

PLATE 36

LOWER TOWNSHIP
SCHOOL SYSTEM
FACILITIES AND STAFF
1978-79

CONSOLIDATED SCHOOL
FACILITIES

- 27 Classrooms (3 for special education)
- 1 Multi-Purpose Room with stage
- 1 Band Room
- 1 Library

MAUD ABRAMS SCHOOL
FACILITIES

- 26 Classrooms (3 for special education)
- 1 Multi-Purpose Room with stage (of which a portion is used as a library)
- 1 Library (currently used as a classroom)

OUTDOOR FACILITIES (SHARED)

- 4 Playfields (softball)
- 1 Football/Soccer Field
- 1 Playground (for kindergarten use)
- 2 Hardtop Basketball Areas

DISTRICT STAFF

- 3 Administrators
- 3 Administrative Secretaries
- 1 Custodian of School Monies
- 4 Child Study Team Members
 - Psychologist, Social Worker, Learning Disabilities
 - Teacher Consultant, Secretary
- 75 Teachers
- 7 Instructional Aides
- 4 Clerks
- 4 School Secretaries
- 1 Plant Manager
- 11 Custodians
- 17 Bus Drivers
- 1 Mechanic
- 1 Cafeteria Manager
- 14 Cafeteria Staff Members
- 4 Cafeteria Aides

SOURCE: Lower Township Board of Education, Office of the Superintendent.

Since enrollments in the district have consistently exceeded the 1,209 student functional capacity of the system since 1973-74, a number of emergency measures have been undertaken to accommodate the growing school population. For example, the library in the Maud Abrams School is utilized as a classroom, making it necessary for a portion of the multi-purpose room to be used as a library. In addition, three classrooms are leased by the Lower Township school district in West Cape May for the purposes of accommodating overflow students from Lower Township. The Superintendent of Schools estimates that a deficiency of twenty-one (21) instructional spaces currently exists in the district. Construction of the new twelve (12) classroom school on 3.7 acres of municipally-owned, leased land will help somewhat to offset this need. However, unless school enrollments exhibit a significant decline, at least nine (9) additional classroom spaces are still needed. Current classroom size in the district is nearly twenty-eight (28) students per classroom.

School enrollment trends are characterized generally by the same components of change as are total population trends: 1) the natural increase in population associated with births and deaths, and 2) the migratory movement of families with school aged children into and out of the township. Plate 37 presents school enrollments by grade and year in the Lower Township school system from 1971-72 to 1978-79. As indicated, school enrollments increased substantially through 1976-77. However, there has been a decline of over 100 students since 1976-77. While this may be a temporary phenomenon, trends toward lower birth rates and smaller families, resulting in smaller school populations nationwide, would suggest that it is not. Plate 38 graphically illustrates these enrollment trends.

The Lower Cape May Regional school system's facilities and staff are presented on Plate 39. Unlike the Lower Township school system, the Lower Cape May Regional system appears to have sufficient capacity to meet its responsibilities in the immediate future, although some reallocation of space may be necessary. The current pupil-teacher ratio is approximately 18 students per teacher.

The two schools encompassed by the Lower Cape May Regional district are located on 67 acres along Route 9. The High School (grades 9 through 12) was constructed in 1960, with an addition in 1967, and the Teitelman School (grades 7 and 8) was constructed in 1973. State functional capacities for these schools are 1150 and 720, respectively, and, as evidenced by Plate 40, this capacity has not yet been attained. As in the Lower Township system, a decline in enrollment has occurred from 1977-78 to 1978-79, attributable primarily to a drop in the number of students at the Teitelman School. Plate 41 a. graphically illustrates enrollment trends in the Teitelman School, the High School and in the district as a whole for the years 1971-72 to 1978-79. Since the Lower Cape May Regional school system also receives students from Cape May and West Cape May as well as tuition students from Cape May Point, it is helpful to examine the percentage of Lower Township students represented in those totals. As indicated by Plate 41 b., the proportion of students in the regional school district residing in Lower Township has increased from 67% to 77% between 1971-72 to 1977-78.

PLATE 37

LOWER TOWNSHIP SCHOOLS
SCHOOL ENROLLMENT BY GRADE AND YEAR (1)

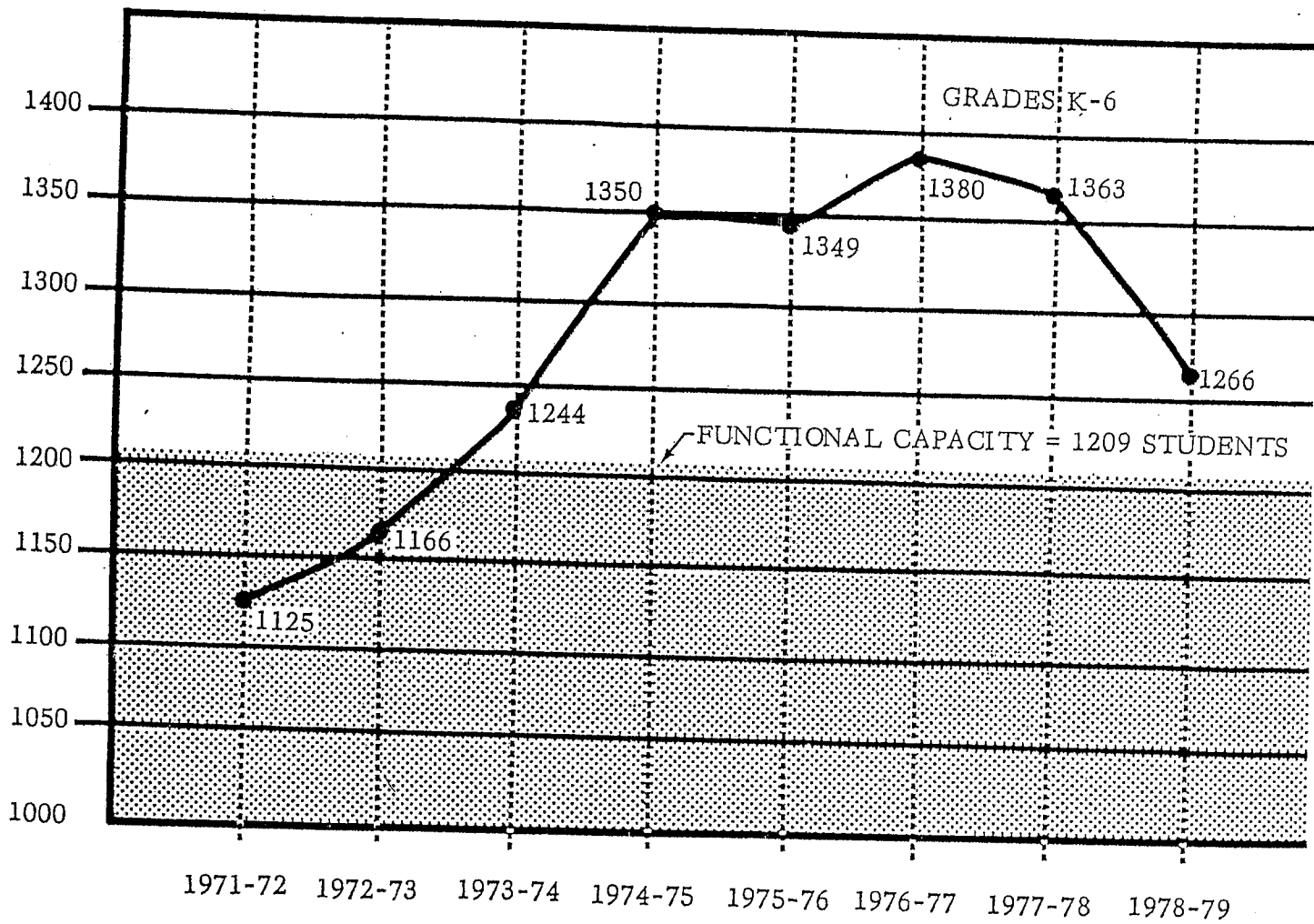
<u>GRADE</u>	<u>1971-72</u>	<u>1972-73</u>	<u>1973-74</u>	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79(2)</u>
K	166	174	160	184	221	239	177	160
1	145	158	175	184	160	196	221	182
2	154	159	174	183	181	171	187	197
3	151	165	165	190	170	183	183	179
4	173	164	186	190	193	172	198	173
5	157	168	177	192	209	194	184	179
6	152	151	182	198	201	218	205	189
Special Ed.	27	27	25	29	14	7	8	7
TOTAL K - 6	1,125	1,166	1,244	1,350	1,349	1,380	1,363	1,266

- (1) Total enrollment as of June of each year, not including students enrolled in private or parochial schools.
(2) 1978-79 enrollments are as of September 1, 1978.

SOURCE: Lower Township Board of Education, Attendance Officer.

PLATE 38

LOWER TOWNSHIP SCHOOLS
SCHOOL ENROLLMENT TRENDS
1971-72 to 1978-79



SOURCE: Lower Township Board of Education, Attendance Officer.

PLATE 39

LOWER CAPE MAY REGIONAL
SCHOOL SYSTEM
FACILITIES AND STAFF
1978-79

RICHARD M. TEITELMAN SCHOOL
FACILITIES

33	Classrooms
1	Gymnasium
1	Library
1	Multi-Purpose Room with stage
1	Shop
1	Home-Ec Room
1	Art Room
1	Large Group Instruction Room
4	Small Group Instruction Rooms
3	General Science Labs
	Offices

LOWER CAPE MAY REGIONAL HIGH SCHOOL
FACILITIES

53	Classrooms
2	Gymnasiums
1	Library
1	Auditorium
1	Multi-Purpose Room with stage
1	Cafeteria
3	Shops
2	Home-Ec Rooms
2	Art Rooms
1	Band Room
1	Chemistry-Physics Lab
2	Biology Labs
2	General Science Labs

Offices
District Administrative Offices

OUTDOOR FACILITIES (SHARED)

2	Baseball Fields
1	Softball Field
1	Football Field and Practice Areas
2	Tennis Courts

Additional Open Space

DISTRICT STAFF

4	Administrators
1	Board Secretary
0.5	Custodians of School Monies
105.5	Teachers
1	Supplementary Teacher
2	Media Specialists
11	Aides
6	Guidance Staff Members
3	Child Study Team Members
2	Nurses
15.5	Secretaries and Clerks
3	Supervisors
	- Building and Grounds, Transportation, Food Services Director
21	Custodians
11.5	Bus Drivers and/or Mechanics
23	Food Service Employees

SOURCE: Lower Township Board of Education, Office of the Superintendent.

PLATE 40

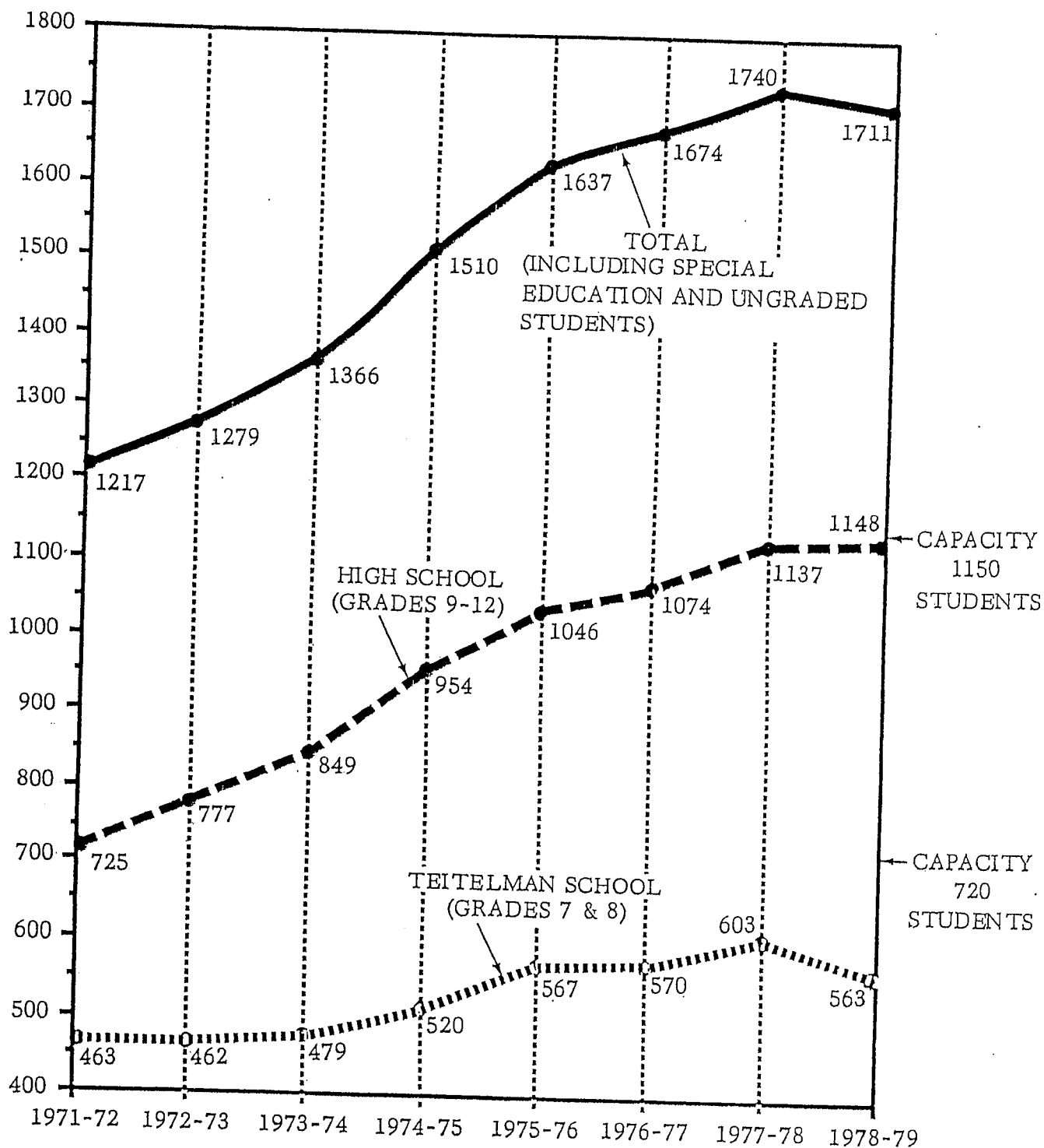
LOWER CAPE MAY REGIONAL SCHOOLS
SCHOOL ENROLLMENT BY GRADE AND YEAR(1)

<u>GRADE</u>	<u>1971-72</u>	<u>1972-73</u>	<u>1973-74</u>	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79</u>
7	210	235	237	268	288	282	304	300
8	253	227	242	252	279	288	299	263
9	229	276	266	307	325	330	346	349
10	180	206	240	243	274	269	287	304
11	178	154	201	223	227	257	262	265
12	138	141	142	181	220	218	242	230
Special Ed. or Ungraded	29	40	38	36	24	30	--	--
TOTAL 7 - 12:	1,217	1,279	1,366	1,510	1,637	1,674	1,740	1,711

(1) Total enrollment as of September of each year, not including students enrolled in private or parochial schools.

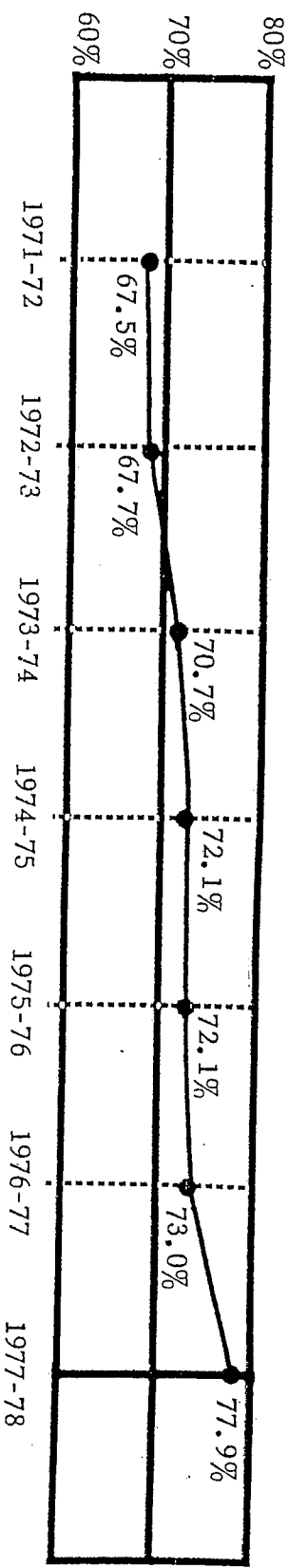
SOURCE: Lower Cape May Regional Schools, Office of the Superintendent.

PLATE 41 a.
 LOWER CAPE MAY REGIONAL SCHOOLS
 SCHOOL ENROLLMENT TRENDS
 1971-72 TO 1978-79



SOURCE: Lower Cape May Regional Schools, Office of the Superintendent.

PLATE 41 b.
LOWER TOWNSHIP STUDENTS
AS A PERCENTAGE OF THE
ENTIRE LOWER CAPE MAY
REGIONAL SCHOOL DISTRICT
STUDENT POPULATION
1971-72 TO 1976-77(1)



(1) Figures for 1978-79 are not yet available.

