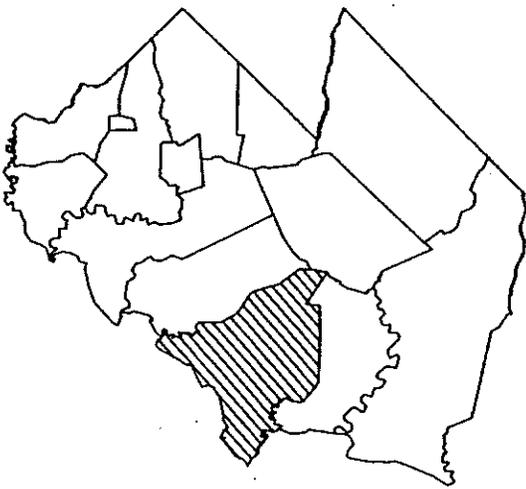


DOWNE TOWNSHIP MASTER PLAN

Cumberland County, New Jersey

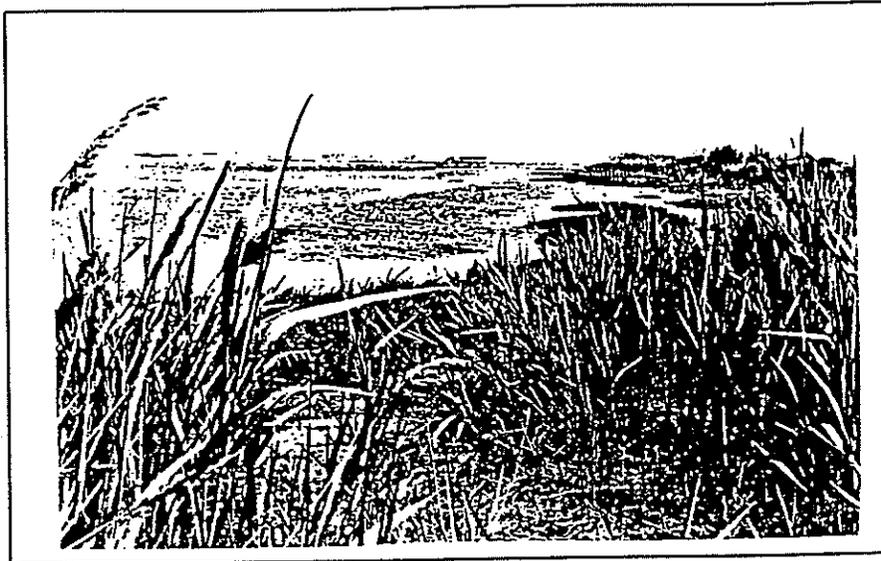
Adopted April 2000



**Background Data and Future Land Use,
Community Development, and
Conservation Strategies**

DOWNE TOWNSHIP MASTER PLAN

Adopted April 2000



Prepared by the
Downe Township Planning Board
With Assistance from the
Cumberland County Board of Chosen Freeholders
Through the
Cumberland County Department of Planning & Development

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INTRODUCTION

Begun in the Spring of 1993, the Downe Township Master Plan was adopted in April 2000 as the result of a comprehensive reexamination held during that time.

Background

In the spring of 1993 the Mayor of Downe Township, on behalf of the Township Committee, asked the Cumberland County Department of Planning & Development to assist the Township in updating and revising its Master Plan and Land Use Ordinances. Prior to signing a contract to do this work a number of issues needed to be resolved. There had been considerable debate in the Township about the nature of the planning process that should be conducted and the types of issues to be explored.

To assist in resolving this debate, County planners conducted a citizen survey, the results of which were used to establish a direction for the Township. A total of five hundred and thirty nine responses were received from Township residents and property owners, representing 39% of the surveys distributed. This is an excellent rate of return. The results of the survey are referred to many times throughout this Master Plan and help to define the content of the Plan as well as the process for preparing it. In addition, County planners met on several occasions with the Township Committee and Planning Board to discuss the planning process and the proposed work program.

After a lengthy discussion of these matters and the passage of enabling resolutions by the Township Committee and the County Board of Chosen Freeholders, an interlocal services contract between the Township and County was signed in December of 1993. Work on this Master Plan began in January 1994 and was completed in March 2000. The new Master Plan contained herein was adopted by the Township Planning Board in April 2000 as the result of a comprehensive reexamination held during that time.

Purpose of the Plan

If one thinks of municipal plans and ordinances as a pyramid, the Master Plan forms the foundation of that pyramid. It is from the information contained in the Master Plan that all municipal land use regulation is directly or indirectly based. Without a thorough justification in the

Master Plan for the regulations of the zoning ordinance, that ordinance could be invalidated. Subdivision and site plan regulations are based, in turn, on the provisions of the zoning ordinance. That is why the Master Plan is the most important of all municipal documents. It sets the stage for everything that follows.

Plan Content as Required by Law

The content of the municipal master plan is defined in part by the requirements of the New Jersey Land Use Law. Article 3 of this law outlines the general parameters of the master plan and describes two mandatory elements of such a plan. They are:

The New Jersey Municipal Land Use Law, Chapter 291 of 1975, sets forth the minimum requirements for Master Plans.

- A statement of objectives, principles, assumptions, policies and standards upon which the constituent proposals for the physical, economic and social development of the municipality are based; and
- A land use plan element including but not necessarily limited to such things as topography, soil conditions, water supply, drainage, flood plain areas, marshes and woodlands.

This land use plan element must also include an analysis of future land uses, the locations and boundaries for airports, and a statement of the standards of population density and development intensity that is recommended for the municipality. The Land Use Law also requires that the Plan analyze regional relationships to other plans and the proposed impacts of the Plan on local zoning and land use regulation. Beyond these subjects, all other elements of the Master Plan are optional.

The citizens of the Township, through the Downe Township Citizen Survey, identified a number of additional plan elements that are high priorities. The Township Planning Board agreed. Therefore, in addition to the mandatory elements of the Plan, this document includes a conservation and recreation plan, an economic development plan, a community facilities and services plan, and a housing plan. This document also contains an extensive amount of background data which provides the basis, in part, for the recommendations and strategies contained in each of the aforementioned plan elements.

Overview of the Township Plan

The Master Plan begins with a summary of the history of the Township. This sets the stage for information that follows and gives the reader a sense of the character of the community. An analysis of the regional setting is the next, followed by an outline of the key issues facing the Township. An examination of population, housing, facilities and services, natural features, the local economy, and existing land use round out what can be referred to as the "background" sections of the Plan.

The municipal Master Plan contains several sections of "background information" upon which the Plan's policies are built.

The background analysis provides the information necessary to help the Planning & Zoning Board and citizens of the Township establish the goals and objectives for their community. The goals and objectives for this Plan are outlined in Chapter 13. The final chapters of the Plan present the remaining, individual plan elements as described earlier.

The Master Plan can be a very powerful tool in shaping the future of the community. To be a successful guide to community development, the goals and objectives of the Plan need to be implemented. This occurs through zoning, subdivision regulation, and the other regulations that follow. The promise of the Master Plan is only as good as the commitment to see it through. That responsibility rests jointly with the citizens and officials of the Township.



HISTORY OF DOWNE TOWNSHIP

Settlement of the Region

The Lenni-Lenape people were the earliest known native Americans to settle in the southern New Jersey region. It is estimated that at the time the first Europeans moved to the area, there were about 6,000 inhabitants of the Lenni-Lenape nation, scattered throughout Pennsylvania and New Jersey. These people were of two branches: the Unamis and the Unalachtigos. It was the Unalachtigos that settled in the southern part of New Jersey.

Primarily farmers, the Unalachtigos established several early settlements along the shores of the Delaware Bay and its principal waterways. Lands along coves and mouths of creeks were desirable locations for the wigwams and "big houses" that were typical of these native American villages.

With the advent of European exploration of the region in the sixteen and seventeenth centuries, various European powers laid claim to portions of the Atlantic coast. In 1664, King Charles of England laid claim to the lands that would later become the colony of New Jersey. Salem County, chartered in 1681, included the lands currently part of Cumberland, Cape May, Gloucester, Atlantic and Salem counties.

"Downes Township was established in 1772 and included what is now Downe and Commercial Townships.

Not only was Cumberland originally part of Salem County, Downe Township was originally included in Fairfield Township. Fairfield was one of the six original townships established when Cumberland became a separate County in 1748. It was not until 1772 that Downe Township was set apart from Fairfield in letters granted by then Governor Franklin. The new community was given the name "Downes" in honor of the Governor's wife, Elizabeth Downes Franklin. It was probably a clerical or typographical error that eventually shortened the name of the Township to Downe. At its incorporation, Downe Township included what is now Commercial Township. It was not until 1874 that Commercial became incorporated in its own right.

Early Villages

Downe Township developed around the three principal villages that exist there today. Dividing Creek and Newport seem to be the oldest of these settlements. Trappers appeared in the Dividing Creek area as early as the 1740s. By 1761 the Baptist Church owned lands on both sides of the Creek and had established a congregation in the community. The church cemetery has many old grave sites that document the early settlement of the region. Union Hall in Dividing Creek, was built in 1897 as a meeting place for lodges and other social organizations and may be the oldest public building in South Jersey.

Union Hall in Dividing Creek may be the oldest public building in New Jersey.

Today, the architecture and Victorian character of these villages remains relatively undisturbed. There is little new development that has altered the historic setting of these communities. The many homes, shops and small businesses that are part of these villages are reminders of the fishing and seafaring heritage that is such an important part of the Township's history.

Dividing Creek, as its name implies, was named for the division of the Creek that traversed the early settlement. The village was established in the eighteenth century and developed around the oyster industry and lumber business. Dividing Creek was also home to European royalty for a while. The Countess Josephine DeCastelvochio Frabasilus, grand niece of Emperor Joseph Napoleon 3rd of France and a well-known Broadway star, retired to Dividing Creek in 1920. She called her residence "Mon Bon Plaisir," My Happy Home. She died in 1932 and is buried in the Township.

Newport, previously known as Autuxit, was established around lands known as the William Mulford plantation in an early (1719) deed. By the middle of the 18th Century, the village boasted a sawmill, hotel, and grist mill. Like many of the old "port towns" of the Delaware Bay, Newport has many fine, Victorian homes that line its streets. The oyster industry provided the livelihood for many of Newport's prosperous residents. The splendid homes they constructed reflected the prosperity to be found in the oyster trade of the late 1800s.

Ship building and oystering are part of Downe Township's heritage.

Fortescue was settled as an early fishing village by John Fortesque in the late 1700s, but the little community did not develop as a well known resort until the middle of the 19th century when several hotels, an 1120 foot pier, and numerous homes and businesses were established. The chartering of

fishing boats began in the 1890s when two boats began catering regularly to tourists and fishermen. The first hotel in the village was constructed by Joseph Campbell in 1825. By the 1930s, a number of other prominent establishments were in business including the Fortescue Pavillion and Hotel, the Fairview Hotel, the Dew Drop Inn, and the Day House. The Charlesworth Hotel which is in business today, was remodeled in the early 1960's after a large fire destroyed many of the old frame buildings in the village. Hurricanes have also taken their toll on the community. A 1950 storm destroyed the piers and did considerable damage to the beach. The State Marina was destroyed by ice storms in 1976 and was rebuilt entirely by the local Captain's Association with assistance from other levels of government.

Industry and Manufacturing

Fishing and agriculture are two of the earliest known industries in the Township. While there is no evidence of a formal "ship yard", boats for oyster fishing were built and launched along the Dividing Creek. During the War of 1812, the seamen and families of the area were harrassed by pirates seeking bounty for the English crown. Agricultural activities included traditional farming as well as the farming of salt hay and the harvesting of timber and wildlife. The muskrat, mink, and otter were popular prey for early trappers. A grist mill known as Ogden's Mill and later Shaw's Mill was established in what is now Newport. Dilk's sawmill, which was the first steam powered mill in the area, was built at Mill Pond in 1889. Lumber, oysters, and a variety of agricultural products remained an important part of the local economy throughout the nineteenth and early twentieth centuries.

