune to an ocean outfall near the abandoned military bunker.

Another structure known as "Drainage West" consists of an underground pump installation at the northern end of Lake Lily. The pump connects to an abandoned pipeline that runs under Sunset Boulevard and beyond the boundaries of the Borough to extend 600 feet into the Delaware Bay at a depth of 21 feet.

Recreational

Public recreational areas comprise 46.3 acres of the Borough.

Lake Lily, a freshwater body, covers 16 acres. Boating is prohibited, but the lake is surrounded by a grassy area dotted with benches that

provides opportunities for bird watching and picnicking. This is a "carry in-carry out area and users must take their trash with them. Feeding of the waterfowl is discouraged.

Beach Park covers 27.1 acres and is located along the ocean and bay sides of the borough. The park provides opportunities for swimming, sun bathing and picnicking. No activities are allowed on the dunes.

Entranceway Park is a small, decorative area located at the beginning of the main route into the borough. The park covers 0.6 acres.

Pavilion Circle Park comprises 2.3 acres and is located in the center of the borough. The park serves as a hub for several Cape May Point streets. Recreational activities include volleyball, basketball, bird and butterfly classes, children's games, concerts, and Easter egg hunts. The park is governed by a landscaping ordinance and is planted with flowers and shrubs. Landscaping efforts of local residents have won a conservation award from the New Jersey Audubon Society.

Water Supply Utilities

Water from the Cape May Water Utility flows by gravity to the Cape May Point water storage facility at 546 Sunset Boulevard. Water is pumped at a pressure of 50 psi to residential, commercial and municipal service connections. Water storage is in a 250,000 gallon, thirty-foot high ground-level water storage tank (see photos on following pages).

Waste Treatment and Disposal Facilities

Sanitary sewage from the entire Borough is delivered to the Cape May County MUA Sewage System through the Cape May Point collection pump station located at 211 Yale Avenue.

WATER SYSTEM UPGRADE - NEW WATER STORAGE TANK
RDA
BOROUGH OF CAPE MAY POINT
P.O. BOX 514, CAPE MAY POINT, N.J.

Urban areas

The majority of land in the Borough is residential. The development pattern is of predominantly single-family homes and is zoned that way to preserve the ambiance of the community. Property values remain high and real estate is usually quite easy to market.

In addition to residential dwelling units there are six religious buildings. These are St. Mary's by-the-Sea, the Marianists, St. Peter's Church, St. Agnes Church, the Union Chapel, and Beadle Memorial Church. Cape May Point has only three commercial entities—the General Store, the Bird Observatory, and Patton's Water Ice Cart! Borough facilities take up 2.0 acres.

On the next page is a lot analysis compiled by the Cape May Point Taxpayers' Association and revised by the Cape May Point Environmental Commission.

.

Cape May Point Lots	Number
1775 Sea Grove Association - Total Original Lots	981
1999 Cape May Point - Total Consolidated Lots	697
Total Tax Exempt Lots	28
Total Taxable Lots	669
Total Catholic Institutional Lots	5
Total Lots available for Residential Development	664
Total Lots currently Vacant	58
Total Lots adjacent to Cottages that could be Developed	41
Total Lots that can be Subdivided and Developed	80

Comments

The Sea Grove Association created **981** lots for development in 1875. From the beginning many homeowners purchased several adjacent lots, although in many cases they only built upon one of the lots. Over the years many of these adjacent lots became consolidated as one taxable entity. Today there are 697 lots on the Borough Tax Records with **664** of them designated for residential use.

9 new cottages were constructed during the past year (1999). If this rate of development continues **58** new cottages will be built and all vacant lots will have new cottages within 7 years. There is however a potential for additional development of **41** cottages if property owners were to sell their adjacent lots instead of maintaining them as open space. There is also a potential for additional development of **80** cottages if current property owners were to subdivide and develop their oversized lots. This figure includes the Sisters of Saint Joseph (10), the Marianists (5) and the General Store (1) as well as the Somewhere in Time Condominiums (2) and Parsons Folly Condominiums (1). Without subdivision of these later properties the total would be **63**.

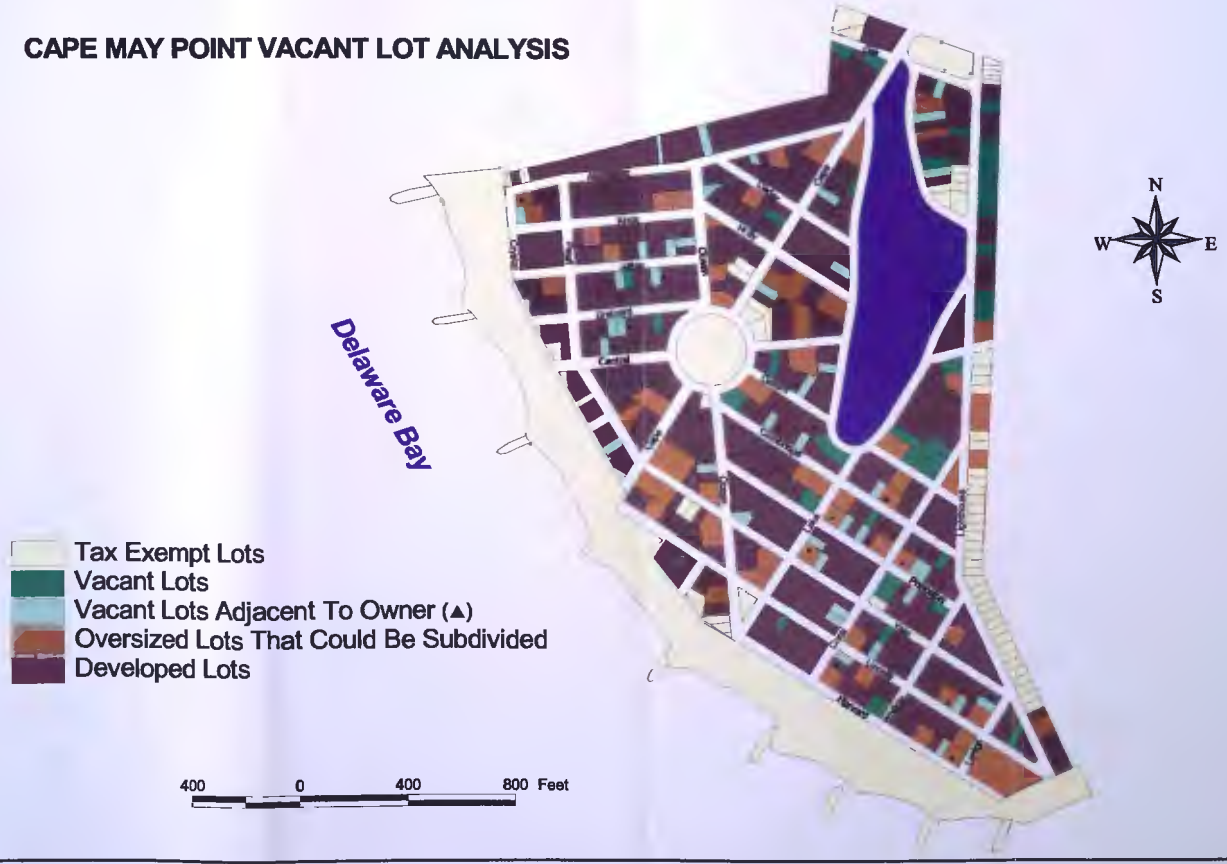
The probable **maximum** buildout (adding 58 to 41 to 63) is therefore **162**. If the borough or the other tax-exempt properties were to subdivide and sell additional lots for development the maximum buildout would be even higher.

The following map depicts the vacant lot analysis, giving a visual picture of the remaining undeveloped space in the Borough as of the date this ERI was compiled

THE BOROUGH OF CAPE MAY POINT VACANT LOT ANALYSIS MAP

The map on the following page depicts the current vacant lots, subdivided lots, and oversize lots that could be subdivided.

CAPE MAY POINT VACANT LOT ANALYSIS



THE BOROUGH OF CAPE MAY POINT LAND USE MAP

The following map depicts the way space is used in the Borough. The pattern of roads, pipelines, urban areas, public and privately owned recreational areas, waste treatment pumping stations and open space, both public and privately owned, are reflected.

CAPE MAY POINT LANDUSE

Proposed Land Use

Master Plan

The Borough's original Land Use Element of the Master Plan was prepared in September 1978. The plan was updated in 1986, 1988 and lastly in 1994. On each occasion, extensive questionnaires were mailed to each registered property owner on the tax rolls. The criteria that were used included zoning, construction regulations, performance of the governing bodies, land use, and the ambiance and character of the borough.

The taxpayer survey included the following comments and concerns voiced by residents:

Comments:

- There is a high degree of satisfaction with the level of safety in the borough
- Diversity
- Bird Observatory
- Attractive architectural mix
- Tight zoning laws
- Ambiance
- Community
- Churches
- Unique commercial and municipal establishments
- Proximity to Cape May

Concerns:

- Keeping the air clean
- Maintaining existing acreage of green areas and open space
- Care of parks and recreational areas
- Maintaining the low noise level
- Lake Lily
- Maintaining the existing number of historic structures
- Maintaining a low traffic volume; maintaining low speed limits
- Vulnerability to flooding
- Small beaches
- Beach entrances

In preparing the Borough Master Land Use Plan, five major factors were considered:

1. The existing land-use pattern
2. Natural areas
3. Development limits in the Cape May County Comprehensive Plan
4. Growth increments in the Cape May County Municipal Utilities Authority Plan for the Cape May Regional Sewage Treatment System
5. Taxpayer survey responses

Cape May County Comprehensive Plan

The Cape May County Comprehensive Plan uses ground water supply as the primary growth-limiting factor. The Plan has proposed development limits for all the communities in the County. The planning limit for Cape May Point is 759 dwelling units. Development of the remaining vacant lots at one unit per lot would bring the total to 755 dwelling units plus the religious retreat houses that count as forty-four units. Thus the Borough is able to remain in compliance with the Cape May County Comprehensive Plan.

Cape May County Municipal Utilities Authority Plan

The Cape May County Municipal Utilities Authority Plan includes the Cape May Regional Sewage Treatment System. The plan uses growth projections for the communities in the region. For Cape May Point, the projection is 227 dwelling units added between 1990 and 2020, for a total of 778 dwelling units. The final MUA service allowance for Cape May Point is 800 dwelling units. This growth increment would permit the remaining vacant buildable lots in Cape May Point to be developed with single-family homes and still be within the sewage flow allocation for the Borough.

Housing Element and Fair Share Plan

The Cape May Point Housing Element and Fair Share Plan was originally prepared and accepted in response to the New Jersey Fair Housing Act, P.L. 1985, Chapter 222, the Rules of the Council on Affordable Housing (COAH) and the Municipal Land Use Law. The official COAH obligation is to rehabilitate three substandard homes

It is the Borough's intent to provide a realistic and reasonable opportunity for assistance to low and moderate income families and individuals and their housing needs.

The Borough has formally contracted with Thomas J. Scangarello & Associates of Medford, New Jersey to continually update the plan.

The Borough received Substantive Certification from COAH on January 5, 1999.

Zoning

The Borough of Cape May Point is divided into three zones:

- **R-1 Residential Zone**
- **P Public Grounds Zone**
- **B Beach Zone**

R-1 Residential Zone

Permitted uses

In residential areas, no building or other structure and no area shall be used, and no building or other structures shall be built, altered or erected to be used, for any purpose other than that of:

A. One (1) single-family dwelling
B. Public park or playground
C. Churches, Sunday schools and other places of worship
D. Charitable institutions, hospitals and sanatoriums
E. Municipal buildings, public library
F. Office of a resident professional person
G. Home occupations employing no outside help
H. Accessory building, provided that when housed in a separate building, other than a private garage, on the lot, no cooking facilities or living quarters shall be installed, and provided further that no permit shall be issued for an accessory building before construction and completion of the main building.

Area, yard and height regulations

A. The minimum land area per building or dwelling shall be five thousand (5000) square feet, and the minimum width of the lot shall be fifty (50) feet.

P Public Grounds Zone

Affected areas

The following facilities are regulated by the Public Grounds Zoning:

- Entranceway Park Block 30
- Lake Lily & Flagpole Block 53
- Pavilion Circle Park Block 54
- Beach Park Block 52
- Water Utility Block 20; Lots 1 & 6
- Public Works Building Block 32; Lots 1 through 5
- Municipal Hall Block 40; Lots 38 & 39
- Fire House Block 14; Lots 5 & 6

Permitted uses:

No building shall be built or erected and no other uses shall be permitted except for the following purposes:

A. Municipal buildings
B. Public libraries
C. Schools and playgrounds
D. Parks and recreational facilities
E. Public outdoor parking area

B Beach Zone

It is the intent that the Beach Zone protect the borough's important beach resources from development and use that is inconsistent with their natural character or which could have an adverse impact on them.

Affected areas:

The Beach Zone is that area within the Borough of Cape May Point currently known as Block 52 in its entirety.

Permitted uses:

No building shall be built or erected and no other uses shall be permitted except for the following purposes:

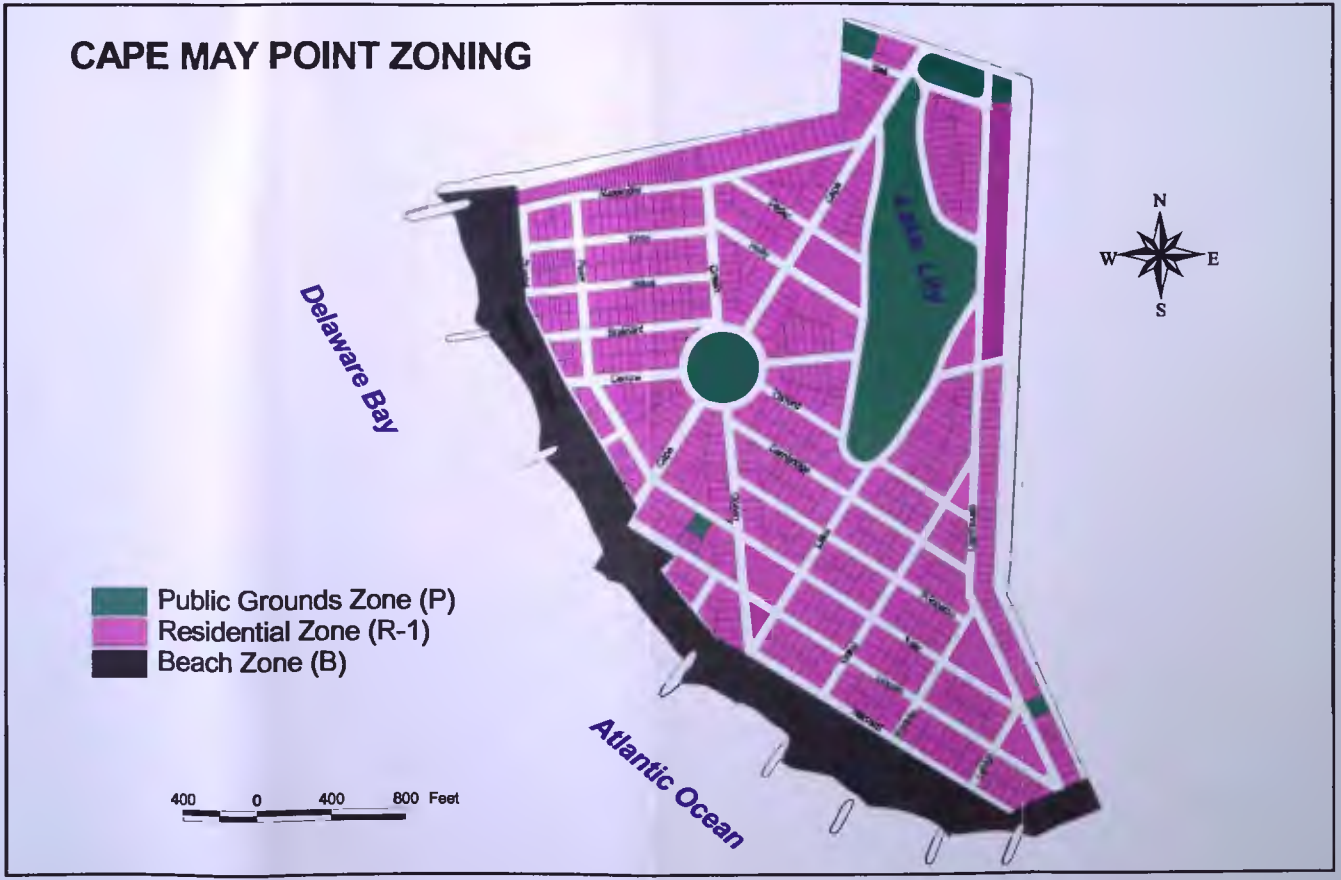
A. Beach and dune protection projects approved by the borough
B. Recreational uses of a nature ordinarily permitted on a beach and determined by the Planning Board not to be detrimental to the dune stabilization, preservation and protection.

THE BOROUGH OF CAPE MAY POINT ZONING MAP

The following map depicts the zoning of the borough of cape may point. The point is divided into three zones:

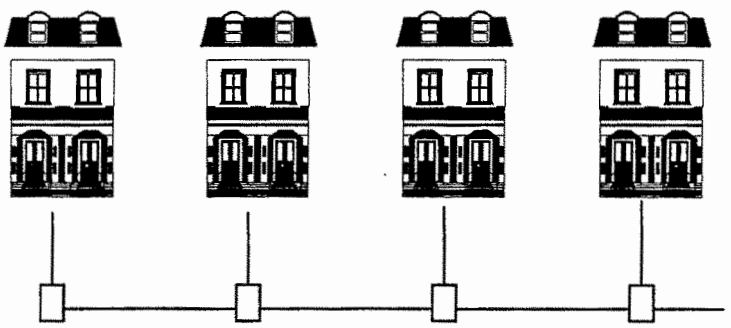
R1	Residential
P	Public Grounds
B	Beach

CAPE MAY POINT ZONING



INFRASTRUCTURE

Infrastructure includes services that make development possible. In most towns service structures consist largely of water and sewer lines and drainage. Cape May Point's infrastructure consists of all of these systems but also includes an extensive beachfront protection plan.



INFRASTRUCTURE

Every residence within the Borough is served by municipal water and sewage service, and every buildable lot has that capability. The entire water distribution system is arranged in a grid layout, with interconnections at each road intersection. There are no dead ends. Thus, if there should be a water main break, that particular block can be isolated without affecting entire neighborhoods. The water distribution system and sanitary sewage collection system is under ten years of age

The Cape May Point Utility is responsible for the repair of all disruptions in the water distribution system and sewage collection system up to the residential curb stop. The Borough has an annual contract for all emergency repairs and major maintenance of installation of service laterals. This contract requires emergency repairs to be under way within two hours of notification.

Routine operational surveillance is made via a daily log of pertinent readings at the Cape May Point Utility pumping facility. There is a ten-year chart of monthly Bulk Water deliveries received at the pump facility and a similar monthly chart of sewage delivered to the MUA transfer pump station at Yale Avenue. Unusually high readings as compared with the same month of other years signify a change or irregularity.

The property owner is responsible for all repairs between the curb stop and the house.

Water Supply

At present, the Cape May Point WaterUtility obtains its water supply from the Cape May City Water Department via a two-and-a-half mile long ten-inch diameter supply line from their Canning House Lane Water Works. Cape May Point is responsible for maintenance on this line from the inter-connection at Bayshore Road just north of the railroad crossing. This water supply is covered by the 1997 Interlocal Agreement for fifteen years—through the year 2012. This includes water produced from Cape May City wells, their new desalinization plant, or water they obtain from Lower Township.

The water is supplied to the Cape May Point water storage facility and pump house at 546 Sunset Boulevard. Cape May Point utilizes a ground level water storage tank rated for 250,000 gallons to cover one peak season maximum daily usage. The ground level tank was purposely selected to suit the natural area ambiance of the Borough and because of Cape May Point's seacoast location. It was noted that salt-air corrosive attacks aggravated by the offshore winds on towers exceeding 38 feet high; whereas with the ground level facility, the 32 foot high storage tank is further protected by the surrounding cedar forest.

Sanitary Sewage

The Cape May Point Water & Sewer Utility owns and operates the Borough-wide sanitary sewage collection system, delivering this sewage to the County MUA Sewage System at their collection pump station located at 211 Yale Avenue. The MUA pumps this sewage across Sunset Boulevard to their regional sewage treatment facility. The treated effluent is then pumped along a twelve-mile route to a secondary treatment facility near Wildwood, where-upon it is exited into the ocean.

The Cape May Point sewage collection system does include an underground transfer pumping facility beneath the east side of Pavilion Circle Park. These pumps transfer sewage from the collection lines in the west side of town to the eastern network and to the County MUA collection pump station.