SOURCE: Lower Cape May Regional Schools, Office of the Superintendent.

Plate 42 shows the number of Lower Township students attending private and parochial schools outside the two public school systems in 1978-79. The figures are compiled from school bus transportation and textbook reimbursement information obtained from the Lower Township and Lower Cape May Regional school systems. A vocational school program is also available to students in grades 11 and 12 at the County Vocational School. This program will be expanded to encompass students in grades 9 through 12 by the fall of 1979.

FIRE PROTECTION

Lower Township residents are served by three volunteer fire companies: Villas, Erma and Town Bank. Plate 43 presents the locations of each fire company and its corresponding district. Plate 44 provides a summary of each company's mobile equipment inventory and indicates the number of active members and the number of calls responded to from 1975-1977. Volunteers at each company are alerted to fires by sirens located at each fire house or by portable plectrons.

All three fire companies are part of a Cape May County mutual aid pact and will respond to emergencies, upon request, in other municipalities. In turn, calls from areas of Lower Township south of the Canal and west of the Garden State Parkway are responded to immediately by other municipal fire departments having superior access to those areas.

The fire companies are supported by a levy of a fire tax upon residents within their respective districts, although, for taxing purposes, residents south of the Canal are not included in a district. Fire budgets are voted on by district residents prior to the annual levy.

POLICE PROTECTION

Police protection is provided by the township's police force located in newly constructed facilities on Bay Shore Road in the Villas. The department consists of twenty-eight (28) year-round officers, including one chief, one captain, one lieutenant and five detectives. In addition, there are twenty-five (25) auxiliary officers who supplement the regular department coverage. Each of these officers puts in approximately sixteen (16) hours per month. Support staff includes three (3) summer officers, two (2) crossing guards, five (5) dispatchers and three (3) clerk typists.

The 3,920 square foot police facility provides ample space for the administration and operation of the department. In addition to various offices, the building also houses a cell block, a records room, a room for the storage of evidence, a staff room and a communications center from which the dispatchers operate. The department's mobile

PLATE 42

STUDENTS ATTENDING PRIVATE AND PAROCHIAL SCHOOLS
1978-1979

<u>Grades K - 6</u>	<u>Number of Students</u>
Saint Raymond's, Villas	135
Our Lady Star of the Sea, Cape May	84
Saint Ann's, Wildwood	13
Seventh Day Adventist, Cape May Court House	3
Cape May County Christian, Rio Grande	20
Heritage Academy, Fishing Creek	<u>21</u>
Sub Total:	276
 <u>Grades 7 - 12</u>	
Saint Raymond's, Villas	41
Our Lady Star of the Sea, Cape May	20
Saint Ann's, Wildwood	2
Wildwood Catholic	56
Divine Word Seminary, Bordentown	<u>1</u>
Sub Total:	120
Total:	<u>396</u>
Percentage (%) of Total Student Population Attending Non-Public Schools	13%

SOURCES: Textbook Reimbursement Files, Lower Cape May
Regional Schools and Lower Township Schools;
Transportation Supervisor, Lower Cape May
Regional Schools.

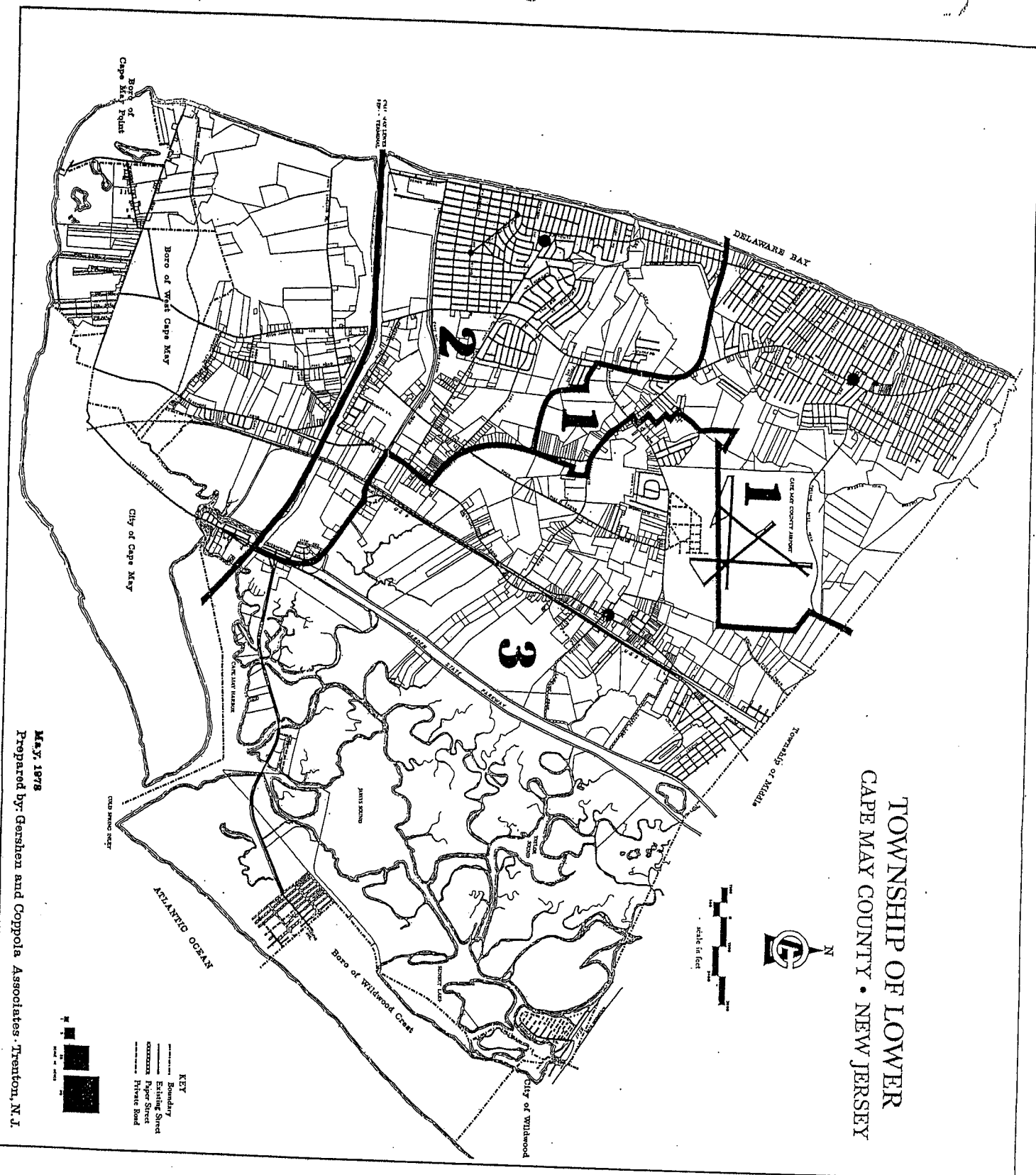


plate 43
FIRE DISTRICTS

- 1 VILLAS FIRE COMPANY
- 2 TOWN BANK FIRE COMPANY
- 3 ERMA FIRE COMPANY
- LOCATION OF FIRE HOUSE

SOURCE : Lower Township Map of Fire Districts and Field Survey by Consultant, June, 1978.

PLATE 44

SUMMARY OF LOWER TOWNSHIP
FIRE COMPANIES

Villas Fire Company

Active Volunteers: 35

Calls necessitating dispatchment of mobile unit: 1977 } 75 - 125 calls per year
1976 } for the last three years
1975 }

Mobile equipment: 1956 Ford 500 gpm pumper
1961 Ford 750 gpm pumper
1965 Ford 750 gpm pumper
1970 Ford 1,000 gpm pumper
1971 Ford 750 gpm pumper
1975 Ford tractor with 8,300 gallon water tank
1968 Ford 1,000 gpm pumper with 75' aerial ladder
1971 Ford emergency truck
1978 Ford multiple emergency rescue vehicle
1975 Ford station wagon

Town Bank Fire Company

Active Volunteers: 45

Calls necessitating dispatchment of mobile unit: 1977 - 157
1976 - 126
1975 - 132

Mobile equipment: 1948 Ahren Fox 1,000 gpm pumper
1957 GMC 750 gpm pumper
1963 GMC 750 gpm pumper
1968 American LaFrance 750 gpm pumper
1975 Dodge 250 gpm pumper
1975 Mack 1,000 gpm pumper
1956 Ford 65' aerial ladder
1978 Chevrolet van

Erma Fire Company

Active Volunteers: 30

Calls necessitating detachment of mobile unit: 1977 - 94
1976 - 92
1975 - 81

Mobile equipment: 1962 Ford 750 gpm pumper
1976 Ford 1,000 gpm pumper
1977 Ford 1,000 gpm pumper
1976 Ford emergency van

SOURCE: Chiefs of respective fire companies.

equipment consists of the following vehicles; all of which are manufactured by Ford Motor Company:

5	1978 patrol cars
1	1977 van
2	1977 patrol cars
1	1977 detective 's car
1	1975 patrol car

Shown on Plate 45 are reported offenses for the Township of Lower for the years 1974 through 1976. The "total reported offenses" statistic represents all crimes included within the State's crime index. New Jersey has adopted a uniform reporting system compatible with that used nationwide. As a result, a number of crimes (such as non-atrocious assault, larceny of less than \$50.00, etc.) are not reflected. In any event, it is evident that the level of criminal activity in the township has decreased between 1974 and 1976. Interestingly, this trend has occurred despite the fact that Cape May County, the Southeast Region and the entire State of New Jersey have exhibited increases in criminal activity.

RESCUE SQUAD AND EMERGENCY FIRST AID SERVICE

Residents of Lower Township are provided emergency first aid service by the Lower Township Rescue Squad which has its headquarters at Main Street and Georgia Avenue in the Villas. A substation is maintained at Race Track Drive and Town Bank Road. The squad currently has a membership of 15 to 18 active volunteers and 3 to 4 dispatchers who are paid by the C. E. T. A. program. In addition, a doctor is kept on call to provide medical care for minor injuries not requiring hospitalization. The squad maintains a 1958 Chevrolet crash truck, a 1972 Oldsmobile ambulance, a 1976 Chevrolet van and two 1977 Ford modular ambulances. With the exception of Diamond Beach, which is covered by Wildwood Crest, and the Shawcrest Road area in the northeast portion of the township, which is covered by Rio Grande, the squad serves the entire township.

In 1977, there were 2,061 calls necessitating the dispatchment of a mobile unit. This represents a 7.4 percent increase over the 1,920 calls responded to in 1976. Emergency cases requiring professional medical treatment are taken to Burdette Tomlin Memorial Hospital, located in Cape May Court House.

MUNICIPAL BUILDING

The present Lower Township municipal building is located on Seashore Road, near its intersection with Academy Road. The main building contains offices for the Township Clerk, Tax Collector, Treasurer, Mayor, Township Committee and Public Works Department as well as a computer room and a separate room utilized by the Board of Health and a receptionist. There are two trailers annexed to the site: one houses the Tax Assessor and the other houses the Construction Official, Zoning Officer and

PLATE 45

UNIFORM CRIME STATISTICS
1974-1976

MAJOR REPORTABLE OFFENSES

LOWER TOWNSHIP REPORTED OFFENSES:	<u>1976</u>	<u>1975</u>	<u>1974</u>
<u>Violent Crime</u>			
Murder	1	1	0
Robbery	2	3	2
Rape	1	0	4
Assault	3	10	10
<u>Non-Violent Crime</u>			
Breaking and Entering	261	305	321
Larceny and Theft	511	394	479
Auto Theft	26	18	35
Total Reported Offenses:	815	731	851
<u>Estimated Population:</u>	11,360	11,275	11,135
<u>Rate Per 1,000 Population</u>			
Lower Township	71.4	64.8	76.4
Cape May County	86.4	75.7	82.5
Southeast Region*	57.1	54.6	52.1
State of New Jersey	53.3	50.6	47.2

* For purposes of further crime data analysis, the New Jersey State Police Uniform Crime Reporting Unit divides the state into geographic regions based upon location, general character, and the presence of major urban cores within individual counties. Included along with Cape May County in the Southeast Region are Atlantic, Ocean, Cumberland, Monmouth and Salem Counties.

Planning Board office. The facilities of the public works department are also located at the site. Upon completion of a new municipal office building at the municipal complex on Bay Shore Road, all township offices will be relocated there. This is expected to have occurred by early in 1979.

PUBLIC WORKS

Located on Seashore Road, at the present site of the municipal offices, are the garages of the public works department. The department employs eight (8) year-round employees including one superintendent, one foreman, one equipment operator and five laborers. In addition, there are currently eighteen (18) employees hired through the federal Comprehensive Employment Training Act (C.E.T.A.) program. Under a separate title of the C.E.T.A. program, high school students were employed during the summer months to maintain township beaches. The department is responsible for maintaining public buildings and grounds, as well as for road maintenance and minor repairs, beach maintenance, bulk trash pickup, maintenance of the storm drainage system, and, upon directives from the health department, cleaning of vacant lots. An inventory of the department's mobile equipment is presented on Plate 46.

SANITATION DEPARTMENT

Until recently, all garbage and trash removal within the township was provided by private scavenger service. Lower Township has, however, purchased three Shu-Pak trash trucks, each with a 29 cubic yard capacity, and now provides such service to residential properties throughout the township. Five equipment operators are employed to operate the one-man trucks. The equipment is designed so that the driver may efficiently load refuse into openings on the side of the truck.

Solid waste is removed to a privately owned landfill located in Middle Township which, according to the Cape May County Municipal Utilities Authority, had a five (5) year life expectancy as of January, 1976.

PUBLIC WATER AND SANITARY SEWERAGE FACILITIES

Public water and sanitary sewerage service are each provided to limited areas within Lower Township by the Lower Township Municipal Utilities Authority.

Indicated on Plate 47 are areas served by sanitary sewerage as well as the locations of the treatment plant and pumping stations. It should be noted that the sewerage lines in the area south of the Cape May Canal and adjacent to the City of Cape May (Schellenger's Landing) are maintained by the township; however, effluent generated from this area is treated by the City of Cape May plant. The Lower Township treatment plant, located off Bay Shore Road north of its intersection with Tabernacle Road, has the capacity to treat 3.5 million gallons of effluent per day. Once treated, it is directed to a man-made ditch which leads to Cox Hall Creek and empties into the Delaware Bay.

PLATE 46

PUBLIC WORKS DEPARTMENT INVENTORY OF
MOBILE EQUIPMENT

1976	Ford dump truck with 8 seat crew cab
1975	Ford dump truck
1970	Ford dump truck
1969	Ford dump truck
1966	Ford dump truck
1965	Ford dump truck
1973	Cub tractor with sickle bar
1972	Cub tractor with rotary
1971	Ford loader
1967	John Deere loader
1971	Wayne sweeper
1961	M. B. sweeper
1976	Ford pickup
1969	Ford pickup
1972	Mercury stationwagon

SOURCE: Lower Township Public Works Department



May, 1978
 Prepared by: Gershen and Coppola Associates, Trenton, N. J.

KEY
 --- Boundary
 --- Existing Street
 --- Proposed Street
 --- Private Road

plate 47 SEWERAGE SERVICE AREA

- TREATMENT PLANT
- PUMPING STATION
- ▨ SERVICE AREA
- CONNECTING LINES

SOURCE: Lower Township Sanitary Sewer System Map, prepared by Van
 Note-Harvey Associates, January 1975, revised to April 1976.

As noted in the Sewerage System and Wastewater Treatment Plant, 1977 Status Report prepared by Van Note-Harvey Associates, October 1977, there were 8,165 sewerage connections in 1977. These are broken down as follows:

Residential	7,193	
Apartment	666	
Commercial	186	
Travel Trailers and Campsites	120	(equivalent units)
	8,165	

Additional connections are also provided to tenants at the Cape May County Airport Industrial Complex.

During the months of July and August of 1977, the plant treated an average daily flow of 1.84 mgd although the peak flows reached 2.08 mgd. Of the 1.84 mgd figure, approximately 0.07 mgd were generated by the airport industrial complex. Based on the 1977 average daily flow, plus the expected additional average daily flow from future sewerage connection commitments (1.05 mgd, including 0.4 mgd, or 1290 units; for Diamond Beach alone), the Status Report concludes that the existing treatment plant has the capacity to accommodate between 300 to 500 additional residential dwelling units. The report recommends liaisons between the Planning Board and the MUA so that future proposals which would necessitate sewer commitments may be evaluated in light of capacities.

On a regional level, plans are presently being developed by the Cape May County Municipal Utility Authority to construct two sewerage treatment plants in the vicinity of Lower Township. One plant, to be located at the site of the old Cape May treatment plant off Sunset Boulevard, is expected to serve Cape May, West Cape May and Cape May Point. Lower Township is not included in the proposed service area. Based on a projected 1990 maximum summer weekend flow, that plant is expected to have a design capacity of 3.0 mgd. It should be noted that this capacity is currently being contested by the State Department of Environmental Protection. Because of the environmental sensitivity of the area, the Department would like to limit the proposed treatment capacity to that sufficient to meet the needs of the existing population. Initially, effluent will outfall into the Delaware Bay. However, upon completion of a new treatment plant to be located in the Wildwoods, effluent will be transferred to an ocean outfall. Although the service area of this proposed new plant has not yet been finalized, it is expected to service Wildwood Crest, Wildwood, North Wildwood and perhaps parts of Lower and Middle Townships in addition to Cape May, West Cape May and Cape May Point.