In the late 1890s, a basket manufacturing business was established as part of the Dilk's saw mill operation. This business which employed as many as fifty people was the only formal manufacturing business ever established in the Township. By 1947, this operation was producing 885,000 baskets per year and a good livelihood for many residents of the community.

Sand mining is another of the well established industries in the Township. Sand from almost all of the bay shore communities helped fire the glass plants of nineteenth century Cumberland County. The Premier Reconstructed Stone Products Company was one of the earliest sand companies

Sand mining is still an important part of the Township economy.

The Bridgeton to Port Norris Railroad played an important role in the Township's seafaring economy.

in the Township. Later called South Jersey Sand Company, this operation was joined by Whitehead Brothers, (now Whibco), Ricci Brothers Company, Pennsylvania Glass Sand and Unamin. Sand from the mines is transported by railroad and truck to glass houses and other operations around the Country.

Commerce and Transportation

The trails developed by the native Americans served as the foundations for some of the first roadways through the County. The first bridge across the Dividing Creek was constructed sometime around 1763 and was fitted with a draw in 1805. This enabled the freight shallops which were built and repaired in the vicinity to run their cargo through the bridge. Mail, passengers, goods and commodities of various kinds were shipped to the villages of the Township by stage coach until the 1866 when the Bridgeton & Port Norris Railroad was chartered and constructed.

The B&PNRR was a branch of the New Jersey Central Railroad. The line ran from Bridgeton to Bivalve and was an important link in the shipping of oysters and other seafood from the ports of the Maurice River and Delaware Bay. In addition to the rail line a trolley line was constructed in 1901. With the paving of a portion of the Bridgeton-Port Norris Road in 1926 bus service replaced the trolley line. But it is still interesting that citizens of the Township had more transportation options in the 1920s than they do today. Residents could get to and from home by automobile, bus, or train!

The Township Today

The end of the Second World War produced many changes in the little towns and villages across the Country. Downe Township was no exception. Before the War, there had been a vast migration of people to the cities for jobs. African Americans from the South, eastern Europeans, Appalachian farmers and others were moving to Cumberland County for work in the glass plants and manufacturing houses of the region. People and commodities were increasingly dependent on cars and trucks to get from one place to the next. Passenger rail service to the Township was discontinued in 1949 and bus service was also discontinued. The decline in the oyster industry, salt hay farming, and some of the other agricultural operations in the Township lead people to look elsewhere for work. For the first time in history, the automobile provided them with the luxury of

The history of a community can reveal its future as well as its past.

being able to commute relatively long distances for employment. The era when people's lives and livelihoods centered on the small towns and villages where they lived was coming to an end.

The relative isolation of Downe Township has had both positive and negative impacts. While many of the traditional jobs and businesses have left the community, others have remained. A recently compiled Visitors Guide lists over sixty small businesses ranging from hotels and restaurants to service stations, grocery stores, tackle shops, farm produce and charter boat operations. There is still a significant tourist trade in Fortescue. The development of a State marina there has helped establish Fortescue as one of the premier Delaware Bay fishing villages. Newport and Dividing Creek have retained their special historic character and are the locations for some of the finest Victorian homes in southern Cumberland County.

The importance in reviewing the history of a community as part of the Master Planning process is this. Many times the traditions, cultures, and heritage of a community's past can become an equally important part of its future. When properly promoted, the historic character of a community can help enhance its attractiveness as a place to live, work, and recreate. Downe Township has a beautiful heritage that can be woven into the plans for its future. The citizens of the Township in response to the survey that was conducted identified the quiet, rural, family-oriented lifestyle of the Township as important reasons to live there. These strengths can be important assets upon which to chart the future of the community.

THE FOLLOWING ARE SOURCES FOR THE ABOVE NARRATIVE

"Where Divided Waters Flow," Jean Fleetwood, Cumberland County Historical Society Document, 1964.

"Cumberland's Hallowed Heritage," Robert Steelman, Cumberland County Historical Society Document, 1965.

The History, Folklore, and Culture of Greater Cumberland County. George Loper, 3rd, 1992.

The Great Wilderness. Margaret Louise Mints, The Wheaton Historical Society, 1968.

Lighthouse to Leeward. Margaret Louise Mints.

Historical Marine Resources within the New Jersey Coastal Heritage Trail. U.S. Department of the Interior, National Park Service, 1991.

Promotional Material for Fortescue, N.J., 1929, courtesy of Karen L. Millul.

Carl Holm, Principal Planner, Department of Planning & Development.

Emily J. Stites, Newport, New Jersey.

REGIONAL AND GEOGRAPHIC SETTING OF DOWNE TOWNSHIP

Many times, the future of a community can be influenced by factors that are outside the control of local officials. Regional development patterns and demographic forces can often affect the future character of a municipality. When a community is in the path of rapid suburbanization, it is often difficult to withstand that kind of growth and development. Conversely, if a municipality is isolated by geography or the historic development patterns of a region, new development and economic opportunity is often difficult to sustain. That is why an analysis of the regional and geographic setting of a community is an important part of the planning process.

Geography

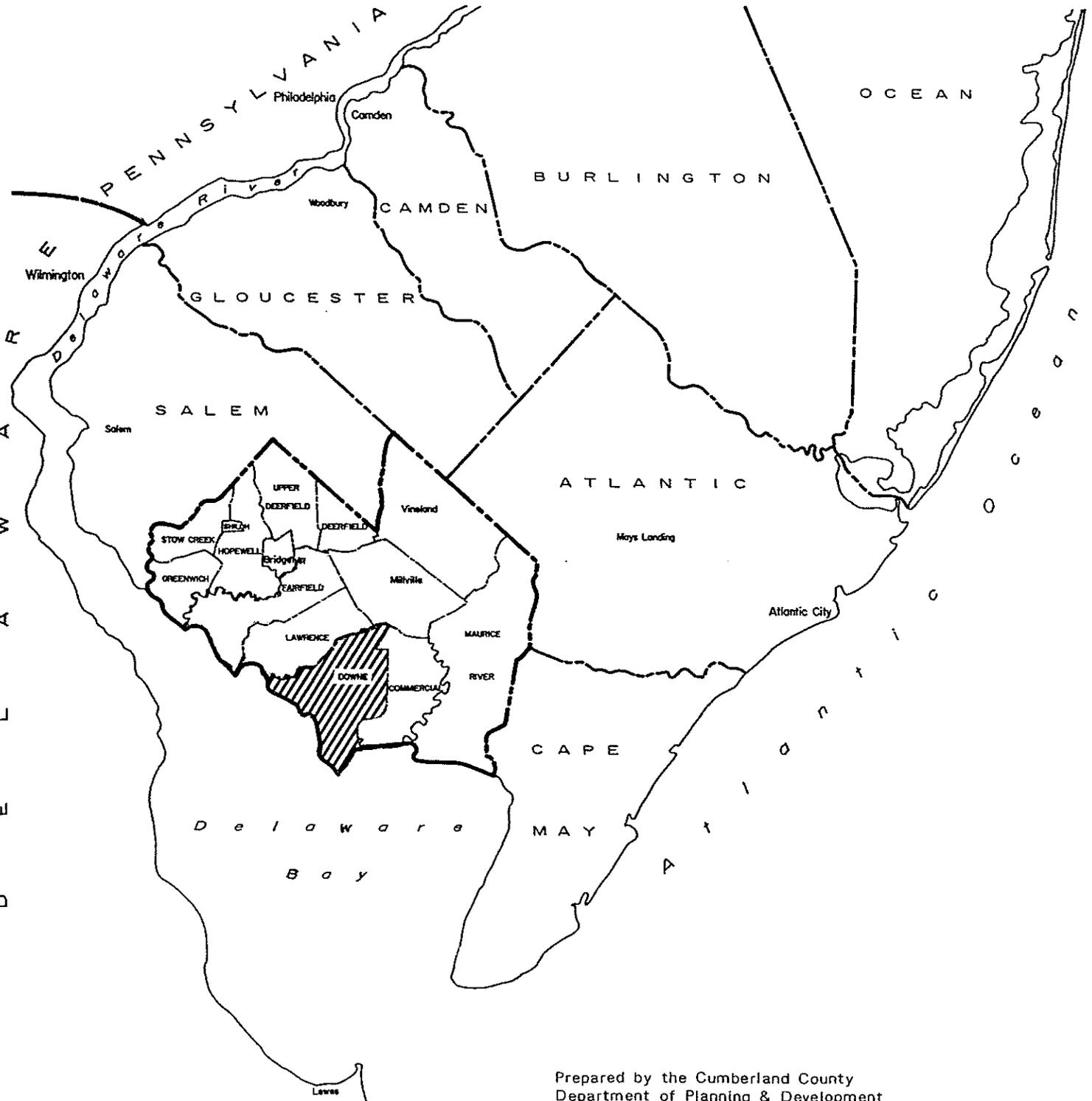
Situated along the Delaware Bay in southern Cumberland County, Downe Township is a community of approximately 53 square miles. It is part of the Atlantic Coastal Plain and the estuarine portions of the Delaware Bay, (see Map 1).

*Downe Township is part
of the Delaware Estuary.*

Within Cumberland County, Downe Township is bordered by Lawrence Township to the west, Commercial Township to the east, and the City of Millville to the north. The villages of Fortescue, Gandy's Beach, Money Island, Newport and Dividing Creek are the principal population centers in the Township. These small villages share in the cultural, social, and economic heritage of many of the other communities on Cumberland County's bay shore. Map 2 is the base map of Downe Township used in this Plan.

The Township is generally divided into two distinct regions. North of Route 553, (Bridgeton-Port Norris Road), the Township is relatively dry with many upland and wooded areas. South of this road, there are vast networks of wetlands, ponds, and creeks. The Nantuxent, Fortescue, Oranoakan, and Dividing Creeks traverse these wetland areas.

MAP 1 REGIONAL SETTING OF DOWNE TOWNSHIP



Prepared by the Cumberland County
Department of Planning & Development

Downe Township is located just one hour from Interstate 95 and the northeast corridor.

Access to the Mid-Atlantic Region

Despite the fact that Downe Township like much of Cumberland County has been isolated, an examination of the region demonstrates the close proximity of the Township to various regional economic and population centers. To the west, the Township is only an hour's drive to the Delaware Memorial Bridge and Interstate 95. Philadelphia is an hour's drive to the north via a connection with Route 55. Atlantic City's growing employment center is just over an hour's drive to the east as are many of the other Atlantic shore resorts. This close proximity to major population and employment centers can be a big asset in developing a plan for the future of the Township.

Links to the Region

County Route 553 provides access to other places in Cumberland County and the surrounding region. It is the principal highway in the Township and throughout the southern portion of the County. While there is no longer passenger service to the Township, the Winchester & Western Railroad provides daily freight service to the sand plants and other businesses along its route. The terminus of the railroad lies just east of Downe's municipal boundary in Commercial Township. In addition, the marina at Fortescue also provides an opportunity for water transport to places in the region. There is no regular, commercial service available, but charter service can be found easily.

Highways, railroads, and marinas provide access to traditional kinds of transportation links to areas outside the region. The recently inaugurated New Jersey Coastal Heritage Trail provides another kind of regional link. The Trail ties together some of the cultural and historic themes that have been important facets of New Jersey life. For example, the maritime industry has long been part of the economic base of the Atlantic and Delaware Bay coasts. This industry is part of Downe Township's heritage through the fishing, crabbing, and oystering businesses that remain important aspects of the local economy.

All these characteristics; roads, railroads, water, geography, and cultural and historic links are factors that help to define the regional setting of Downe Township. These attributes will help to shape the community in the years to come. It will be an assignment of the Master Plan to channel the benefits that can be derived from the Township's location to help shape its future.

TOPOGRAPHY, DRAINAGE BASINS AND SURFACE HYDROGRAPHY

Introduction

The action of rainfall and its runoff on the surface are the processes that form and alter most landscapes. The drainage of surface water (and its interaction with ground water) result in an intertwining network of stream channels, flood plains, and topography. Subsequently, land uses in one area may have impacts miles away from the site. Hill slopes, gullies, rivers, ground water bodies, urban storm drains, industrial systems, and irrigated fields are linked as components of drainage basins. This section of the Master Plan discusses the drainage features of Downe Township and its associated surface Hydrography.