Beach Protection Program

Because of its precarious location at the southern tip of New Jersey, the Borough of Cape May Point experiences coastal storms from both the ocean and from across the twenty-mile-wide Delaware Bay. In October 1991 and January 1992 nor'easters inundated a third of the Borough. No two beachfronts face in the same direction. As a result, it is necessary to fortify the Borough from weather coming from the east, south, and west.

Concerns

The Army Corps of Engineers map shown below clearly illustrates the following concerns:

- An ocean storm breakthrough into Lower Cape Meadows Natural Area follows the low level path around the back of the State Park and floods Cape May Point through Lighthouse Pond.
- The State Park itself must be protected.
- The southern and southwestern flank of the Borough are vulnerable.

Implementation

In 1992 implementation of a Storm Protection Plan was begun. The initial plan consisted of four projects: reconstruction of dunes, beachsaver reefs, dunguard networks, and storm drainage outfall systems. This first phase was completed between 1992 and 1998 according to the following schedule:

1992
- Rebuilding of the dune across South Meadows to Whilldin

1993
- The dune at the convent is relocated twelve feet behind the seawall
- 1500 tons of recycled concrete and slabs are placed at the seawall

1994
- A granite anti-scour revetment is installed at Whilldin
- Beachsaver reefs installed to move impact of storms 300 feet offshore
- Storm drainage east is installed

1995
- Project monitored by the Stevens Institute

1996
- A flexible seawall is installed and the Park dune is completed

1997
- Reconstruction of the outer face of Whilldin dune
- Dunguard networks installed

1998
- The flexible seawall was extended to an overall length of 1500 feet
- A twenty-five ton granite revetment is installed on the east half of Cape Beach

1999
- Storm drainage west completed

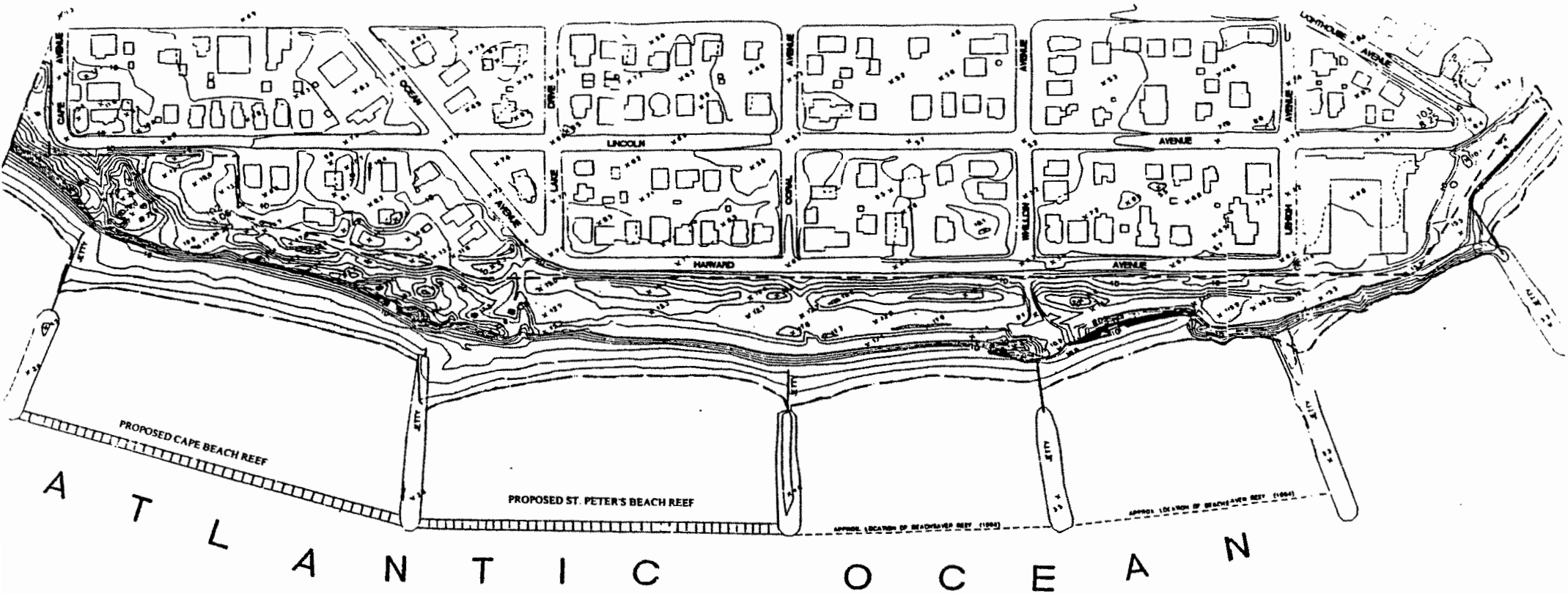
Future Plans

Future plans include
- Completion of the twenty-five ton granite revetment from the Cape jetty to the Convent seawall at Whilldin Beach.
- A floodplain protective berm east of Lighthouse Avenue
- Beachsaver reefs by the year 2000
- Army Corp of Engineers sand replenishment in 2001

(see proposed reef locations diagram and photo of present reef locations on the following pages)

While the winter of 1997-1998 was hard on the entire east coast, the Cape May Point dunes held and the Borough has not been inundated since the 1992 Storm Protection Plan began to be implemented.

PROPOSED REEF LOCATIONS



Two reefs are proposed to span two adjacent beaches, St. Peter's (east) and Cape Beaches (west), the first beaches west of the existing Beachsaver Reef. The ends of the reefs will connect in near the ends of the jetties, in similar fashion to the original project.

Offshore Protection Plan

The plan calls for utilization of Beachsaver Reefs on all four ocean beachfronts.

- Whilldin — Installed in 1994 Offshore bottom relatively stabilized
- Coral — Installed in 1994 Offshore bottom relatively stabilized
- St. Peters — Federal funding approved in August, 1999. Shoreline has retreated 80 feet since Stockton College's original 1986 profile measurements
- Cape — Federal funding approved in August, 1999. This beach has been under serious attack since 1995 Shoreline has retreated 38 feet since January 1995

Construction of the St. Peter's and Cape reefs is anticipated for completion by spring 2001.
Studies of the area following several storms in 1995-1996 concluded that the two beaches where the Beachsaver Reefs were in place showed only minimal erosive impacts. Nearby beaches continue to erode at a pace which threatens the man-made dunes.

Beachsaver Reefs are built by lining up and connecting interlocking reef modules in a side-by-side manner. Each concrete reef module is twenty-one tons in weight and six feet high, ten feet wide and sixteen feet long. The modules are placed over a base of three-ply, high density polyethylene "geotextile" fabric, and rock-filled "geogrid" mattresses are used for scour protection on both the landward and seaword edge of the modules. The ends of the reefs are tied to the stone jetties. The reefs are also stabalized with steel pilings.

The Beachsaver Reef works in three ways to stabilize the adjacent beachfront. Incoming waves are reduced in height and energy by the structure's presence underwater as they pass over it. Waves reach shore with minimal destructive impact. The reef is placed so as to be less than three feet from the water's surface at low tide. A backwash flume creates a curtain of water above the reef with the return flow of waves. This jettisoned current prevents much of the loss of sand that normally accompanies the return wave off shore. The Reef also helps to hold sand in place after beach replenishment.

Onshore Protection Plan

From the actual experimental results achieved in this area, it is believed that the "Cape Beach revetment format" has proven to be the proper onshore approach for all four ocean beachfronts. The "standard specification revetment" is defined as:

- Five granite five-ton boulders stacked in a pyramid configuration
- Mat stone foundation extending two feet in front of the frontal granite rock
- Heavy recycle concrete rubble backup from granite boulders to dune core (fifteen to twenty feet wide by seven feet deep)
- Sand overlay to the rear of granite boulders; two foot of I-5 layer over rubble
- Jetty corners are filled with multiple 5-ton granite boulders in rounded configuration across the hypotenuse to re-direct the incoming ocean wave path and avoid "corner scouring"

This will provide one continuous revetment from the Cape Avenue Jetty to the western end of the Convent seawall.

This project is part of the State's FY2000 package and expected to be completed by spring 2000.

Army Corps of Engineers Program

The Army Corps of Engineers has projected a fifty-year beach replenishment program creating a hundred-foot wide beach strand extending from the Third Avenue jetty in Cape May City to the Cape May Point Central Avenue jetty. Construction is anticipated for completion by Spring 2002.

The planned "Floodplain Protective Berm" in the Storm Protection Program would protect the eastern flank. The berm isolates the Borough from the State Park and acts as a secondary line of defense from a dune breach in the Nature Areas.

Storm Drainage

Drainage East

During the March 1992 nor'easter, the dune fronting the Meadows breached, resulting in the blockage of the main drainage ditch. This blockage interfered with the normal drainage from Cape May Point and resulted in the inundation of a portion of Lighthouse Avenue for months.

To rectify this problem Cape May Point installed an outfall structure from Shallow Pond West to the ocean in the vicinity of the abandoned military bunker. This structure consists of a 300-foot long, two-foot diameter ductile iron pipe through the dune, with a concrete inlet drop structure. The shallow point spillway is set at 3.5 feet above mean sea level. There is a one-foot drop to the pipe that then slopes uniformly to the exit at an elevation of one and nine-tenths feet above mean sea level. The outfall is fitted with a backflow preventer. Between a headwater of three-and-one-half to five feet for a normal ocean range, the capacity of the outfall is approximately ten cubic feet per second. Historically, rain induced flooding of Lighthouse Pond has not exceeded one foot. This system has been in place since February 1994. Lake Lily drains eastward to Lighthouse Pond through a 1200 foot long eighteen inch cast iron pipe. This pipe has a limited capacity of approximately three cubic feet per second for a normal range of headwaters and tailwaters.

Drainage West

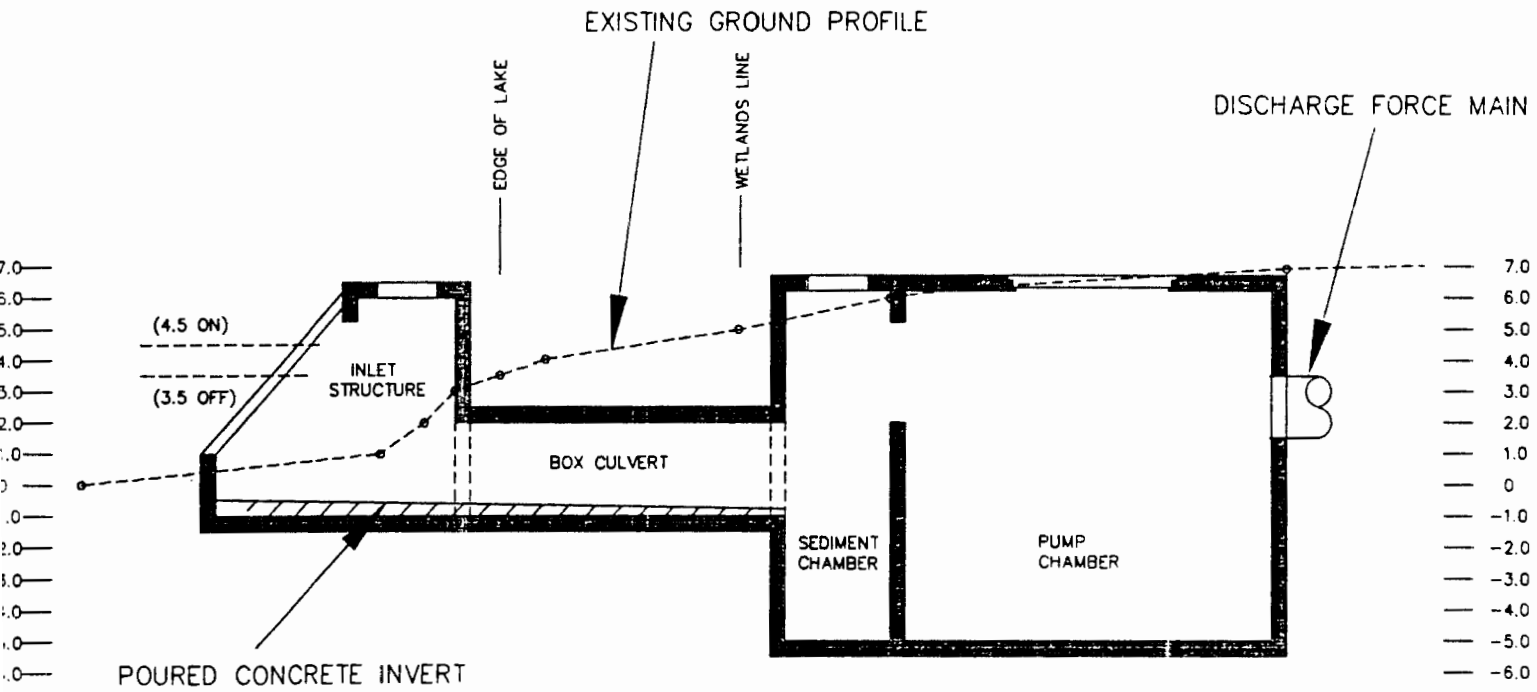
Because the Drainage East system can be impacted by high water levels in the South Cape Meadows, it was necessary to have a westward storm drainage system with outfall into Delaware Bay. An underground pumping facility at the northern end of Lake Lily pumps 6500 gallons per minute to a pipeline beneath Sunset Boulevard, and 600 feet out along the bottom of Delaware Bay. There is also a backflow preventer at the empty point.

The system calls for manual activation of the pump whenever the elevation of Lake Lily exceeds four-and-a-half feet. At elevations greater than four-and-a-half feet above mean sea-level, surrounding storm drains are filled with standing water and flooding would occur along several streets in the eastern end of town.

The runoff pumped to the bay will be fresh water lost to the meadows ecosystem. However, on an annual basis, the loss is conservatively estimated to be only seven percent of the annual runoff. Also, when the lake exceeds the maximum level, only eighty-three percent of the volume above that elevation will be pumped; the remainder will drain to Lighthouse Pond. Based on this operating program, Drainage West is used infrequently

and will not seriously diminish the annual freshwater runoff volume from Cape May Point to the meadows.

Drainage West



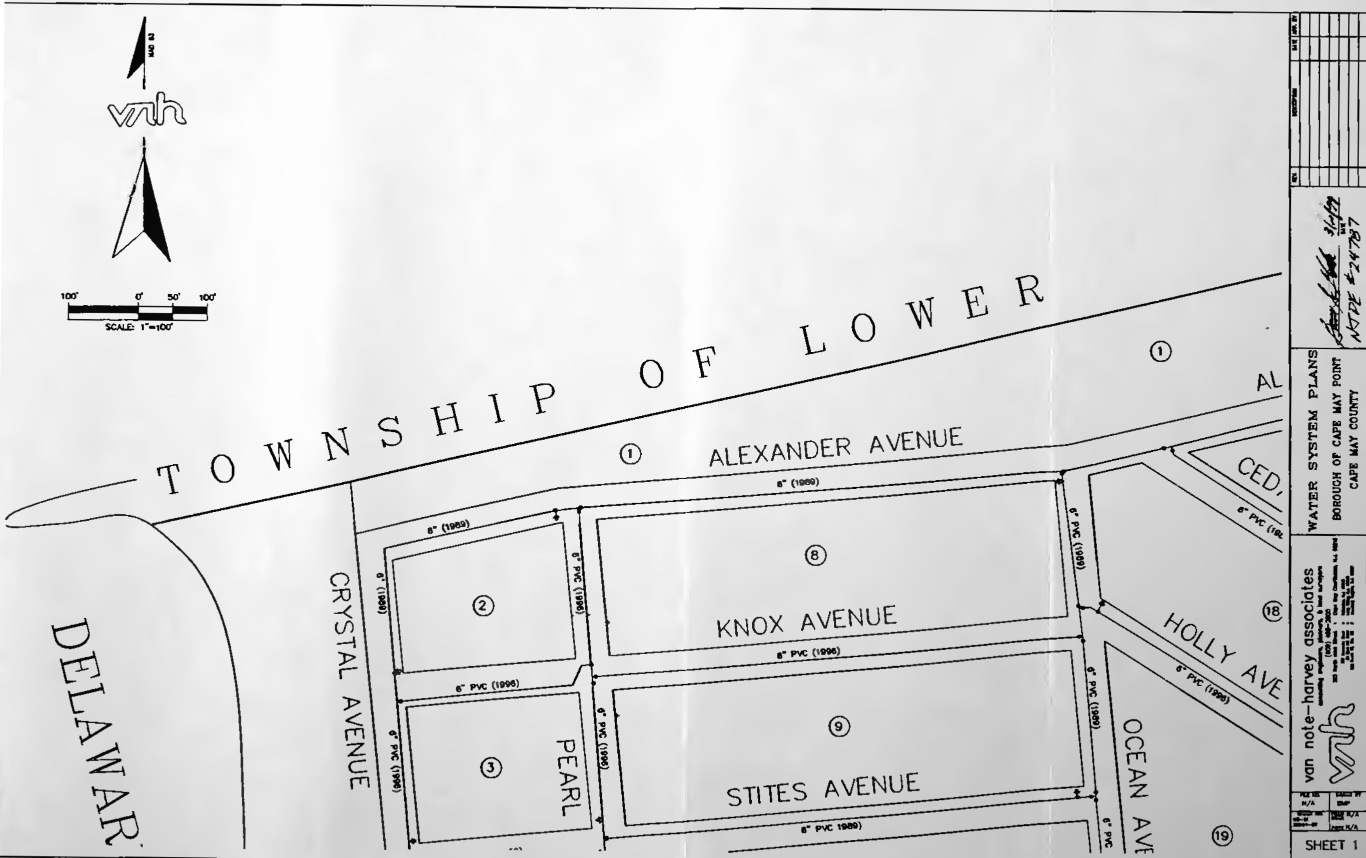
THE BOROUGH OF CAPE MAY POINT INFRASTRUCTURE MAPS

The following maps depict the water, sewer, and storm drainage systems in the borough.

van note-harvey associates

INDEX OF SHEETS
WATER SYSTEM PLANS
BOROUGH OF CAPE MAY POINT
CAPE MAY COUNTY

KEY SHEET



SCALE: 1"=100'
100' 0' 50' 100'
TOWNSHIP OF LOWER
ALEXANDER AVENUE
AL
CED
HOLLY AVE
OCEAN AVE
KNOX AVENUE
STITES AVENUE
CRYSTAL AVENUE
PEARL
DELAWAR
8" (1989)
8" PVC (1996)
6" PVC (1996)
8" PVC 1989)
6" PVC (1989)
WATER SYSTEM PLANS
BOROUGH OF CAPE MAY POINT
CAPE MAY COUNTY
NJPE #24787
van note-harvey associates
SHEET 1

RE

BAY

AVENUE

BRAINARD AVENUE

CENTRAL AVENUE

PEARL AVENUE

PEARL AVENUE

EMERALD AVENUE

CAPE AVENUE (COUNTY ROAD)

OCEAN AVENUE

YALE AVENUE

AVENUE

6" PVC (1996)

6" PVC (1989)

6" PVC (1988)

6" PVC (1985)

6" PVC (1999)

8" PVC (1988)