Shown on Plate 48 are the areas currently served by public water along with the locations of wells and standpipes. There are currently three wells which provide the system's supply of water. Well #1 has a rated capacity of 700 gallons per minute (gpm), well #2 is rated at 500 gpm and well #3 is rated at 1,000 gpm. Water is pumped into either standpipe #1 or #2, which have storage capacities of 0.132 and 1.45 million gallons, respectively, and gravity fed throughout the distribution system.



plate 48
PUBLIC WATER SERVICE AREA

X
 ●
 [Hatched Box]
 [Hatched Box]

STANDPIPE
 WELL
 SERVICE AREA
 CONNECTING LINES

SOURCE : Lower Township Water System Map, Prepared by Van Note-Harvey Associates,
January 1975, Revised to October 1977.

As documented in Water System and Wells, 1977 Status Report prepared by Van Note-Harvey Associates, December, 1977, there were approximately 2,300 connections to the water distribution system in 1977 which produced an average demand of 0.967 million gallons per day (mgd) with a maximum demand of 1.45 mgd during the month of July. The Status Report concludes by stating that the water system has the capacity to serve its present customers as well as the ability to accommodate approximately 645 additional residential dwelling units.

LIBRARY FACILITIES

Although a library is not presently located in Lower Township, its residents have full benefit of the County's main library facilities located in Cape May Court House. In addition to lending books and providing research resources, the library has meeting rooms available for various County, civic and social groups. The County library system does provide residents of Lower Township with access to books through its bookmobile program. The bookmobile spends an entire day at two locations within Lower Township: near the Villas Post Office and at the North Cape May Shopping Center. An additional service provided to senior citizens of the township are the "mini library" services provided at both the Millman Center and at the County offices located in the airport complex.

RECREATION

As a means of determining the adequacy of local parks and recreational facilities, the National Recreation Association sets an overall standard of ten (10) acres of municipally owned parks and recreational space for every one thousand (1,000) persons. However, sufficient acreage alone does not automatically insure that a municipality's public recreational and open space needs will have been met. The location, distribution and type of acreage is often more important than the absolute total. Additionally, recreational needs will vary widely from community to community based on: population density and housing types; age, income, social and other characteristics of the population; and public preference.

Lower Township contains several sizeable tracts of Federal, State or County owned open space. Higbee's beach, south of the Cape May Canal, is currently being acquired under Green Acres by the State of New Jersey and will be used by the Division of Fish and Game for wildlife management. To date, 292 acres out of an eventual 433 have been acquired. Fishing Creek County Park, which straddles Middle and Lower Townships, consists of a total of 5,000 acres, of which approximately 550 are actually located within Lower Township. Additionally, a lighthouse/museum and park located adjacent to Cape May Point is maintained by the State of New Jersey. Finally, considerable wetland acreage exists within Lower Township, much of which is owned either by the State of New Jersey or by the U.S. Coast Guard.

Lower Township's municipally owned park and recreational facilities consist of a senior citizens activity center, the Millman Center, located on Bayshore Road; a 1.5 acre municipal park with tot lot and picnic facilities adjacent to the Lower Township Municipal Utilities Authority; Mulligan Field, a six (6) acre site on Bates Avenue containing several playing fields; and the municipal pool in North Cape May which is currently unusable. Vincent Smith Memorial Field, a two (2) acre Little League baseball field, is privately owned but available for use by the public. These facilities, as well as the conservation areas described in the preceding paragraph are presented on Plate 49.

Township officials have applied for Green Acres developments funds to permit the reconstruction and restoration of the municipal swimming pool; the construction of tennis courts, a basketball court and a tot lot at the new municipal recreation center on Bayshore Road; the construction of a baseball field, a football/soccer field, tennis courts and basketball courts on five (5) acres of land adjacent to the Canal; the upgrading of existing facilities and addition of new facilities at Mulligan Field; and the upgrading of Vincent Smith Memorial Field. In addition, funding is sought for the acquisition of 252 acres of beach and wetlands in the South Cape May area of Lower Township and, in 1979, for the acquisition of eight (8) separate neighborhood tot lot sites which, when completed, will comprise a total of six (6) acres distributed throughout the township. When these acquisition and development projects are completed, Lower Township's inventory of parks and recreational facilities will be considerably improved.

CONCLUSION

The Community Facilities study documents the present levels and distribution of facilities and services among residents of Lower Township. In general, the locations of such facilities should correspond with population centers in order that they may be readily available and optimally utilized. Certain community facilities, such as public water and sewer determine areas of and capacities for future growth. With this relationship between community facilities and land use taken into account, recommendations for new or expanded facilities will be discussed as the specific recommendations of the Land Use Development Plan are formulated.

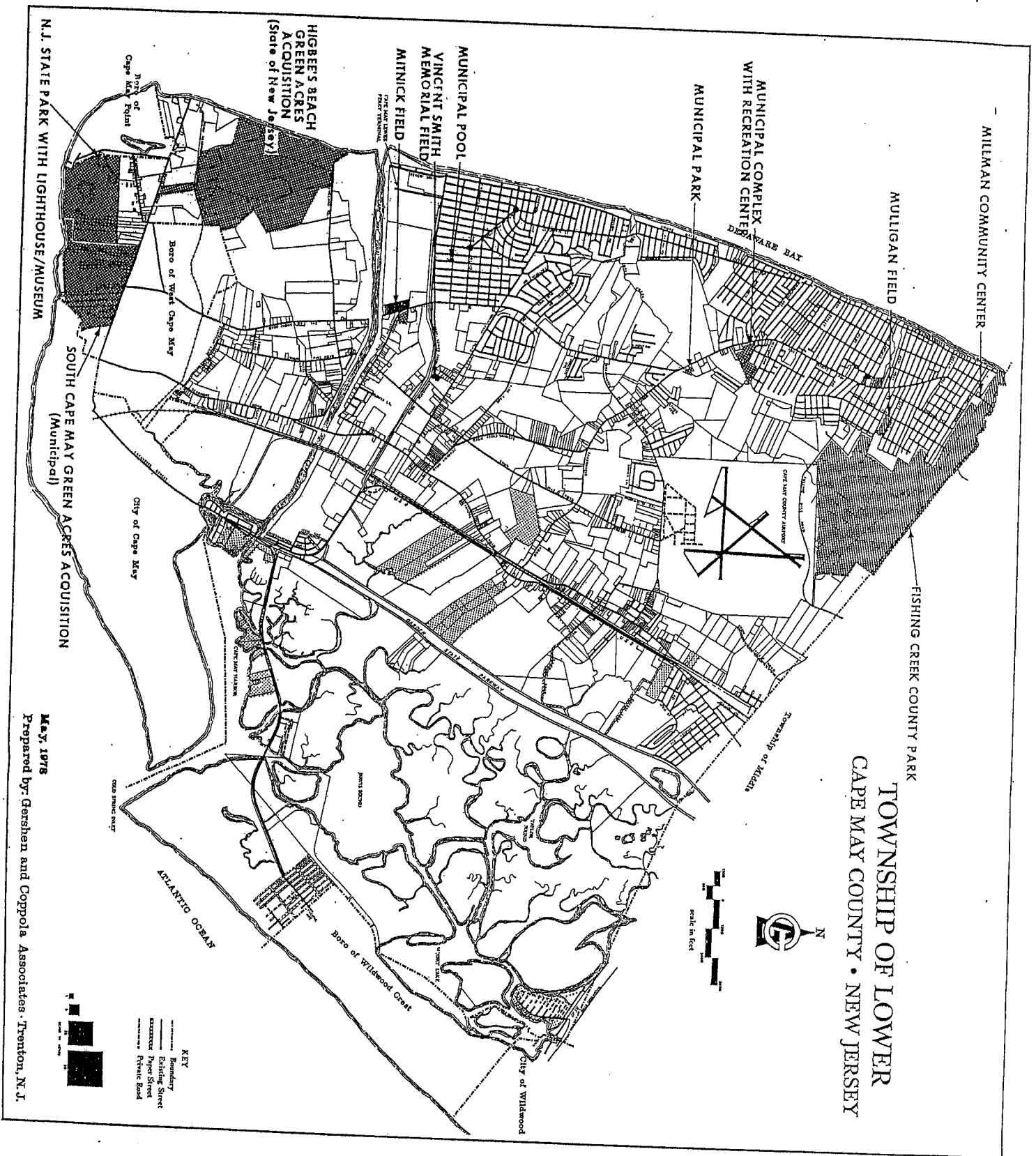


plate 49 EXISTING AND CURRENTLY PROPOSED RECREATION FACILITIES

- PUBLIC FACILITIES AND OPEN SPACE
- PRIVATE FACILITIES (Ballfields)
- PRIVATE CAMPGROUNDS AND MARINAS

SOURCE: Tax Maps of Lower Township and Field Survey by Gershen and Coppola Associates, Trenton, New Jersey, June, 1978.

**LAND
USE
DEVELOPMENT
PLAN
1978**

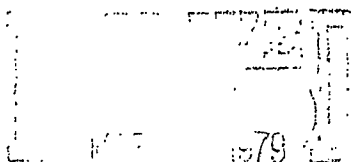
**TOWNSHIP
OF LOWER
Cape May County
New Jersey**

78



GERSHEN AND COPPOLA ASSOCIATES
PLANNING • SITE DESIGN • ECOLOGY • HOUSING

126 WEST STATE STREET / TRENTON, N.J. 08608 609-989-8500



March 23, 1979

C.
PLANNING BOARD

Lionel Eatroff, Chairman
Lower Township Planning Board
116 Elliot Road
No. Cape May, New Jersey 08204

Re: Land Use Plan and Land
Development Ordinance

Dear Mr. Eatroff:

Enclosed please find a copy of the Background Studies portion of the Land Use Development Plan document printed in final form. We recognize that the Planning Board is still discussing the draft Development Plan portion, forwarded to the Township during October 1978.

We are anxious to meet with the Planning Board and members of the governing body in order to complete both the Plan and the Land Development Ordinance documents. These documents must be adopted by May 31, 1979. We suggest, therefore, that we be forwarded annotated copies of the Plan and the Land Development Ordinance indicating the changes decided upon by the Township officials. Upon receipt of that information, a final meeting with the Planning Board and members of the governing body can be held prior to our printing the documents in final form for the public hearings.

We request that we be forwarded the annotated copies during the first week of April so that we may meet with the Township on Monday evening, April 23, 1979. In that manner we can have the final printed versions available by May 11, 1979 for a public hearing on Thursday, May 24, 1979.

Upon your receipt of this letter, please contact me so that I may finalize these dates on my calendar. I look forward to receiving the annotated copies. Of course, should there be any questions, please do not hesitate to call.

Truly yours,

Gershen and Coppola Associates


Richard T. Coppola

RTC:e

encls w/cc: Messers:

Robert B. Park; Richard T. Goodkin; Bruce M. Gorman; Joseph
Zabara; Elwood R. Jarner

FOREWORD

Planning is a comprehensive process requiring continuous study, discussion, coordination and direct action. The process is comprehensive in three ways. First, problems and the solutions to them are approached from both short and long range perspectives. Second, social and economic factors of a community and its region are encompassed along with traditional considerations of physical factors. Finally, policies of and data available from federal, state, county and other regional governmental levels, as well as from adjacent communities, are incorporated into the planning decisions of a municipality. Although the planning process is continuous, the Land Use Development Plan capsulizes this process at a single moment in time.

Lower Township's Land Use Development Plan is essentially a land use plan element of a master plan, described in the Municipal Land Use Law (N. J. S. A. 40:55D-28b(2)) as:

- a) taking into account the other master plan elements and natural conditions, including, but not necessarily limited to, topography, soil conditions, water supply, drainage, flood plain areas, marshes, and woodlands;
- b) showing the existing and proposed location, extent and intensity of development of land to be used in the future for varying types of residential, commercial, industrial, agricultural, recreational, educational and other public and private purposes or combination of purposes; and
- c) including a statement of the standards of population density and development intensity recommended for the municipality.

However, the Land Use Development Plan encompasses some limited community facility and traffic circulation considerations and implications as well.

Prior to the preparation of a Land Use Development Plan, it is necessary to gather all of the information currently available and pertinent to successful planning decisions and arrange that information in a series of reports or Background Studies in such a way that various policy alternatives may be inferred. The Land Use Development Plan, as it evolves from the consideration of the Background Studies, develops those policies which are most logical in the context of past trends, present conditions and informed assumptions about future changes. Finally, the proposals contained in the Land Use Development Plan are evaluated in terms of any short term needs for municipal capital improvements resulting from the implementation of the Plan.

LAND USE DEVELOPMENT PLAN 1978

7 21 1978

**TOWNSHIP
OF LOWER**
Cape May County
New Jersey

Printed: December, 1978

Prepared by: Gershen and Coppola Associates • Trenton, New Jersey

The Land Use Development Plan is intended as a general guide to decisions which will be made both by officials of Lower Township and by private individuals; its recommendations need not be applied rigidly or taken literally. Furthermore, although the Plan is a capsulization of the planning process at a particular instance in time, it is never developed under the pretense that upon its adoption it will become fixed or complete.

Over the years, minor and even major changes to the plan will occasionally have to be made to deal with situations which previously might not have been fully understood, were not considered, or were not anticipated. With each successive revision, it is expected that the policies and goals of the Planning Board of the Township of Lower will be brought into ever sharper focus.

The following pages, which present the five Background Studies and the Land Use Development Plan itself, are the product of a cooperative effort between the Planning Board and its Consultants. It represents the best thinking of those involved about development opportunities and policies at this particular point in the planning process. However, the Land Use Development Plan is adopted by the Planning Board. The tools to implement that Plan are the responsibility of the governing body. This responsibility includes the adoption of the development ordinance or ordinances and capital improvements program. Although the recommendations of the Land Use Development Plan should be incorporated into these documents, the actual decisions to do so are a matter for the municipality's elected, not appointed, officials.

TABLE OF CONTENTS

TABLE OF CONTENTS

AND

LIST OF PLATES

WILL BE SUBMITTED AT A LATER DATE

PART I: THE BACKGROUND STUDIES

EXISTING LAND USE

8" x 10" Color Photograph

Substituted for Printed Plate

in Copies Presented to Client.

EXISTING LAND USE

INTRODUCTION

Lower Township is located in the southernmost portion of Cape May County and, hence, of the entire State of New Jersey. Its 29.8 square miles are bounded by the Township of Middle to the north, by the City of Wildwood and the Borough of Wildwood Crest to the east, and by the City of Cape May and the Boroughs of West Cape May and Cape May Point to the south. The township is traversed by the Garden State Parkway and by U.S. Route 9, both of which run in a generally north/south direction, as well as by the Pennsylvania Reading Seashore Line, which also runs in that direction. Although Lower Township is considered to be one of the "mainland" communities of Cape May County, as opposed to a barrier beach or island community, it actually encompasses both. The Diamond Beach area, located just south of the Borough of Wildwood Crest, is an extension of the southernmost barrier beach island. The township possesses within its borders twenty-nine (29) acres of Atlantic Ocean beachfront (much of which is owned by the U.S. Coast Guard) and sixty-four (64) acres of Delaware Bay beachfront.

An analysis of the location and distribution of existing land use in Lower Township is the first step in formulating a plan for the allocation of future land use. Through an understanding of the current interrelationships among different types of land use in the municipality, the rationale for them becomes clear, and the potential for modification of the existing pattern of land use can be established. Analysis of existing land use may also reveal areas in the township in which current development trends, when coupled with other variables which bear on future development, may engender conflict between differing land uses or may compound traffic and circulation problems.

METHOD OF PREPARING THE BASE MAP AND LAND USE MAP

The map which is used for the graphic presentation of the material in the Background studies and which will be used to present the Land Use Development Plan were prepared from tax maps of Lower Township. The maps were photographically reduced so that maps shown on an 11" by 17" page have a scale of approximately 1 inch equals 4,285 feet. Users of data presented in this report must be aware of the inherent limitations in the portrayal of graphic material at this scale. Information is shown as accurately as possible, yet even slight distortions in the drafting or printing processes will necessarily be magnified several times due to the extreme reduction in the scale of the map.

During the month of June, 1978, a field survey was undertaken to catalogue existing land use in Lower Township. In addition to the field survey, aerial photographs

supplied by the Cape May County Planning Board were utilized to ascertain the location of wooded areas and confirm the field data; 1975 tax maps, color coded according to land use category and provided by the Lower Township Tax Assessor's Office, were also used to substantiate field observations. The results of this process are shown on Plate 1, which maps generalized existing land use.