Topography

The topography of the Township provides for a relatively gentle relief. Elevations of approximately 50 to 60 feet above sea level in the northeastern portion of the Township slope gradually to about 30 feet near the location of the Winchester and Western Railroad line. From this point southward, the elevation decreases fairly rapidly to approximately 10 feet above sea level near County Route 553. From this point southward, the elevation gradually decreases until reaching the Delaware Bay.

Throughout the Township there are numerous variations in elevation that provide exceptions to the general description provided above. Steep slopes occur along the banks of some of the Township's streams, while areas of higher elevation occur throughout the area.

Drainage Basins

A drainage basin is the area of land that drains water, sediment, and dissolved materials to a common outlet at some point along a stream channel (Dunne & Leopold 1978). The term *drainage basin* can be used interchangeably with *watershed*. The boundary of a drainage basin is

Topographic Maps help to define the Township's elevation.

known as the drainage divide. A drainage basin can vary in size from a very large area draining hundreds of square miles to a few square feet draining into the head of a gully. However, most drainage basins are linked to even larger basins.

A watershed is drained by a hierarchical network of channels whose size increases downstream from small, intermittent gullies to small streams to large river channels. In order to compare rivers of different size or importance, a system of stream ordering is generally used. The smallest streams of a network (those that have no tributaries) are called first-order streams. When two first-order streams meet to form a larger stream, this then becomes a second-order stream. When two second-order streams meet to form an even larger stream, it then becomes a third-order stream and so on.

There are many small drainage basins in Downe Township. The Dividing Creek basin is one of the larger ones.

In Downe Township, the drainage system results in a maximum of a fifth-order stream (Map 3). As an example, in the eastern section of Downe, the surface runoff is managed by a series of tributaries to Dividing Creek. The stream ordering is as follows: Small, unnamed intermittent channels in the north (First Order) drain into the upper reaches of Cedar Creek (Second Order), Cedar Creek then joins with the upper reach of Dividing Creek (Third Order). Further south, Hansey Creek and Ogdens Creek join Dividing Creek to form a Fifth Order stream.

Drainage basins or areas can also be ranked according to the stream order system. First-order drainage basins are those emptied via first-order streams, second-order basins are those in which the main channel is of the second order and a fifth-order basin would be one in which the trunk stream is of the fifth order. As in the Dividing Creek example above, high-order basins are comprised of a complete series of lower-order basins, each set inside the other.

The process of mapping individual drainage basins within a large drainage network requires finding the drainage divides between channels of a particular order (see Map 4). This is usually accomplished with the use of a topographic contour map.

Downe Township is divided into sub networks of drainage basins linked to the major water features: Dividing Creek, Oranoaken Creek, Buckshutem Creek, Nantuxent Creek and Fortescue Creek. All of these stream networks drain into the Delaware River.

Implications For Land Use Planning

The location and type of land use can have a pronounced influence on drainage networks and basins. Soil erosion, removal of natural channels, construction of man-made drainage conveyance, creation of lakes, and the development of land with large impervious surfaces can change the way in which the drainage system functions.

Since the drainage of surface water on the land normally relies upon natural topography and soils, changes to the land's surface can also change the way in which surface water is managed. Land use actions can either increase the amount of water in a locality or result in a decrease in water flow. Land use actions can also impact the quality of surface water.

For example, when a large-scale commercial development is built there is a necessity for the construction of parking facilities. These facilities usually result in an increase of "impermeable surface". This means that the surface of the parking lot is not able to absorb rainfall in the same manner in which the natural soil cover would. This situation can result in additional surface water entering local drainage features and the construction of specialized stormwater management facilities. If not managed properly, this can result in localized flooding during storms and can also increase the amount of pollution entering streams from parking lot surfaces.

A loss of normal surface water flow can alter stream characteristics. An example in this area could be the creation of man-made ponds or lakes. These types of features can impede normal stream flow and result in changes to downstream conditions. In some cases vegetational changes can occur when the amount of freshwater to an area is drastically decreased.

In Downe Township, the surface hydrography is a complex system. Not only can improper land use lead to situations like those described above, there is also a delicate balance between the freshwater system and the coastal, or saltwater, system. Large scale changes to the overland flow of freshwater drainage can change this balance. If the supply of freshwater to a local area is drastically decreased it can allow further inland migration of tidal water, thus changing the natural characteristics of the area.

Development of any kind can alter the patterns of surface water runoff in a community.

GEOLOGY AND GROUND WATER

A large portion of New Jersey is part of the Atlantic Coastal Plain.

Introduction

Downe Township and Cumberland County, are located within the Atlantic coastal plain physiographic province. This is one of five major water provinces in New Jersey. Almost three-fifths of New Jersey is within the coastal plain. This province covers most of southern New Jersey south of the Raritan Bay.

The geology of the coastal plain has been compared to a "super-sandwich" (Widmer, 1968) in which there are a number of layers or geologic formations. Water beneath the land surface occurs in these layers of clay, silt, sand, and gravel deposits known as unconsolidated and semiconsolidated sediments. When a geologic formation contains water it is known as an aquifer. Water is stored in the voids within rocks and soils. Map 5 depicts the surficial, generalized geology - or the geologic layer that is closest to the surface. While the information contained in this chapter is not as directly useful for land use planning as that found in other chapters, it is beneficial to have a basic understanding of the geologic conditions when attempting to address issues such as water supply and potential pollution sources.

Geologic Formations And Ground water

The coastal plain formations were deposited over a "geologic time frame", or over a period of millions of years. The history of these deposits is divided up into three major periods: Cretaceous, Tertiary, and Quaternary.

The Cretaceous Period (60 - 130 million years ago) consists of one epoch, the Upper Cretaceous. This epoch is divided into four geologic units. The oldest is the Potomac-Raritan-Magothy group. This is the deepest known aquifer, but below Cumberland County it contains saline water. It is approximately 2,200 feet thick. Above it rests the Merchantville-Woodbury-Englishtown-Marshalltown unit. This is a non-water bearing unit about 400 feet thick. It contains dark silty clays which prevent

leakage of ground water into the Potomac-Raritan-Magothy layer.

The Wenonah Formation and Mt. Laurel Sand is the third layer. Although this is an aquifer and has potential to be developed as a water supply inland, the Mt. Laurel-Wenonah Formation becomes salty as it approaches sea level. The Naveskink Formation is the uppermost layer of the Cretaceous epoch. It is a 25-40 foot thick layer of glauconitic greenish-black clayey sand.

Formations deposited during the tertiary age (second oldest) consist of alternating layers of sand, silt, and clay. There were four epochs: the Paleocene, Eocene, Miocene and Pliocene (from oldest to youngest). The layer overlying the Navesink is the Homerstown Sand-Vincetown Formation (Paleocene epoch) which acts in conjunction with the Naveskink as a leaky, greenish-black glauconitic sandy clay. This layer is about 170 feet thick.

Above the Homerstown Sand-Vincetown Formation is the Piney Point aquifer. It is a minor aquifer used for domestic supplies mainly in the western portion of the county. The aquifer consists of fine to medium-grained glauconitic sand layers of greenish-gray silty clay. This formation, like the others, dips to the southeast.

During the Miocene and Paleocene epochs, the four Kirkwood Formations and Cohansey Sand were deposited. Two of the four Kirkwood formations are aquifers. Starting with the deepest, the Kirkwood Formation (Unit 1) is a confining unit of dark gray and brown silty clay. The layer ranges from 40 to 130 feet thick.

The Cohansey-Kirkwood aquifer is the most productive and important ground water formation in Cumberland County.

Unit 2 is the Lower Kirkwood aquifer. Presently, this aquifer is being utilized in Maurice River Township and along the Delaware Bay where the static water level is above sea level. The thickness is between 10 - 90 feet.

Unit 3 is another semi-confining unit consisting of gray and brown silty to sandy clay. The silt and sand allows vertical leakage of water both up and down between the two aquifers. Thirty to ninety feet is the thickness of this layer.

Unit 4 is the Cohansey-Kirkwood aquifer (Cohansey Sand and upper part of the Kirkwood Formation) which is the most productive in the County.

It can be tapped from near the surface to a depth of 180 feet and ranges in thickness from 30 - 180 feet. Wells in this layer have produced up to 1200 gallons per minute.

The Cohansey and Kirkwood Formations are of great importance to Cumberland County with respect to ground water supply. In Downe, the deposit known as the Cohansey Sand is the only tertiary unit outcrop. This unit is the shallowest and most productive source of ground water in the County. This aquifer is highly permeable and generally yields quantities of water (300 to 1,200 gpm) to wells of less than 180 feet (Rooney, 1971). In most of the County the Cohansey Sand is a water-table aquifer, or open to the surface. This means that the Cohansey Sand aquifer is very susceptible to various sources of contamination. The Cohasey Sand aquifer is overlain by a sandy, silty clay layer where it thins out near stream channels because of the erosional effect of the stream.

Most wells in Downe depend upon the Cohansey-Kirkwood aquifer or the lower Kirkwood aquifer. Near the Delaware Bay, ground water levels in the Cohansey-Kirkwood may fall below sea level during summer months and result in salt-water intrusion. For this reason, most productive wells along the bay front tap the lower Kirkwood aquifer.

There are two formations that were deposited during the quaternary period (or latest period) found surficially in Downe Township: The Bridgeton Formation, and The Cape May Formation. The Bridgeton covers much of the northern portion of Downe and is an older deposit than the Cape May Formation. The Bridgeton is largely above the water table and found in flat upland areas of the Township. It serves as a recharge area for precipitation to reach the underlying Cohansey aquifer. Few wells tap the Bridgeton Formation for water supplies (NJGS).

The Cape May Formation is also relatively unimportant as a source of large water supply in Downe. It is found generally in the central portion of the Township. Both the Bridgeton and Cape May Formations occurred during the Pleistocene epoch of the Quaternary Period (less than one million years ago). Fluctuations of sea level resulted in alternating periods of erosion and deposition of sediments. Surface erosion and stream action have removed the Cape May Formation, exposing either the Bridgeton Formation or the still older Cohansey Sands.

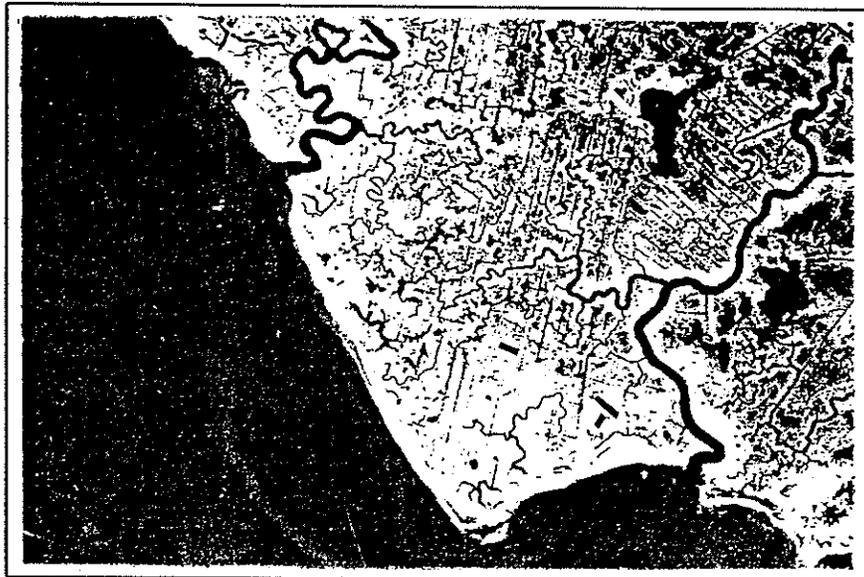
The majority of the southern portion of the Township is overlain by a

tidal-marsh geologic unit. Deposited during the Quaternary, this Formation represents the latest surficial deposit found in Downe. This formation functions as a large ground-water discharge area and is made up of fine-grained sand, silt and clay resulting in a soft and semifluid deposit.