8" CIP

4

5

6

6

7

10

11

12

13

19

52

54

van note-harvey associates

WATER SYSTEM PLANS

BOROUGH OF CAPE MAY POINT

CAPE MAY COUNTY

SHEET 2

van note-harvey associates

WATER SYSTEM PLANS
BOROUGH OF CAPE MAY POINT
CAPE MAY COUNTY

SHEET 3

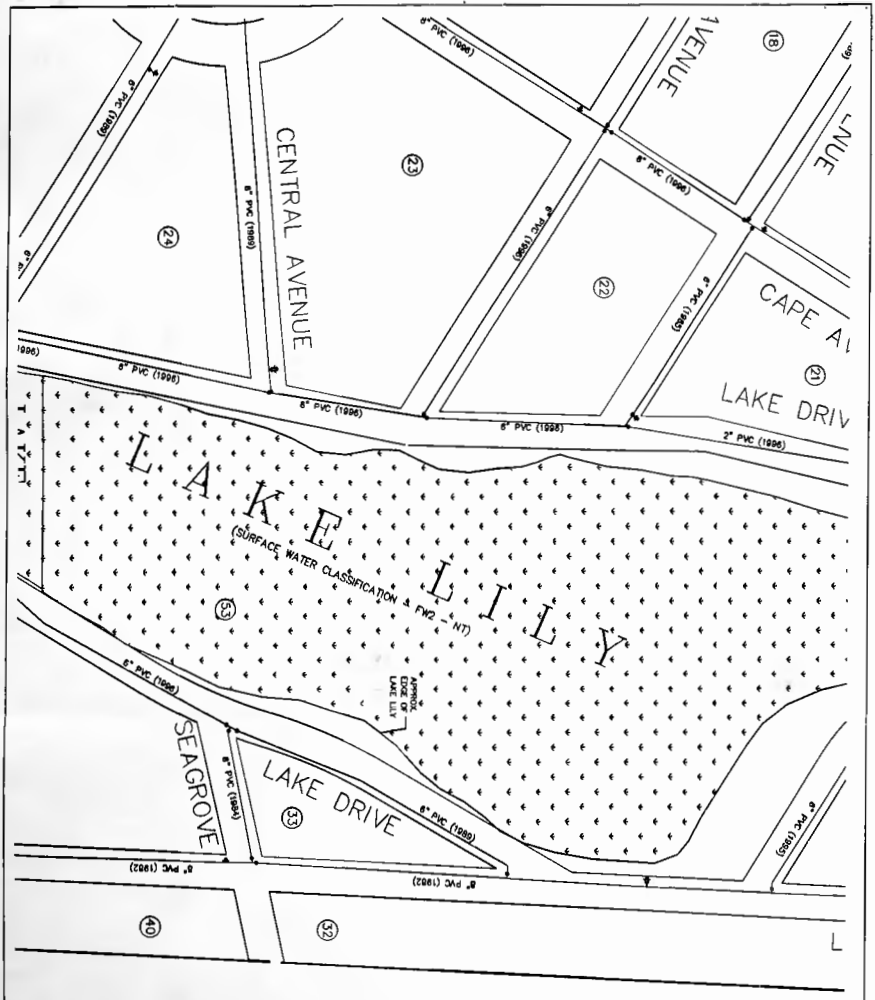
van note-harvey associates

WATER SYSTEM PLANS

BOROUGH OF CAPE MAY POINT

CAPE MAY COUNTY

SHEET 4



TOWNSHIP OF

SHEET 5	van note–harvey associates consulting engineers, planners & land surveyors (609) 465–3900 333 North New Road • Port Republic, NJ 08241 vnh	WATER SYSTEM PLANS BOROUGH OF CAPE MAY POINT CAPE MAY COUNTY	NJPE & 24787	REV. / DESCRIPTION / DATE / APP. BY

LAKE LILY

EDGE OF LAKE

OXFORD AVENUE

CAMBRIDGE AVENUE

PRINCETON AVENUE

YALE AVENUE

LINCOLN AVENUE

LAKE DRIVE

LIGHTHOUSE AVENUE
(COUNTY ROAD)

TOWNSHIP OF

25 26 27 28 29 34 35 35 37 38 40 41 42 43 44

8" PVC (1985)
8" PVC (1986)
8" PVC (1988)
8" PVC (1989)
8" PVC (1992)
8" CIP

van note-harvey associates

WATER SYSTEM PLANS
BOROUGH OF CAPE MAY POINT
CAPE MAY COUNTY

SHEET 6

van note—harvey associates

WATER SYSTEM PLANS
BOROUGH OF CAPE MAY POINT
CAPE MAY COUNTY

SHEET 7

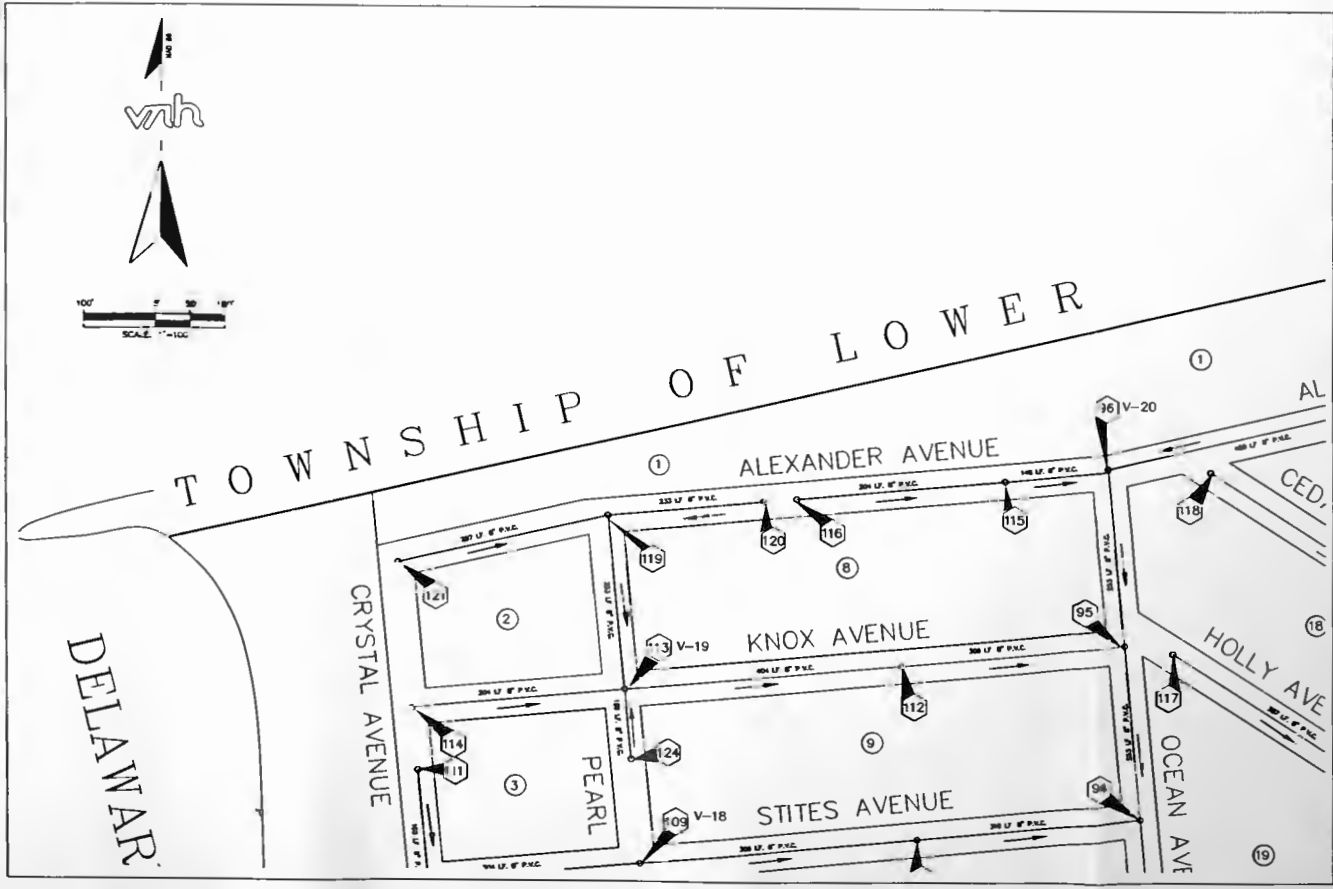
van note-harvey associates

INDEX OF SHEETS

BOROUGH OF CAPE MAY POINT

CAPE MAY COUNTY

KEY SHEET


TOWNSHIP OF LOWER
DELAWAR
ALEXANDER AVENUE
KNOX AVENUE
STITES AVENUE
CRYSTAL AVENUE
PEARL
OCEAN AVE
HOLLY AVE
CED
AL
V-20
V-19
V-18
SCALE
SANITARY SEWER SYSTEM
BOROUGH OF CAPE MAY POINT
CAPE MAY COUNTY
van note-harvey associates
SHEET 1

RE
BAY
AVENUE
BRAINARD AVENUE
CENTRAL AVENUE
PEARL AVENUE
PEARL AVENUE
EMERALD AVENUE
CAPE AVENUE
(COUNTY ROAD)
OCEAN AVENUE
AVENUE
V-17
V-16
V-14
PUMP STATION
FORCE MAIN
WET WELL
ELEV. 110.80
MATCH LINE
MATCH L
SANITARY SEWER SYSTEM
BOROUGH OF CAPE MAY POINT
CAPE MAY COUNTY
van note-harvey associates
SHEET 2

van note-harvey associates

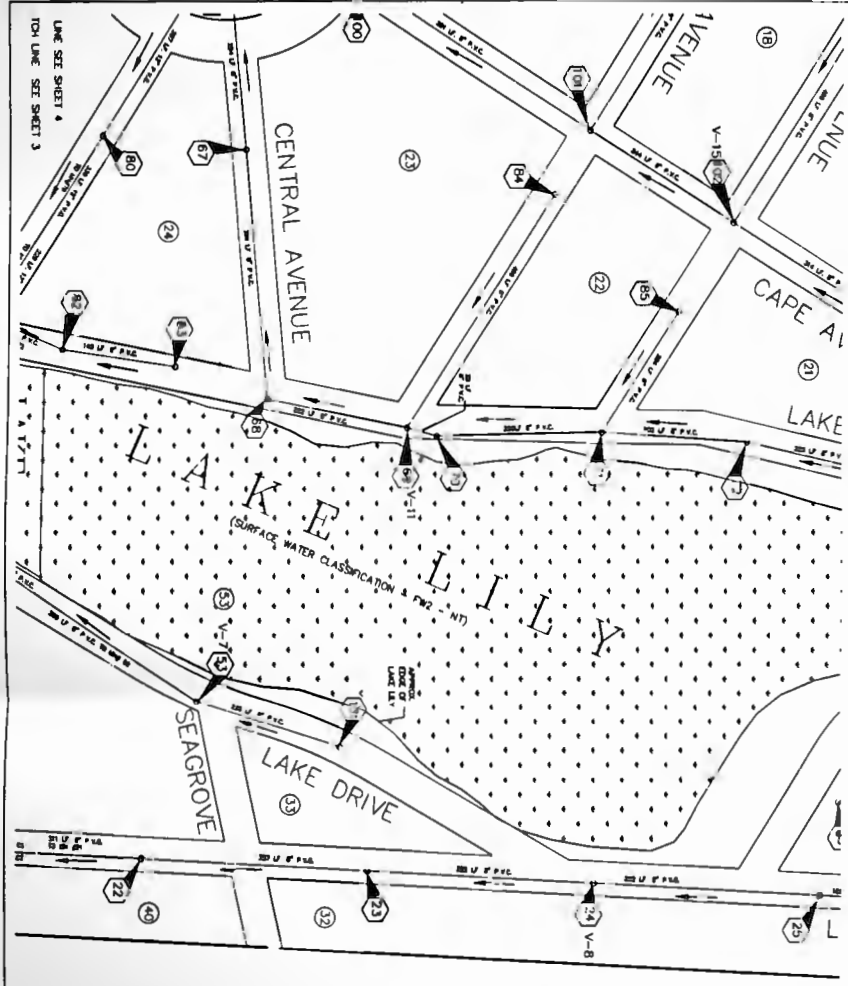
SANITARY SEWER SYSTEM
BOROUGH OF CAPE MAY POINT
CAPE MAY COUNTY

SHEET 3

van note-harvey associates

SANITARY SEWER SYSTEM
BOROUGH OF CAPE MAY POINT
CAPE MAY COUNTY

SHEET 4



SHEET 5

van note-harvey associates

SANITARY SEWER SYSTEM
BOROUGH OF CAPE MAY POINT
CAPE MAY COUNTY

NJ PE #24787

.TCH LINE SEE SHEET 3
LAKE LILY
EDGE OF LAKE
OXFORD AVENUE
CAMBRIDGE AVENUE
PRINCETON AVENUE
YALE AVENUE
LINCOLN AVENUE
LAKE DRIVE
LIGHTHOUSE AVENUE
(COUNTY ROAD)
TOWNSHIP OF
V-10
V-6
V-21
V-5
V-13
V-3
LOT 14
PUMP STATION
OWNED & OPERATED BY
CAPE MAY COUNTY M.U.A.
van note-harvey associates
SANITARY SEWER SYSTEM
BOROUGH OF CAPE MAY POINT
CAPE MAY COUNTY
SHEET 6

van note-harvey associates

SANITARY SEWER SYSTEM

BOROUGH OF CAPE MAY POINT

CAPE MAY COUNTY

NJ PE # 24787

SHEET 7

MH#	RIM ELEV	NORTH INV	EAST INV	SOUTH INV	WEST INV	OTHER
1	105.36	90.36	95.91		90.36	
2	105.42	90.48	90.48	97.83	96.31	
3	105.89		97.43		97.43	
4	108.14		98.58		98.58	
5	105.44	99.81	99.81		101.63	
6	107.28	101.21		101.21		
7	107.38			102.62		
8	104.63		96.86		96.86	
9	104.85	98.20	99.38	97.81	97.71	
10	107.14		100.73		100.73	
11	109.03	103.88		101.75	101.75	
12	105.49	103.34				
13	105.64	98.98	99.66	98.98	99.89	
14	106.38	108.12	108.68		108.42	
15	107.29		101.18		101.18	
16	107.62	105.26	102.26			
17	107.31			103.36		
18	105.23	98.88	99.60	98.88	98.55	
19	105.28	91.41	99.38	91.41	95.64	
20	103.57		99.98	91.78	98.43	
20A	104.44	98.98		98.98		
20B	105.34	93.17		93.17		
21	107.09	94.18		102.39		SV 94.18
22	107.88	93.45		93.45		
23	109.38	96.94		96.94		
24	105.77	98.18		98.18		
25	109.40	99.30		99.30		
26	110.05	103.02		103.02		
27	111.06	104.31		104.31	104.31	
28	109.44		105.85			
29	106.99		103.65			
30	105.09	98.79	99.33	98.79		
31	106.38	99.82	100.28			
32	106.59				101.79	
33	105.19			99.72		SE 99.72
34	106.86					NW 101.55
35	107.21		100.38			
36	109.33	102.52	101.83		101.83	
37	108.41		102.51	102.31	102.51	
38	109.50		104.77			
39	105.30				101.39	
40	106.28				101.97	
41	105.58		99.82		99.82	
42	106.32		101.26		101.26	
43	107.79		103.14			
44	105.25				100.83	
45	103.49		98.26		98.26	
46	105.35		100.31		100.31	
47	107.58		102.21		102.44	
48	107.81		103.93			
49	105.24				100.98	
50	106.20		99.00		99.00	
51	103.68	100.76	99.49	99.49		
52	106.67	101.82		101.82		
53	107.83	103.57		103.57		
54	105.36				100.75	
55	108.42	101.42				
56	105.86	101.52		101.52		
57	105.31			102.11		
58	106.40		100.58		100.58	
59	108.12	108.12	102.72		101.76	
60	107.68				103.53	
61	105.11			103.55		
62	108.70	104.49				
63	105.38	99.67			99.67	
64	103.85		99.90			NW 99.90
65	105.99	100.14				SE 100.14

MH#	RIM ELEV	NORTH INV	EAST INV	SOUTH INV	WEST INV	OTHER
66	110.66	97.15	91.46	91.46	93.94	
67	107.89		93.65		93.65	
68	107.28	93.12			93.12	
69	105.83	95.96		95.96	101.18	
70	105.79	96.89		96.89		
71	105.38	97.37		97.37	101.21	
72	106.60	98.21		98.21		
73	107.07	99.32		99.32		
74	107.05	100.57		100.57		
75	106.51			101.98	101.98	
76	107.27	102.91	102.91			
77	107.54		103.58	103.58		
78	108.21				104.08	
79	106.40	101.05		100.49	100.49	
80	108.13		101.55		101.33	
81	110.58		102.17			
82	106.63	101.82		101.82		
83	107.19			102.97		
84	108.88		105.28			
85	110.06		106.18			
86	108.39	94.05	94.05	100.25	99.24	
87	109.13	101.74		101.74		
88	109.49	103.17		103.17		NW 103.30
89	109.35	104.29				
90	109.03		100.73		100.73	
91	109.61	102.29	102.29	102.29		
92	107.93	104.01				
93	108.26	95.05		95.05	101.25	
94	105.18	96.97		96.97	98.92	
95	105.49	108.05		98.22	98.22	
96	107.97		102.12	102.12	101.68	
97	108.09		103.71		103.71	
98	110.48				105.41	
99	105.48					SE 104.84
100	107.99	98.13		98.13		
101	102.35	99.84		99.84	101.91	
102	109.20	109.93		108.93	102.14	
103	110.29	102.17		102.17		
104	107.72			103.51		
105	109.63		102.92		102.92	
106	111.11	104.44	104.44	104.44	104.44	
107	109.36		105.73			
108	109.44		106.18		106.19	
109	111.04		101.84		101.84	
110	108.66	103.09	103.09			
111	105.13			104.32		
112	105.43		99.41		99.41	
113	109.36	101.06	101.06	103.19	102.13	
114	105.11		103.50			
115	107.07		102.45		102.45	
116	111.08		106.43			
117	108.21		103.98			
118	109.50		104.67			
119	111.53		104.44	104.04	102.41	
120	111.88				107.24	
121	108.15		103.04			
122	106.50		102.54			NOT BUILD
123	108.20			103.51		
124	110.24	104.23				
125	111.46			105.62		
126	110.85	105.01				
127	110.32			103.42		
128	111.13			104.97		
129	109.41	102.84		100.12	100.12	
130	105.49	100.80	100.80	100.80		
131	108.70		104.93			
132	107.81	102.78				
133	107.86			104.69		

LEGEND

(17)	SANITARY SEWER MANHOLE
(54)	TAX MAP BLOCK NUMBER
(8") P.V.C.	(SIZE) TYPE OF PIPE IF KNOWN
100 L.F.	100 LINEAR FEET
→	DIRECTION OF FLOW
V-1	MANHOLE VENT LOCATION

DESCRIPTION | DATE APP'D | NO.

SANITARY SEWER SYSTEM
TABLE & LEGEND
BOROUGH OF CAPE MAY POINT
CAPE MAY COUNTY

NJPDE #24747

van note-harvey associates

SHEET 8

INLET	GRATE EL.	N INV.	E INV.	S INV.	W INV.	NORTHING	EASTING	COMMENTS
1	107.18	105.59	-	104.95	104.97	37607	359290	
2	107.05	-	-	-	-	36970	359511	NO OUTLET
3	106.91	-	-	-	-	37011	359472	NO OUTLET
4	104.70	-	103.32	-	-	37116	360161	
5	104.60	-	-	102.57	102.65	37099	360103	
6	104.76	-	-	103.21	-	37050	360119	
7	104.73	102.13	-	-	103.16	37033	360144	
8	104.63	-	102.83	-	-	36454	360400	
9	104.65	102.80	-	102.95	102.85	36436	360426	
10	104.66	-	102.81	-	-	36408	360370	
11	104.70	?	-	-	?	36591	361297	FILLED WITH SAND
12	-	-	-	-	-	36845	360535	COVERED
13	104.91	?	-	?	-	36848	360561	
14	104.21	-	102.89	-	-	36819	360505	
15	104.49	101.65	-	102.32	102.36	36801	360531	
16	104.21	-	-	102.21	-	37075	360669	
17	104.34	102.14	-	-	-	37029	360640	
18	104.33	100.70	-	101.25	101.60	37007	360676	
19	104.44	101.99	100.29	100.90	-	37130	360734	
20	104.93	-	102.68	-	-	37208	360870	
21	106.36	-	102.76	-	-	36448	360670	
22	107.76	-	-	-	105.54	36259	361143	
23	107.62	-	103.32	103.32	-	36244	361114	
24	106.81	-	104.04	104.63	104.91	36198	361092	
25	106.86	104.76	-	-	-	36171	361075	
26	106.97	-	-	104.02	-	40048	362376	
27	106.11	103.65	103.54	-	103.27	40064	362348	
28	105.84	-	-	103.74	103.64	39987	362374	
29	104.86	-	-	102.06	-	39938	362126	
30	104.98	103.05	-	-	-	38966	361455	
31	104.78	?	-	?	-	38987	361246	COVERED
32	107.96	-	-	-	106.06	39084	360897	
33	107.07	-	105.74	-	105.71	39062	360777	
34	107.25	-	105.18	106.33	-	39054	359954	
35	106.92	-	104.98	104.95	-	38985	359945	
36	106.88	-	104.66	104.67	-	38990	359929	
37	107.88	-	104.28	-	104.99	37633	359307	
38	106.99	103.63	103.95	-	-	37383	359746	
39	106.92	-	-	103.86	-	37287	359778	
40	104.78	102.47	-	102.47	-	37257	359913	
41	104.79	102.79	-	-	-	37890	360159	
42	104.67	102.35	-	102.46	-	37928	360148	
43	107.64	-	-	-	-	36527	362462	WEIR ELEV. 103.56
44	108.79	-	104.69	-	104.69	39507	360463	
45	108.38	-	-	-	105.32	39503	360491	
46	107.22	-	103.53	-	103.54	37311	359485	
47	106.39	-	104.07	-	104.04	39443	359177	
48	106.57	-	104.26	-	104.21	39428	359178	
49	107.66	104.97	-	104.98	-	39012	359298	
50	107.61	-	105.41	-	105.33	39254	358380	
51	107.38	-	105.82	-	105.24	39338	358387	WEIR ELEV. 103.56
52	109.86	-	-	107.45	-	40236	360091	
53	106.91	105.07	-	105.13	-	38478	359991	
54	106.94	104.98	-	-	-	38434	359990	
55	106.11	103.43	-	103.51	-	38059	359380	
56	106.17	103.83	-	103.83	-	38061	359418	
57	106.12	-	103.68	-	-	37386	360644	