Existing land use in Lower Township has been classified into twelve (12) categories for the purposes of mapping. As is evident from Plate 1, the most prevalent category consists of lands which are vacant, vacant wooded, agricultural or wetlands. Residential uses and public uses follow second and third, while tourist accommodations (campgrounds, hotels/motels), quasi-public uses, and other commercial and industrial development categories trail the predominant uses. It should be recognized at the outset that the large amount of vacant and agricultural lands presently existing in Lower Township is by no means an indication of the municipality's capacity to receive development. A significant portion of Lower Township lies in wetlands, floodway and flood hazard areas. As these and other factors bearing on the developability of land are explored in the Background Studies, the amount of truly developable land existing in Lower Township will come into focus.

EXISTING LAND USE PATTERN

Examination of the existing land use pattern of the township presents a picture of a diverse community. Two nodes of relatively high density single family residential development and concomitant strip commercial development exist at Villas and North Cape May. The development pattern in much of the remainder of the township is one of sparse residential and commercial development irregularly distributed along pre-existing collector roads. A few subdivisions of lesser magnitude than the Villas and North Cape May development areas are scattered throughout the township. Two exceptions to the generalized land use pattern given above are the Diamond Beach area and Schellenger's Landing. Both of these areas are vastly different in character from each other and from the remainder of Lower Township. Diamond Beach is almost exclusively oriented to tourism and entertainment, with large hotels and a few retail commercial and residential uses comprising the total development picture. It is, in effect, an extension of the shoreline development pattern in adjacent Wildwood Crest. Schellenger's Landing, on the other hand, is heavily oriented to marina development and the fishing industry, with strip commercial development along Route 9 and some isolated residential uses interspersed among the major land uses.

PUBLICLY OWNED LANDS

Special mention should be made in the analysis of existing land use of the relatively large proportion of developed land owned by public agencies and/or devoted to public uses in Lower Township. Plate 2 delineates publicly owned lands in Lower Township.

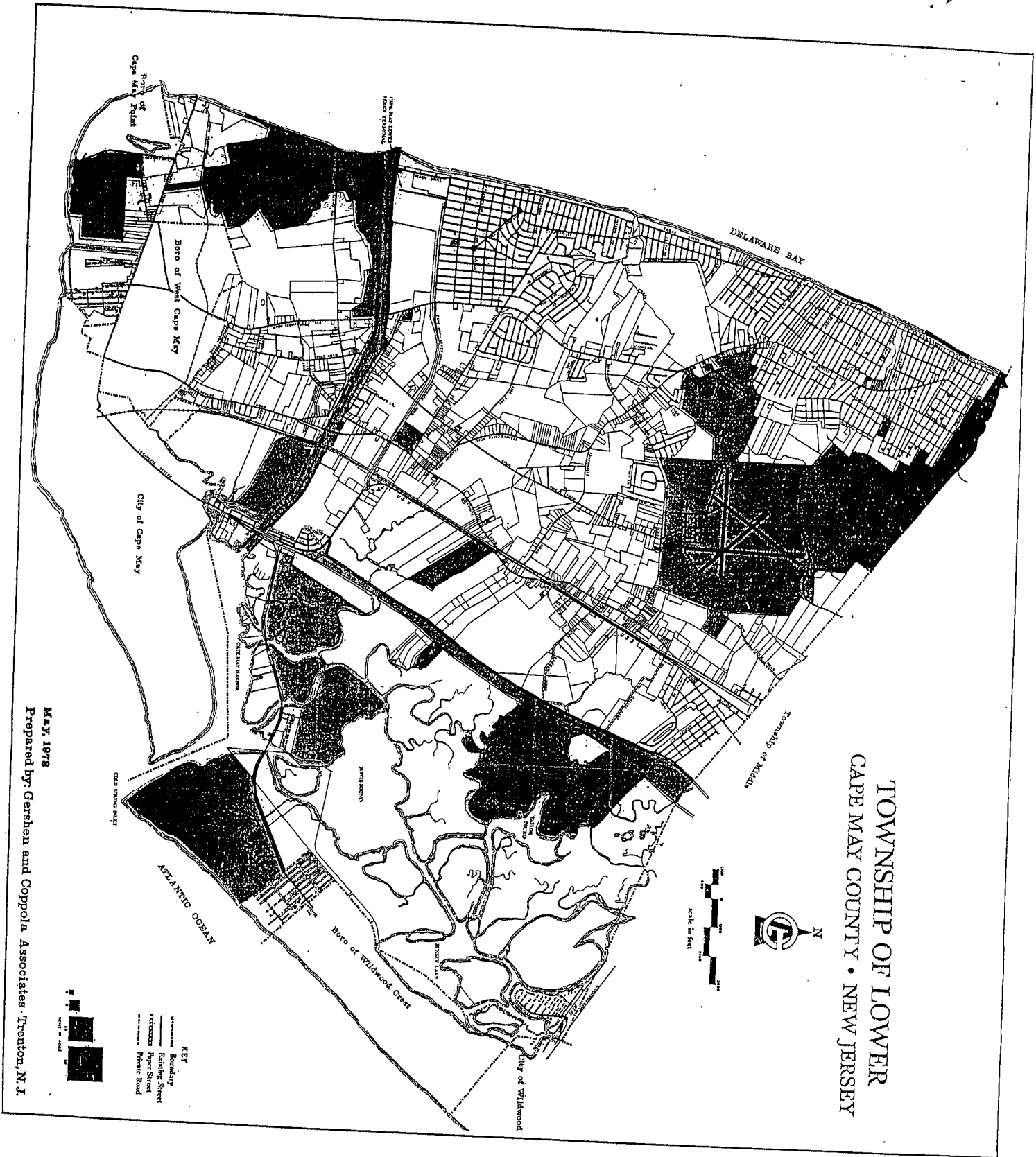


plate 2
PUBLICLY OWNED LANDS

 ONE ACRE OR MORE
 LESS THAN ONE ACRE
 (Approximately 4,236 acres.)

SOURCE: Lower Township Tax Maps.

The holdings of the County of Cape May consist primarily of the park and airport, two sizeable tracts amounting to nearly 1,500 acres, while the State of New Jersey owns approximately 1325 acres of wetlands and open space and, of course, the Parkway. Federally owned lands amount to over 1,000 acres including the U.S. Coast Guard Electronic Engineering Station and acreage along the Cape May Canal and at the mouth of the Delaware Bay. In addition to lands owned by the federal government, the State and the County, there are numerous parcels owned by the Township of Lower, by the Lower Township Municipal Utilities Authority or by the two Boards of Education which serve the township's school children. The relatively large percentage of Lower Township's land area owned by public agencies has both advantages and disadvantages. Generally, although the land has been removed from the tax rolls, a good deal of it is wetlands or marshes and thus undevelopable anyway. Furthermore, the large quantities of publicly owned land provide open spaces which can serve to offset and buffer potentially intensive development of suitable privately owned land.

AGRICULTURAL LANDS

The degree of industrialization existing in the State of New Jersey tends to obscure the economic importance of its agriculture. New Jersey's farmers are forced to operate in the midst of the most urbanized state in the nation. However, in response to pressures for urbanization, New Jersey farmland acreage decreased rapidly between the years of 1954 and 1968. To combat this alarming loss of farmland, New Jersey voters approved the Farmland Assessment Act in 1964 with the intent of permitting farmers to continue their agricultural livelihoods without paying excessive property taxes. Plate 3 shows the properties in Lower Township currently in farmland assessment. As is obvious from the plate, parcels which qualify for farmland assessment are clustered to the southeast of the Cape May County Airport in the vicinity of U.S. Route 9, and also south of the Cape May Canal.

Encouraging the retention of lands in agricultural use serves two valuable functions for Lower Township: first, it compensates for the heavy demands created by the tourist industry during the summer months on water supply and sewage disposal capacity by at least temporarily preserving from development large tracts of land which might compete for these amenities, meanwhile enhancing the aesthetic environment sought by campers and tourists; and second, it allows food to be produced locally, which, if also sold locally, reduces transportation costs and keeps prices down.

WOODED AREAS

Plate 4 delineates the wooded areas within Lower Township. As indicated, a substantial proportion of the community is currently wooded. Woodlands serve important functions as wildlife habitats, as buffers between incompatible land uses, as deterrents

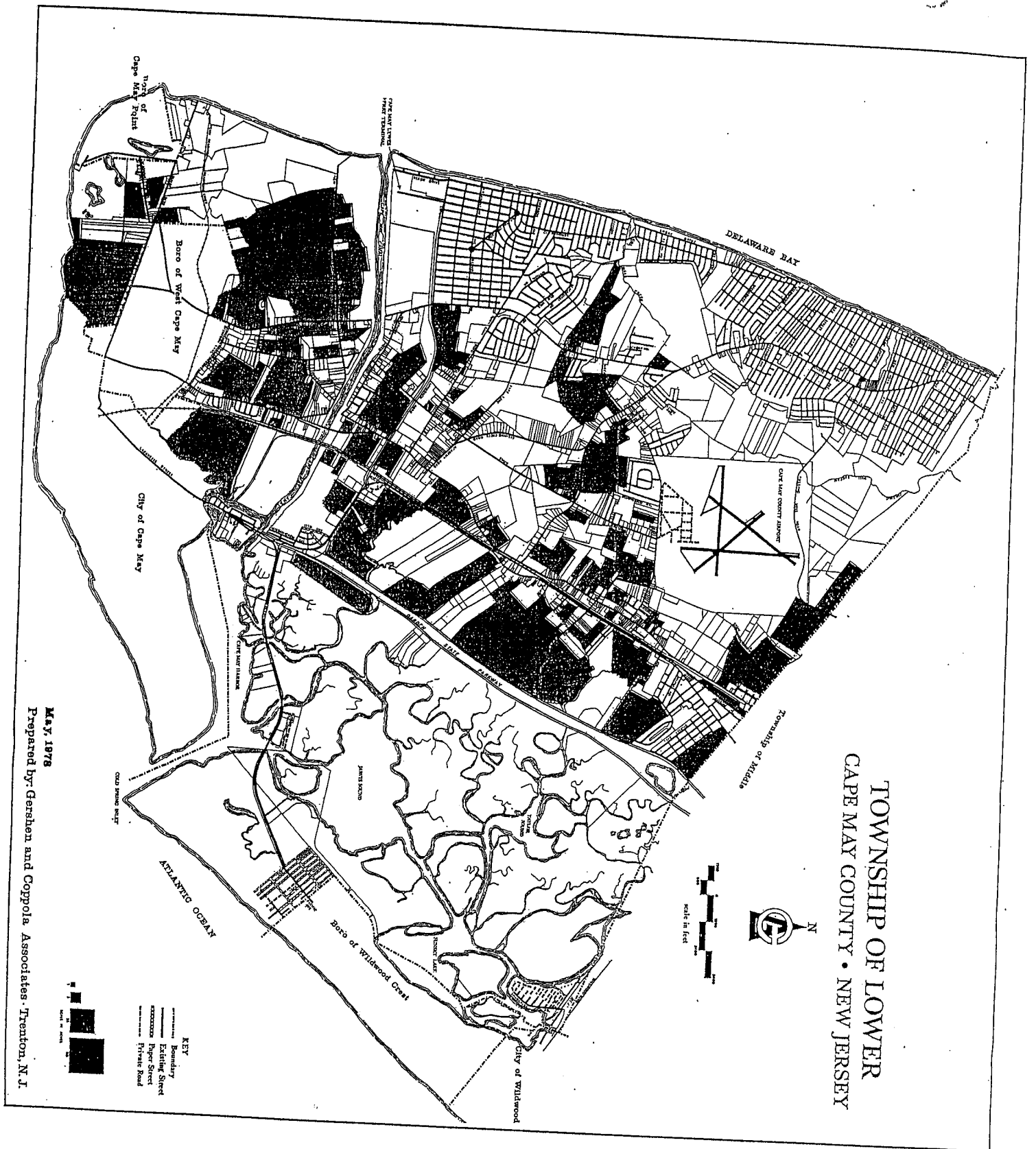


plate 3
LANDS IN FARMLAND ASSESSMENT, 1978
 (APPROXIMATELY 3,757 ACRES)

SOURCE: Lower Township Tax Assessor's Office and planimetric measurement by Gershen and Coppola Associates.



**plate 4
WOODED AREAS**

SOURCE: Aerial photographs of Lower Township, courtesy of Cape May County Planning Board.

to soil erosion, and as watershed protection. In addition, concentrations of select stands of trees are an aesthetic attribute whose preservation should be an important consideration in the design of any site for development. According to the Cape May County Comprehensive Plan (Revised in 1978), most of the wooded areas in Lower Township are classified as "secondary" woodland, as opposed to "primary" woodland, the exception being an area of primary woodland near Fishing Creek. The two classifications are distinguished from each other by their relative economic value and potential for wildlife habitat.

HISTORY OF DEVELOPMENT AND HISTORIC SITES

Lower Township was the first town to be established in the southern peninsula of New Jersey which comprises Cape May County. The township began as a precinct in 1723 but was incorporated as a township in 1798. Cape May City, Cape May Point, West Cape May and Wildwood Crest were all carved out of the original area encompassed by the Township of Lower.

The earliest residents of the area were members of the Lenni-Lenape, Kechemeche tribe. Their camps were located at Fishing Creek, Erma, Cold Spring, Green Splinter and Leamings or "Nummy Town." At the time exploration of Lower Township was initiated by Dutch Trading companies, Cape May County was still a mosaic of forbidding forests and low marshes. Included among the initial representatives of the trading companies were Sir Henry Hudson (1609), Captain Cornelius Jacobsen Mey (1621) and Samuel Godyn and Samuel Blommaert (1630). In 1631, David Pieterseon DeVries engaged in whaling in the area. By 1640, lands in what is now the Town Bank section of Lower Township had been purchased from the Indians and had become the site of a settlement of New England whalers.

The development of Lower Township from 1640 on can be divided roughly into three periods, each dominated by a particular type of economic base. The first period (until 1780) can be characterized as one of extraction of raw materials and natural resources in the region - especially fishing and whaling. Agriculture dominates the second development stage (1780 - 1880). The transition from the second to the third stage took place sometime in the late 1800's as the resort economy of the area became established.

A small publication, entitled The Bicentennial History of Lower Township, New Jersey,^(*) available at the municipal building, provides a colorful recounting of local events, anecdotes and folklore and gives some insights into the origins of the numerous "locations" or villages existing within Lower Township. Briefly, the oldest villages include: Town Bank (or Portsmouth), its original structures long since submerged in the waters of the Delaware Bay; Fishing Creek; Cold Spring; and Erma. These last three villages were established at the time the economy of the area turned to agriculture, initiating the second stage of the township's development.

(*) by Marie Kelly Garretson, 1976

A number of historic structures remain in existence in Lower Township, testifying to the vitality of early economic and domestic activity in the area. Plate 5 identifies fifteen (15) historic sites in the township and notes the several historic villages and more recently established "locations" which are encompassed by the Township of Lower. When contemplating development proposals for the lands occupied by historic buildings, the Planning Board will want to bear in mind the opportunity to preserve these structures as a link to the past while making some reasonable use of the properties on which they stand. Efforts should be made in the future to zone for land uses which are compatible with historic sites where they exist in order to protect their continued viability.

DESCRIPTION OF DEVELOPED LAND USES

Residential Land Use

As indicated earlier, single family residential development (shown in yellow on the generalized existing land use map) has occurred primarily in the Villas and North Cape May areas of Lower Township, adjacent to the Delaware Bay. A number of smaller residential subdivisions and considerable strip development along pre-existing roads completes the single family residential picture. Lower Township also has two major apartment complexes as well as a number of mobile home developments. It thus provides a variety of housing types accessible to households of all sizes and income levels.

Commercial Land Use

Commercial land use in Lower Township is illustrated in red on the generalized existing land use map. In addition to the usual complement of commercial uses, three development categories have been identified which may also be considered forms of commercial development: hotel/motel development (shown in brown), campgrounds (shown in green), and commercial/industrial development (shown in rust), the latter a category which includes fisheries, marinas, and a variety of retail and service facilities specifically oriented to the sea.

Nearly all of the commercial land uses in Lower Township are of a "strip" character. While the advantages to a developer (and thus to a municipality eager for "ratable" properties) of direct access to an existing major collector road may seem to argue the merits of strip development, the obvious conflicts between through traffic and local traffic which have surfaced in the Villas section of Lower Township provide a good example of the pitfalls of encouraging more of this type of development in the future. As will be discussed further in the Traffic and Circulation section of the Background Studies, the efficiency and safety of an arterial or collector road is significantly reduced when commercial uses are competing for the attention of the driver and interrupting the traffic flow with frequent individual access points. Any anticipated commercial development needs

may be better served in small shopping centers with adequate parking provided by the developer. Such shopping centers can be located on access roads with controlled points of entry onto the collector road system.

Industrial Land Use

Only a very small proportion of Lower Township's land area is devoted to industrial uses. Interestingly, cement factories occupy two of the fifteen industrial parcels. This type of activity must be carefully buffered from adjacent land uses due to its nuisance characteristics (dust, heavy trucks, etc.).