Implications For Land Use Planning

All of the above aquifers rely upon natural precipitation on their outcrop or recharge areas on the surface. Water may seep either directly into the aquifer or leak into it through another formation. The outcrops in Downe are recharge areas for the Township's water supply. When recharge areas are covered by large areas of impervious surface water infiltration into the ground may be reduced in both quantity and quality. The use of onsite recharge basins, permeable paving, and other techniques that facilitate infiltration into the ground can be used to reduce losses to the aquifer.

The location and availability of ground water supplies for human use can also have implications for land use planning. In areas susceptible to salt water intrusion or where expensive methods are needed for acquiring potable water, it may not be the best location for planned high density development. An example of this situation is now taking place in the lower portion of Cape May county where the high level of ground water withdrawals near the coast have resulted in serious saltwater intrusion into the aquifer.



An aerial view of the Downe Township coastline shows a very undeveloped and undisturbed area.

WETLANDS

Definition Of Wetlands

Wetlands are known by a variety of terminology - swamps, marshes, meadows, bogs, fens, sloughs, bottom lands, lowlands, and wet areas. Wetlands generally occur between uplands and open water areas. These areas are important natural resources that function in a number of ways: fish and wildlife habitat, flood protection, erosion control, water quality maintenance, and recreation. Wetlands in New Jersey are also very important in a regulatory sense since State protection of wetlands often exerts an influence over the future development of a community.

Wetlands also have a very specific definition as provided by the Federal Manual For Identifying And Delineating Jurisdictional Wetlands (Federal Interagency Committee For Wetlands Delineation, 1989). This publication, also known as the Federal Manual, is the principal document used to define wetlands in most State and Federal programs.

The Federal Manual requires that an area possess three basic attributes to be considered a wetland. These are:

Wetlands perform many important functions by providing habitat, ground water recharge, and a means of flood control.

- vegetation;
- soils; and
- hydrology.

These are briefly described below:

Hydrophytic vegetation. A hydrophyte is defined as any plant growing in water or in substrate that is at least periodically deficient in oxygen as a result of excessive water content. The U.S. Fish and Wildlife Service's National List of Plant Species That Occur in Wetlands (Reed, 1988a) identifies the "wetland indicator status" of plant species associated with wetlands. Within New Jersey, a local list of wetland indicator plants is

also provided. The list classifies vascular plants into four groups based upon the frequency with which a plant species occurs in wetlands. Obligate wetland plants (OBL) almost always occur in wetlands (probability 99%). Facultative wetland plants (FACW) usually occur in wetlands (probability 67-99%). Facultative plants (FAC) are equally likely to occur in wetlands or non wetlands (probability 34-66%). Facultative upland plants (FACU) occasionally are found in wetlands (probability 1-33%). Obligate upland plants almost always occur in uplands.

An area is considered to have hydrophytic vegetation when, under normal circumstances more than fifty percent of the composition of the dominant species from all strata are obligate wetland (OBL), facultative wetland (FACW), and /or facultative (FAC) species.

Hydric Soils. Wetland, or hydric, soils are defined in the Federal Manual as those soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part. Those soils designated as very poorly drained or poorly drained by the Soil Conservation Service of the United States Department of Agriculture generally fit this description.

The applicable hydric soil criteria consider soil drainage, soil texture, and water table level. In Cumberland County, common hydric soils include the following series: Atsion, Berryland, Fallsington, Pocomoke, and Hammonton (wet phase).

Hydrology. Wetland hydrology is usually the most difficult of the three technical criteria to establish in the field. An area has wetland hydrology when saturated to the surface or inundated at some point during an average rainfall year. Indicators of wetland hydrology are described in the Federal Manual as 1) visual observation of inundation; 2) visual observation of saturation; 3) rhizospheres associated with living roots, 4) water marks, 5) drift lines, 6) water-borne sediment deposits, 7) water-stained leaves, 8) surface scoured areas, 9) wetland drainage patterns, 10) morphological plant adaptations, and 11) hydric soil characteristics.

In addition to the above definitions, the State of New Jersey, Department Of Environmental Protection has accepted jurisdictional authority for freshwater wetlands under the Freshwater Wetlands Protection Act of 1987 (N.J.A.C. 7:7A). The Act defines wetlands as:

The County Soil Survey includes descriptions of the many soil types found in Downe Township.

“ An area that is inundated or saturated by ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation; provided, however, that the Department, in designating a wetland, shall use the three-parameter approach (that is hydrology, soil and vegetation) enumerated in the April 1, 1987 interim-final draft “Wetland Identification and Delineation Manual” developed by the USEPA, and any subsequent amendments thereto.”

Sources for defining wetland areas include U.S. Fish & Wildlife Service Mapping, The County Soils Survey, and N.J. D.E.P. Wetlands mapping.

Farmed Hydric Soil Conditions. These are areas where the vegetative parameter has been altered or is absent, yet the hydric soil criteria is satisfied. Positive hydrologic indicators may or may not be apparent. These areas can continue to be farmed, however, their development potential is severely limited.

State Open Waters. These are specific waters not subject to the jurisdiction of the U.S. Army Corps of Engineers pursuant to Section 404 of the Federal Clean Water Act. State Open Waters may include natural and man-made streams, drainage features (permanent and intermittent), and ponds or lakes.

Transition Area. Intermediate zones between wetland areas and uplands that provide habitat for plants and animals and incorporate both wet and dry areas. N.J.A.C. 7:7A requires identification of transition areas, or buffer areas, based upon the resource value of the wetlands. A standard transition area for wetlands of exceptional resource value is 150 feet and a standard transition area of 50 feet is required for wetlands of intermediate value.

Resource Value. Wetlands are classified into three categories based upon their function with respect to plant and wildlife habitat, ground water recharge, water purification and flood control. Exceptional resource value wetlands provide habitat for state and federally identified threatened and endangered species or discharge into FW-1 (state/federal natural areas) or FW-2 waters (trout production). Ordinary resource value wetlands do not exhibit the characteristics of exceptional resource value wetlands and are isolated wetlands that are not part of a lake or stream system and are more than 50 percent surrounded by development and less than 5,000 sq. ft. in size or are either drainage ditches or swales. Intermediate resource value

wetlands are all freshwater wetlands not defined as exceptional or ordinary.

Wetlands Mapping

There are three sources for the identification of wetlands on a community-wide basis. The U. S. Fish and Wildlife Service prepared the National Wetlands Inventory (NWI) maps using aerial photography. This set of maps (prepared at a scale of 1:24000, or 1 inch equals 2000 feet) until recently has been the standard source for general wetlands mapping. County Soil Surveys (U.S.D.A., Soil Conservation Service) also provide generalized information regarding the location of wetlands through the identification of hydric soils and areas with poor drainage. The most recent, and best source of information, are the New Jersey Freshwater Wetlands Maps. The New Jersey Department Of Environmental Protection and Energy (NJDEPE) started mapping wetlands of the State in 1988 at a scale of 1:12,000 (1 inch equals 1000 feet). This scale provides for a greater level of detail than the NWI or Soil Survey maps. In addition, a greater degree of "ground truthing" has been employed in the New Jersey effort. To date, the NJDEPE has not yet completed mapping for the entire State, however, the maps for Downe Township are complete.

*U.S. Fish & Wildlife
Service Maps show
considerable detail.*

Each of the three wetlands mapping sources are very useful for community-wide planning purposes (as explained later in this section), the maps are not accurate enough to address questions regarding wetlands on individual parcels. For this information, an expert in wetlands delineation should be employed to conduct a field analysis.

The Benefits Of Wetlands

As mentioned above, wetlands provide a number of benefits to both the human and natural environment. Some of these benefits are discussed below:

Water Quality. Wetlands remove sediment, nutrients, pesticides and minerals from surface waters. In some communities, constructed wetlands are actually used to treat sewage Wastewater.

Erosion And Sedimentation. Because wetlands slow the overland flow of water, they reduce soil erosion and sedimentation. Wetlands filter and collect sediment from runoff water, thus helping to reduce mud in streams

and lakes. Wetlands also absorb coastal and riverine flood waters thereby reducing soil loss through bank erosion.

Wildlife Habitat. Approximately fifty percent of the federal and state recognized threatened and endangered species either live in wetlands or depend upon wetlands for some aspect of their survival. Numerous other species utilize wetlands for breeding, nesting, and feeding.

Flood Prevention. Wetlands slow down and store flood waters for short periods of time. This storage reduce peak water flow after a storm and helps reduce downstream flooding.

Commercial Fisheries. Many wetlands, especially those located along the coast, provide habitat for an integral part of the life cycle of many commercial finfish and shellfish. Coastal wetlands function as the nursery, food source, and spawning area for a majority of commercial fishes in the United States.

Recreation. Many forms of outdoor recreation benefit from the resources of wetlands. Bird watching, photography, hiking, and many other activities take place in public wetland areas.

Wetlands In Downe Township

Downe's wetlands are generally associated with the major surface water features (see Surface Hydrography And Drainage Basins) and the coastal processes along the Delaware Bay. Wetlands in Downe Township are depicted on Map 6.

The mapping sources for wetlands in Downe are a combination of National Wetland Inventory Maps and New Jersey Freshwater Wetland Maps. The NWI maps provide a greater level of detail for the coastal, or estuarine wetlands than the state mapping source.

Wetlands are usually classified into various categories, dependent upon the type of prevalent vegetation, soil and hydrologic factors. This classification system is known as the Cowardin System after the author of the U.S. Fish and Wildlife Service publication Classification Of Wetlands and Deep-water Habitats of the United States (Cowardin, et. al., 1977). This system is hierarchical in nature proceeding from general



The "Glades" area of Downe Township has spectacular wetland scenery.

There are five main wetland systems including Marine, Estuarine, Lacustrine, Riverine, and Palustrine.

to specific. Wetlands are first classified at a broad level known as the "system". Five systems are defined: Marine, Estuarine, Riverine, Lacustrine, and Palustrine. The vast majority of wetlands in Downe fall into the Palustrine general level (marshes, bogs, swamps and small shallow ponds) and the Estuarine general level (subtidal - continuously submerged areas and intertidal - areas alternately flooded by tides and exposed to air).

The majority of wetlands associated with Buckshutem Creek, Gravelly Run, Cedar Creek, and other small stream systems - as well as Bear Swamp River are further classified in more detail known as the class level in the Cowardin System. This level describes the general appearance of the wetland habitat in terms of the dominant vegetative life form. These wetlands are known as Palustrine Forested Wetlands. These wetlands are dominated by woody vegetation greater than 20 feet tall. Finally, the class of wetland can be further divided into subclasses to define the type of dominant vegetation (eg. broad-leaved deciduous, needle-leaved deciduous, broad-leaved evergreen, or needle-leaved evergreen). The majority of Palustrine Forested wetlands found in these areas are broad-leaved deciduous and needle-leaved evergreen.

Smaller in area and generally associated with small tributaries to the larger streams are Palustrine Emergent wetlands. These are wetlands dominated by erect, rooted herbaceous hydrophytes. Most of these wetlands fall into the subclass of Persistent.

Somewhat larger in area than the emergent wetlands are Palustrine Scrub/Shrub wetlands. These wetlands are dominated by woody vegetation less than 20 feet tall and are found largely in more disturbed sections of the freshwater wetlands.

The vast majority of wetlands by area in the Township are Estuarine, intertidal, emergent wetlands. These wetlands cover the majority of the southern portion of the township. These areas are tidally influenced and contain vegetation characterized by erect, rooted, herbaceous salt water tolerant plants.

Implications For Land Use Planning

The state regulations protecting wetlands preempts, or prohibits, municipalities from regulating wetlands directly. This was done to eliminate duplication between local and state regulation. However there are a number of implications for local land use planning.

The New Jersey D.E.P. assumed the regulation of all freshwater wetlands in 1994, including those previously administered by the Army Corps of Engineers.

The most obvious implication is related to the location of future land uses. State regulations prohibit the filling or dredging of wetlands (except in special exceptions). These regulations make it nearly impossible to develop housing or other types of land-based development in these areas. It would be inappropriate to direct future land uses to these areas only to have potential builders prohibited by the State from proceeding with their projects.