MH#	RIM EL.	N INV	E INV	S INV	W INV	NORTHING	EASTING	COMMENTS
1	108.16	-	105.82	-	103.81	37546	359433	
2	105.40	102.08	101.73	101.72	-	37066	360167	
3	107.42	102.95	-	103.28	102.95	37232	359771	
4	104.97	101.57	-	101.87	101.07	36824	360548	
5	104.93	101.88	-	101.79	-	36818	360541	SAN. SEWER THRU MANHOLE
6	105.32	102.72	-	102.67	-	36607	360407	SAN. SEWER THRU MANHOLE
7	104.73	-	-	?	-	36605	360375	SAN. SEWER THRU MANHOLE
8	104.72	102.17	-	102.32	?	37044	360649	
9	105.28	101.95	-	101.90	101.65	37196	360719	
10	106.41	-	-	102.33	102.41	37613	360732	
11	105.60	102.34	-	102.34	-	37752	360829	
12	105.31	102.32	102.31	-	102.63	37912	360151	
13	106.91	-	103.85	-	103.27	40030	360321	
14	107.28	103.48	103.62	-	-	40086	360133	
15	107.58	104.36	-	104.98	-	38516	359375	
16	105.15	102.81	-	101.68	103.14	37385	360727	
17	107.48	104.92	-	105.00	-	36289	361112	

OUTFALL NO.	N INV	E INV	S INV	W INV	NORTHING	EASTING	COMMENTS
1	-	-	103.05	-	39980	360387	
2	-	102.87	-	-	39987	360179	
3	-	-	-	104.43	39063	360747	
4	-	-	-	103.93	37955	360139	
5	102.32	-	-	-	37955	360139	
6	-	-	101.64	-	08284	362644	
7	-	-	-	104.39	39628	360458	
8	-	-	105.00	-	37149	360799	

LEGEND

26	STORM SEWER INLET #
2	STORM SEWER OUTFALL #
2	STORM MANHOLE #
54	TAX MAP BLOCK NUMBER
(8") P.V.C.	(SIZE) TYPE OF PIPE IF KNOWN
(1994)	YEAR CONSTRUCTED (IF KNOWN)
100 L.F.	100 LINEAR FEET
⟶	DIRECTION OF FLOW

STORM SEWER SYSTEM
TABLE & KEY MAP
BOROUGH OF CAPE MAY POINT
CAPE MAY COUNTY

NJDEP # 24787

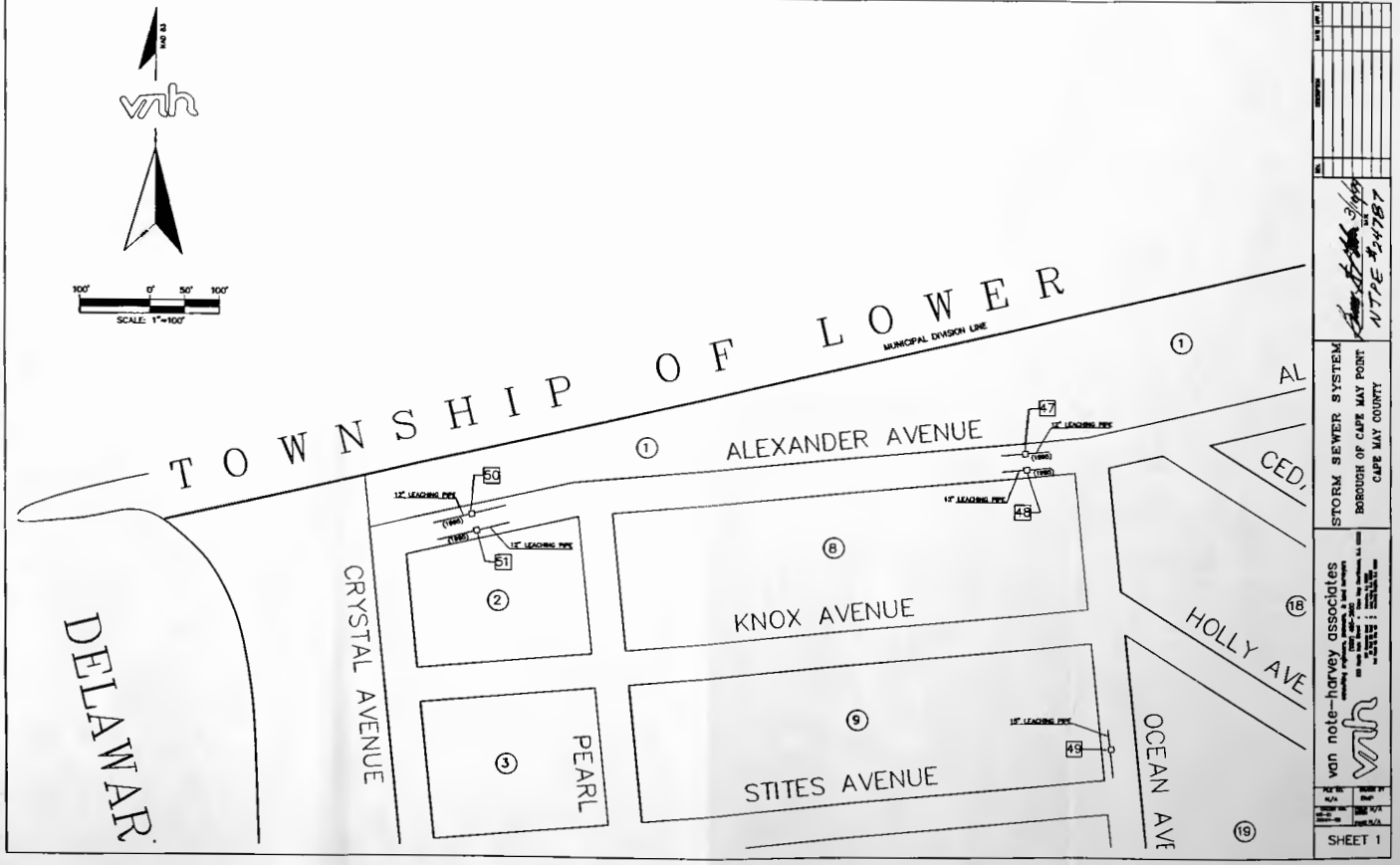
von note—harvey associates

SHEET 9

INDEX OF SHEETS
BOROUGH OF CAPE MAY POINT
CAPE MAY COUNTY

van note—harvey associates

KEY SHEET


TOWNSHIP OF LOWER
MUNICIPAL DIVISION LINE
ALEXANDER AVENUE
KNOX AVENUE
STITES AVENUE
CRYSTAL AVENUE
PEARL
HOLLY AVE
OCEAN AVE
DELAWAR
12" LEACHING PIPE
(1988)
50
51
47
48
49
SCALE: 1"=100'
van note-harvey associates
STORM SEWER SYSTEM
BOROUGH OF CAPE MAY POINT
CAPE MAY COUNTY
SHEET 1

RE

BAY

AVENUE

BRAINARD AVENUE

CENTRAL AVENUE

PEARL AVENUE

PEARL AVENUE

EMERALD AVENUE

CAPE AVENUE (COUNTY ROAD)

OCEAN AVENUE

AVENUE

52 4 10 19 5 11 54 6 6 12 7 13

34 35 36 55 56

181 L.F. 12" PIPE

111 L.F. 12"

12" LEACHING PIPE

12" LEACHING PIPE

NAD 83

STORM SEWER SYSTEM

BOROUGH OF CAPE MAY POINT

CAPE MAY COUNTY

von note-harvey associates

SHEET 2

100'
0'
50'
100'
SCALE: 1"=100'
ATLANTIC OCEAN
(SURFACE WATER CLASSIFICATION - SC)
SURF
AVENUE
52
15
14
16
29
57
1
46
2
3
STORM SEWER SYSTEM
BOROUGH OF CAPE MAY POINT
CAPE MAY COUNTY
NJPE #24787
van nate-harvey associates
SHEET 3

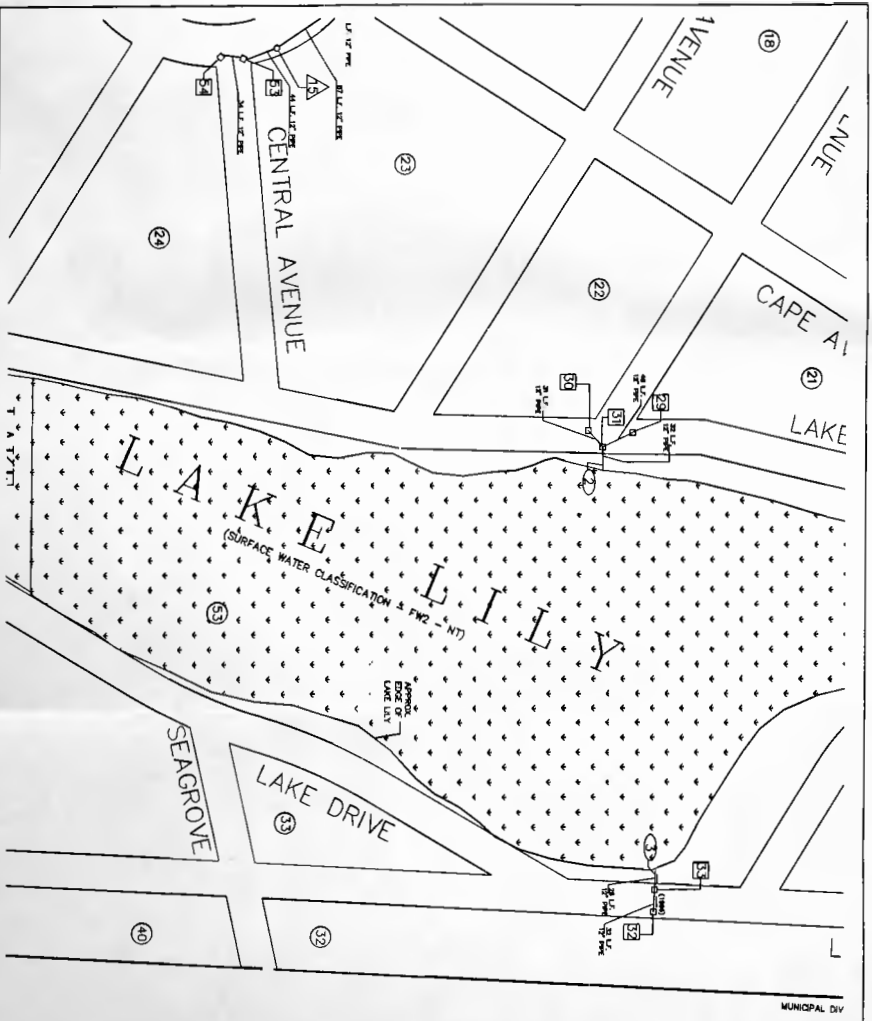
von note-harvey associates

STORM SEWER SYSTEM

BOROUGH OF CAPE MAY POINT

CAPE MAY COUNTY

SHEET 4



SHEET 5

van note–harvey associates
consulting engineers, planners, & land surveyors

STORM SEWER SYSTEM
BOROUGH OF CAPE MAY POINT
CAPE MAY COUNTY

NJPE #24787

STORM SEWER SYSTEM
BOROUGH OF CAPE MAY POINT
CAPE MAY COUNTY

van note-harvey associates

SHEET 6

van note-harvey associates

STORM SEWER SYSTEM
BOROUGH OF CAPE MAY POINT
CAPE MAY COUNTY

NOTICE TO BIDDERS

SHEET 7

van note-harvey associates

STORM SEWER SYSTEM
BOROUGH OF CAPE MAY POINT
CAPE MAY COUNTY

NJDEP #24787

SHEET 8

INLET	GRATE EL.	N INV	E INV	S INV	W INV	NORTHING	EASTING	COMMENTS
1	107.16	105.59	-	104.55	104.97	37627	359296	
2	107.05	-	-	-	-	36972	359511	OUTLET
3	106.91	-	-	-	-	37011	359472	
4	104.78	-	103.32	-	-	37116	360161	
5	104.60	-	-	102.57	102.05	37899	360188	
6	104.76	-	-	103.21	-	37950	360119	
7	104.73	103.13	-	-	102.16	37820	360146	
8	104.63	-	102.03	-	-	36454	360400	
9	104.63	102.80	-	102.95	102.85	36636	360426	
10	104.66	-	102.81	-	-	36600	360370	
11	104.70	?	-	-	?	36591	360397	FILLED WITH SAND
12	-	-	-	-	-	36865	360535	COVERED
13	104.91	?	-	-	?	36848	360561	
14	104.21	-	102.09	-	-	36819	360508	
15	104.43	101.65	-	102.32	102.36	36881	360531	
16	104.21	-	-	102.21	-	37075	360469	
17	104.34	102.14	-	-	-	37029	360438	
18	104.33	100.70	-	101.83	101.60	37027	360476	
19	104.44	101.99	100.29	101.95	-	37130	360734	
20	104.55	-	102.60	-	-	37208	360679	
21	104.36	-	102.76	-	-	36468	360670	
22	107.76	-	-	-	105.54	36259	361143	
23	107.63	-	105.32	105.32	-	36244	361114	
24	106.81	-	105.84	104.61	104.81	36198	361098	
25	106.86	104.76	-	-	-	36171	361875	
26	107.97	-	-	104.02	-	40048	360376	
27	108.11	105.65	103.54	-	103.07	40004	360348	
28	108.84	-	-	103.74	103.64	39987	360329	
29	104.86	-	-	103.06	-	39834	360156	
30	104.93	103.08	?	-	-	39796	360203	
31	104.78	?	-	-	-	39787	360186	COVERED
32	107.96	-	-	-	106.06	39881	360899	
33	107.87	-	105.74	-	105.71	39963	360877	
34	107.23	-	105.18	-	-	39835	360947	
35	106.98	-	104.98	-	104.85	39685	359445	
36	108.88	-	104.60	-	104.67	39591	359529	
37	107.05	-	104.28	104.99	-	37633	359297	
38	104.99	103.63	103.95	-	-	37383	359746	
39	104.98	-	-	103.86	-	37287	359778	
40	104.76	102.47	-	102.47	-	37537	359913	
41	104.79	102.79	-	-	-	37890	360159	
42	104.87	102.33	-	102.40	-	37767	360148	
43	107.64	-	-	-	-	36527	362463	WEIR ELEV. 103.36
44	107.73	-	104.69	-	104.63	39547	362455	
45	106.82	-	-	-	105.32	39553	360491	
46	107.32	-	103.33	-	103.34	37511	359485	
47	106.59	-	104.07	-	104.04	39443	359177	
48	106.57	-	104.26	-	104.21	39420	359178	
49	107.66	104.97	-	104.92	-	39812	359298	
50	107.61	-	105.41	-	105.33	39354	358380	
51	107.38	-	105.22	-	105.24	39338	358387	WEIR ELEV. 103.36
52	109.86	-	-	107.45	-	40026	360091	
53	108.91	105.07	-	105.13	-	38478	359591	
54	108.94	104.98	-	-	-	38434	359590	
55	106.13	103.43	-	103.51	-	38059	359388	
56	106.17	103.83	-	103.83	-	38061	359412	
57	105.12	-	103.69	-	-	37786	359684	

MH	RIM EL.	N INV	E INV	S INV	W INV	NORTHING	EASTING	COMMENTS
1	108.16	-	102.82	-	103.81	37546	359433	
2	107.40	102.00	101.75	-	-	37066	360167	
3	107.46	102.93	-	102.72	-	37232	359771	
4	104.97	101.57	-	101.87	101.97	36824	360545	
5	104.93	101.08	-	101.79	-	36818	360541	SAN SEWER THRU MANHOLE
6	105.32	102.72	-	102.67	-	36407	360407	SAN SEWER THRU MANHOLE
7	104.75	-	-	-	-	36405	360375	SAN SEWER THRU MANHOLE
8	104.72	102.17	?	-	102.32	37044	360649	
9	105.25	101.95	-	-	101.95	37196	360719	
10	106.41	-	-	-	102.23	37615	360730	
11	105.68	102.34	-	-	102.34	37753	360829	
12	105.31	102.32	102.21	-	-	37912	360151	
13	106.51	-	103.25	-	103.27	40030	360201	
14	107.26	103.40	103.62	-	-	40086	361133	
15	107.58	104.36	-	-	-	38516	359573	
16	105.15	102.01	-	101.98	-	37385	359727	
17	107.40	104.92	-	105.88	103.14	36209	361112	

OUTFALL NO	N INV	E INV	S INV	W INV	NORTHING	EASTING	COMMENTS
1	-	-	103.65	-	39992	360387	
2	-	102.07	-	-	39987	360179	
3	-	-	-	104.43	39962	360747	
4	-	-	-	103.93	39955	360139	
5	-	102.32	-	-	37933	360139	
6	-	-	101.64	-	39804	360644	
7	-	-	-	104.39	39828	360458	
8		100.00			37149	360799	

LEGEND

- 26 — STORM SEWER INLET #
- (7) — STORM SEWER OUTFALL #
- 4 — STORM MANHOLE #
- (54) — TAX MAP BLOCK NUMBER
- (8") P.V.C. — (SIZE) TYPE OF PIPE IF KNOWN
- (1994) — YEAR CONSTRUCTED (IF KNOWN)
- 100 L.F. — 100 LINEAR FEET
- → — DIRECTION OF FLOW

STORM SEWER SYSTEM
TABLE & LEGEND
BOROUGH OF CAPE MAY POINT
CAPE MAY COUNTY

NJDEP #24787

van note-harvey associates

SHEET 9

HISTORIC AND CULTURAL

History is one of Cape May Point's most valuable resources. Founded in 1875 as a Presbyterian resort, the Borough, originally known as Sea Grove, has retained much of its early character. Many of the original "cottages" remain, some greatly changed, some almost intact. A tour of these historic homes provides a peek backwards in time to the origins of this peaceful and genteel resort community.

HISTORIC AND CULTURAL

History

Cape May Point has a very colorful history.

Before the area was settled, the Lenni-Lenape Indians used it as a summer residence, drawing fresh water from the inland lake and harvesting a variety of fish and shellfish from the nearby ocean. They hunted game in the lush wooded area of the Cape that teemed with wildlife.

The Beach Patrol

During the War of 1812, British warships, anchored at the mouth of the Delaware to form a blockade, would use the lake to replenish their freshwater supply, as well as plunder local farms for cattle and fowl.

In 1875 an association was formed to found a Presbyterian seaside resort where families with average incomes could find "a place of rest, where the body could be recuperated after the wear and tear of a year's labor..."[1] Cape May Point was chosen as the site. Alexander Whilden, an early member of the Sea Grove Association, originally named the community Sea Grove. In 1878 Sea Grove was renamed Cape May Point.

Development was very rapid. Originally a wilderness of woods, briers, and sand hills, contractors were hired to build roads and building lots on the tract. Sea Grove was laid out by construction of a pavilion erected near the center of the tract with wide avenues radiating from it like the spokes of a wheel. The lots were generous and buildings were required to be set back a hundred feet, a design meant to afford all residents "refreshing ocean breezes." Lots were advertised as available "on easy terms and at low prices." Gas was soon provided, a telegraph office, a post office and a U.S. signal station and barracks to house the crew. Although each house had its own well, the association soon dug a large, central well and installed a network of pipes to carry water to the principal streets. An avenue one hundred feet in width was constructed along the entire waterfront and continued along the shore until it connected with a similar avenue in Cape May City. Ample stable accommodations were provided.

The first hotel, the Sea Grove House, was built one hundred feet from the beach and originally housed three hundred and fifty persons, but needed to be enlarged almost immediately. Two more hotels were soon erected, the Cape House and Centennial House, both also situated near the water. Amusements were croquet, quoits, swings, bowling, billiards and, of course,

[1] The Seaside Resorts of New Jersey, Philadelphia: Allen, Lane & Scott, 1887.

bathing. Bathhouses were erected along the shore topped by pavilions offering a spectacular view of the ocean. Beaches were staffed by lifeguards and attendants. A large indoor bathing establishment for invalids or those not wishing to swim in the ocean was erected.