Public and Quasi-Public Land Use

Public and quasi-public uses taken together account for a very large proportion of Lower Township's developed land. These are indicated on the generalized existing land use map in blue and grey, respectively. Utilities owned by either the Township of Lower or by an agency of the township such as the Municipal Utilities Authority are classified as public uses. Utilities which are either owned by another municipality or which are only regulated by the public are classified as quasi-public. The distribution of quasi-public and public land uses is fairly even throughout the Township of Lower, considering the distribution of residential development.

SUMMARY

Having examined each of the various land use types within the township individually, the entire pattern must be reviewed as a composite to perceive the interaction among the uses. Plate 6 presents the approximate acreage distribution of land uses in Lower Township as of June, 1978.

While a significant amount of development has already taken place in Lower Township, pressure for growth is likely to continue. Such pressure is most apt to be concentrated on those lands now used for agricultural purposes but accessible to an established road network and physically capable of receiving development. The identification and disposition of these lands will be the focal point of the Lower Township Land Use Development Plan. Development techniques such as clustering may be suggested in appropriate areas to encourage both imaginative design and preservation of open space for conservation or recreational purposes, thus permitting continued growth and expansion of the tax base while recognizing the need to protect sensitive lands and retain the amenities of open space.

PLATE 6

APPROXIMATE
DISTRIBUTION OF EXISTING LAND USES
June, 1978
LOWER TOWNSHIP

CATEGORY	ACRES	% OF TOTAL
SINGLE FAMILY RESIDENTIAL	2,290	12.0
MULTI-FAMILY RESIDENTIAL	28	0.1
MOBILE HOMES	43	0.2
HOTEL/MOTEL	33	0.2
CAMPGROUNDS	265	1.4
COMMERCIAL	129	0.7
MARINE COMMERCIAL/INDUSTRIAL	106	0.6
INDUSTRIAL	144	0.8
PUBLIC USES AND PUBLIC UTILITIES	705	3.7
QUASI-PUBLIC AND OTHER UTILITIES	199	1.0
AIRPORT	927	4.9
WETLANDS	5,234	27.4
ROADS	1,908	10.0
VACANT, VACANT WOODED AND AGRICULTURAL	7,067	37.0
TOTAL	19,078	100.0%

NOTE: According to the N.J. Department of Community Affairs, Lower Township contains 29.81 square miles of land area or 19,078 acres. This figure excludes water, lagoons, bays and coves, but does include wetlands.

SOURCE: Gershen and Coppola Associates planimetric measurement of Plate 1, Generalized Existing Land Use Map, June, 1978. Small yellow dots used to designate single family residential uses were attributed one (1) acre of area each. Larger dots were assigned two (2) acres of area each (to be considered a minimum). Parking areas were calculated as part of the principal use to which they are attached. Farm structures (not identified) and greenhouses were not included as separate categories in the calculation of land use types as they occupy such small percentages of land area.

REGIONAL CONSIDERATIONS

REGIONAL CONSIDERATIONS

INTRODUCTION

Any plan for the development of Lower Township must take into account outside forces, policies and trends. This is necessary even though a municipality is a separate and distinct political entity because it can be affected significantly by decisions made at other levels of government or by other municipalities over which the township and its residents may have little or no control. Additionally, the Municipal Land Use Law requires that all master plans contain a specific statement of the relationship of the proposed development of the municipality indicated in the master plan to 1) the master plans of contiguous municipalities, 2) the master plan of the county in which the municipality is located, and 3) the State Development Guide Plan.

LAND USE POLICIES OF CONTIGUOUS MUNICIPALITIES

Lower Township is surrounded by diverse communities with extremely varied patterns of development. Generally, the portions of these communities which abut Lower Township are either completely developed (or developed to such an extent that the land use configurations are fixed) or they are limited significantly in their development potential by physical characteristics. Zoning in all cases is consistent with the existing development pattern. Those communities which are in the process of revising their master plans do not appear to be planning significant changes in the treatment of areas adjacent to Lower Township.

Plate 7 summarizes the adjacent land use districts of municipalities contiguous to Lower Township. As is evident from the Plate, the Township of Middle, bordering Lower Township on the north, is zoned along its boundary as wetlands, as well as for high density residential development, for commercial uses (along Route 9) and for industrial development (near the Garden State Parkway). In both of the Wildwoods, existing and zoned development along Lower Township's boundaries is generally of the waterfront/marina business type, although there is single and multi-family residential development near Diamond Beach. To the south, the land uses surrounding Lower Township in the Boroughs of Cape May Point and West Cape May are primarily single family residential and expected to remain so. The City of Cape May offers a mixture of industrial, commercial, marina and residential development adjacent to Lower Township. With the exception of Cape May's industrial zone, such uses are consistent with those in contiguous sections of Lower Township.

STATE DEVELOPMENT GUIDE PLAN RECOMMENDATIONS

The State Development Guide Plan indicates Lower Township, and indeed all of Cape May County, as a limited growth area. This classification is assumed to be due largely to the vast quantities of environmentally sensitive lands located in Cape May

County. Such lands are incapable of handling major development. However, it should be remembered that the State Development Guide Plan is a conceptual blueprint for allocating the population growth anticipated by the year 2000 throughout New Jersey. As such, its recommendations for any specific area must be viewed as relative to its recommendations for the rest of the State. The Cape May County Comprehensive Plan addresses somewhat more specifically the questions of how much and where development is to take place in the County's municipalities.

RECOMMENDATIONS OF THE CAPE MAY COUNTY COMPREHENSIVE PLAN

On the basis of air quality standards and constraints on available replenishable water supply, the Cape May County Planning Board has recommended a maximum number of permanent dwelling units for all of Cape May County. The Comprehensive Plan apportions the margin between the total number of existing dwelling units and the recommended number of potential dwelling units among Cape May County's municipalities based on their relative capacities for development. Lower Township is apportioned a total of 11,451 dwelling units under the Plan. Using this total allocation as a yardstick, the township's remaining growth margin at the end of 1977 was 2,127 dwelling units.

In addition to distributing the County's future residential growth among its sixteen (16) municipalities, and as a prelude to determining which municipalities are most receptive to growth, the Comprehensive Plan also makes recommendations as to where development can best be accommodated within each municipality.

Plate 8 summarizes the land use recommendations of the Cape May County Comprehensive Plan for Lower Township. In general, these recommendations are intended to foster economic development particularly of the tourist industry. Overall policy goals which have guided the County Planning Board's recommendations for Lower Township and other mainland communities include: 1) preserving the wetlands of the County, 2) preserving and promoting the agricultural industry of the County, and 3) preserving the rural character of the mainland through appropriate zoning and planning, including lower densities in outlying areas and clustered development where higher densities are suitable. It is intended by the County that municipal development plans should emphasize facilities which will accommodate the tourist population. For mainland communities, this means hotel and motel facilities, preferably with on-site recreation facilities, and campgrounds. The County's Comprehensive Plan specifically addresses possible onshore effects of offshore oil drilling and recommends that refineries be excluded from all municipalities on the basis of the vast quantities of water required to operate them.

In addition to the County Planning Board's recommendations for public investment in open space acquisition, and limitations on the development of land in floodways as required by State and Federal Law, the following categories of land use are delineated in the Comprehensive Plan: development areas, which are intended to take the bulk of high density residential, commercial and industrial development for the County;

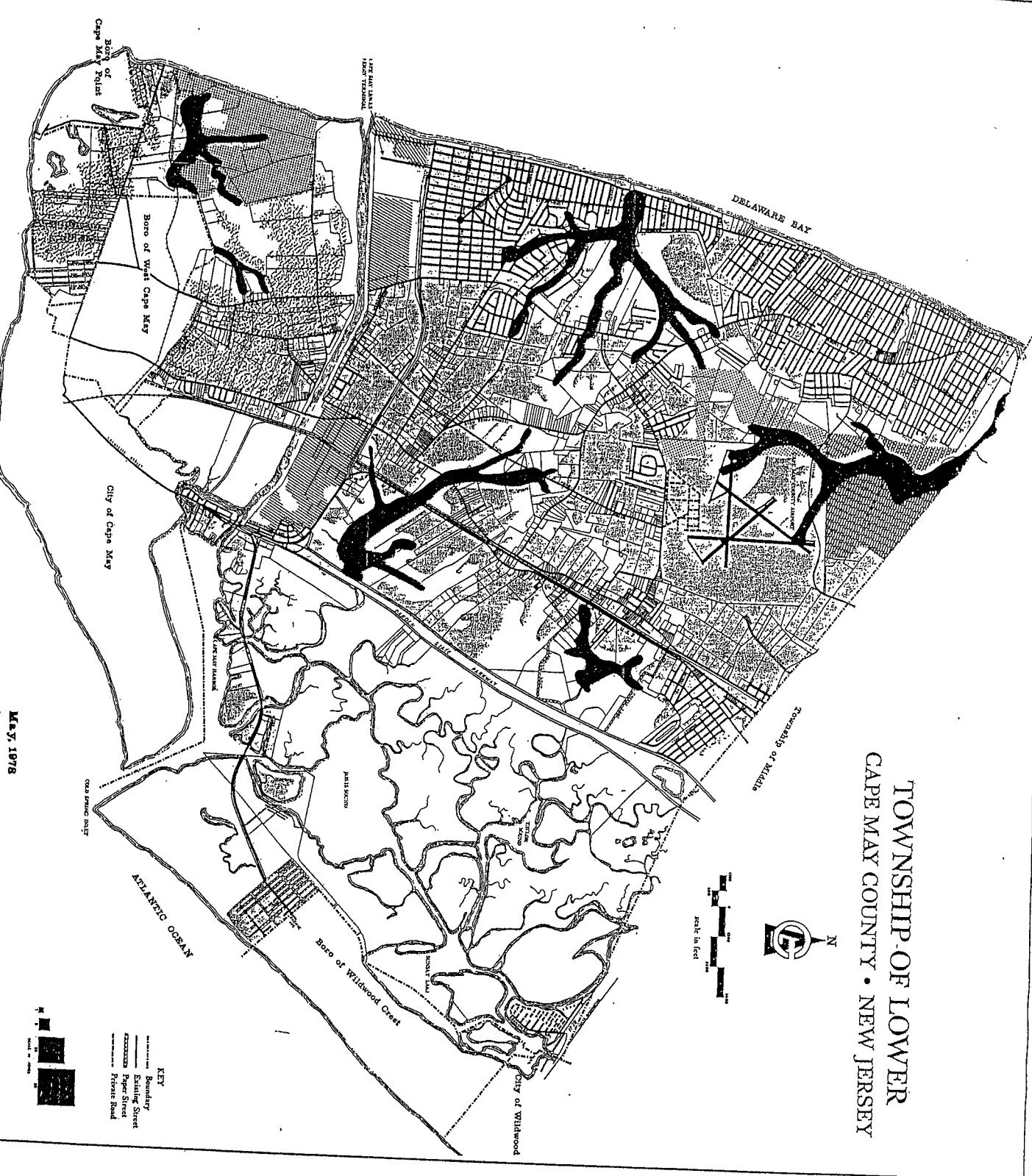
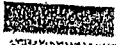
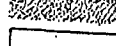
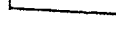


plate 8
**SUMMARY OF RECOMMENDATIONS OF
 COMPREHENSIVE PLAN OF CAPE MAY COUNTY**

- | | |
|---|---|
|  DEVELOPMENT AREAS |  EXISTING COUNTY PARKS |
|  AGRICULTURAL - RURAL AREAS |  PROPOSED PARK/CONSERVATION AREAS |
|  RESTRICTED DEVELOPMENT AREAS |  MARINE RECREATION |
|  FLOODWAYS | |

SOURCE : Comprehensive Plan of Cape May County, Revised 1978, Cape May County Planning Board.

agricultural-rural areas, which are intended not to be sewerred and to develop at low densities (agricultural-rural lands encompass prime farm land and aquifer recharge areas); restricted development areas, which encompass wetlands, flood fringe and high water table areas; and, finally, a category known as marine recreation, intended to include marinas, waterfront restaurants, motel accommodations, shopping facilities and other facilities oriented to the tourist industry. A large proportion of Lower Township's land is proposed for development in the Cape May County Comprehensive Plan. However, the "development areas" category includes the already intensively developed areas of Villas and North Cape May, as well as otherwise pre-empted lands such as the Cape May County Airport. Thus, the actual land available for accommodating Lower Township's allowable growth increment is considerably less than it would initially appear.

STATEMENT ON EXTRA-MUNICIPAL PLANS AND POLICIES

The recommendations of the State Development Guide Plan and the Cape May County Comprehensive Plan and the land use policies of adjacent communities are, according to the Municipal Land Use Law, important considerations in the determination of Lower Township's development policies. Every effort will be made in the preparation of the Lower Township Land Use Development Plan to coordinate local policies with those of adjacent municipalities and with the recommendations of the County and State. This is not to say that all recommendations will be followed - only that any contrary policies of the Lower Township Planning Board will be weighed and justified on the basis of information contained in the Background Studies.

The Land Use Development Plan for Lower Township will identify the areas of the township which are best suited both environmentally and economically to development. Anticipated growth will then be distributed among these areas with an eye to the transportation and community facility needs which their development will generate.

POPULATION AND REGIONAL HOUSING NEEDS

Introduction

Recent court decisions and administrative and legislative initiatives at the State level have stressed the necessity of each municipality taking responsibility in some way for its "fair share" of its region's future low and moderate income housing needs. To provide a factual basis for public policy, particularly regarding regional housing needs, population characteristics should be reviewed to determine answers to two fundamental questions: 1) is the community declining or growing? and 2) who is living in and moving in or out of the community? If the community is growing, it will need to provide facilities for young families such as moderately priced housing, schools and recreational areas. On the other hand, if it is declining, low-cost housing for its elderly may be a more appropriate course of action.

Such information provides one of many inputs to the allocation of future land uses in Lower Township. The combined analysis of population and regional housing needs is designed to identify those factors mentioned above which can, in turn, be converted into recommendations for future land uses. The quality of information gathered is an important consideration in determining whether the "factual basis" established is indeed a sound platform for land use policy decisions. Unfortunately the most reliable and valid source of information is still the U. S. Census, which is by now out of date. Thus, the discussion which follows should be interpreted as an informational "launching pad," to be utilized until new information is gathered in 1980. The present and future housing needs of Lower Township, as determined by both the County and the State, will be presented as rough guidelines for Lower Township's housing and land use policies until updated census information can be secured.

Population Trends

Plate 9 portrays the absolute and proportional increases of Lower Township's population during the years 1940 through 1976. As indicated, the most significant decade of growth was between the years 1950 and 1960 when the township increased its population by over 130%. The Cape May County Planning Board estimates Lower Township's current permanent population at 14,026 persons and its 1978 summer population at 62,340 persons.

Components of Population Growth

Growth in population occurs in two ways. First, increased population results from the difference between births and deaths and can be determined by a mathematical formula using vital health statistics. Second, population change results from migration -- persons moving into or out of the township. Migration can be determined by analyzing the expected and actual population increase between census enumerations. These techniques were applied to Lower Township's population. The results are displayed on Plate 10. Based on the prevailing fertility and survival rates for the decade, the population of Lower Township was predicted to decrease by 122 individuals (column B minus column A). In actuality, however, Lower Township's population increased by 3,822 individuals. The difference between what was predicted on the basis of vital health statistics (a decrease of 122) and the actual increase as determined by the U.S. Census Bureau (3,822) is attributed to migration (3,944), those individuals moving into the township during the 10-year span. By analyzing Plate 10, it also becomes evident that not all age cohorts, or age groups, increased proportionately during the 10-year span. Age groups which increased substantially during the decade were in the over 55 and the 5-24 year age groups.

PLATE 9
POPULATION TRENDS

	Lower Township	Cape May County	Lower Township as a percent of Cape May County
1940	1,693	28,919	5.9%
1940-1950 increase	1,044 (61.7%)	8,212 (28.0%)	
1950	2,737	37,131	7.4%
1950-1960 increase	3,595 (131.4%)	11,424 (31.0%)	
1960	6,332	48,555	13.0%
1960-1970 increase	3,822 (60.4%)	10,999 (23.0%)	
1970	10,154	59,554	17.1%
1970-1976 increase	4,940 (48.7%)	14,760 (24.8%)	
1976	15,094 ⁽¹⁾	74,314 ⁽¹⁾	20.3%

(1) 1976 figures from Population Estimates for New Jersey, July 1, 1976, State of New Jersey Department of Labor and Industry.

SOURCE: U.S. Bureau of Census, 1960 and 1970 Census of Population. Final Report PC (1) - (32).

PLATE 10

POPULATION AND MIGRATION FACTORS
1960 - 1970

	A	B	C	D	E
Age Groups	1960 Population	1970 Predicted Population (Cohort Survival Method)	1970 Actual (Census)	Actual Increase or Decrease 1960 - 1970	Migration Factor
Under 5	662	429	749	87	320
5 - 14	1,030	1,088	1,651	621	563
15 - 24	609	1,023	1,110	501	87
25 - 34	729	600	1,003	274	403
35 - 44	686	714	851	165	137
45 - 54	674	653	1,042	368	389
55 - 64	783	601	1,480	697	879
65 +	1,159	1,102	2,268	1,109	1,166
Totals:	6,332	6,210	10,154	3,822	3,944

D = C - A The actual increase or decrease in population between 1960 and 1970 equals the 1970 census count less the 1960 census count.