There are also a number of proactive approaches that a municipality can take in protecting wetlands. Development applications (site plans or subdivisions) can be required to include prior state wetlands permits before the application is deemed complete. This can reduce the expense of the applicant. If the applicant cannot obtain the necessary state permits, the subsequent costs of local and county approvals can be avoided.

SOILS - PROBLEM SEPTIC AREAS - PRIME AGRICULTURAL AREAS

Introduction

The soil characteristics of a community are important for a number of reasons. Many types of land uses are dependent upon a range of soil properties. In other cases, some soils may preclude certain types of uses. Foremost of these relationships are: 1) the suitability of soils to accommodate septic systems and, 2) the suitability of soils for productive agriculture. The following sections discuss the soils of Downe Township as they relate to these concerns.

Soils And Septic Systems

Septic systems are the most common means of individual wastewater treatment in the rural sections of Cumberland County. However, they work well only when the soils through which their effluent seeps possess the proper texture, slope, depth to seasonal high water table, and percolation rate. Optimum conditions exist when the septic effluent seeps through the soil at a rate which permits soil microorganisms to decompose the wastewater. Too fast a percolation rate increases the likelihood of septic contamination of groundwater. If the rate is too slow, the effluent could build up and eventually rise to the surface. If the groundwater table is close to the surface, nondecomposed effluent will immediately contaminate the groundwater.

Problem areas for septic systems are classified by the U.S.D.A. County Soil Survey into three general categories: slight limitations, moderate limitations, and severe limitations. These categories are intended to provide guidance for the placement of septic systems as they relate to soil conditions. Soils in the severe limitations category in Downe Township are listed as:

Soils can either suitable or unsuitable for development. There are seven unsuitable soils in Downe Township.

- Astion (Ac)
- Berryland (Bp)
- Fallsington (Fd)
- Muck (Ms)
- Othello (Ot)
- Pocomoke (Ps)
- Tidal Marsh (TM)

Map 7 depicts soils with severe limitations for septic systems in the Township. The following sections provides a descriptions of these soils.

Atsion Series-Atsion Sand (Ac)

The Atsion Series consists of nearly level, poorly drained soils that have an organically stained subsoil. When these soils are adjacent to streams, they are subject to frequent flooding. Areas that adjoin tidal marsh are subject to tidal flooding during severe coastal storms. Atsion soils are low in natural fertility and moderate in organic matter content. Permeability is rapid. In undrained Atsion soils, the seasonal high water table is at a depth of 0 to 1 foot. Water runoff is slow. Wetness is the main limitation on the use of this soil. These soils exhibit a severe limitation for septic tank absorbtion fields due to the fact that the seasonal high water table is within a depth of 1 foot below the surface.

Berryland Series (Bp)

The Berryland Series consists of nearly level, very poorly drained soils. They are mainly at low elevation, generally between 0 to 40 feet. Where these soils are next to streams, they are subject to frequent flooding for short periods. Areas of these soils that adjoin tidal marsh are subject to tidal flooding during some coastal storms. Berryland soils are low in natural fertility and high in organic matter. Permeability is moderately

rapid. The hazard of erosion is slight and runoff is slow. Because the soils are mostly loose sand, they move or shift readily. Berryland soils that adjoin muck are subject to frequent flooding of short duration. Below the subsoil, the soil material is saturated with water nearly all the time. Severe restrictions for septic systems occur because of low depth to seasonal high water table.

Fallsington Series (Fd)

The Fallsington Series consists of nearly level, poorly drained soils. These soils formed under a dominantly hardwood forest in marine or fluvial deposits. They are in low flats where they receive much runoff from slopes above. Where these soils are next to streams, they are subject to frequent flooding and where adjacent to tidal marsh they are subject to coastal flooding during storms. Fallsington soils are medium in natural fertility and moderate in organic-matter content. Permeability is moderate. If the soils are drained, the available water capacity is moderate but the water table is high enough that water is available to plants. Normally, the water table is at a depth of less than 1 foot, it is 2 feet to more than 4 feet deeper in summer. The water table reaches its peak late in October and remains high until June. When the water table is high, the soils have low bearing capacity. Fallsington soils have severe limitations for building foundations and on site septic tank disposal systems because the seasonal water table is high for more than six months. In these areas, the seasonal high water table is within a depth of 1 foot all year round.

Othello Series (Ot)

The Othello Series consists of nearly level, poorly drained soils. Areas that adjoin tidal marsh are subject to tidal flooding during severe coastal storms. Othello soils are medium in natural fertility and moderate in organic matter content. Permeability is moderately slow. In drained areas, the available water capacity is high. The seasonal high water table is at the surface or at a depth of 1 foot from late October until June, but at a depth of three to five feet in summer. Othello soils must be drained for urban uses.

Muck (MS)

Muck (MS) is nearly level and consists of black, finely decomposed, saturated organic material. At most times, the saturated soil material is

essentially liquid and has little bearing capacity. Muck ranges from 16 inches to 10 feet or more in thickness, but is generally three feet or more thick. Muck is in low areas that are stream courses or are transitional from tidal marsh to mineral soils of the uplands. It is subject to frequent, short duration flooding. The water table is at the surface throughout the year except during extreme droughts. Natural fertility is medium. If drained, these soils have high available water capacity. Permeability is rapid. Muck displays severe limitations for septic tank absorption fields as the seasonal high water table is at the surface and these soils are flood hazard.

Pocomoke Series (Ps)

The Pocomoke series consists of nearly level, very poorly drained soils. These, as all other preceding series formed through marine or fluvial deposits. They are in low areas and receive much runoff from higher areas. Where these soils are next to streams, they are subject to frequent flooding. Areas that adjoin tidal marsh are subject to flooding during severe coastal storms. Pocomoke series are medium in natural fertility and high in organic-matter content. Permeability is moderate. If these soils are drained, the available water capacity is moderate but the water table is still high enough that water is available to plants. Undrained Pocomoke soils have a seasonal high water table at the surface during the period October to May but at a depth of two feet or more in summer. If Pocomoke soils are saturated, they have low bearing capacity. The seasonal high water table is a severe limitation for many urban uses.



Tidal Marsh soils are prevalent along the Bay Shore of Downe Township.

Tidal Marsh (TM)

Tidal Marsh (TM), is very poorly drained, silty and mucky tidal flats that are near sea level. It is flooded twice a day by the tide; as a result, it is almost constantly saturated and has low bearing capacity. The soil material is soft and brownish. It ranges from 1 foot to ten feet in thickness averaging about six to ten feet. The underlying material is either highly organic, or is sandy, gravelly, or in a few places clay.

Septic System Suitability In Downe

Map 7 shows that the majority of the southern portion of the Township exhibits severe restrictions for the construction of septic systems. In the central portion of the Township, there are numerous areas adjacent to the existing developed areas that show slight restrictions for septic. The

majority of the northern area of the Township also exhibits little restriction on septic system development.

The information presented in this section should not be used for site-specific determinations for septic system design or construction. Soils mapping is only useful for broad planning decisions. Many areas that are shown as having severe restrictions may have small areas where a septic system could be properly designed. Conversely, those areas shown as not having severe restrictions may have small areas where local problems exist. For site specific development analysis, a licensed engineer must examine the site for its suitability. Before construction or completion of the septic system design, a permit from the County Health Department must also be obtained.

Prime Agricultural Soils

The U.S.D.A. County Soil Survey also provides an assessment of soils for their suitability for agricultural purposes. Soils are classified into one of eight classes. Those soils classified as either Class I or Class II are generally considered the best suited for agricultural purposes and are often called "prime agricultural" soils. In Downe Township the soils classified as prime agricultural are:

Farming remains a part of the Township's landscape.

- Aura Loamy Sand (AmB)
- Aura Sandy Loam (ArA)
- Aura Sandy Loam (ArB)
- Downer Loamy Sand (DoB)
- Downer Loamy Sand (DoC)
- Downer Sandy Loam (DrA)
- Downer Sandy Loam (DrB)
- Sassafras Sandy Loam (SrA)
- Sassafras Sandy Loam (SrB)
- Sassafras Sandy Loam (SrC2)

- Hammonton Loamy Sand (HaA)
- Hammonton Sandy Loam (HaB)
- Hammonton Sandy Loam (HbB)
- Klej Loamy Sand (KmA)
- Woodstown Sandy Loam (WmA)
- Woodstown Sandy Loam (WmB)

Prime agricultural soils in Downe Township, Cumberland County are composed of three soil associations:

- Aura - Downer - Sassafras Association
- Hammonton
- Klej Assoc.

Each of these associations are described below.

Aura-Downer-Sassafras Association

This series consists of nearly level to sloping, well-drained, loamy, sandy and gravelly soils. Soils in this association are mainly in the central and eastern parts of the Township in areas where the elevation is generally 50-110 feet. Approximately 50% of the acreage has been cleared for farming. Aura soils are generally at the highest elevation and are nearly level or gently sloping. Pits left by gravel extraction are common in some places. Sassafras and Downer soils are either next to aura soils or occur separately. These soils are nearly level to sloping.

In Cumberland County, the soils of this association are used for farming and are moderately productive. The main crops are vegetables, fruit, general crops, and nursery plants.

Hammonton-Woodstown Association

This association consists of nearly level to gently sloping, moderately well drained to very poorly drained, loamy and sandy soils. This association is mainly on a terrace next to tidal marsh with elevations of 10-50 feet.

Hammonton and Woodstown soils have a moderately high seasonal water table. They have a surface layer of either loamy sand or sandy loam. Less than 50% of this association is now farmed. Much more of the acreage was once cleared for farming, but because drainage is a problem, much of the area has been abandoned and is reverting to woodland. All soils in this association have a fluctuating water table, which needs to be lowered if the soils are to be farmed. If drained, Hammonton and Woodstown soils are used mostly for vegetables.

Klej Association

This association contrasts nearly level to moderately steep, excessively drained to somewhat poorly drained sandy soils. This association is a sandy terrace next to large streams with elevations 10 - 60 feet. Extensive cleared areas are subject to soil blowing. The use of klej soils for vegetables is limited. Crops are restricted to special crops that can withstand drought or to soils or crops that can be irrigated. Permeability is rapid and added fertilizer leaches readily. The main use is woodland.

Agricultural Soils In Downe

Map 8 depicts prime agricultural soils in the Township. The vast majority of prime agricultural soils lies in the northern section of the Township. This area is largely owned by the State of New Jersey and consists of woodland. However, smaller areas of prime agricultural soils exist scattered throughout the central portions of the Township. Many of these parcels are currently under cultivation. However, since prime agricultural soils exhibit relatively few environmental constraints to development, there is a potential for conflict between continued agricultural use and future residential or commercial development.

Because agricultural soils are generally deep and well drained, they are also the best soils for development.

FLOOD HAZARD AREAS

Introduction

Different combinations of rainfall, snow melt, ground water, soil moisture, and coastal processes can produce a wide range in surface water characteristics. When large amounts of rainfall combined with poor soil absorption occurs, the result can be flooding of areas near river channels. Similarly, large scale storms like "nor'easters" can produce overland flooding of coastal areas. During periods of months when there is larger than normal rainfall, the level of ground water can reach the surface and cause flooding even outside of flood plain areas. In addition, alterations of drainage basins and river channels by human activity can have marked influences on flooding conditions. As land use changes, runoff of rainfall also can change (see Drainage Basin section), producing changes in stream flow. The possibility, or likelihood, of these different factors producing flood conditions is known as the Flood Hazard.

National Flood Insurance Program

A national program has been developed to address the relationship between land use and flood hazard. The National Flood Insurance Program (NFIP) is a Federal program, established by Congress in 1968, that allows property owners to purchase federally backed flood insurance within communities that participate in the Program.

In return for this insurance protection, participating communities implement flood plain management measures to reduce flood risks to new development. Through this mechanism, the Federal Emergency Management Agency (FEMA) and participating communities are able to reduce future flood losses.

Under the National Flood Insurance Program, FEMA is required to develop flood risk data for use in both insurance rating and flood plain management. FEMA develops these data through Flood Insurance Studies (FISs). Using the results of this data, FEMA prepares a Flood Insurance

The Federal Emergency Management Agency is the source of information on flood hazard areas in a community.