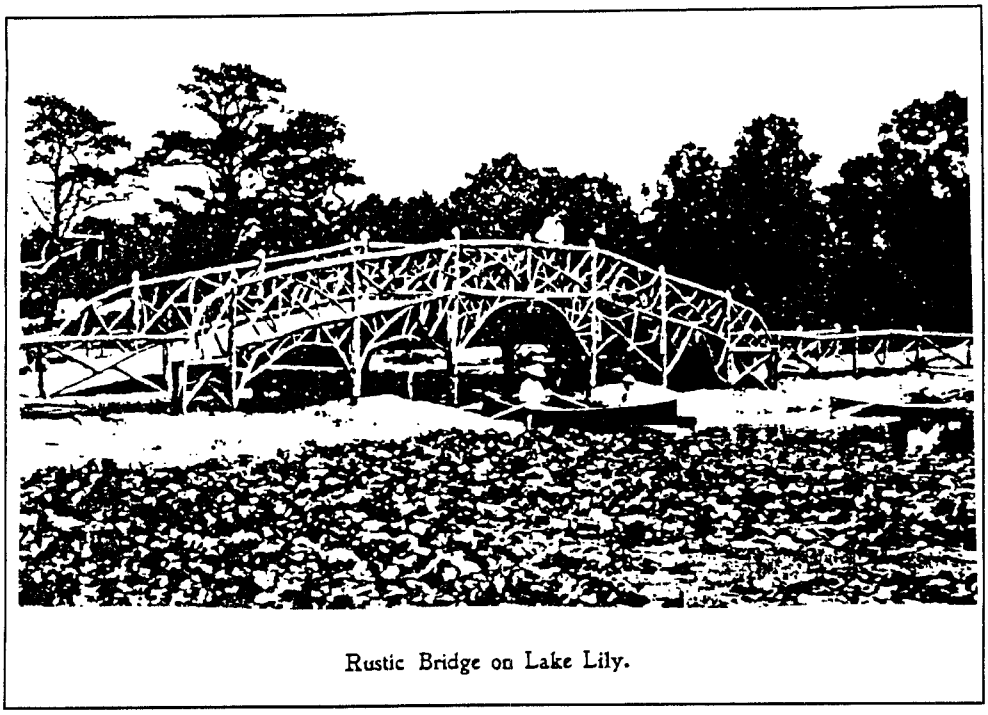
Recreation was also available on Lake Lily. A road was constructed following the contours of the lake (Lake Avenue) and boating, sailing, and fishing were popular pastimes. The lake was stocked with small fish and bass to add to the fishermen's pleasure.

In less than two year's time, almost one hundred buildings were erected in Sea Grove. The resort could be reached from Philadelphia either by train to Cape May or steamship which landed at what is now Sunset Beach.

Development continued, with many lovely cottages and hotels filling up the lots. Retail magnate John Wanamaker presented a cottage to President Harrison, who summered there while in office.

One large hotel, The Shoreham, provided its guests with a small informational booklet about the point. The text paints a vivid picture of what life was like at this quaint and gracious seaside resort:

> *"Cape May Point is three-quarters of a mile farther out in the Atlantic than cool Cape May. A step across the platform of the West Jersey & Seashore Railroad, and in ten minutes you are at the Point, or across the Boulevard to the trolley, passing the same station will give you a bracing ride right alongside the dashing breakers to that jewel of old Cape May, New Cape May Point [sic].*
>
> *While all that has been written of the historic charms of old Cape May is fully endorsed by those who know it best, the Point has many stronger claims on lovers of the seashore. It is a tongue of high, solid ground, stretching far out into the ocean. It can look back at Cape May on the east and back at the entrance to the Bay on the west. The pure, bracing air comes over the cooling waters from the south, from the east and from the west, so that all prevailing winds come refrigerated from over the salt water every day in the year. What are land breezes to many resorts are naturally sea breezes to the Point from its remarkable situation.*
>
> *The ground is high, with fine farms and woods to the back. Picturesque and handsome cottages abound, generally standing in the midst of pleasant lawns, bright with the flowers that glow with vivid bloom right down close to the curling breakers. The style of architecture is pleasant and varied, the houses standing with a certain amplitude of grounds that give to each and all fine views of sea and forest and lake. The new cottages are not the ordinary seashore type of construction, but each strikes an independent note, each is carefully planned, not only to secure every convenience, but has pleasant nooks, niceties of construction, pleasant homelike charms, ample way for every cooling breeze to enter each apartment, charming views to be had from every window, because all were so planned as to every vantage of outlook. They are beautifully decorated and finely furnished. There is a charm about these cottages that make them homes. A number of these desirable cottages are offered for rent furnished. There is a delightful social life to this refined cluster of cottages not to be found in larger places. Lake Lily, a fascinating fresh water lake, famous for its pond*

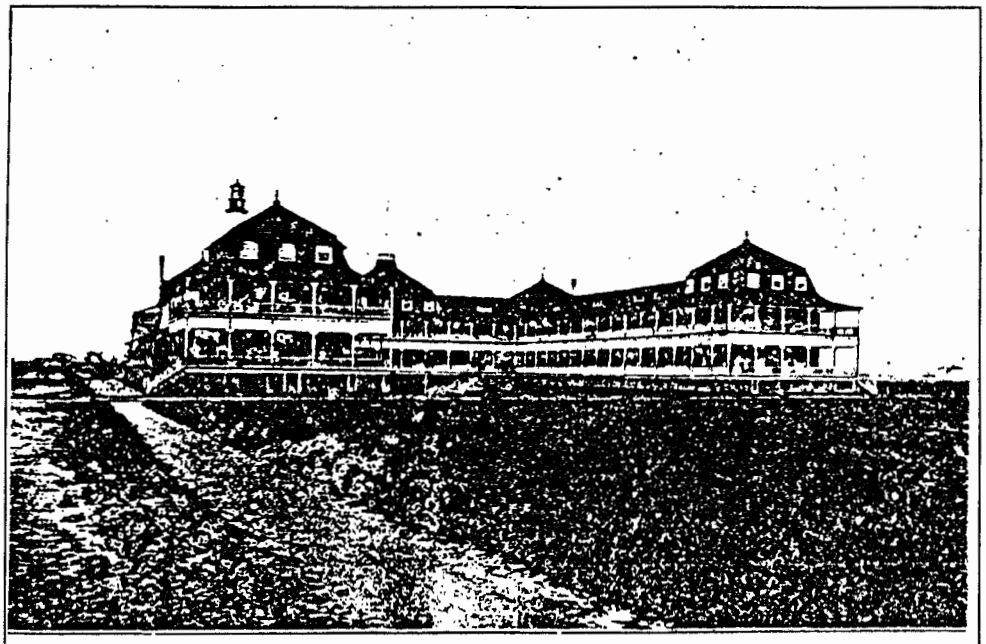


Rustic Bridge on Lake Lily.

reflections of myriad lanterns in the glistening waters of the lake form a scene long to be remembered. The most gorgeous sunsets that artists paint are to be found not in Italy, but at Cape May Point, where the sun sinks far out in the glistening waters of the ocean, leaving an afterglow, the admiration and despair of the artist who tries to reproduce the matchless tints. The place has ample public water works and a good drainage system. The climate is dry, genial and bracing, a tonic for weary bodies and tired nerves. It is a paradise for children. The freedom of the place has been presented to them, and they have accepted it gracefully, roving its fields for flowers and its sands for crabs, or romping in the breakers with perfect safety at their own sweet lilies, surrounded by pleasant groves, with the sweet, fresh smell of the pine trees and groves of native evergreens, which make a fine natural park. It has a fine road around its shores, good safe boating, a beautiful little island, a rustic bridge and pavilions attract the visitor.

Lakeside Lodge, the handsome clubhouse of the Cape May Point Country Club, with large porches, elegant and spacious rooms, is the centre of the social life of the cottagers. Receptions, teas, musicales, readings, lectures and private theatricals fill the time with pleasant and varied entertainment. A Venetian fete on the lake, with illuminated boats, and the mirrored

An Interior in Cape May Point Country Club.



Shoreham Hotel.

will, they laugh and grow fat.

The Shoreham is one of the most delightful hotels on the coast. Its admirable construction, facing on three sides its own courtyard and garden, gives to all its public rooms fine light, air and space. The lawn extends 200 feet down to the sea, with nothing in front or on either side to obstruct its superb ocean view. It is 200 feet in front, and each wing, eastern and western, are 200 feet, thus giving to over 100 of its guest rooms a full ocean view. It has 1200 feet of cool, spacious porch, insuring shade and breeze at all hours and in all weather. Its large dining room faces the ocean on one side and the open country on the other. Its ample exchange, in which the office is situated, stretches with a broad corridor on the western side to the spacious parlor and ballroom, with windows on three sides. The music room faces this, opening into it with wide archway, making, when needed, a good stage for concerts and entertainments. It is the purpose of the proprietor to make each season an improvement on the preceding one and to make this hotel in the future commend itself more and more to the friends who have extended such a generous patronage in the past and to make many new friends for the Shoreham and Cape May Point."

Shoreham Porch

Shoreham Office and Corridor

HOTEL SHOREHAM

Cape May Point, N. J.

POSITIVELY THE LEADING HOTEL

THE WORLD-FAMED HEALTH
AND PLEASURE RESORT

CODLEST LOCATION ON THE COAST

Cooler than Cool Cape May

Now under "Reel" Management

CATERING TO A REFINED PATRONAGE

George Hickman Reel
PROPRIETOR

Terms, $2 to $3 per Day
Special Weekly Rates

opened in -1890-

W. E. Burkard

Cape May Point has retained much of its original character. New homes have replaced some cottages and filled in almost all of the vacant land in Cape May Point since the time of the Shoreham Hotel. The hotel itself is now a Catholic retreat called St. Mary's by-the-Sea. However, it is still fascinating to take a tour of the Point and see the cottages remaining from earlier times. The sea has claimed many, but some are still standing in the form of private homes and retreats.

Historic Homes Preservation

Historic sites are an important resource of any community. They connect us with our past and provide a foundation on which to build our future.

Cape May Point is fortunate to have a history that is well documented. Present-day surveys of important historic sites have been conducted; the George Thomas survey done in 1986 is probably the most important and the most thorough.

Because of their importance as a resource, preservation of historic sites should be a concern for every municipality. Sites and structures worthy of representation should reflect the municipality's social and architectural history. They should also promote understanding and appreciation of the municipality's history and architecture.

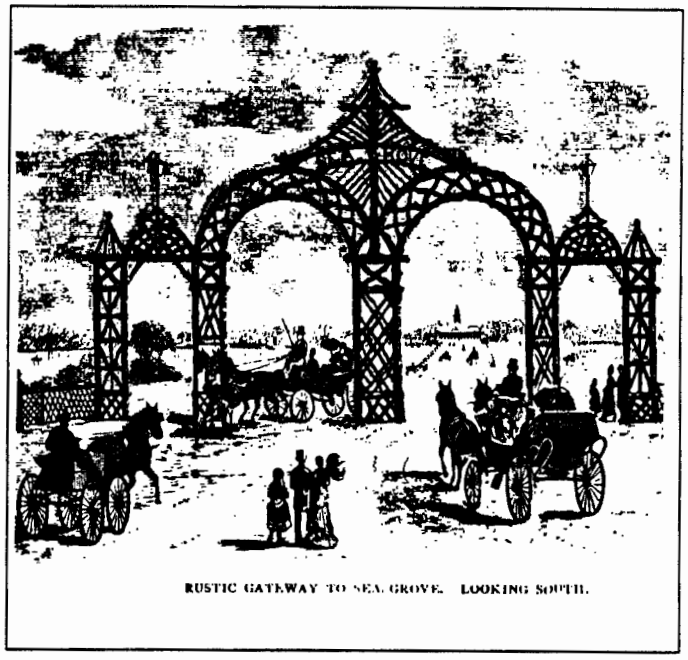
Community support for historic preservation efforts can be actively encouraged through public relations efforts and ongoing education regarding the municipality's resources. Special events and awards programs can enhance educational activities.

Historic Homes Tour

What follows is a "paper tour" of the remaining historic buildings in Cape May Point in need of protection. The tour includes street directions so that anyone desiring to view the homes in person may do so.

In some cases, current photographs of the homes accompany the descriptions. There are in existence a few historic photographs or drawings which show some of the homes as they were originally constructed, and these are included where possible.

The description numbers correspond to the map that follows depicting the location of the buildings and the tour. Descriptions begin with the address, followed by the block and lot numbers in parentheses (Block/Lot); the historic common name (if any) is next, preceded by an ***h.***, and then the present common name (if any), preceded by a ***p.*** Listed last is the approximate time of construction.



RUSTIC GATEWAY TO SEA GROVE. LOOKING SOUTH.

The tour begins at the main entrance to the Borough of Cape May Point. Head south off Sunset Boulevard onto Cape Avenue. Bear right onto Alexander Avenue. Continue on Alexander to the end and turn left onto Crystal Avenue.. Make the first left onto Knox Avenue. The first five cottages on the right are:

1. 201, 203, 205, 207, 209 Knox Avenue. (3/ 1.01, 1.02, 2.01, 2.02, 3.01) c. 1890. These substantially altered cottages are the last physical remnants of the Church of the Brethren summer colony in Cape May Point.

Turn right onto Pearl and left onto Brainard Avenue. Continue on Brainard to the circle and make a right onto the circle. Turn right onto Central Avenue. On the left, just after the circle, is:

2. 311/309 Central Avenue. (12/ 19) *h.* Reverend Corwin Cottage. c. 1878. The Corwin cottage, pictured below, is essentially similar to the Thurlow cottage behind it. Reverend Corwin was one of the Presbyterian ministers who took advantage of the offer of free sites for ministers. Sited just off the pavilion on Central Avenue, the cottage was clearly intended to relate to the religious center of the community. This is probably also the work of Smith Hughes, who is documented as having worked on the similar Thurlow cottage. By 1890 the Corwin Cottage was apparently linked to the Godfrey cottages on Pearl Avenue and called "The Corwin Cottages."

Continue on Central Avenue and make a left onto Pearl Avenue. On the right a short way down is:

3. 510/512 Pearl Avenue. (6/ 5, 6) *h.* Sloan Cottage; *p.* Dolphin House c. 1890. The Sloan Cottage was built at the inception of John Wanamaker's Presbyterian resort, Sea Grove. This extensively restored home is one of the earliest cottages and was used as a summer rental by Mrs. H. D. Sloan, a relative of Samuel Sloan. The cottage has a 2 ½ story gable-roof with a central wall gable. Walls were of heavy wood frame covered with vertical boards and battens and the building is a good example of a heavy-frame vertical board and batten skin cottage. The original stair stood at the rear corner of the parlor on the right of the center hall. In 1889, the gable roofed stair wing was added to the second floor and the gable roof was replaced with a mansard to permit more guestrooms (*Cape May Ocean Wave* 25 Sept. 1889; 5 Oct. 1889). In 1890 the stair was modified again, probably to add the second story of the stair. A 1985 fire damaged the stair wing, which has now been reconstructed.

Directly across the street is:

4. 509 Pearl Avenue. (12/ 13) *h.* J. H. Benezet Cottage. c. 1877. The Benezet house is an early wood cottage erected by the original community. Located at the front edge of the site, this cottage is now the last outpost of the Victorian community on the western edge of the village. It is now much altered, covered with asbestos siding, and its porches infilled. Unsympathetic fixed windows with operable

side lights dominate the main façade. However, it is eminently restorable. It appears on the 1900 *Sanborn Atlas* and presumably took the form of a center hall house entered off the porch through the protruding entrance tower, which probably contained bathrooms.

Next to 509 Pearl is:

5. 507 Pearl Avenue. (12/ 12.01) *h.* D. C. Godfrey House. c. 1878. This is a typical small 2 ½ story gable-roofed cottage with an overhanging eave line with a return at the second floor. A modern roof deck has been added over the side porch. The cottage does not appear on 1878 or 1900 maps and thus was perhaps moved from an ocean front lot.

Continue a short distance on Pearl and on the right is:

6. 506 Pearl Avenue. (7/ 1, 2.01) c. 1920. This home is sited along the side of dedicated Emerald Street in the sand dunes created after the 1962 storm. It is a handsome hipped roof cottage with a surrounding porch extending on the side and carried on square wood posts. There are plank frames around the windows. There are shutters (not original) on all the windows. The early 20th century bungalow demonstrates that Cape May Point retained its modest scale into that period. This was the site of the J. H. Benezet cottage in 1878.

Across the street on the left is:

7. 503 Pearl Avenue. (12/ 10, 11.01) *p.* The Blue Pearl c. 1877. This is one of many small, gable-roofed cottages that dot the Cape May Point landscape. Its shingled gable is probably an alteration, c. 1890, but it may be original and therefore indicative of later building.

Make a left onto Cape Avenue. On the first left corner is:

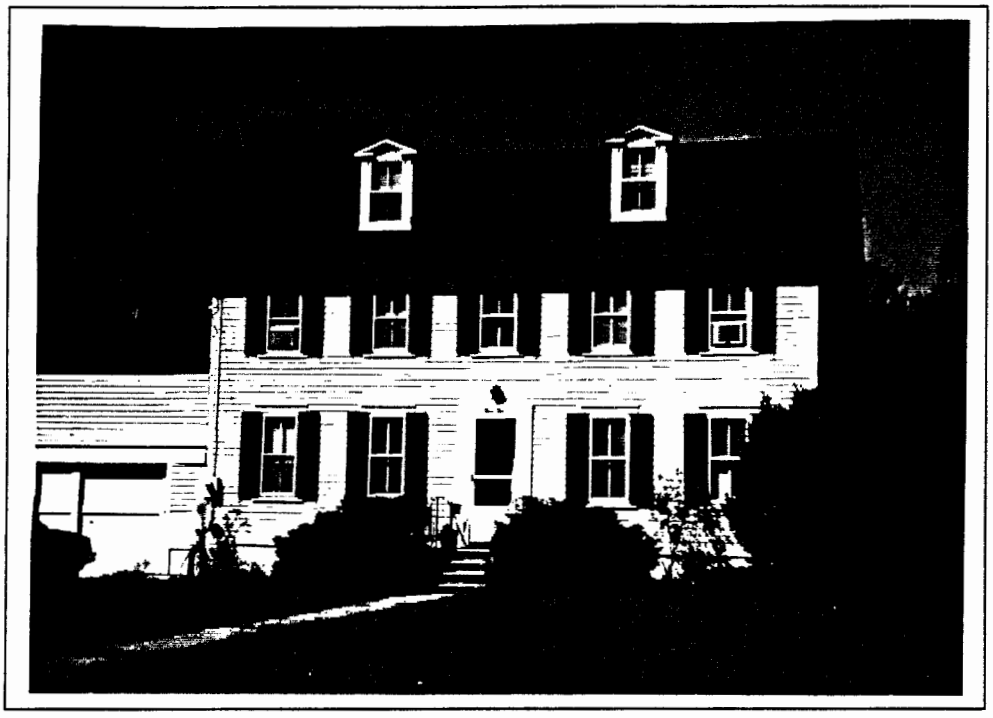
8. 300 Cape Avenue. (12/ 9) c. 1890. This cottage is one of four at the center of the community; it is more Queen Anne than most, with a pyramidally roofed tower off the upper hall (probably bathrooms) and shingled walls. A bay at the side wing adds visual interest. The *Sanborn Atlas* shows a porch, but this is probably simplified. This is one of the cottages on the west side of town that marks the effect of President Harrison's stay. It is a good Queen Anne cottage but in the spirit of the simple architecture of the city.

Across the street on the large corner lot is:

9. 301 Cape Avenue. (13/13,14,15,16,17) *h.* M. H. Galt Cottage; *p.* Marianist Cottage. c. 1876. This is an important cottage in the size and scale of the Wanamaker and Whillden cottages. It is sited at a major corner of the Sea Grove community, just before the Sea Grove Hotel. This is one of the few large cottages of the initial development and remains the only one surviving from the first phase. The owner was a Philadelphian who sold the cottage in 1889, when the community went bankrupt, to the chief developer Dr. J. N. Walker. Interesting local legend claims that this was a Wanamaker cottage but, despite the fact that he owned numerous properties, he did not own this property. Walker on the other hand was important as the largest landholder in Sea Grove. The cottage was called the *Hancock Memorial Summer Cottage* in 1917. An alternate history would indicate that the Galt house burned in the 1888 fire and this is in fact the Wanamaker house. That would tend to be confirmed by the shape of the *Sanborn Atlas* patch of 1917. The cubic house is surrounded on three sides with two story porches. Wall dormers break the roof line. Though covered with asbestos shingles, it retains all of its original trim. The exterior is probably covered over vertical board and battens. Attached at the rear is a dormitory building.

A bit further down on the left is:

10. 304 Cape Avenue. (12/7) *h.* Floral Villa. c. 1880. Located in the midst of the old Sea Grove community, the *Floral Villa* is one of the last of the original buildings and follows the old cottage patterns of mid-century that determined the usual building form of the village. It was originally a boarding house and is a slightly elaborate example of the type. Regular



newspaper announcements of additions indicate that this was a successful boarding house in the 1880's. It is now missing its original front porch.