E = C - B The number of persons attributed to migration equals the actual 1970 census count less the population projection based on vital health statistics.

SOURCE: U.S. Bureau of the Census, 1960 and 1970 Census of Population, Final Report, PC (1) - (32).

Age and Sex of the Population

The chart on Plate 11 presents the composition of the 1970 population broken down by age and sex. Normally, population statistics presented in this fashion would form a pyramid, indicating an increasing number of individuals in the lower age groups. Lower Township, however, appears to have had a disproportionate number of both older persons and 5-14 year olds (school-aged children), a situation that spells potential conflict between the education needs of a growing school population and resistance to the increased tax burden which may be demanded of older individuals on fixed incomes.

Plate 12 compares Lower Township's age breakdown with that of the populations of both Cape May County and New Jersey. Clearly, Lower Township's population in 1970 was skewed to the over 65 age group in comparison with the County and State.

Income Characteristics

Shown on Plate 13 is the distribution of families by income for Lower Township, Cape May County and the State. As an indication of the relative wealth of the populations of the three political jurisdictions, consider the proportions of families above and below the approximate average income for the State as a whole in 1970, \$10,000. Approximately 70% of Lower Township's families reported incomes of less than \$10,000 in that year, compared with 61% and 40% for the County and State respectively. It is also interesting that no family in Lower Township is reported in 1970 as earning more than \$50,000 per year.

In 1970, according to the U.S. Census, a total of 28.4% of Lower Township's family heads and individuals 65 years of age and older reported incomes below the poverty level, as compared to 34.7% of Cape May County's elderly family heads and individuals. (*) The percentages of total families of all ages falling below poverty level are somewhat less (7.1% for Lower Township and 8.9% for Cape May County). Of the 214 families in Lower Township reported in 1970 to be receiving incomes below poverty status, 39% or 83 were headed by individuals 65 years or older.

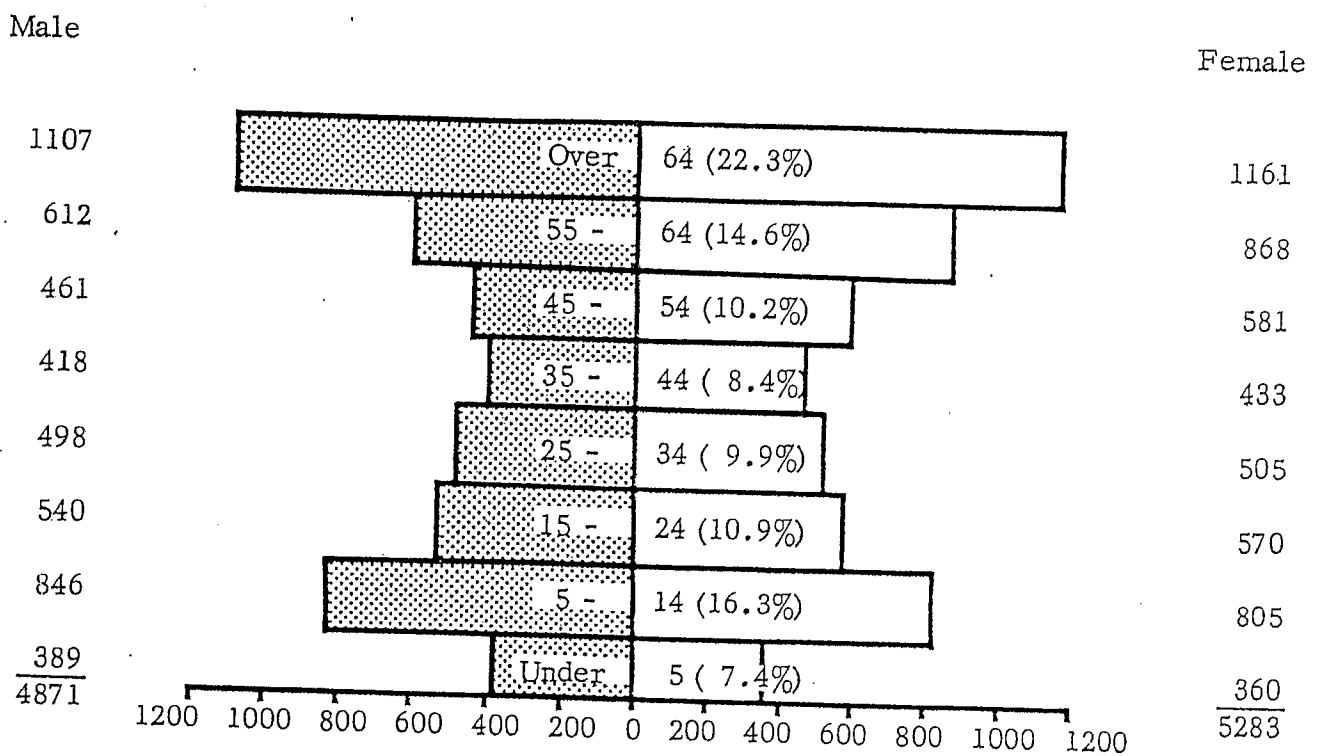
Planning To House The Population

Planners have always been concerned with the provision of community facilities, the provision of modes of transportation, the preservation of environmentally sensitive areas, the existing land use pattern and character of the community, the fiscal solvency of the jurisdiction, and the relationship of the individual locality to surrounding land areas. When the Mount Laurel decision was rendered by the New Jersey Supreme Court on March 24, 1975, an impression surged through the State that the provision of multi-family housing overrode all other planning considerations. As the dust settled and further court decisions addressed the housing issue, it became evident that the

(*) Weighted average threshold at poverty level for family heads in 1969: farm \$2954, non-farm \$3410; weighted average threshold at poverty level for individuals in 1969: farm \$1569, non-farm \$1840.

PLATE 11
POPULATION BY AGE AND SEX
1970

Age Bracket and
Percentage of Total Population



SOURCE: U.S. Bureau of Census, 1970 Census of Population.

PLATE 12

COMPARISON OF POPULATION BY AGE
1970

Age	Lower Township			Cape May County			State of New Jersey		
	Number	Percent	Cumulative Percent	Number	Percent	Cumulative Percent	Number	Percent	Cumulative Percent
over 65	2,268	22.3	22.3	11,832	19.9	19.9	696,989	9.7	9.7
55 - 64	1,480	14.6	36.9	7,756	13.0	32.9	694,722	9.7	19.4
45 - 54	1,042	10.2	47.1	6,879	11.6	44.5	917,081	12.8	32.2
35 - 44	851	8.4	55.5	5,482	9.2	53.7	879,421	12.3	44.5
25 - 34	1,003	9.9	65.4	5,489	9.2	62.9	866,639	12.1	56.6
15 - 24	1,110	10.9	76.3	8,398	14.1	77.0	1,121,029	15.6	72.2
5 - 14	1,651	16.3	92.6	9,760	16.4	93.4	1,403,057	19.6	91.8
under 5	749	7.4	100.0	3,958	6.6	100.0	589,226	8.2	100.0
Total:	10,154	100.0%		59,554	100.0%		7,168,164	100.0%	

SOURCE: General Population Characteristics, New Jersey, 1970 Census of Population, PC(1)-B32 NJ

PLATE 13

COMPARISON OF
TOTAL FAMILIES BY INCOME
1970

	<u>Lower Township</u>		<u>Cape May County</u>		<u>New Jersey</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
\$ 0 - \$ 2,999	295	9.8	1,568	10.0	111,169	6.0
\$ 3,000 - \$ 3,999	275	9.1	1,092	7.0	59,029	3.2
\$ 4,000 - \$ 4,999	361	11.9	1,230	7.9	66,025	3.6
\$ 5,000 - \$ 5,999	264	8.7	1,220	7.9	46,426	4.2
\$ 6,000 - \$ 7,999	481	15.9	2,396	15.3	190,731	10.3
\$ 8,000 - \$ 9,999	441	14.6	2,101	13.4	239,892	13.0
\$10,000 - \$14,999	630	20.9	3,483	22.1	552,690	30.1
\$15,000 - \$24,999	234	7.8	1,928	12.3	413,366	22.5
\$25,000 - \$49,000	40	1.3	524	3.3	110,045	6.0
\$50,000 and over	-	-	120	0.8	19,436	1.1
Totals:	3,021	100	15,662	100	1,838,809	100

SOURCE: U.S. Census Data for New Jersey Townships, General Social and Economic Characteristics, New Jersey, 1970 Census of Population.

highly significant Mount Laurel decision did not change the planning process per se; planners may continue to be concerned with all aspects of community development when reaching a decision concerning the provision of housing within a municipality. Most significantly, the Mount Laurel decision emphasized the need for a municipality to perform its planning work in a comprehensive manner and to be prepared to specifically explain and justify its decisions.

No two communities in the State of New Jersey are alike and the "effect" of the Mount Laurel decision upon any one municipality will be unique. Therefore, it is incumbent upon a jurisdiction to be aware of its responsibilities as well as its limitations and capacities for future development. It is only with this information that a rational plan for community development can be formulated.

The age and income data for the populations of Lower Township and Cape May County (assumed by both the County and the State to be the "region" for Lower Township) signal the responsibility to provide sufficient housing of the size and affordability desired by lower income elderly, in particular. To what extent Lower Township is currently deficient in this respect and in meeting other low and moderate income housing needs and to what extent it must plan for such housing in the future are critical issues. A considerable amount of effort has gone into the determination of both existing and future housing needs for Lower Township by both the Cape May County Planning Board and the State of New Jersey. Their figures, and the implications of those figures for Lower Township's land use policies, are discussed below.

Current Need Estimates

In 1974, the Cape May County Planning Board estimated the current deficiency in low income housing needs to be none at all for both elderly and non-elderly households in Lower Township. On a qualitative level, a study entitled Housing, prepared in 1972 by Herbert H. Smith Associates for the Cape May County Planning Board, identified 30 units out of Lower Township's total housing stock as substandard (either deteriorating or dilapidated). This same study cited a projected overall 1980 housing need for low income and elderly families in all of Cape May County (1514 units, 70% for the elderly and 30% for low income), but no attempt was made to distribute the responsibility for meeting this need among the municipalities.

The New Jersey Department of Community Affairs, Division of State and Regional Planning, has determined that Lower Township has an existing (1970) need for 402 additional low and moderate income housing units. However, its Revised Statewide Housing Allocation Report for New Jersey, published in May, 1978, does not actually allocate the responsibility for providing all of these 402 units to Lower Township. Instead, only 341 units are allocated to Lower Township, and the remaining 61 units are expected to be constructed elsewhere within Cape May County.

Future Need Projections

The May 1978 housing allocation report prepared by the New Jersey Division of State and Regional Planning also projects an additional need of 1188 units of low and moderate income housing for Lower Township for the years 1970-1990. Combined with a current "deficiency" of 341 units, this figure brings the total projected low and moderate income housing need for Lower Township to 1529 units by 1990. If this allocation of low and moderate income dwelling units is compared to the municipal growth limits set by the Cape May County Planning Board in its Comprehensive Plan, approximately seventy-two (72) percent of the margin for development remaining to Lower Township at the end of 1977 (2127 new dwelling units) would have to be appropriated for this purpose. This is, at best, an unrealistic expectation and may need to be refined. One avenue for meeting such housing needs is the Section 8 Housing Assistance Payments Program administered by the U. S. Department of Housing and Urban Development. This program provides direct housing subsidies to families and individuals below certain income levels, allowing them to live in housing already available on the open market and pay only what they can afford, as long as the unit for which subsidy is sought does not exceed a ceiling "fair market rent." Qualifying income levels are tied to the number of persons per household and vary from region to region based on differences in the cost of living. Although the Section 8 program is not adequately funded at the federal level, forty-two (42) households in Lower Township currently receive Section 8 funding. If more of this resource becomes available in the future, it may help to provide some of Lower Township's 1990 low and moderate income housing need.

CONCLUSION

In 1973, the Cape May County Planning Board projected the winter population of Lower Township to reach 30,000 persons by the year 2000 (with a summer population peak of 75,000). Even assuming some variation from overall growth constraints recommended by the County in 1974, it is apparent that the future housing demand this represents will not be possible to meet. Such a situation of increasing housing scarcity enhances the likelihood that affordable housing in Lower Township will become gradually more unavailable, compounding existing estimates and projections of low and moderate income housing needs. The Land Use Development Plan for Lower Township will need to recognize and attempt to mitigate the effects of this eventuality.

208-2000 65,084

2010 70,770

2020 74,275

Com Plan calculations for Grove 78401

PHYSICAL CHARACTERISTICS

PHYSICAL CHARACTERISTICS

INTRODUCTION

The purpose of the Physical Characteristics report is to provide the Planning Board with another tool to use in formulating a rational allocation of land uses and in analyzing future development proposals.

The Physical Characteristics analysis is a series of investigations, each dealing with a particular environmental factor. Discussed in each section will be the intrinsic characteristics associated with each of the factors, with special emphasis given to those characteristics which play a predominant role in the suitability of land for future community development.

PHYSIOGRAPHY

Lower Township is situated entirely in the outer portions of the geologic province known as the Atlantic Coastal Plain. The sandy plain is characterized by its generally flat contours which are occasionally interrupted by low, very gently rolling land masses. As shown on Plate 14, land elevations within Lower Township rise from sea level to less than thirty (30) feet in the middle-western portion of the township near the Cape May Canal. The low elevations and flat topography do not in themselves pose any significant problems for development. However, other factors accompanying these characteristics present definite limitations. A sizeable proportion of the land contained within the municipal boundaries of Lower Township consists of salt water tidal marsh, brackish lowlands and other swampy areas. The township is bounded on the east by the salt water tidal marsh located between the Garden State Parkway and the barrier beach community of Wildwood Crest. Along its northern border, it is bounded by the salt water tidal marsh which straddles Fishing Creek. These tidal marshes, known as "wetlands," are severely constrained for nearly all forms of development. In addition to obvious physical deterrents, recently enacted New Jersey environmental protection regulations have imposed stringent restrictions on the types and extent of development which can take place in these areas.

ENVIRONMENTAL PROTECTION MEASURES

Marshes and wetlands have played a prominent role in the history of Cape May County. Early settlers "mined" cedar bogs for building materials. It is said that the original cedar shingles for Independence Hall come from this area of New Jersey.

Many wetlands are termed "estuarial" -- lands located between sea and land. The estuarine zone includes the bays, harbors, lagoons, channels, inlets, barrier

beaches, sounds and estuaries which comprise one-third to one-half of the area within Lower Township's borders. Complex physical, chemical and biological forces come into play within this zone, creating an extremely delicately balanced environment and providing a key link in the food chain. A number of plant and animal species which are vital to the life cycle of commercially valuable shellfish and other seafood are spawned in or permanently inhabit wetland areas.

Wetlands act as a physical barrier absorbing the impact of coastal storms. By filling the wetlands to accommodate new community development, this buffering effect is lost. Residential and commercial development located on filled wetlands is extremely vulnerable to wave and water damage due to its proximity to and lack of protection from flooding.

In the past, wetlands presented sufficiently insurmountable obstacles to development to divert urbanization to other areas and ensure their retention in a natural state. However, as land has become more scarce and the demand for developable acreage has increased, the continued protection of wetlands has been jeopardized. Modern engineering and construction techniques have enabled marshes and wetlands to be filled for the purposes of accommodating development. Unfortunately, where this has happened, such intrusion has unleashed whole new sets of problems. Pesticides used for mosquito control have been applied indiscriminantly. New Jersey Department of Environmental Protection research has discovered a number of persistent (non-bio-degradable) pesticides present in wetlands vegetation. Repeated dosages only increase the concentrations of pesticides in fish, water fowl and other members of the wetlands ecological system. This continual and persistent pesticide application may have long-term detrimental effects to man as well as to the environment.

Recognizing the long-range value of wetlands for social, economic and aesthetic purposes and the ever-increasing threat of their loss, the State of New Jersey enacted two laws designed to ensure that future development in the coastal areas will be compatible with the protection of this unique environment.

Wetlands Act

The Wetlands Act of 1970 (N. J. S. A. 13:9A-1 et seq.) and accompanying Wetlands Order is the more restrictive of the State's environmental protection controls discussed here. Plate 15 shows the approximate location of wetland areas, as defined in the Act, within Lower Township. The precise properties affected by the Wetlands Act are recorded in the office of the Cape May County Registrar of Deeds and indexed as a judgement. A copy of the order and notification of the wetlands determination has been sent to owners of all properties so affected. Interested persons may inspect official county records at the Cape May County Courthouse.

NOTE: The information portrayed on this map is somewhat generalized due to the scale of reproduction. Readers of the map are encouraged to consult with the original source in order to more accurately determine whether a particular parcel of land is within the designated wetlands area.

TOWNSHIP OF LOWER CAPE MAY COUNTY • NEW JERSEY



plate 15
WETLANDS
(APPROXIMATELY 5234 ACRES)

SOURCE: Plan of Lands Affected, Wetlands Map, Index # 2-5, 1-5, 1-6, 2-6, N.J. Dept. of Environmental Protection, and planimetric measurement by Gershen and Coppola Associates.