Rate Map (FIRM) that depicts the Special Flood Hazard Areas (SFHAs) within the studied community. These are areas subject to inundation by a flood having a one percent or greater probability of being equaled or exceeded during any given year. This flood, which is referred to as the 100-year flood (or base flood), is the national standard on which the flood plain management and insurance requirements of the National Flood Insurance Program are based.

As can be seen on Map 9, most of Downe Township falls within the 100 year Flood Hazard.

Insurance agents and brokers use the FIRM to determine the locations of properties and the corresponding insurance zones, which determine actuarial flood insurance premium rates. Lending institutions and Federal agencies, when they make loans or provide grants for the acquisition or construction of buildings, use the FIRM to determine the locations of properties and whether flood insurance is required.

Community officials use the FIRM to administer flood plain management regulations, usually in the form of construction codes and zoning ordinances. Eligibility for the purchase of flood insurance was made available only to those individuals or corporations whose insurable property is located within a community that has agreed with the Federal government to adopt ordinances that will mitigate the impact of future flooding. The most significant of these required ordinances are those which, for example, condition the issuance of building permits for new residential construction in areas of special flood hazard upon the requirement that the building be constructed so that the lowest floor will be located above the base flood elevation, if that figure is provided on a FIRM issued by Federal Insurance Administration (FIA).

While necessary for applying flood plain management requirements and establishing uniform flood insurance rates, the term 100-year flood can be misleading. Although it represents the long term average recurrence interval for a flood of this magnitude, such floods may be experienced in any given year. There have been numerous instances since the NFIP was established where communities have sustained two, and even three, 100-year or greater floods within a several year period. The 100-year flood might be more properly termed the "1 percent annual chance flood", which represents its true probability of being equaled or exceeded in any year.

Map 9 depicts the FEMA calculation of the 100 year flood hazard for

Downe Township.

Implications for Land Use Planning

In conjunction with the other natural and environmental constraints, floodplain information should be used to guide the future location of development in a community.

Construction in areas located within the flood hazard area should be managed to minimize flood damage to buildings and life. Improper management of development in these areas can also result in service and infrastructure problems and can aggravate flooding in other portions of the Township. Steps that can be taken to minimize problems include requiring structures to be a minimum elevation above a stream or mean high tide, consideration of large building lots, minimizing the amount of lot coverage of impervious surfaces, and minimizing the removal of natural ground cover.

EXISTING LAND USE ANALYSIS

A step in the process of undertaking a major revision of a community's Master Plan often involves looking at patterns in the use of land in the community. This analysis, or inventory of existing land use, usually involves mapped and tabular information.

A land use inventory is a good tool for relating human uses of the land to environmental features.

An inventory of land uses can be valuable to a Planning Board in a number of ways. By comparing land use statistics for earlier time periods, an idea of development trends and changes in the Township's landscape can be estimated. A relatively accurate land use map can also provide a base for looking at the relationship between human use of the land and various environmental factors. Existing land use statistics can also prove beneficial in determining the need for infrastructure and preparing population projections. Other types of activities such as the production of zoning maps and economic development plans can also benefit from existing land use statistics.

An existing land use map should not be confused with either the Future Land Use Map or with the Zoning Map. The Existing Land Use Map carries no policy or regulatory weight. It is only an aid used to inventory the ways that land is currently used. The Future Land Use Map represents the policies of the Master Plan on the way future development should look like. The Zoning Map is one of the tools used to implement the policies of the Future Land Use Map.

An existing land use map represents a "snapshot" of the use of land in the Township. The type of land use is grouped through a series of standardized categories. The Existing land use study presented here has utilized the following system:

Residential. This category includes single family, two-family, farm houses, rural development, hotels, motels, trailers, apartments, and other multi-family housing units.

Commercial-Service-Wholesale. This category includes all retail and wholesale stores, warehouses, offices (both professional and business), and commercial recreation.

Agricultural. All types of agricultural land uses including nurseries and non-residential farm buildings, fields, and irrigation ponds.

Industrial. Railroad rights-of-way, truck terminals, utility structures, radio towers, industries, processing facilities, and any type of assembly or manufacturing facilities.

Public And Quasi-Public. The classification includes land used for schools, police, fire and emergency squads, municipal buildings and playgrounds. All State, County and municipal institutional uses are included in this grouping. Quasi-Public uses include churches, private clubs, private schools, and prisons.

State Open Space. This category includes state-owned wildlife management areas, municipal parks, and other areas dedicated to open space preservation.

Nonprofit Open Space. This category includes land owned by nonprofit conservation organizations that are managed for wildlife and open space activities.

Woodland. Privately owned wooded open space. Excludes public open space. Wooded areas of agricultural lots are included in this category.

Wetland. This category is a generalized representation of marshes, meadows, tidal flats, creeks, rivers and lakes with a minimum size of 40 acres. Excludes public open space. This category represents only a generalization of wetland areas and does not provide the level of information presented in a more detailed discussion of wetlands.

Vacant (Miscellaneous). Privately owned, unused, undeveloped land that does not fit into any other categories. An example would be a cleared lot that has not improvements and does not contain any of the above environmental characteristics.

Existing Land Use

Aerial photography and tax maps were used to record land uses on a base

map. The map was then checked by the Township Planning/Zoning Board members. The subsequent information was then digitized using the County Geographic Information System. The following map (Map 10) depicts the results of the inventory. The following table provides a description of land use statistics for Downe Township in 1994.

About 55% of Downe Township's land area is owned by State and non-profit organizations.

Table 1
Existing Land Use Comparison

	Area In Acres	Percentage Of Total Area
Residential	840.4	2.8%
Commercial	82.6	.27
Industrial	8.9	.03
Active /Past Mining *	1,024.8	3.4
Public	25.4	.08
Quasi Public	21.0	.07
Agriculture	2,190.0	7.2
Woodland	12,646.5	41.6
Wetland	13,400.5	44.0
Misc. Vacant	200.1	.66
TOTAL	30,440.2 Acres	

* Does not include lands owned by extraction companies with potential for future extraction. This category includes only those lands either currently mined for sand or those lands where mining has taken place in the past. Figures do not include open water, roadways and utility corridors.

Based upon the above analysis, an estimate of the total area of the township is approximately fifty three square miles. Approximately forty four percent of the area of the township can be classified as wetlands. Similarly, approximately forty two percent of the area of the township is classified as woodland. The total developed area (residential, commercial, industrial, extraction, public, quasi-public, and agriculture) amounts to only about fourteen percent of the township. A very small area (.66 percent) of the township is classified as vacant or miscellaneous lands.

The majority of developed land use in the township occurs in the three villages of Dividing Creek, Newport, and Fortescue/Gandy's Beach. The land use classified as medium density residential development occurs in these areas. The majority of commercial and industrial land uses also takes place in these three areas of concentrated development. Other sections of the township located along the major transportation arterials such as County Route 553 are also locations of residential, commercial,

and industrial development. The majority of agricultural use of the township occurs south of Newport and along Fortescue Road. Overall, the majority of the township is sparsely developed and in its natural condition, with distinct concentrations of active land use scattered throughout.

The previous Downe Township Master Plan did not provide a detailed land use analysis for the year of its development. Therefore, it is difficult to make any assessments of change in land use over time.

State, Non-Profit, and Mining Company Land Ownership

A large percentage of the total land area of the Township is owned by three parties. Approximately 13,547 acres (about 40% of the total area of the Township) is currently owned by the State of New Jersey (Fortescue Fish & Wildlife Management Area, Bevan Wildlife Management Area, and Egg Island Fish & Wildlife Management Area.) A non-profit conservation organization, the Natural Lands Trust, owns approximately 5,069 acres (about 15% of the Township) in its Glades Preserve. The Nature Conservancy, another large non-profit conservation organization, recently acquired 266 acres as part of a Gandy's Beach Preserve (representing about 1% of the Township.) The lands owned by these organizations are managed for either wildlife or as nature preserves.

In addition to conservation related properties, the sand mining industry also owns a considerable area within the Township. Approximately 4,807 acres or 14% of the total area of the Township is owned by three sand mining interests. Map 11 depicts the location of these properties.

According to the "1994 TRW Redi Property Tax Data; Abstract of Ratables in Cumberland County," tax exempt properties, if they were taxed would contribute approximately \$9,200 to the municipal budget. Not all of the non-profit owned land is tax exempt. Non-profit agencies are paying around \$7,300 in taxes. Table 1.1 outlines these figures in more detail.

Table 1.1
Public and Non-Profit Land Ownership
Assessments and Lost Tax Contributions

<i>Type of Ownership</i>	<i>Acreage</i>	<i>Assessment</i>	<i>Taxes Lost to Municipality</i>
State Owned Land	13,547	\$4,987,500	\$7,400
Non-profit Lands	5,069*	\$1,226,200	\$1,800*

*The recent addition of 266 acres to this total by The Nature Conservancy would add an estimated \$100 in revenue to the municipal budget.

POPULATION AND DEMOGRAPHICS IN DOWNE TOWNSHIP

INTRODUCTION

An analysis of the population and demographic characteristics of a community can reveal much about what is occurring there. Perhaps no single factor contributes more to changes in land use than a shift in population. An expanding population base can lead to the conversion of vacant or rural land. It can promote additional commercial and industrial activity and heighten the demand for municipal services.

A declining population base can have other effects. It can contribute to the decline of neighborhoods and the deterioration of community life. It can shift the burden for maintaining facilities and services. That is why it is important for municipal planners to understand the demographic forces shaping their community.

This section of the Master Plan examines the population and demographic characteristics of Downe Township. Factors such as the historic trends in population, housing, and labor force will be reviewed. An effort to understand some of the reasons for changes in these characteristics will

Table 2

Population Changes in Downe Township 1880-1990

Year	Population	Year	Population
1880	1687	1940	1546
1890	1793	1950	1786
1900	1833	1960	1870
1910	1519	1970	1777
1920	1322	1980	1803
1930	1574	1990	1702

Source: Bureau of the Census

also be made. By understanding not only the trends but the forces that have helped to shape them, municipal officials will be better able to plan for the future of the community.

POPULATION GROWTH

During the second half of this century, the number of persons living in Downe Township has remained relatively constant. In fact, this is true from the time Commercial and Downe Townships were established as

Downe Township is the most rural community in Cumberland County with only 34 persons per square mile.

Table 3
Persons Per Square Mile
Cumberland Municipalities: 1960

	1960	1970	1980	1990
Bridgeton City	3371	3284	3022	3045
Commercial Township	100	113	144	155
Deerfield Township	122	146	150	174
Downe Township	37	35	36	34
Fairfield Township	92	128	135	135
Greenwich Township	60	53	54	50
Hopewell Township	120	133	146	141
Lawrence Township	70	62	57	65
Maurice River Township	33	40	49	71
Millville City	451	505	586	614
Shiloh Borough	462	478	503	340
Stow Creek Township	55	57	74	78
Upper Deerfield Township	194	214	219	223
Vineland City	549	690	783	798
CUMBERLAND COUNTY	212	241	263	282

Source: Bureau of the Census

separate municipalities in the 1870s. The population of Downe Township in 1880 was 1,687 persons; only 15 fewer than were enumerated in the 1990 census. During this period, the population of the Township fluctuated from a high of 1,870 persons in 1960 to a low of 1,322 persons in 1920. Table 2 outlines population trends in the Township from 1880 to the present.

Downe Township is the most rural municipality in Cumberland County. Population density for the Township has remained between 31 and 37 persons per square mile since 1930. Only Greenwich Township which has a population density of 50 persons per square mile approaches the very rural density of Downe Township. Table 3 highlights population density for each of the Cumberland County municipalities from 1960 to 1990.

Analyzing Population Trends

There is concern in Downe Township about the reasons for the recent decline in municipal population. As indicated in Table 2, the Township lost population from 1980 to 1990. In order to make a determination about the reasons for this decline, an examination of other data is necessary.



In addition to enumerating population, the U.S. Census also counts housing units. Table 4 outlines the number of housing units in Downe Township from the 1960 Census to the present. In all four census periods, there were a considerable number of vacant units.

This is attributable to the time when the census is taken, (April), and the fact that there are a large number of seasonal residences in the Township that would not be occupied early in the spring.