On the right across from the Floral Villa is:

11. 307, 309; 311 Cape Avenue. (13/ 18, 19 and 13/ 20, 21.01) c. 1880. These two cottages, and a similar cottage for P. Thurlow cottage in Cape Avenue below Pavilion, show the character of the initial community. *Elaborate trim* work in the gable ends recall contemporary cottages in Cap May. The cottages on Cape Avenue are close to original conditions. The Corwin cottage appears on the 1878 map while the lots for these cottages are vacant suggesting that these were built shortly afterwards. These are excellent examples of local building.

And across from 311 is:

12. 310 Cape Ave. (12/ 4,5) c. 1820. 310 Cape Avenue, pictured on this page, is another of the late Federal houses that survived in Cape May Point. The site was known as "Wright's Villa" into the 20th century. Amon Wright was an important member of the Sea Grove and later the Cape May Point community, serving as postmaster in the 1870's. Wright owned a number of guesthouses on the site including "Wright's Villa".

This house is like the Stiles house on the *Sanborn Atlas* and raises the possibility that it was moved from another site. The center hall plan and proportion are like the Gaver house on Sea Grove Avenue, in nearby Lower Township. Sources claim that the house was moved to Crystal Avenue in the 19th century, and then it was moved to this site when ocean encroachment threatened; it replaced Wright's Villa that burned in the 1940's.

Next to 310 Cape Avenue is:

13. 312 Cape Avenue. (12/ 3) *h.* P. Thurlow Cottage. c. 1876. The Thurlow cottage is nearly identical to 305-307 Cape Avenue and was probably erected at nearly the same time. Like those cottages, it is a cruciform plan with a front parlor surrounded by a porch; deck eaves with stick style brackets add visual interest. Mr. Thurlow commissioned Smith Hughes to build

another cottage at Lincoln and Cape immediately adjacent to the Sea Grove Hotel. The Builder, Smith Hughes, had erected the Sea Grove House and was probably responsible for similar houses at 305-307 Cape and the similar home on Central for Reverend Corwin.

Enter the circle and then turn right onto Ocean Avenue. Continue on Ocean and make the first right onto Yale Avenue. On the left after the corner is:

14. 408 Yale Avenue. (14/ 7) c. 1890. One of a few commercial buildings in Cape May Point, this building contains the town post office. It is a large double store with a screened in front porch supported on square posts with stick brackets. There are deep wood eaves at the top of the second story. Located in the center of the old community, this was probably the building referred to as a "post office with extended shop" in the *Cape May Ocean Wave* on May 25, 1889. It does not appear in the 1890 *Sanborn Atlas*, but it is in the 1909 *Sanborn Atlas*.

Next to the store is:

15. 412 Yale Avenue. (14/ 5, 6) *h. and p.* Cape May Point Volunteer Fire Company. c. 1920. The FireHouse is much altered with modern windows; an upstairs hall with an impressive carved wood fireplace remains intact. There is a one story addition on the east side. The building is an important community center that houses spaghetti suppers, pancake breakfasts, etc.

Slightly down from the FireHouse on the left sits:

16. 416 Yale Ave. (14/ 2, 3) c. 1878. This is a plain gable roofed center hall cottage in the scale of the early community that was probably moved to this central site. It does not appear on this site in the 1890 maps. The home is much altered with asbestos siding, a colonial door, and fake shutters. The only old feature is a round headed two-by-two window in the attic. It is missing a front portico that appears on earlier atlases.

Turn left onto Cape Avenue. The corner house on the left is:

17. 207 Cape. (14/ 1, 21) *h.* Lownes-Fullerton House. c. 1876, c. 1888. This is an important hipped roofed, square plan cottage, erected around 1876. Located on an important corner, the Lownes cottage is just below the great houses in importance, being slightly smaller than the Galt house across the street. It was later owned by Professor George Fullerton who held an important administrative position at the University of Pennsylvania. The pierced work on the cornice is probably original. The wall dormers in the roof are probably a part of the 1888 alterations. The front porch has square posts, in early Victorian fashion.

Across the street on the first right corner is:

18. 206 Cape Avenue. (16/2) *h.* Blackburne Cottage; *p.* Grey Ghost c. 1875. This is a major cottage of Cape May Point, with impressive verge board-lined gables, tall surrounding porches in two stories with pierced wood railings on a tall narrow silhouette. Now restored, this is among the best preserved and most beloved of the early Victorian cottages. It is probably the S. M. McIntyre cottage of the 1878 map. A cottage of similar configuration stood on Beach Avenue between Emerald and Cape in 1890. The 1917 update shows a similarly configured building directly to the rear at Diamond Avenue suggesting that this is its third site. The present site is that of the old Centennial Hotel which burned in the early 20th century. Various additions including bathrooms, infilling, and porch bays are in the appropriate style. The Grey Ghost is pictured on the following page.

The last corner house on the left is:

19. 201 Cape Avenue. (14/ 9) *h.* P. Thurlow Cottage. c. 1890. Now surrounded by scrub beach growth, this cottage originally looked out over the Sea Grove Hotel grounds to the south. One of two early cottages for Mr. Thurlow, the other stood near the pavilion, suggesting a developer who hedged his bets. Though much altered, this is an original building from the initial development, modified at the time of the second boom. It was originally a small gabled cottage, which gained a side polygonal bay with a polygonal roof leading into a cross gable town base added at intersections – probably at the same time.

Make a left onto Lincoln Avenue. After the first two homes on the left is a row of small cottages:

20. 415 (14/ 16.02), 413 (14/ 15.02, 16.01), 411 (14/ 14.02, 15.01), 409 (14/ 13.02, 14.01), and 407 (14/ 13.01) Lincoln Avenue. *h.* J. N. Walker Houses. c. 1875. These five tiny wood cottages are gable roofed, with a gothic window in the attic; most have a one story porch around the front parlor. The cottages are largely intact and an essentially restorable group that is visually unique because of the replication of the cottages. Most are intact in trim and form, but show changes in wall cladding and porches. The five cottages for Dr. J. N. Walker are part of the initial development of Cape May point, and stood, like Cape May's Stockt[illegible] cottages, across the street from the main hotel, which here was the Sea Grove House. The Sea Grove house has been demolished, but the cottages remain. These are important as an early example of speculative architecture, owned by one of the initial incorporators of the Sea Grove association. These are probably the "4 cottages to go up at once for a gentleman who has taken six lots" (*Cape May Ocean Wave* 4 March 1875. p.3.).

Next to the cottages is:

21. 405 Lincoln Avenue. (14/ 12) *h.* Reverend Yeager Residence. c. 1877. Though similar in form to the adjacent Walker cottages, this is separate from the group, as is evident by the round, arched instead of Gothic, pointed window in the attic, and the different fenestration. The porch is a later modification. The cottage is one of the initial group of cottages from the mid 1870's and another of the cottages acquired by ministers at the time when clergy were given free lots. The 1890 and 1909 *Sanborns* do not show this cottage at the site, suggesting that it was moved from another site.

Make a left onto Ocean Avenue. At the last left corner of Ocean Avenue is:

22. 202 Ocean Avenue. (14/ 8, 9) *h.* McClure House. c. 1876. One of the early buildings erected by contractors Leaver and Kneadler, the McClure cottage has been much rebuilt, with numerous additions that drastically changed the proportions. But, the two story bracketed porch, and the wall gable in the center are part of the original design which was probably treated more like the Galt house.

Turn right onto Yale Avenue. Toward the end of the block on the left is:

23. 403 Yale. (27/ 10) *h.* Reverend A. Spaeth Cottage; *p.* Rosemere. c. 1876. This is a handsome Gothic wood cottage with a front parlor in the stem of a "T" with a central polygonal bay. A broad porch with elaborate scrollwork brackets screens the front of the house. There is a pendent verge board Gothic sash in the second floor with pointed shutters. This is one of the original cottages with elaborate porch brackets, carved verge board and gothic windows. Spaeth was one of the ministers given a free lot by the developers as a part of their promotion.

Continue on Yale across Lake Avenue. On the first right corner is:

24. 312 Yale Avenue. (38/ 1) c. 1875. The cottage at Lake and Yale is probably an early cottage, perhaps similar to the Lowne's cottage at Yale and Cape. The home was remodeled around the 1890's with shingle over frame. It was not built by 1878 when the Sea Grove map was drawn, but it was erected by 1890. A tuscan-columned porch was added across the front with a small gabled portico.

A bit further down on the left is:

25. 307 Yale. (37/ 12, 13) c. 1920. This is a handsome bungalow with broad wood boards around a screened porch. This home is typical of the early 20th century scale and represents the continuity of Cape May Point building. This is a good example of its type, in nearly original condition.

Continue on Yale past Coral Avenue to Whilden Avenue. Make a right onto Whilden. Continue on Whilden and take the first left onto Lincoln Avenue. Toward the center of the block on the left is:

26. 107 Lincoln Avenue. (48/ 14, 15) c. 1900. Broad plank frames surround doors and windows giving a pleasing proportion to the façade of the cottage pictured below. The symmetry of the façade is emphasized by the window, window, door, window, window pattern of the façade.

At the last left corner is:

27. 101 Lincoln Avenue. (48/ 10, 11) c. 1890. This is a pleasant Queen Anne Cottage that probably was moved from the beach. It is a porch-fronted house with Tuscan columns and details from the turn of the century colonial revival.

Continue on Lincoln Avenue across Lehigh Avenue. On the first left corner is:

28. 39 Lincoln Avenue. (50/ 1, 2) *h.* R. H. Beatty House. c. 1877. This is an early cottage that still maintains its proportions, but has been extensively altered, with the front porch infilled, and the siding replaced.

Make a left onto Lighthouse Avenue. A short way down on the right is:

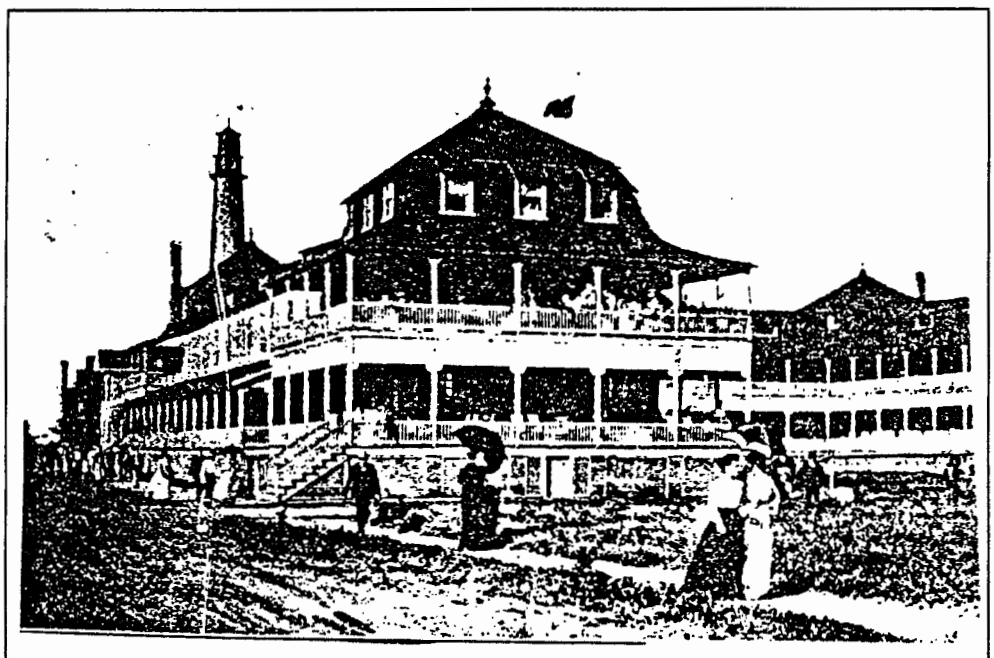
29. The Cape May LightHouse. c. 1859. Although not within Borough bounds, the Cape May Lighthouse is one of the oldest and most important American lighthouses and a major landmark of Cape May County. It is largely in original condition. It was originally painted a gray and is now a buff color. The original lamp from the lighthouse is at the Cape May Historical Society.

Turn left onto Lehigh Avenue and continue across Lincoln. On the first right corner is:

30. 108 Lehigh. (49/ 8, 9) *h.* Hazzard Cottage. c. 1890. This is the largest cottage in Cape May Point-a four square design with corner bays which probably originally faced the ocean. The house is now probably sited ninety degrees from its original orientation and one block to the north from its original site. It is one of the principal survivals of the area developed with the construction of President Harrison's cottage and the Shoreham Hotel. Its owner deeded the house to the convent of St. Joseph's. The most memorable feature is the large arched opening enclosing a balcony above the bay on the north façade.

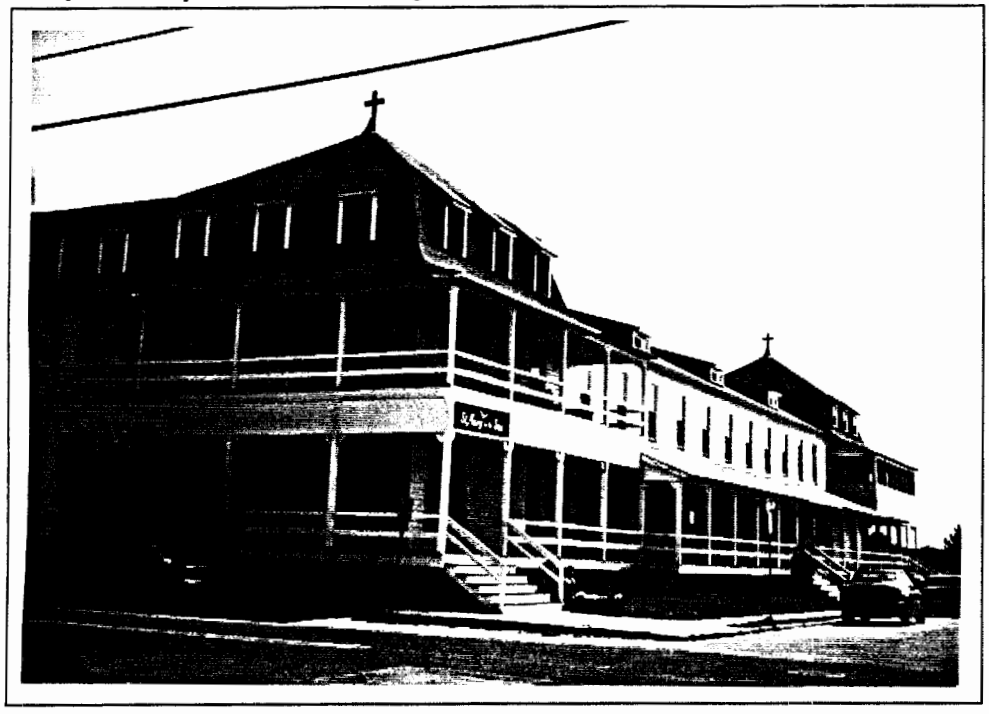
Across the street is:

31. 101 Lehigh Avenue. *h.* Shoreham Hotel; *p.* St. Mary's By-The-Sea c. 1889-1890.



Shoreham Hotel

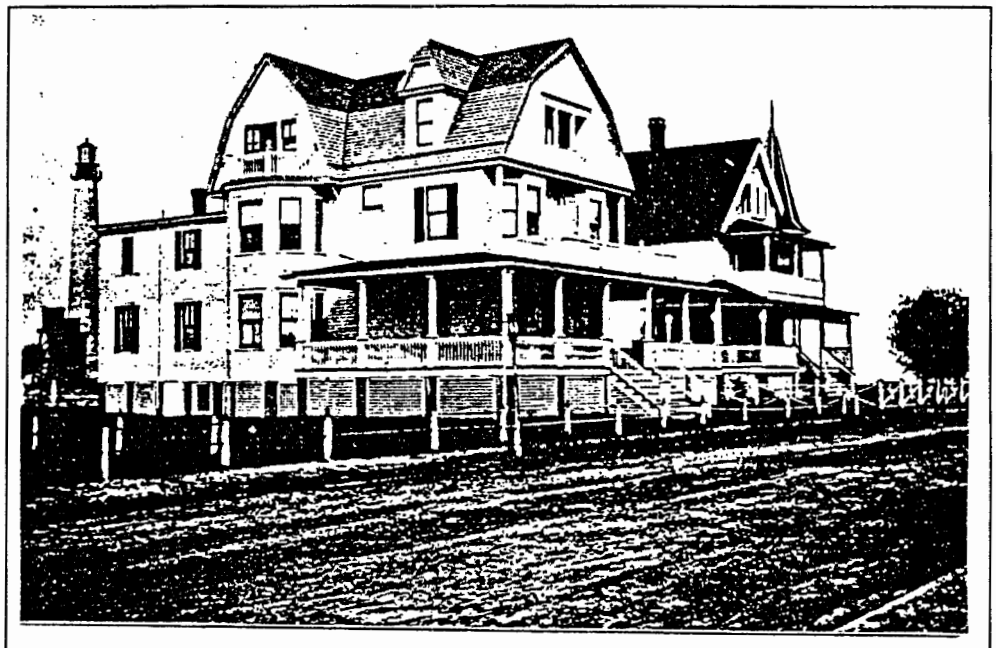
One of the major landmarks of Cape May Point, the U-shaped Shoreham hotel, pictured above as originally constructed and below as it appears today, was reported as "the largest in the city."



It is known as the last great hotel erected in Cape May Point and the first erected since the original community began in 1875 and 1876. This was the direct result of the new development activity that occurred after President Harrison stayed in Cape May Point in the summer of 1889. The contemporary construction of the President's cottage nearby no doubt attracted new interest in the area and stimulated new and larger cottages. Its acquisition in 1898 by the Home for the Aged and Infirm Colored Persons and in 1909 by the Sisters of St. Joseph, marks the rapid decline of the area after President Harrison sold his cottage in 1896. The site is eroding on the east side and the Shoreham is now confronted directly by the ocean. The building takes the form of a U-shaped block with a court toward the ocean recalling the old Mt. Vernon Hotel. Mansard roofs crown each wing, with round pavilions at the corner. The later tenants have added crosses at each corner. Above is a present-day picture of the hotel, now a retreat for Catholic nuns.