Activities which now or may in the future take place on wetlands fall into two general categories, both of which require permits from the Commissioner of the New Jersey Department of Environmental Protection. (A third category consists of "prohibited activities" for which no permission will be granted and includes waste and sewage disposal and, with some exceptions, the application, disposal or storage of pesticides.)

Regulated activities requiring a permit are differentiated on the basis of their potential impact on the wetlands. Those which pose only a minimal threat to the environment are termed Type A activities. They include:

1. Cultivation and harvesting of naturally occurring agricultural or horticultural products.
2. The excavation of a small boat mooring slip.
3. The maintenance or repair of bridges, roads or utilities. Repairs necessitated by a natural disaster do not require a permit; however, the Commissioner must be notified within seven days after their initiation.
4. The construction of catwalks, piers, footbridges and observation decks provided they are constructed on pilings and the width of the structure is not more than twice the clearance between the structure and the surface of the wetlands.

Regulated activities which have the potential of disrupting the environment to a greater degree are classified as Type B and include:

1. The installation of utilities.
2. Excavation of boat channels and mooring basins.
3. The construction of impoundments.
4. The construction of sea walls.
5. The diversion or appropriation of water.
6. The use of pesticides except those applied directly to the skin or clothing of an individual for the purpose of repelling insects.
7. Driving or causing to pass over or upon wetlands any mechanical conveyance which may alter or impair the natural contour of the wetlands or the natural vegetation.

8. The construction of any structure, filling or excavation except as otherwise provided in the Wetlands Order.

The permit application procedure for Type A activities is abbreviated. Essentially, it requires the applicant to notify the local governing body of the municipality in which the property is located, describing the proposed activity. A copy of this notification is then sent with the completed application form to the Department of Environmental Protection.

Since Type B activities pose greater threats to the wetlands environment, a more detailed application procedure is required. In addition to the information contained in Type A applications, applicants for a Type B permit are required to submit a detailed environmental impact statement, and a public hearing is held by the Department of Environmental Protection.

Permit applications are either approved or denied or approved subject to any conditions deemed necessary to effectuate the purposes of the Wetlands Act. Local ordinances may be more restrictive than the Act in their effect on wetlands properties.

Coastal Area Facilities Review Act

The second statute which affects a large portion of Lower Township is the Coastal Areas Facilities Review Act (N. J. S. A. 13:9-1 et seq.). The limited area of Lower Township which is exempted from the Act's jurisdiction is noted on Plate 16. Although the area encompassed by C. A. F. R. A. is greater than that subject to the Wetlands Act, the Coastal Area Facilities Review Act's regulations are not nearly as stringent as are those of the Wetlands Act. The Commissioner of the New Jersey Department of Environmental Protection is charged with creating an "environmental design strategy" and concomitant regulations for the construction of any "facility" in the designated coastal area. Regulated facilities requiring a permit from the Department of Environmental Protection include the following major operations:

1. Electric power generation.
2. Food and food by-products processing.
3. Incineration of wastes.
4. Paper production.
5. Agri-chemical production.
6. Inorganic salts manufacture.
7. Mineral products mining and manufacture.

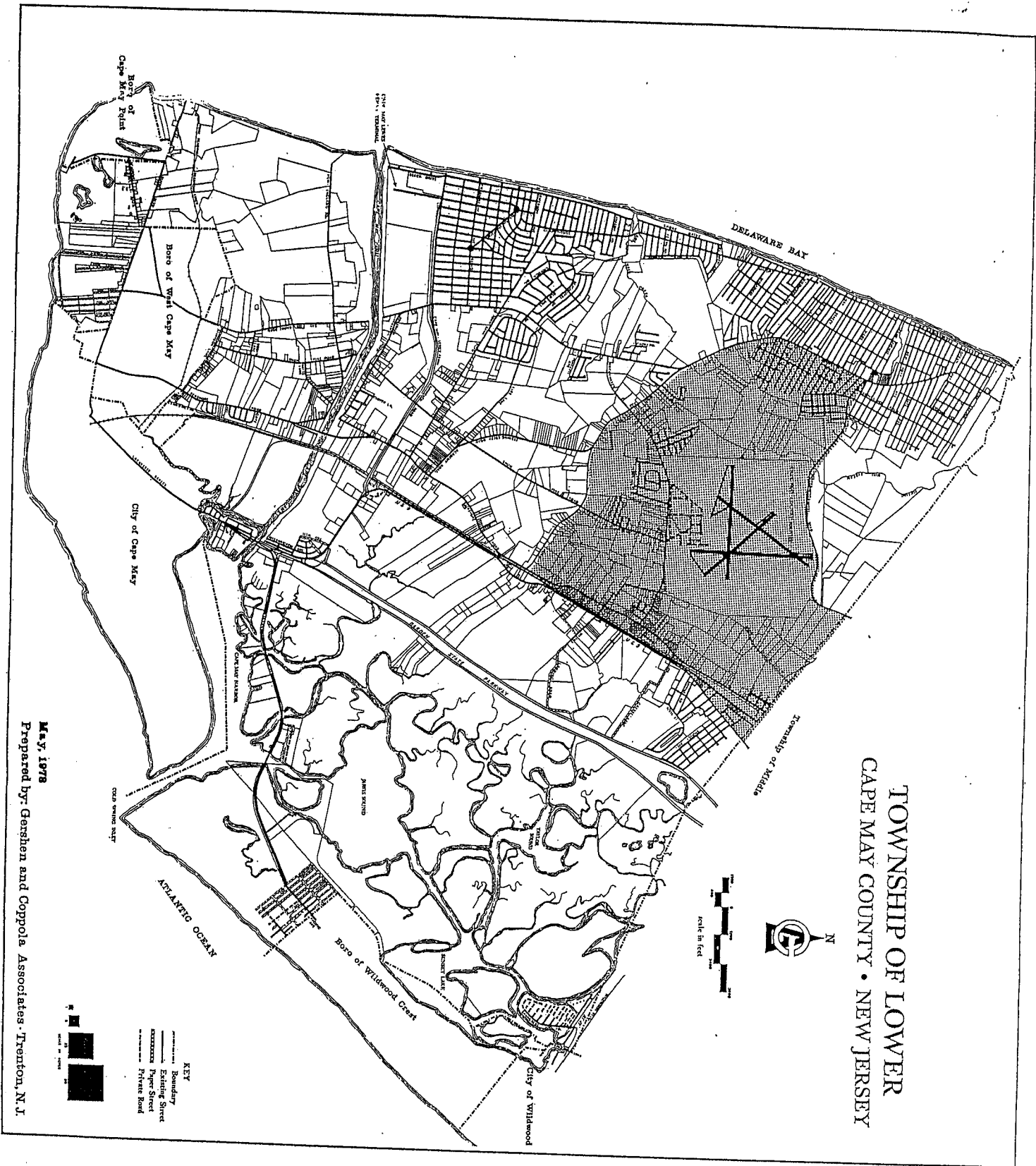


plate 16
**EXTENT OF JURISDICTION
 COASTAL AREAS FACILITIES REVIEW ACT**
 AREAS EXEMPTED

SOURCE : Mapping by Cape May County Planning Board (Revised 1972).

8. Chemical processes.
9. Storage and handling of bulk materials.
10. Metallurgical processes.
11. Marine terminal and cargo handling facilities.
12. Public facilities and housing. In regards to housing, only developments or additions to existing developments that consist of 25 units or more are included in the facilities category.

An Environmental Impact Statement must be included with any permit application and a public hearing is required to be held by the Department. Approval is granted if it is found that the proposed facility:

1. Conforms with all applicable air, water and radiation emission and effluent standards and all applicable water quality criteria and air quality standards.
2. Prevents air emissions and water effluent in excess of the existing dilution, assimilative and recovery capacities of the air and water environments at the site and within the surrounding region.
3. Provide for the handling and disposal of litter, trash and refuse in such a manner as to minimize adverse environmental effects and the threat to the public health, safety and welfare.
4. Would result in minimal feasible impairment of the regenerative capacity of water aquifers or other ground or surface water supplies.
5. Would cause minimal feasible interference with the natural functioning of plant, animal, fish and human life processes at the site and within the surrounding region.
6. Is located or constructed so as to neither endanger human life or property nor otherwise impair the public health, safety and welfare.

7. Would result in minimal practicable degradation of unique or irreplaceable land types, historical or archaeological areas and existing scenic and aesthetic attributes at the site and within the surrounding region.

The Coastal Area Facilities Review Act supplements other State statutes and local ordinances; it does not pertain to areas already covered by the Wetlands Act nor does it supercede municipal zoning ordinances. Rather, it provides an additional layer of land use regulation in coastal areas.

Summarily, in formulating its Land Use Development Plan, the Lower Township Planning Board must be cognizant of the types of land uses (depending on their location) which will require State approval in addition to that required at the local level and which ones may not be permitted at all. In cases where the Land Use Development Plan and attendant ordinance provisions adopted by the township are more restrictive than those contained in either of the Acts described, local controls will supercede those of the New Jersey Department of Environmental Protection.

FLOOD AREAS

Storms which pass over the Jersey cape characteristically are accompanied by extremely high tides, strong winds and high waves and breakers. The huge waves and breakers quickly erode the barrier beaches, dunes and roads; damage boardwalks, seawalls, jetties and other protective barriers; undermine buildings; flood streets; contaminate water and food; and disrupt power and communications systems. Short circuits caused by high water often result in fires that also destroy property. In addition to monetary losses associated with the destruction of property, floods and storms take a toll in human lives.

Essentially, there are two ways to reduce the damage from such storms: 1) construct protective works such as bulkheads and sea walls; and 2) regulate development in areas subject to flooding. Generally, a combination of both approaches is necessary, particularly when development has already occurred. In areas which are not yet developed, ordinance controls can and should be used to regulate future development in flood prone areas to minimize potential damage to life and property.

Plate 17 delineates the areas of Lower Township which are potentially subject to flooding as determined by the U. S. Army Corps of Engineers' calculation of the "standard project tide," a hypothetical flood which may be expected from the most severe combination of meteorologic and hydrologic conditions that are considered reasonably characteristic of the geographical region involved, including extremely rare combinations. The standard project tide is distinguished from and, in fact, exceeds both the maximum tide of record and the intermediate regional tide (the latter having an estimated probability of occurring once in every hundred years or a 1% chance of occurring in any given year). The standard project tide thus encompasses some areas which may never yet have flooded, although they could do so in the future.

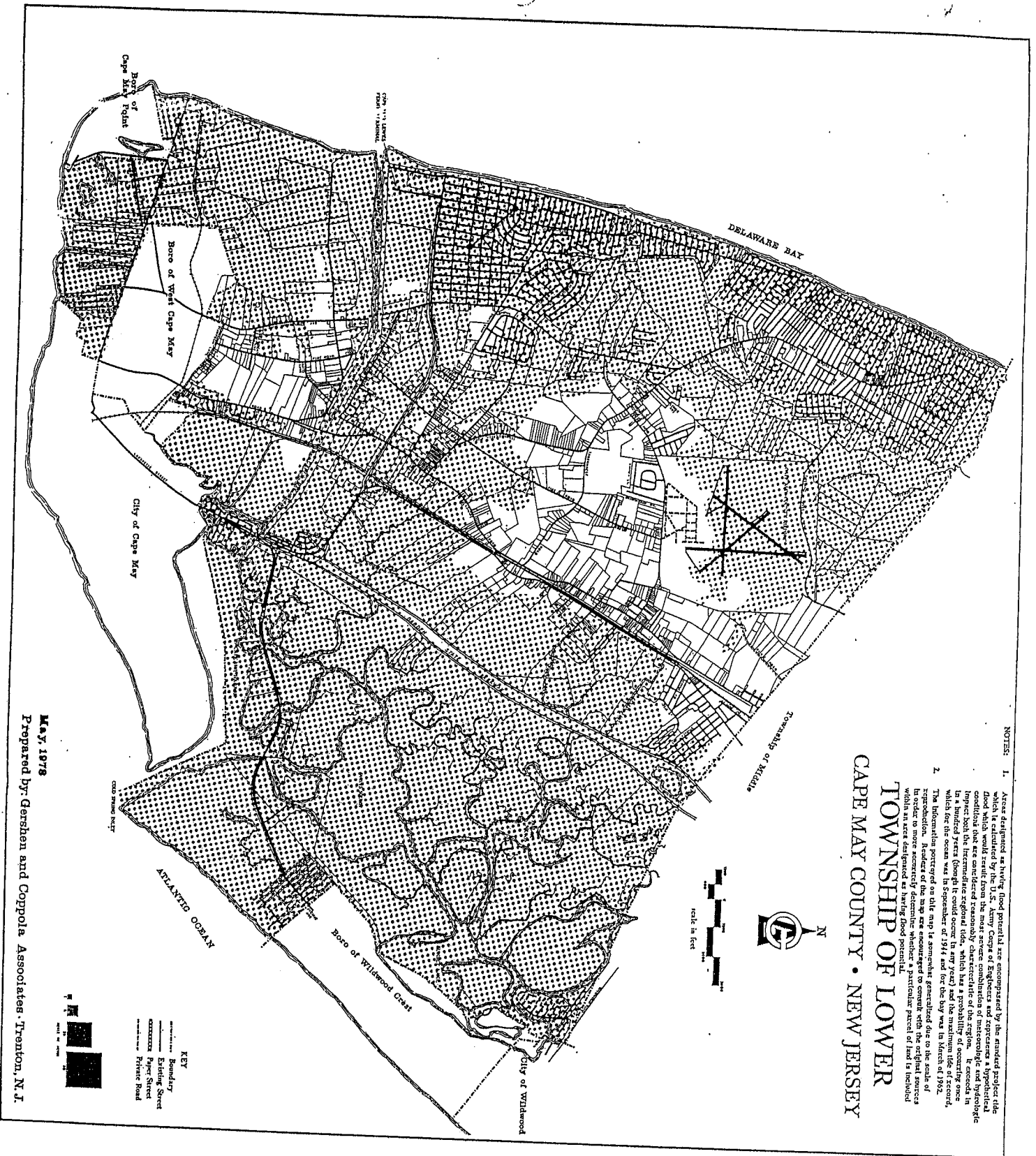


plate 17
FLOOD AREAS
 POTENTIALLY FLOODABLE AREAS
 FLOOD HAZARD AREAS QUALIFYING
 FOR FEDERAL FLOOD INSURANCE

SOURCE: Flood Hazard Boundary Maps(No. H 0-1 to 14), Department of Housing and Urban Development, Federal Insurance Administration, July 19, 1974, and Flood Plain Information, Tidal Lands of Cape May County, New Jersey, U.S. Army Corps of Engineers, Philadelphia, Penna. District, June, 1968,

The Federal Insurance Administration of the U. S. Department of Housing and Urban Development has designated certain areas as flood hazard areas, based on a "Flood Insurance Study" conducted as part of the National Flood Insurance Program promulgated under the National Flood Insurance Act of 1968. These areas are also shown on Plate 17. Delineated areas are those which would be inundated by the flood of a one hundred year storm. These flood hazard area delineations are used by the federal government to determine flood insurance rates. However, in order for a property owner in the flood hazard area to obtain the federally subsidized flood insurance, the municipality in which his property lies must adopt ordinances regulating the extent of land development in the delineated areas according to standards set by the federal government.

SOILS AND COMMUNITY DEVELOPMENT

Soils have inherent characteristics which pose various kinds and degrees of limitations for community development. The Soil Survey of Cape May County, prepared by the U.S. Department of Agriculture, Soil Conservation Service (1977) recognizes fourteen (14) major soil types in Lower Township. The distribution of these soils throughout the township is shown on Plate 18.

Plate 19 summarizes the kinds and degrees of limitations for development presented by each soil type. The first column of Plate 19 identifies the U.S.D.A. mapping symbol; the second gives the name of the soil series; and the third presents the mapping symbol used on Plate 18. A word of caution in applying the classifications: mapping of soils at this scale requires a certain degree of generalization. The generalized maps serve as useful guidelines to the development suitability of different portions of the township, but, whenever more specific information regarding a particular tract is desired, the need to sample the soil and test its capabilities remains.

The criteria used for rating development suitability of soils are as follows:

Dwellings

This rating is based on undisturbed soils to a depth of five feet, assuming use for single-family dwellings or other structures with similar foundation requirements. Excluded are buildings more than three stories high or buildings with foundation loads in excess of those equal to three-story dwellings.

Criteria used in the ratings are susceptibility to loading, depth to water table, allowable soil pressure and slope.