By examining the number of occupied units and contrasting those numbers to the total population, the average number of persons per housing unit can be determined. This analysis leads to some interesting findings.

	Total Units	Occupied	Vacant
1960	921	546	375
1970	864	542	322
1980	1069	635	434
1990	1049	631	418

Source: Bureau of the Census

Fertility rates have declined in Cumberland County.

From 1960 to 1990, there was a drop in the average number of persons per housing unit in the Township from 3.3 persons to 2.7 persons. A similar decline was true for the County as a whole. One possible explanation for this trend is the general decline in the fertility rate for females during this period. The fertility rate is the average number of children born to every 1000 females in a given population. Fertility rates in Cumberland County have gone from 21.3 births per thousand women in 1960 to 16.7 births per thousand in 1990. If fewer women are having fewer children, the population of a community will not increase as quickly and can even decline despite a marked increase in development trends. There are no figures for birth rates at the municipal level, but one can reasonably expect women in Downe Township to have birth rates similar to those of the County. This would explain part of the overall decline in municipal population from 1960 to the present.

Family size has also declined.

Another related explanation is known commonly as the "empty nest syndrome." The children who were born at the tail end of the baby boomer years from 1945 to 1965 and who contributed to the relatively high municipal population in 1960, left home during the 1980s. They moved from the township to other communities around the County, State, or Nation. In 1980, there were 525 persons living in the Township under the age of 18 years. This represented 29% of the population base. By 1990, there were only 402 children in the Township less than 18 years of age, or 24% of the total population. In addition, if one examines the age group from 5 to 17 years in 1980 and compares it to the group 18 to 30 years old in 1990, the number of persons declines from 413 in 1980 to approximately 321 in 1990. (An exact number is difficult to obtain because of the categorization of the census data.) Clearly, this is evidence of some outmigration and a general decline in family size. These are trends that are not unique to Downe Township. Many small municipalities exhibit similar characteristics.

Additional factors that could be contributing to the recorded population decline in the Township are inconsistencies in the Census counts. Because of the large number of seasonal units in the municipality, there may have been more of these units occupied in certain census years than in others. In addition, because the Township is isolated and very rural, some individuals simply may not have been contacted. Others may have not filled out their census questionnaires. With a population base that is relatively small, undercounted persons could make a significant

difference in the resulting population figures.

In summary, it is evident from the data that development is occurring in the Township. While it is sporadic, the trend has been upward. The accompanying downward trend in population, while also sporadic is probably due to fluctuations in birth rates and migration typical of small, rural communities.

Characteristics of the Population

Think of the Census as a snapshot. Like a photograph taken with a camera, the Census provides a picture of a community at a given point in time. The picture of Downe Township, taken as part of the 1990 Census presents a population that has a median age of 36.8 years, resides in owner-occupied, single family dwellings, (including mobile homes), is predominantly white, (93.5%), and has at least high school education. The average family had an income of about \$31,000 (in 1989) and 9.1% of all families had income below the poverty line. Table 5 compares the educational and income characteristics of Downe Township to other communities in Cumberland County.

Median family income in Downe Township was only 90% of the County average.

As can be seen from this table, levels of income and educational attainment were similar in Downe Township and many of the other rural, Cumberland County municipalities. However, the County lagged well behind the rest of New Jersey and the Nation in these two areas. The percentage of Cumberland County residents who were high school graduates in 1990 (63.4%) was only 83% of the New Jersey average and 84% of the national average. Income comparisons were more dramatic. Cumberland County's median family income for 1989 (\$34,571) was only 73% of the State median.

One of the factors that depresses income and educational attainment in some of the Cumberland County communities is the presence of prison populations. Maurice River, Fairfield, and Bridgeton all have significant numbers of prisoners in their communities.

In Downe Township, where these institutional populations are not present, the relatively low family income can be explained in part by the high percentage of retirement age residents. Persons in their retirement years usually have fixed incomes that might be augmented only marginally by outside income sources. Table 6 contrasts the percentage of persons in

59.7% of Downe Township residents were high school graduates.

Table 5
Education and Income Levels for Downe Township and
Other Cumberland County Communities

1989 Community	% H.S. Graduates	1989 Median Family Income
Bridgeton	54.5	\$26,243
Commercial	60.8	\$31,088
Deerfield	61.2	\$35,426
Downe	59.7	\$30,714
Fairfield	57.5	\$31,593
Greenwich	74.0	\$35,083
Hopewell	75.6	\$42,078
Lawrence	60.2	\$34,906
Maurice River	55.1	\$34,154
Millville	69.8	\$36,654
Shiloh	79.7	\$34,886
Stow Creek	82.0	\$42,583
Upper Deerfield	73.6	\$40,691
Vineland	61.6	\$35,361
CUMBERLAND COUNTY	63.4	\$34,571
NEW JERSEY	76.7	\$47,589
UNITED STATES	75.2	\$34,213

Source: Bureau of the Census

Downe Township 65 years of age and older with other Cumberland County communities.

As can be seen from this table, Downe Township has one of the highest percentages of senior citizens of any municipality in the County. (Only Shiloh, Greenwich, and Hopewell had higher percentages and Hopewell's high numbers stem from the presence of the County geriatric center.) Most of these retired persons live in villages such as Fortescue, Money Island, and Gandy's Beach. The public opinion survey of Downe Township residents indicated that a sizeable number of them felt the Township was a good place to retire.



A high percentage of Downe Township residents are Senior Citizens.

Table 6
Senior Citizen Populations
Downe Township and Cumberland County
Municipalities, 1990

Municipality	Number	% Total Pop.
Bridgeton	2898	15.3
Commercial	660	13.1
Deerfield	350	11.9
Downe	273	16.0
Fairfield	560	9.8
Greenwich	114	16.8
Hopewell	724	17.2
Lawrence	293	12.0
Maurice River	376	5.7
Millville	3479	13.4
Shiloh	66	16.2
Stow Creek	167	11.6
Upper Deerfield	939	13.6
Vineland	7719	14.1
CUMBERLAND COUNTY	18657	13.5

Source: Bureau of the Census, 1990.

Summary

The figures presented in this analysis not only paint a picture of the population of Downe Township today, but will help form a base of data for making forecasts about the Township's future. Historical data can often provide many insights into the probable changes in the municipal population in the years to come. The data are helpful also in analyzing the economic base of the Township, presented in another section of this plan.

ECONOMIC BASE ANALYSIS

Downe Township's economy is based on the historic natural resources of the community.

Introduction

The economy of a municipality can have a decided impact on land use. Certain types of industries have greater impacts than others. A large, manufacturing business often brings significant residential development to a community. "Factory towns" were common in the late nineteenth and early twentieth centuries. In Cumberland County, Millville is a good example. The glass industry was central to the City's growth and development.

Other types of industry, agricultural operations for example, are cyclical in nature. Their employment fluctuates throughout the year, depending on the processing and production cycles. These industries also have impacts on the labor force, because many of its employees are temporary. Some are migrants and do not remain in the community after the growing season ends.

Regardless of any specific industry, the local economy has a significant bearing on the characteristics of the community, land, and labor force. The forces that helped shape the local economy will likely play a role in the future of the community.

In Downe Township, an analysis of economic activity is an important aspect of the Master Planning process. This analysis helps to provide an understanding of the strengths of the local economy. By examining economic assets, municipal and business leaders can gain a clearer appreciation for the types of strategies needed to build a stronger economy and the impacts these strategies might have.

Employer Inventory

Being a rural municipality, the economic base of Downe Township centers on a few key industries. Tourism and Recreation, the service trade, local government, (including schools), and sand mining are prob-

Charter fishing and other boating and recreational services are an important part of the local economy.

ably the largest employers in the Township. Because the population base of the community is so small, and because there is no single, large employer, a precise accounting of the number of jobs in the Township is difficult. Perhaps the most complete inventory of businesses in the community was compiled in 1993 by several local citizens. Entitled, "Downe Township Local Guide for Visitors and Tourists", this publication provides a good overview of the businesses in the Township. The Natural Lands Trust also prepared an excellent guide to the Glades Refuge which includes a listing of local services and facilities. Coupled with census information, data drawn from local employers, the telephone yellow pages, and a general knowledge of municipal commerce, a broad picture of local economic activity can be developed. It is not the purpose

Table 7
Business and Employment Establishments
Downe Township, 1994

Employment Category	Number of Establishments
Agriculture	14
Mining	1
Construction	4
Manufacturing	1
Transportation & Public Utilities	36
Communication	--
Wholesale	1
Retail	29
Finance, Insurance, Real Estate	--
Services	33
Public Administration	2
TOTAL ESTABLISHMENTS	121

of this inventory to be a guide or advertisement for local employers. Rather, it is to portray a general sense of the economic base of the Township for planning purposes. Utilizing the various sources identified, Table 5 presents an overview of the number of employers in the Township by Standard Industrial Classification, (SIC). A complete listing of the individual establishments and their SIC Classification is found at the end of this narrative. Because several businesses serve different functions, there is some duplication in this listing.

As can be seen from this table, the Township has a high percentage of its total number of employers in four categories: agriculture, transportation, retail trade, and services. Each of these sectors includes a range of businesses and deserves a more detailed explanation.

While there are relatively few large, working farms left in the Township, there are still a number of small produce stands that operate during the growing season. There are also some nursery and greenhouse operations. These are the establishments listed under "agriculture." The category "transportation and public utilities" includes such things as marinas, charter fishing operations, trucking firms, and post offices. "Retail trade" includes restaurants, gas stations, seafood stores, bait and tackle shops, gift shops, and delis. Non-powered boat rentals were included in "services" along with such things as hotels, guest houses, churches, camps and mobile home parks, schools, repair shops, and professional and miscellaneous services such as detective agencies, taxidermists, photographic studios, and licensed services.

Retail trade is an important part of the Township economy, catering to fishing and tourist activities.

Labor Force Analysis

The 1990 Census provides a good snapshot of the labor force in the Township. Table 8 illustrates the industrial occupations of those employed persons, 16 years of age and older, who responded to the Census questionnaire. A comparison between Downe Township and the Cumberland County population is offered.

It is important to point out that this table describes the labor force characteristics of the people who live in Downe Township. They do not necessarily work there. However, by comparing the municipal and County figures, it is possible to get an idea of the labor force specialization of the Township.

For example, there are two employment categories where the Downe Township labor force differs significantly from the County. They are mining and transportation. The percentage of the labor force employed in mining is twenty-four times greater in the Township than in the County. For transportation, the municipal percentage is almost twice as large as the County figure.

These numbers complement those from the previous table and help



Retail and service operations make up important segments of the Township economy.

Table 8
Labor Force Characteristics
Downe Township, 1990
#, % Labor Force

Employment Category	Downe Township	Cumberland County
Agriculture	18, 2.4	1542, 2.5
Mining	55, 7.2	208, .3
Construction	41, 5.3	3785, 6.2
Manufacturing	150, 19.5	13725, 22.6
Transportation	49, 6.4	2242, 3.7
Communications	19, 2.5	1232, 2.0
Wholesale Trade	32, 4.2	2287, 3.8
Retail Trade	103, 13.5	8585, 14.1
Finance, Ins., Real Estate	36, 4.7	3676, 6.0
Services	207, 27.1	19759, 32.4
Public Administration	55, 7.2	3896, 6.4
TOTAL	765 100	60937 100

explain what is going on in the local economy. While there is only one mining employer in the municipality, the impact of mining employment is far greater in Downe Township than in the County. The high percentage

of persons employed in transportation was explained previously by the large numbers of charter boating, fishing, and marina operations in the Township. Of the persons in the local labor force, 53 of them, (6.9% of the total), indicated they were self-employed.

Journey to Work and Commutation Patterns

In addition to labor force characteristics, the Census Bureau also provides information on where people work and how they get there. These characteristics are summarized in the Census as "Journey to Work" data. Because they are presented by census tract, the figures for Downe Township also include Lawrence Township, since both communities comprise census tract 103. Nonetheless, there is probably enough compatibility between the municipalities and their respective labor forces that the numbers provide an adequate summary of local commutation patterns.