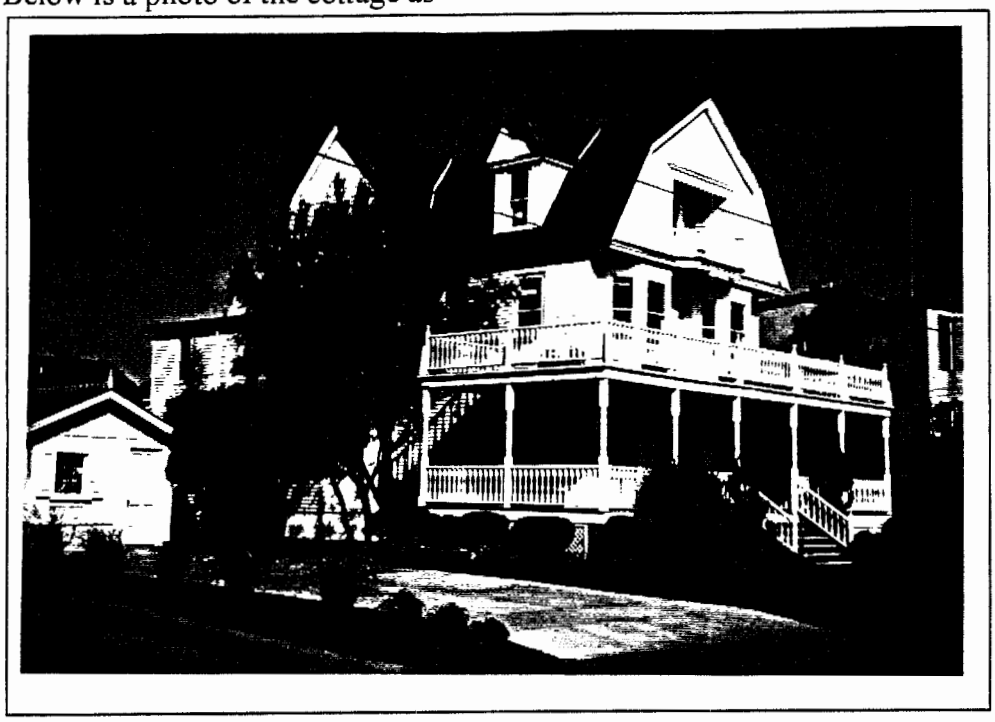
Continue on Lehigh and turn right onto Harvard Avenue. In the center of the block on the right is:

32. 107 Harvard Avenue. (49/ 14, 15) *h.* The Seaview Cottage; *p.* The Brigadoon; c. 1895. Below is a picture of the one of the more elaborate cottages dating from the President Harrison era as it was originally constructed; it shows the influence of the colonial revival, with



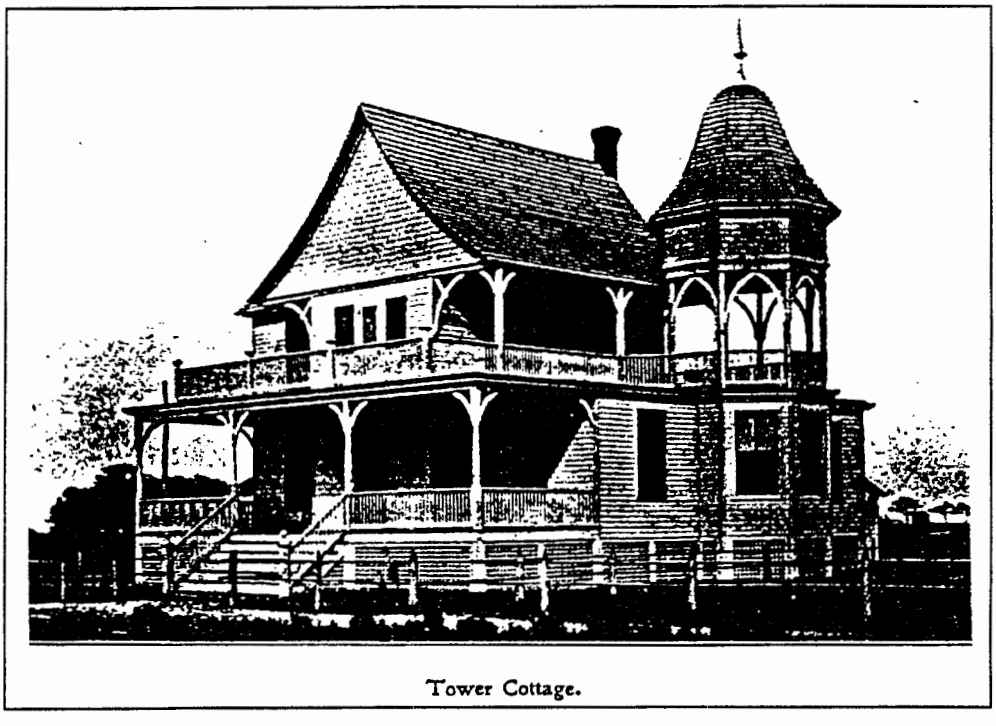
The Sea View Cottage.

gambrel roof, and a variety of textures from the old Queen Ann—notably the coarse stucco in the gable end. Below is a photo of the cottage as it appears today. The porch is largely reconstructed.



Continue on Harvard Avenue and make a right onto Whilden. In the center of the block on the right is:

33. 103 Whilden. (49/2) *h. & p.* The Tower Cottage. c. 1878. This cottage, pictured below, was not included in the Thomas study but certainly qualifies as an historic home worthy of preservation. Much of the original construction remains; the mid-section of the tower has been enclosed and the upper deck has been altered. The porch is infilled. The photo on the next page shows the cottage as it is today.



Tower Cottage.

Make a left onto Lake Drive. On your right is:

36. St. Peter's-by-the-Sea Episcopal Church. (29). c. 1880. This beautifully preserved church with white fretwork or "gingerbread" trim is typical of the mid-Victorian period. Its yellow pine frame was purchased from the Centennial grounds in Philadelphia by the four Episcopal clergymen who founded St. Peter's-by-the-Sea. Moved four times and survivor of severe coastal storms, the church remains in almost original condition. St. Peter's, pictured below, is now a National Historic Landmark.

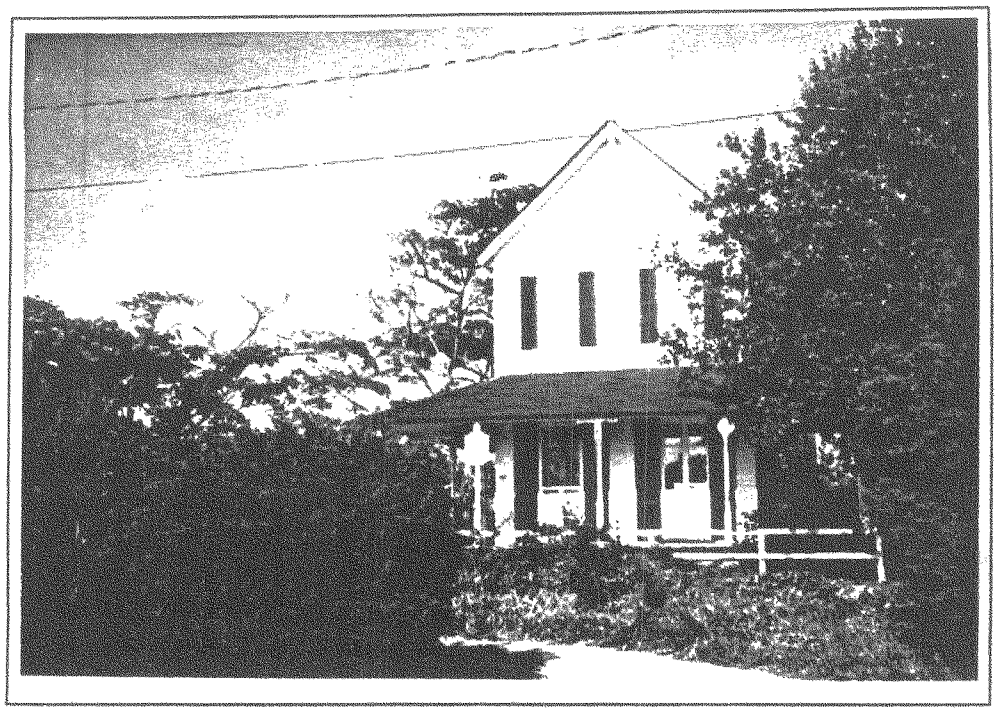
Make a left onto Lincoln Avenue. Continue on Lincoln past Coral Avenue. On the right just before the last right corner house is:

34. 311 Lincoln Avenue. (38/ 15) *h.* F.P. Layser Cottage. c. 1876. This small two story cottage, is one room wide with later infilling of the porch on the east side. The verge board is pierced, and elaborate; porch columns are relatively simple.

Next to the Layser cottage on the right corner is:

35. 313 Lincoln Avenue. (38/ 16) c. 1915. The small gabled cottage faces Lincoln Ave. and the beach, and continues the scale of the old community. The porch front, and dormer mark the front of the cottage.

Drive to the end of Lake and make a hairpin right turn onto Ocean Avenue. In the middle of the block on the left side is:



37. 100 Ocean. (16/ 5) ***h.*** **J. N. Walker Residence.** ***p.*** **Flora Dune. c. 1878.** Pictured above as it appears today, this is a much-altered cottage with only its form and general fenestration to recall its origins as one of Cape May Point's early cottages. Dr. J. N. Walker was an early board member and speculative developer of Cape May Point. Situated in the dunes that have encroached on the site, this is now a beachfront cottage.

On the far left corner is:

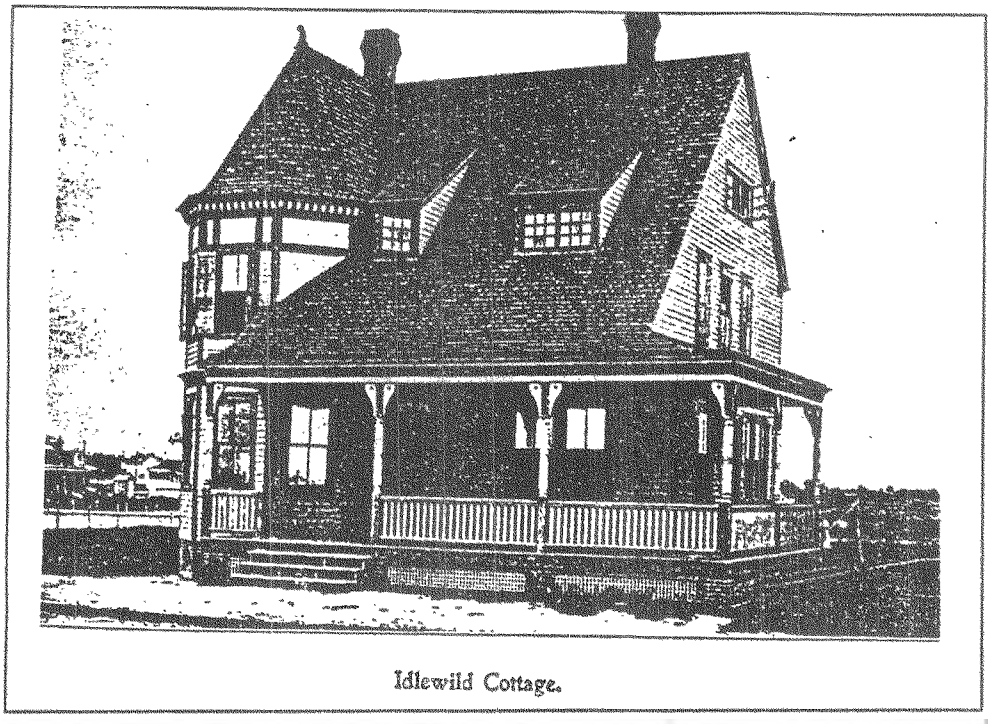
38. 402 Lincoln. (16/ 2) ***h.*** **J. Mead House;** ***p.*** **Ocean View House c. 1876.** Although it has a Lincoln Avenue address, this house faces Ocean Avenue. Originally one block from the ocean it is now at the dune line. This is a handsome Swiss cottage with a porch surrounding the front parlor. There are pointed Gothic windows in the upper stories, with gothic, pointed shutters. Shallow brackets support the overhanging eaves. Like the Keim cottage at 401 Lincoln Avenue this house is part of the initial development. It is in excellent condition. Similar in style and detail to other early cottages, it may have been designed by J. C. Sidney.

Make a right onto Lincoln and on the left side is:

39. 401 Lincoln Avenue. (28/67) ***h.*** **H. Keim Residence. c. 1878.** The cottage at Lincoln and Lake is like the nearby cottage at Ocean and Lincoln. This is very nearly intact, with pointed shutters and original sash and clapboard. A large screened porch fills one of the porch bays, and a 20th century railing on the porch makes a deck.

Turn left onto South Lake Drive. Following the Keim residence on the left is:

40. 202 Lake. ***h. & p.*** **The Idlewild (28/ 3, 4, 5) c. 1890.** This is a handsome Queen Anne cottage, probably dating from Cape May Point's other era of significance in the 1890's. It does not appear at this site on the early 20th century *Sanborn's*, but a similarly configured cottage with a corner tower and a wrap around porch did stand at Ocean and Beach and probably was moved to this new site at a later date. A Queen Anne octagonal tower, capped by an octagonal roof, adds picturesque interest to this gable roofed cottage. The front porch, with tuscan columns, wraps around to the side; shed dormers break the long roof line. On the following page are photos of the original construction and the cottage as it appears today.



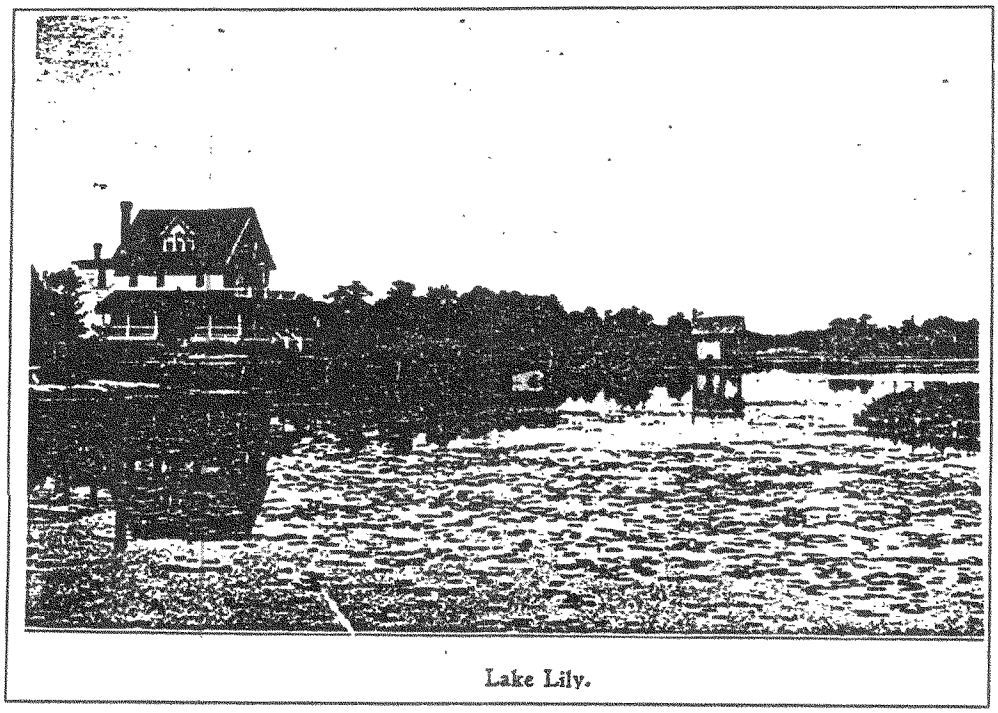
Idlewild Cottage.

Continue on South Lake Drive past Yale Avenue. On the left after the corner house is:

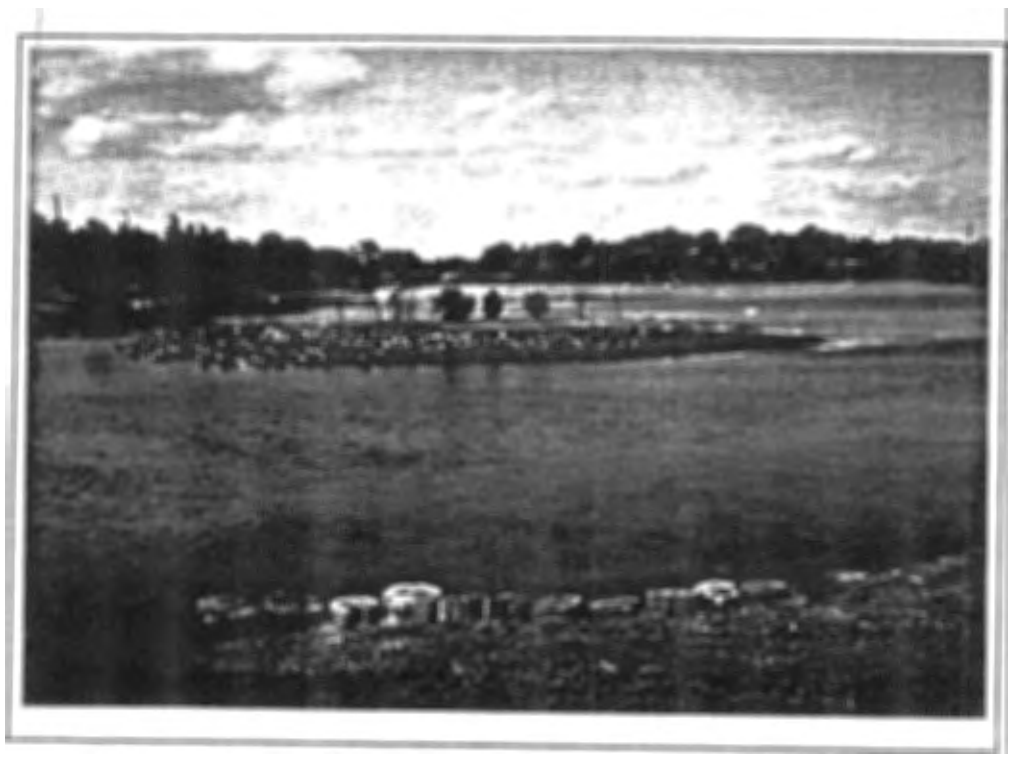
41. 302 Lake. (27/ 9) 1915. This nicely proportioned Dutch Colonial is a handsome suburban home that continued the scale and materials of the original community, but in the new revival style of the 1920's. The house sits well back on its lot. At one time there was a small arbor arched over the entrance walk, in a scene straight out of a 1920's home magazine. The home is accented by a large canopy over the door and a shed dormer that continues the plane of the upper roof. Windows line up from one story to the next suggesting that it was architect designed. It is similar to another house at 411 Cambridge.

Continue on Lake past Princeton and Cambridge Avenues. Turn left onto Lake Drive. On the right is Lake Lily. Continue on Lake past Oxford Avenue. On the last left corner is:

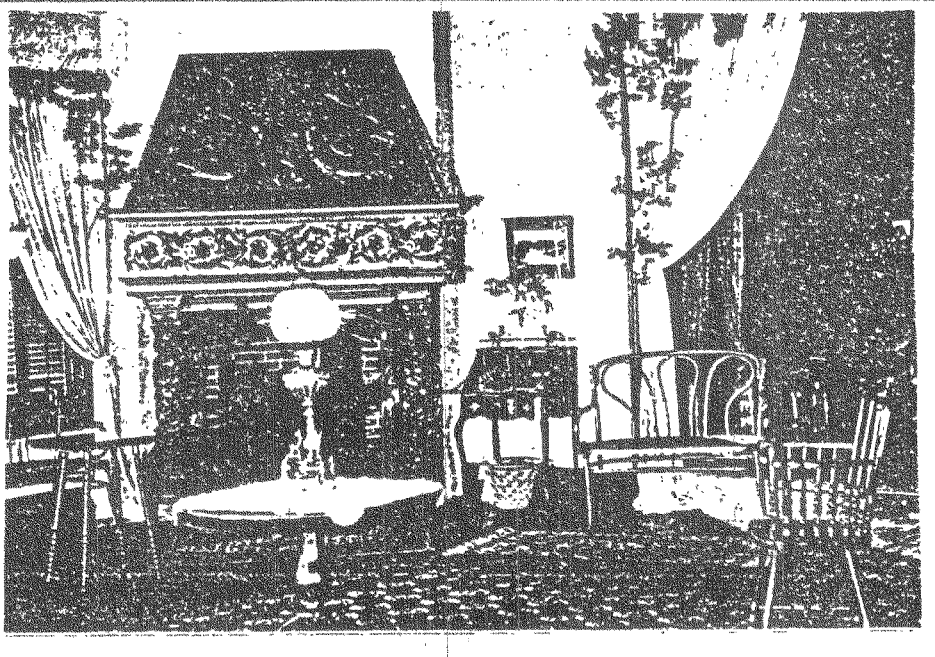
42. — Central Avenue. ***h. and p.*** **Cape May Point Country Club. (24/7) c. 188?.** Located overlooking Lake Lily, The Cape May Point Country Club was a popular gathering spot for the original community. This structure was not included in the Thomas study but is an excellent example of early architecture. The building has been slightly altered but remains largely in its original configuration; an upper deck was removed. Pictured on the following pages are photos of Lake Lily in both its historic and present states, and photos of the Cape May Point Country Club, both as originally constructed and as it appears today. Included is a photograph of the interior of the Club as it appeared when it was originally built.



Lake Lily.



Cape May Point Country Club.



Chimney Corner in Country Club.

to Central Avenue. Make a left onto Central Avenue and continue to the circle. Enter the circle and turn right onto Cape Avenue. On the right is:

43. 501 Cape Avenue. St. Agnes R. C. Church. (23/ 14.02, 15, 16, 17) c. 1883. This handsomely proportioned Catholic chapel was probably originally wood clad, perhaps with vertical boards and battens. It could be readily restored with wood siding to make it look like a sea-side building. A single entrance porch with a gabled roof and a gothic portal repeats the forms and proportions of the main building. A wood corbel table projects out from the stucco, suggesting the original detail. Sited on the circle across from the religious pavilion (which was demolished) and near the Beadle Presbyterian Chapel, the Catholic chapel forms a part of the civic-religious zone according to the original plan of Sea Grove. The presence of a Catholic Chapel in a Presbyterian resort suggests an attempt to broaden the appeal of the community at a time when it was failing economically.

Next to the church on the right is:

44. 505 Cape Avenue. (23/ 18) ***h.*** **J. W. Corson House. c. 1877.** This is a long gable roofed cottage with a central door at the side turning the gable into the street. One of the early cottages built as part of the original development, this is an elaboration of the typical gabled cottage. A two-story porch surrounds the cottage. Tall windows on both stories open the house up for maximum ventilation.