On-site investigations are needed for specific placements of buildings and utility lines and for detailed design of foundations.



plate 18 SOILS

SOURCE: Soil Survey of Cape May County, N.J., U.S. Dept. of
Agriculture, Soil Conservation Service, February, 1977

DEGREE AND KIND OF SOIL LIMITATION FOR COMMUNITY DEVELOPMENT

plate 19

U.S.D.A. Map Publication Symbol		Land Use																			
Soil Series	Map Symbol	Dwelling with Basement	Problem	Dwelling without Basement	Problem	Septic Tank Absorption Fields	Problem	Sanitary Landfill	Problem	Local Streets and Roads	Problem	Lawns, Landscaping, Plantings & Golf Fairways	Problem	Athletic Fields	Problem	Picnic and Play Areas	Problem	Campsites	Problem	Paths and Trails	Problem
Cu DoA, DsB Fl, f m FtB HdA, HbA MU Ps SdA, Sab SbA TD, TLM, TS WMA EVB KMA Bp	Coastal Beach Downer Fill Land Fort Mott Hammondon Muck Pocomoke Sassafras Sassafras Tidal Marsh Woodstown Evesboro KleJ Bettyland	A B C D E F G H I J K L M N	2 R S S S S M R																		

Septic Filter Fields

In areas of Lower Township not served by sanitary sewers, special attention must be given to the ability of the soil to adequately accommodate septic disposal systems. To function properly, septic systems require soils with good, but not excessive, drainage which can absorb the septic effluent, yet filter it sufficiently to prevent contamination of groundwater.

The septic suitability of Lower Township's soils is presented on Plate 20. The criteria which have been used to rate the degree of limitation (slight, moderate or restrictive) for septic systems are: high or seasonally high water table, the susceptibility of the area to flooding, permeability, and slope. Rapid permeability of the soil permitting a hazard of groundwater pollution, although of serious concern, was not assumed to restrict septic suitability since the risk of such hazard varies for any given soil, depending on the permeability of the substratum or, in the case of Fill Land, with the depth and permeability of the fill. (Soils with the potential for groundwater pollution, notably the Downer, Fort Mott and Fill Land groups, are asterisked on Plate 19.) Soils with only moderately high water table levels are rated as having moderate limitations with the assumption that deep drainage will be needed to lower the water table.

Percolation tests performed in accordance with the standards set forth in Chapter 199 of the Public Laws of New Jersey are helpful not only in determining the suitability of a specific homesite for on-site sewage disposal, but also in suggesting the proper design of a septic system.

Sanitary Landfill

This rating pertains to the trench type landfills that are six to twelve feet deep and are compacted at the bottom. Disposed material is covered daily with six inches of local soil; final soil cover is at least two feet thick. Material placed in a sanitary landfill yields gases, liquids and heat as products of biological decomposition. Placement of waste below the water table results in putrefactive anaerobic decomposition with high proportions of unstable compounds. Pollution of the water table aquifer is thus inevitable.

Criteria used are: depth to water table, stream overflow hazard, texture of soil horizons from five to fifteen feet (for filtering qualities and workability) and slope. Criteria are the same for area-type landfills except that soil texture, depth to bedrock, stoniness and rockiness are not considered as important as in the trench type, since cover material is transported from other locations.

Local Streets and Roads

For these ratings, it is assumed that the roads will be of the hard surfaced type similar to existing township roads. Criteria used are: flood hazard, natural drainage, slope, stoniness, rockiness, coarse fragments, texture, susceptibility to frost heave and depth to bedrock.

Lawns, Landscaping, Plantings and Golf Fairways

It is assumed that soil material already at the site will be used. No importation of fill or topsoil is considered in the ratings, and traps or roughs are not considered as part of the golf fairway.

Criteria used are: depth to seasonal high water table, slope, depth to bedrock, surface soil texture. The primary factors used in rating limitations for landscaping, particularly with ornamental plants and lawns, are natural fertility, available water capacity, natural drainage and slope.

Athletic Fields

These ratings are for uses such as baseball, football and soccer fields where there is intensive foot traffic. It is assumed that some grading will be needed but that no soil material would be brought in from other areas.

Criteria used are: depth to seasonal high water table, soil texture (dust hazard, coarse fragments), soil permeability (time required for drainage after heavy rainfalls), stream overflow hazard and slope.

Picnic and Play Areas

These ratings apply to soils considered for intensive uses such as park-type picnic areas. It is assumed that most vehicular traffic will be confined to access roads. Soil suitability for growing vegetation is not a part of this guide but is an item to consider in final evaluation of a site.

The criteria used in these ratings are: flood hazard, depth to seasonal high water table, slope, stoniness and surface texture (potential traffic dust).

Campsites

Campsites are a growing land use in Cape May County. As noted on Plate 19, not all soils are suitable for this type of use. Soils to be used for camping and other recreational activities involving automobiles must withstand traffic without creating dust. Many of the soils presently used for campsites have low water capacity and are relatively infertile to barren. This makes for extremely dusty conditions.

Limitations apply to intensive use for tents and small trailers and the accompanying activities of outdoor living. It is assumed that little site preparation will be done other than shaping and levelling for tent and parking areas. The soils should be suitable for heavy foot traffic and for limited vehicular traffic. Criteria used for rating are: natural drainage, seasonal high water table, flood hazard and texture of the surface. Soil suitability for growing and maintaining vegetation is an item to consider in final evaluation of a site, although it was not specifically included among the criteria.

Paths and Trails

It is assumed that these areas will be used as they occur in nature and that little or no soil will be excavated or filled. Soil features that affect trafficability, dust, design and maintenance of trails and paths are given special emphasis in these ratings.

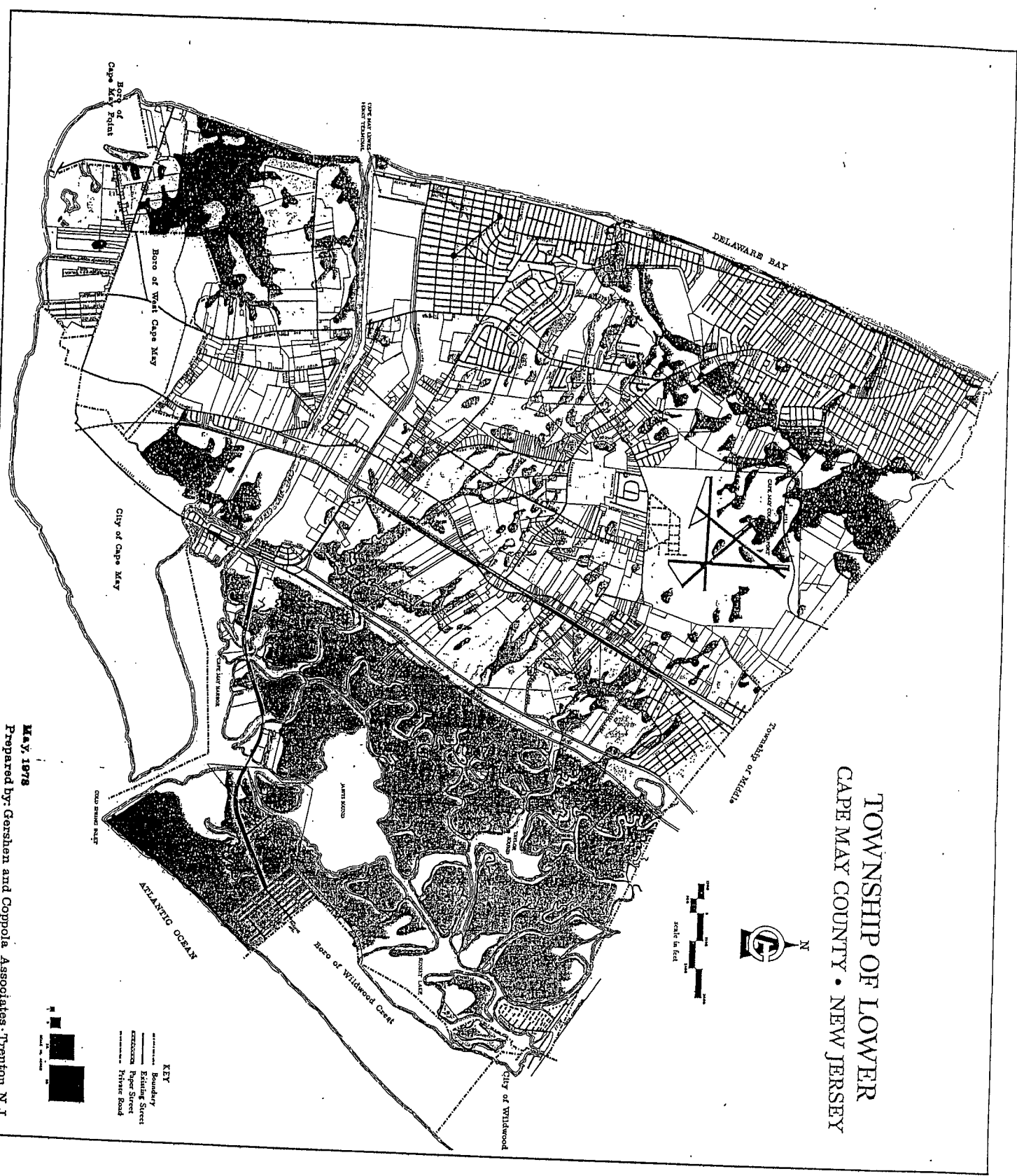
Criteria used in these ratings are: flood hazard, depth to seasonal high water table, slope, stoniness and surface texture (potential traffic dust).

Soil Suitability for Agricultural Purposes

Plate 21 presents the suitability of soils for agricultural purposes, based on the classifications of the U.S. Department of Agriculture Soil Conservation Service. Soils are categorized according to potential agricultural productivity into any one of eight capability classes as follows:

- | | |
|------------|--|
| Class I | Soils with few limitations that restrict their use. |
| Class II | Soils with some limitations that reduce the choice of plants or that require moderate conservation practices. |
| Class III | Soils with severe limitations that reduce the choice of plants, require careful management, or both. |
| Class IV | Soils with very severe limitations that reduce the choice of plants, require very careful management, or both. |
| Class V | Soils with little or no erosion hazard but with other limitations that make regular cultivation impracticable or that limit their use largely to woodland or wildlife food cover. |
| Class VI | Soils with severe limitations that make them generally unsuited for cultivation and limit their use largely to pasture, woodland or wildlife food and cover. |
| Class VII | Soils with very severe limitations that make them unsuited to cultivation without major reclamation and that restrict their use largely to grazing, woodland or wildlife. |
| Class VIII | Soils and land forms with limitations that preclude their use without major reclamation for commercial production of plants and restrict their use to recreation, wildlife and water supply or aesthetic purposes. |

Areas shown as "prime farmland" on Plate 21 are those classified as capability classes I, II or III according to the criteria established by the Soil Conservation Service. The limitations that have been considered in rating these soils include risk of erosion, inherent



May, 1978
 Prepared by: Gershen and Coppola Associates, Trenton, N. J.

plate 20 SOIL LIMITATION FOR SEPTIC FILTER FIELDS

- SLIGHT
- MODERATE
- RESTRICTIVE

SOURCE: Soil Survey of Cape May County, New Jersey, U.S. Dept. of Agriculture, Soil Conservation Service, February, 1977.

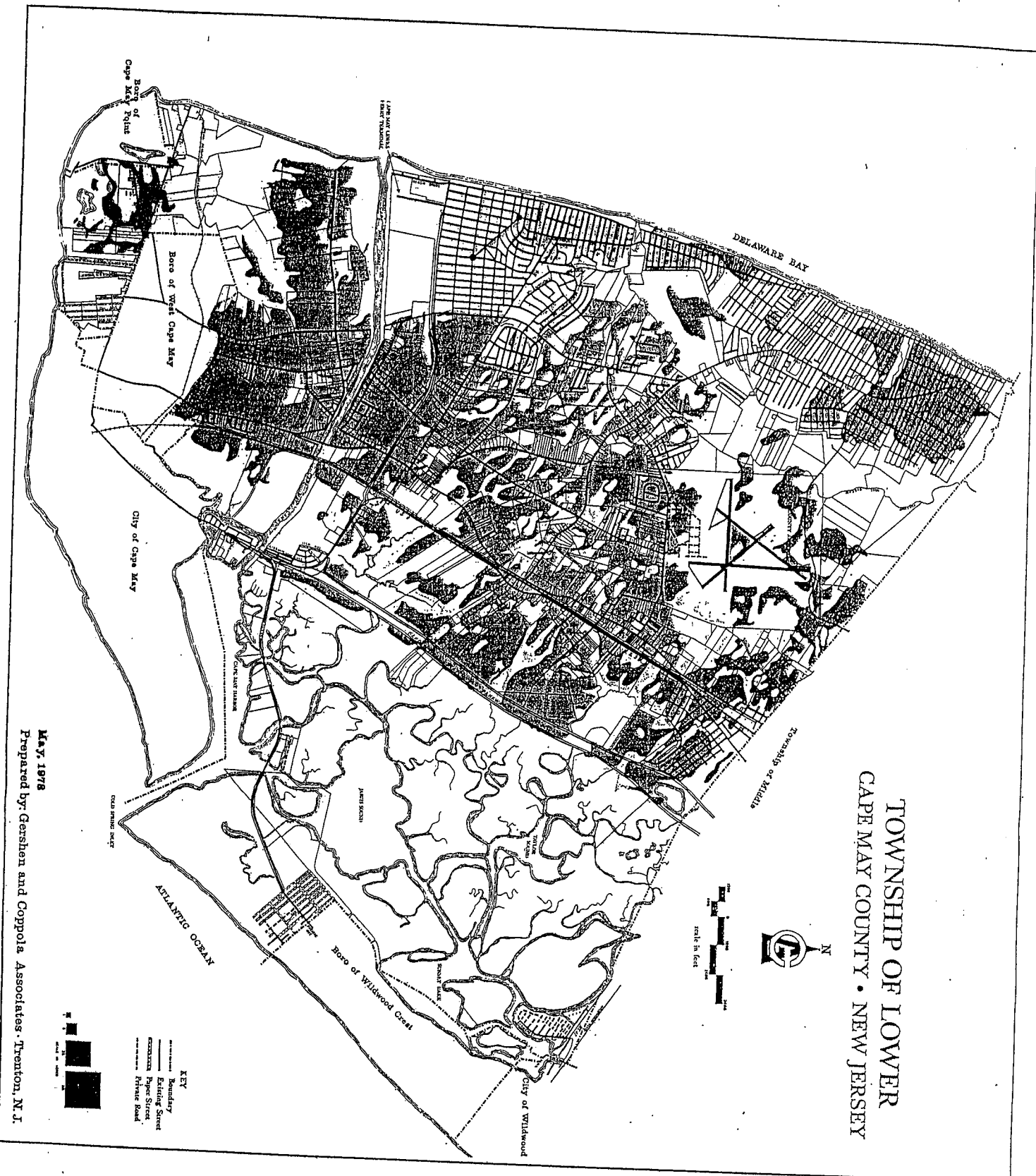


plate 21

SOIL SUITABILITY FOR AGRICULTURAL PURPOSES

- GOOD Classes I and II
- FAIR Class III
- POOR Classes IV through VIII

NOTE: Soil Class 'C' is Too Variable to Rate.

SOURCE: Soil Survey of Cape May County, N.J., U.S. Dept. of Agriculture, Soil Conservation Service, February, 1977.

fertility, susceptibility to drought or shallowness, depth to the water table, and permeability and structure of the soils.

Areas of High or Seasonally High Water Table

One criterion which re-appears consistently in the determination of soil suitability for various forms of community development and for agricultural purposes is the depth to the water table. Because of this characteristic's serious implications for land use, a separate plate (Plate 22) has been included identifying those areas which are underlain by a water table of 0 - 4' either permanently or seasonally. Such areas are generally in close proximity to surface drainage channels, marshes and swamps.

In addition to the development limitations posed by a high water table, another potentially critical problem is also created by this condition: the hazard of groundwater pollution. As will be made clear in the discussion which follows on geology and groundwater resources, much of the water supply for Cape May County is drawn from the Holly Beach or "water table" aquifer. Improper use of land in the presence of a high water table could threaten the safety of this potable water source.

GEOLOGY AND GROUNDWATER HYDROLOGY

As discussed in the physiography section of this report, the Township of Lower lies entirely within the outer Atlantic Coastal Plain and is underlain by geologic formations typical of that province. These formations are graphically portrayed on Plate 23. The delineation of the various geologic formations is somewhat misleading since the map is limited only to one dimension or plane. To better understand the geologic composition of the township, each formation should be visualized as a layer of a cake. Each geologic "layer" extends across an entire community (often at varying depths), dipping toward the southeast at the rate of more than ten (10) feet per mile. A cross-section of a community's geology thus resembles a series of bands.

The uppermost or youngest geologic layer found in New Jersey is termed the "quaternary" system of deposits. In Lower Township, the quaternary system includes four kinds of geologic deposits: the Cape May Formation, Beach Sand, Tidal Marsh and Swamp Deposits, and Recent Fill. Of these, only the Cape May Formation has significance as an artesian aquifer, albeit a shallow one. In Lower Township, this formation consists primarily of sediments laid down in an estuarine environment (known as the Estuarine Sand facies of the Cape May Formation). The remaining three quaternary deposits or beds are collectively called the "Holly Beach water bearing zone," a term which refers to the upper fifty (50) feet or so of surficial sands and gravels. (This is the water table aquifer referred to in the previous section of this report.) Underlying the quaternary deposits throughout Lower Township is the Cohansey Sand, a tertiary deposit which is also an important artesian aquifer. Beneath that, at a depth of from 600 to 900 feet, lies the Kirkwood formation which contains two water bearing sand strata, neither of which are tapped in Lower Township.