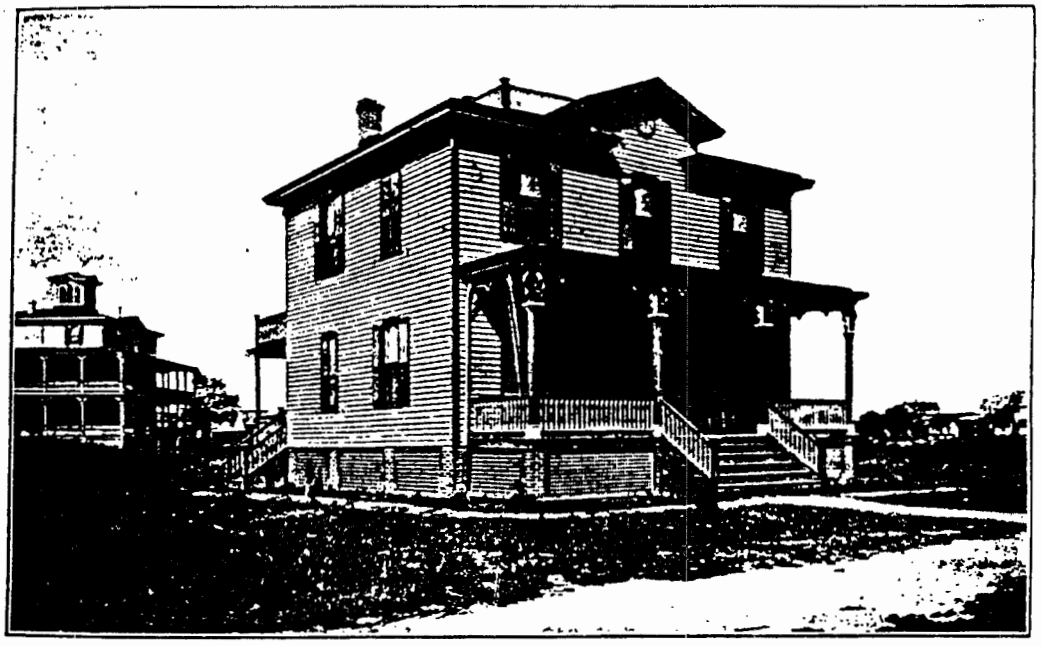
Across the street on the left is the last building on the tour:

45. 506 Cape Avenue. (19/ 6, 7) ***h. and p.*** **Beadle Memorial Presbyterian Church. c. 1882.** This handsome wood chapel is laid out on a plan of a corner entrance, marked by a canopy and a steep-roofed belfry with the altar at the far corner. The church is presently sited with its corner entrance facing Cape Avenue, the major street leading into Cape May Point. It was originally built at Beach Drive near Emerald, and by 1917 had been moved to Pearl Avenue near Cape Avenue. The Beadle Presbyterian Chapel is the largest church in Cape May Point. Designed by Presbyterian architect Isaac Pursell, the building conforms to a typical auditorium plan evolved for small suburban chapels. Tall lancet windows light the interior. Stick over clapboarded and shingled wall surfaces link the church to the Queen Anne style popular in England and Philadelphia. The building is in superb condition and is one of the gems of the community. On the following page is a photograph of the church as it appears today

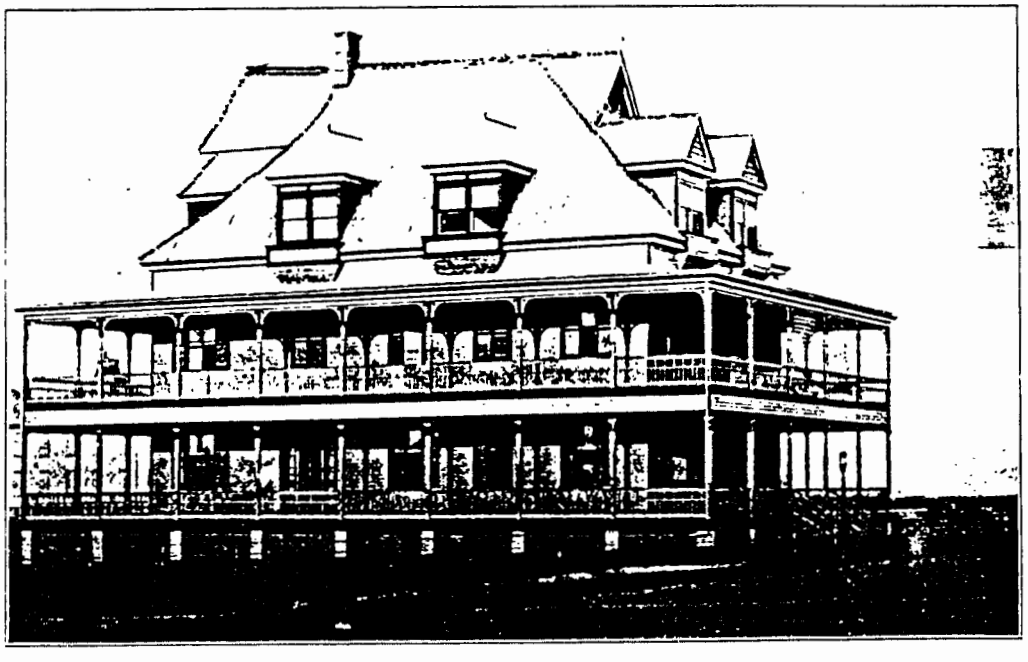
Continue on Cape Avenue to Sunset Drive to leave Cape May Point.

PHOTOS

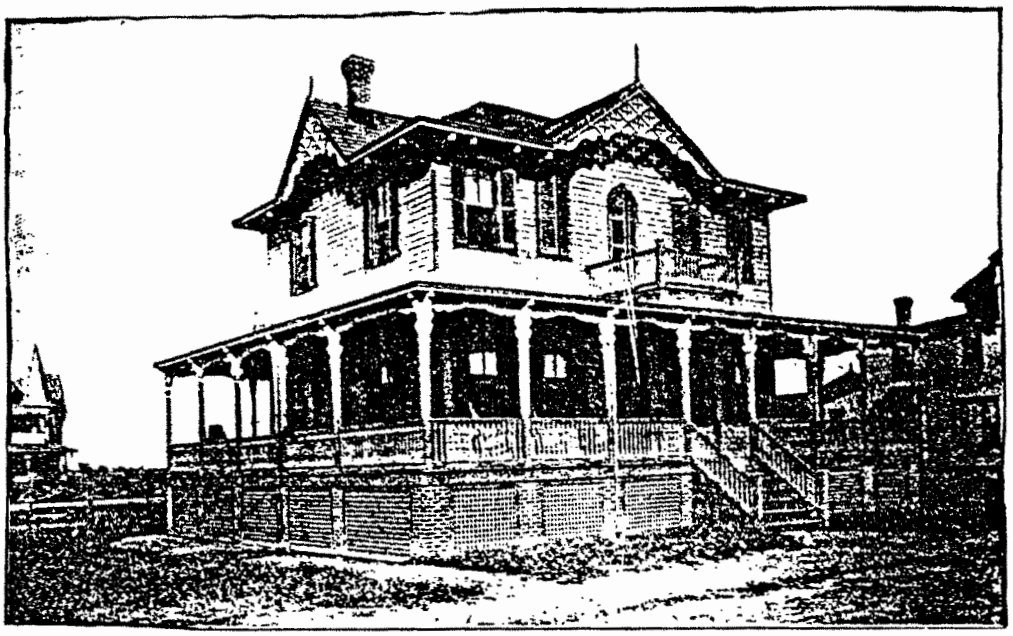
In this section are photos of some of the historic homes of Cape May Point



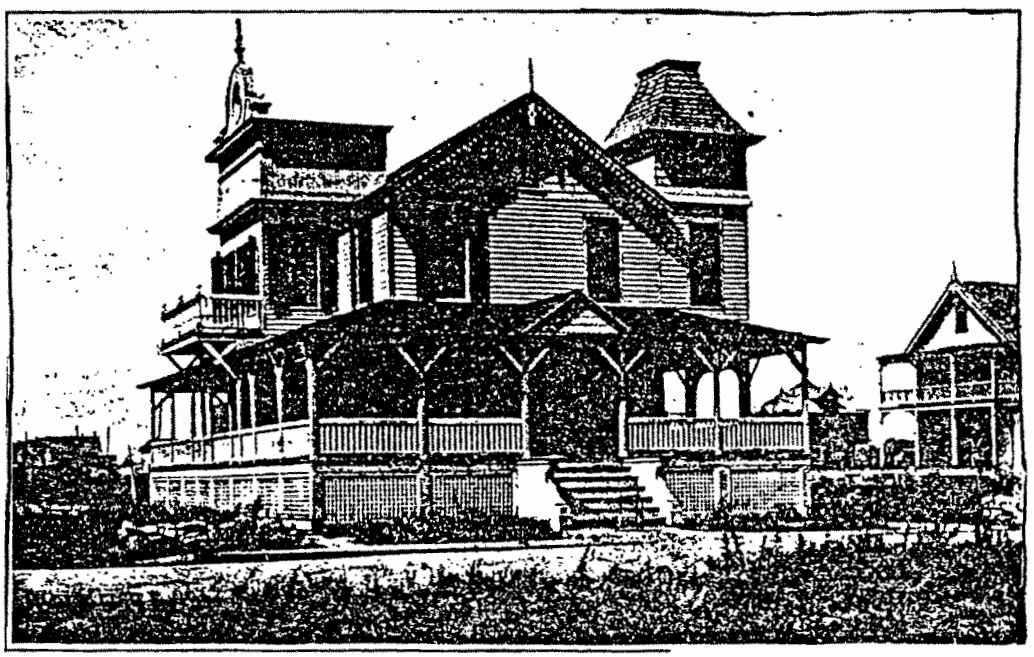
The Ocean Cottage.



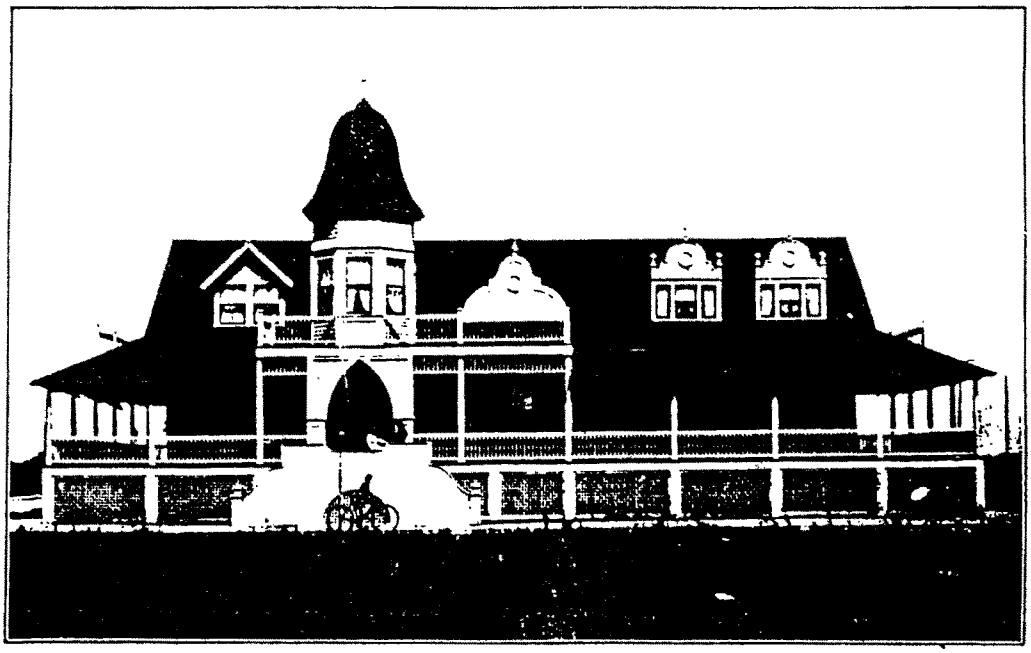
Residence of John Wanamaker.



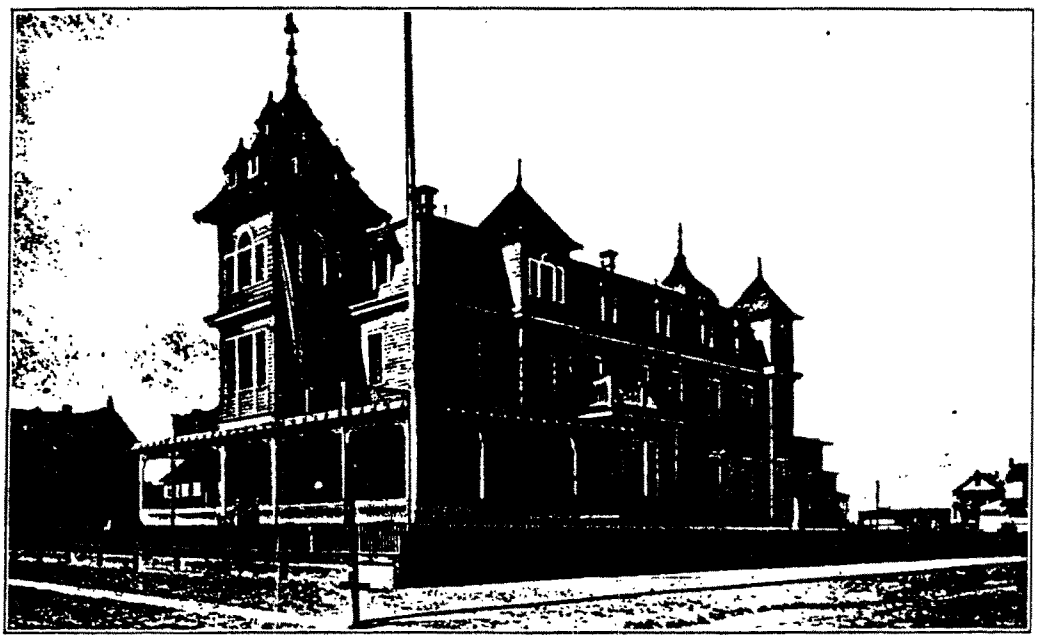
Prospect Cottage.



Sunnyside Cottage.

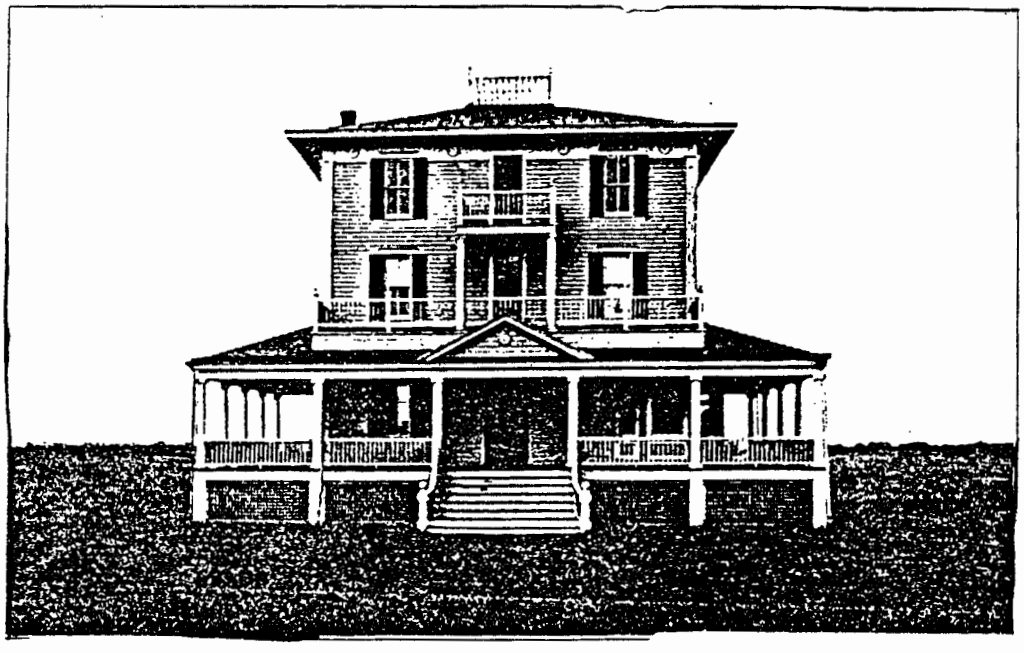


The Bungalow.



Villa Lankenau.

Overlook Cottage.

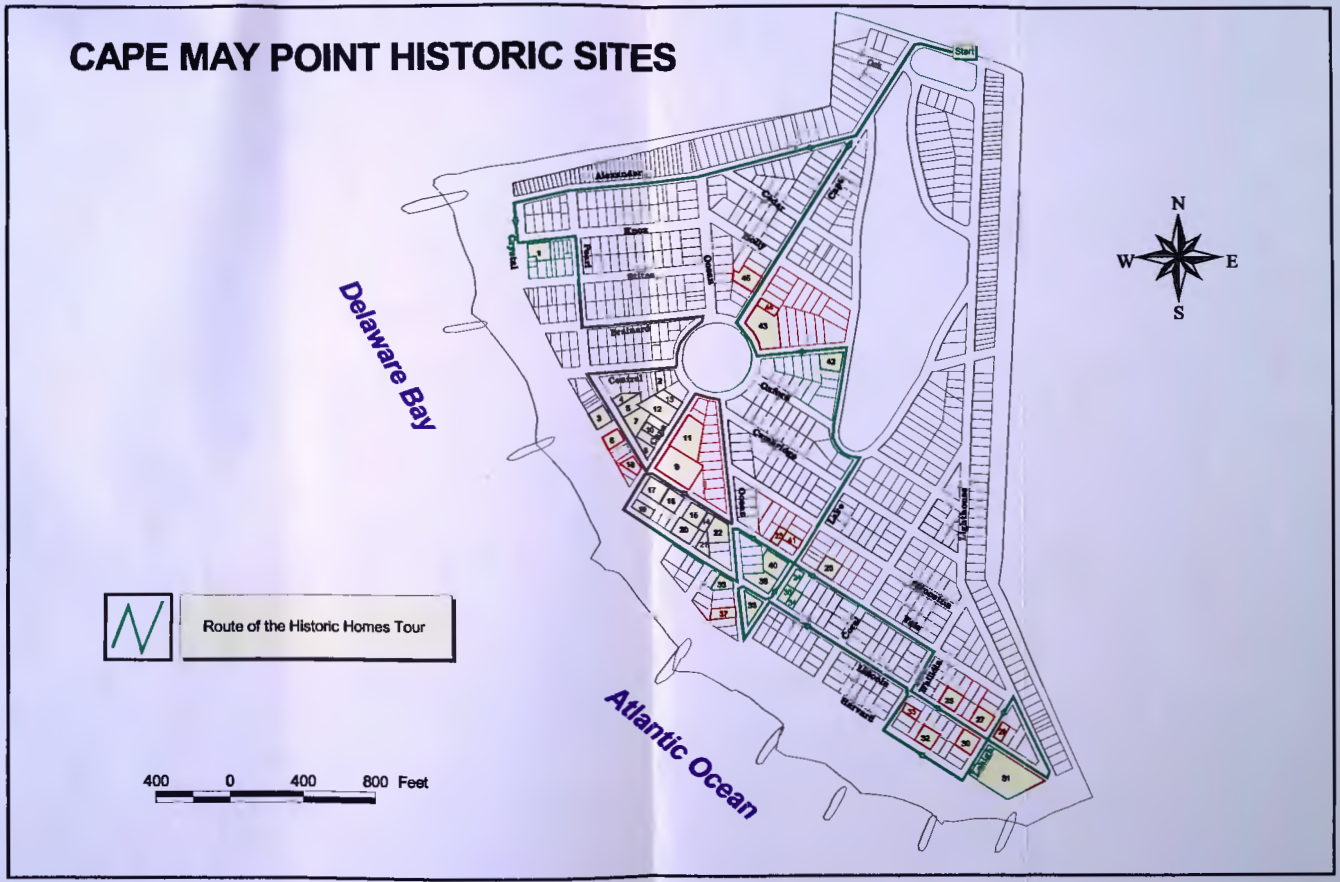


The Colonial.

THE BOROUGH OF CAPE MAY POINT HISTORIC HOMES LOCATION MAP

The following map depicts the location of selected homes in Cape May Point that are considered to have historic significance. The historic homes tour is marked in red.

CAPE MAY POINT HISTORIC SITES



SOURCES

Association of New Jersey Environmental Commissions; *Environmental Commissioner's Handbook*. New Jersey Department of Environmental Protection, 1990.

Kuser, John, ed. *Trees of New Jersey and the Mid-Atlantic States*. The New Jersey Forest Service, 1998.

Soltesz, Ken and Barber, Bob. Dragonflies and Damselflies of Cape May Point, New Jersey. As annotated from their checklist to the *Dragonflies and Damselflies of Cape May and Cumberland Counties, New Jersey*. To be published by the Cape May Bird Observatory, summer, 1999

Thomas, George E., Ph.D. Project Director; Cape *May Point Survey* 1986.

United States Department of Agriculture Soil Conservation Service. *Soil Survey of Cape May County*, New Jersey, 1977