Most Downe Township residents commute to work somewhere in Cumberland County.

According to this data, 87% of employed residents in the census tract work within Cumberland County. Approximately 17% work in Vineland, 22% in Millville, 12% in Bridgeton and 36% elsewhere in the County. The remaining 13% of employed persons work outside the County. Some of the more frequently cited destinations are Atlantic City, Gloucester, Salem and Cape May Counties. The average commute time was 24 minutes, and as might be expected, the vast majority drove a private vehicle to work.

Estimating Local Employment

Each of the presentations on the numbers of employers, the characteristics of the labor force, and the journey to work information provide important clues in developing an estimate of local employment. While each of the analyses offers a slightly different perspective of the picture, none provides an approximation of the number of jobs located in the Township. To arrive at this estimate, several comparisons were made.

As pointed out in Table 7, there are 121 employers in the Township. Most of them employ a small number of persons. Many of them employ only one person; not necessarily full-time. Others, however, employ many more than one. The schools, restaurants, and lodging facilities in particular, provide more than one job. Therefore, it seems safe to assume that there are many more than 121 jobs in the Township. How many more is the question.

A figure from the 1993 New Jersey Legislative District Data Book indicates that there were 129 classified as "covered employment" in the Township. This refers to the number of private sector jobs covered by unemployment insurance in the third quarter of 1992. Because public sector jobs were not included, and because many self employed persons are not covered by unemployment insurance, it seems likely that the total number of jobs in the Township is greater than 129.

Returning to the 1990 Census, 53 persons were self-employed in the Township. If these individuals are added to the figure for "covered employment", the total comes to 181. From the Journey to work numbers, approximately 36% of the local labor force worked in Cumberland County, but outside of Bridgeton, Millville, or Vineland. Thirty-six percent of Downe Township's labor force is 275 people. Not all of them remained in the Township. Some went to Fairfield. Others to Upper Deerfield and other businesses in rural parts of the County. This figure, however, does provide a reasonable upper limit on local employment. Therefore, the estimate for the number of jobs in the Township should fall within the range of 181 to 275.

A conservative estimate of the number of jobs provided by the Township economy would be 200. This would include the approximately 181 private sector jobs and a conservative number of public sector jobs. This figure represents a little more than one quarter of the local labor force.

Summary

The picture that emerges of the economic base of Downe Township is as follows. The economy is rooted in the historic industries and occupations of the community. Fishing, recreation, sand mining, tourism, and agriculture are important sectors of the local economy. The service sector, centered primarily around the fishing and tourist trades, is a major segment of the business community. Government employment, primarily in the Township school district, also provides a number of local jobs.

Most of the jobs provided in the Township are located in or around the three villages of Fortescue, Dividing Creek, or Newport. While these jobs are not sufficient to provide employment for a majority of Township residents, they do employ a sizeable one-quarter of the local labor force. The jobs most likely to be located in the Township are those centered around the long standing industries mentioned.



People use the beaches at Fortescue to fish, walk, and recreate.

These jobs are part of a predominantly tourist and recreation based economy that has a sizeable impact on the Township today. To measure this impact, the County Road Department installed a vehicle counter at Fortescue bridge for the week of July 31 - August 6, 1995. During that week, there was an astounding total of 6,088 round trips to Fortescue! Projected through a twelve week summer season, this comes to 73,056 trips. It is not unreasonable to expect that with several weeks in the spring and fall added to the visitor season, vehicle trips could easily exceed 100,000 for the year. Using figures from the Institute of Traffic Engineers, the County Planning & Development Department calculated that there were about 2,000 visitor trips during the study week; the remainder were residential related trips. Using this figure, and an average of 2 persons per vehicle, it can be conservatively estimated that the number of visitors to Fortescue annually exceeds 80,000. By applying half of the amount of money the average "day tripper" spends while visiting New Jersey, current tourist revenue in Fortescue is conservatively estimated at \$2,000,000 a year. (The average day tripper spends \$50 according to the N.J. Division of Travel & Tourism.)

This economic base will be the starting point from which local officials can plan for employment growth and development. Coupled with the other characteristics of the Township; its natural features, demographics, regional setting, and history, the economy of the Township will be an important factor in establishing a direction for the future of the community.

**EMPLOYER INVENTORY BY STANDARD INDUSTRIAL CLASSIFICATION,
(SIC)
Downe Township, 1994**

INDUSTRIAL SECTOR	INDUSTRY/EMPLOYER NAME
AGRICULTURE	Casper's Farm, Newport Coleman's Produce, Newport Garrison's Farm, Dividing Creek Hall's Greenhouses, Newport Harris' Produce, Newport Jenkin's Produce, Dividing Creek Magner's Farm, Newport Mathis Farm Market, Newport Merritt's Farm, Newport Miller's Farm, Newport Munyon's Produce, Newport Nantuxent Farms, Newport Richie's Produce, Newport Woodbridge Farm, Newport
	TOTAL ENTERPRISES: 14
MINING	U.S. Silica Sand, Newport
	TOTAL ENTERPRISES: 1
CONSTRUCTION	Bradford Electric, Newport Franklin Construction, Dividing Creek William Garrison Construction, Div. Creek Pepper Construction, Dividing Creek
	TOTAL ENTERPRISES: 4
MANUFACTURING	Intelligent Robotics Systems, Inc., Newport
	TOTAL ENTERPRISES: 1

INDUSTRIAL SECTOR

INDUSTRY/EMPLOYER NAME

TRANSPORT/UTILITIES

Charter & Open Boats

"Andrea", Fortescue
"Angler", Fortescue
"Bonanza", Fortescue
"Buccaneer", Fortescue
"Dutchess", Fortescue
"Fisherman's Dream", Fortescue
"Fishin' Fool", Fortescue
"Fortescue Queen", Fortescue
"Happy Hooker", Fortescue
"Hodge Podge", Fortescue
"Intrigue", Fortescue
"Julie K", Fortescue
"Judy Ann", Fortescue
"Karen E. Too", Fortescue
"Karen Did Too", Fortescue
"Kingfisher II", Fortescue
"Lil - Mia V", Fortescue
"Maverick", Fortescue
"Miss Fortescue", Fortescue
"Rebel B", Fortescue
"Salt Talk", Fortescue
"South Wind", Fortescue
"Stacey Lynn", Fortescue
"Supersport," Fortescue

Marinas

Double A Marina
Gandy's Beach Marina
Higbee's Marina
NJ State Marina
Pollino's Marina
Pringle's Marina
Strain's Marina

Trucking Firms

Catlett Trucking, Newport
Garrison Trucking, Dividing Creek

INDUSTRIAL SECTOR

INDUSTRY/EMPLOYER NAME

Post Offices

Dividing Creek
Fortescue
Newport

TOTAL ENTERPRISES: 36

WHOLESALE TRADE

Jenkins Seafood, Newport

TOTAL ENTERPRISES: 1

RETAIL TRADE

Al's Bait & Tackle, Fortescue
Barnett's Citgo, Newport
Baywear, Fortescue
Burnight's Seafood, Newport
Captain Jim's Bait & Tackle, Fortescue
Carl's Bait & Fish, Fortescue
Charlesworth Restaurant, Fortescue
Clark's Seafood, Newport
Crab Connection, Newport
Del. Bay Bait & Tackle, Fortescue
Dolphin Marine, Fortescue
Down By The Creek Rest., Dividing Creek
Flip Bodywear, Newport
Garrison House, Newport
Green Mountain Antiques, Newport
Hamilton's Groceries, Fortescue
Higbee's Marina, Fortescue
Howie & Jo's Country Store, Newport
Jenkin's Seafood, Newport
Martin's Cedar Creek Deli, Dividing Creek
Meadow's Edge Country Shed, Newport
Mom's Crabs, Newport
Patricia's Waterfront Rest., Newport
Pringle's Marina, Fortescue
Joe's Bayview Italian Water Ice, Fortescue
Newport House Restaurant, Newport
Newport Landing Marina, Newport
Ships Store @ Dolphin Marine, Fortescue
Strawberry Bait & Tackle, Newport
Van Parys Studio (Dolphin Marine), Fortescue

INDUSTRIAL SECTOR**INDUSTRY/EMPLOYER NAME**

Wooton's Bait & Tackle, Newport

TOTAL ENTERPRISES: 29**SERVICES****Non-Power Boat Rentals**Anderson's Boat Rental, Fortescue
Beaver Dam Boat Rentals, Newport
Borkowski's Triangle Marina, Fortescue
Dividing Creek Boat Rentals, Div. Creek
Down By The Creek, Dividing Creek
Earl Miller Boats, Fortescue
Hook, Line, & Sinker, Fortescue
T & W's Crab Boat Rentals, Newport**Automobile Services**Sam Blizzard Auto, Dividing Creek
Newport Service Center, Newport
Wilson's Garage, Dividing Creek**Camps & M.H. Parks**Billy Johnson's Trailer Park, Fortescue
Fortescue Trailer Park, Fortescue**Churches**Dividing Creek Baptist, Dividing Creek
Fortescue Chapel, Fortescue
Holy United Church of God in Christ, D.C.
Newport Baptist Church, Newport
Newport United Methodist Church, Newport
Zion United Methodist Church, Dividing Cr.**Education**Downe Towne School, Newport
Downe Township Elementary School, Newport
Downe Township Primary School, Div. Creek
Intelligent Robotics Systems, Inc., Newport**Hotels/Guest Houses**Charlesworth Hotel, Fortescue
Ruthie's Rentals, Fortescue**Professional & Misc.**

Nicholas Beltrante, Investigator, Fort.

INDUSTRIAL SECTOR

INDUSTRY/EMPLOYER NAME

Mike Carney, Home Repair Serv., Div. Cr.
Emory Painting, Newport

Land Enterprises, Engineering, Newport
Nantuxent Creek Taxidermy, Newport
J.L. Ransom Photography, Newport
Tony Swain, Naturalist, Dividing Creek
Van Parys Art Studio, Fortescue

TOTAL ENTERPRISES: 33

PUBLIC ADMINISTRATION

Downe Township Government
U.S. Coast Guard, Fortescue Station

TOTAL ENTERPRISES: 2

COMMUNITY FACILITIES AND SERVICES

Introduction

The term "community facilities" encompasses those facilities and services that are available to the citizens of a municipality. Most of the time, the facilities are publicly owned and operated. But sometimes, they are provided by the private sector.

The scope of the services available depends a great deal on the extent of development in a community and the wishes of the citizens. Because Downe Township is a rural municipality with limited commercial and industrial development, facilities and services are limited.

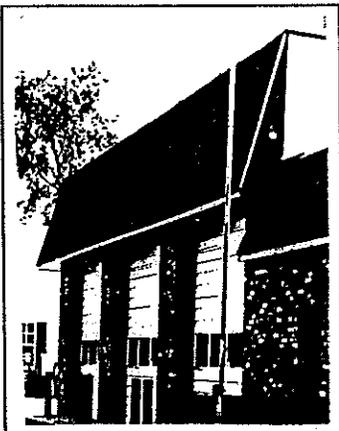
The intent of this section of the Master Plan is to provide an inventory of facilities and services in the community. This inventory provides the basis for setting community goals and planning for any future facilities and services that might be desired.

Inventory of Facilities and Services

Municipal Building and Complex

The Downe Township municipal building and complex consists of a series of structures and facilities. The site contains the municipal offices, the road garage, a senior citizen center, and a convenience center for the transfer of solid waste to the County landfill.

The municipal office building was dedicated in 1990. It houses the township records and provides space for secretarial, clerical, planning, zoning, township committee and other files and supplies. The garage, which is attached to the municipal office, shelters the trucks, equipment



*Volunteer fire companies
provide service to Downe
Township.*

and supplies needed to maintain the municipal roadways as well as equipment belonging to the Downe Township Rescue Squad. The garage was constructed several years before the municipal office and senior center were erected.

Prior to the construction of the present office complex, the Township offices were located in a small frame structure adjacent to the Dividing Creek. This facility was too small for the practical administration of the Township and prompted the construction of the larger complex. Public meetings were held in the local fire houses, prior to the construction of the new office.

Map 12 locates the major community facilities in the Township.

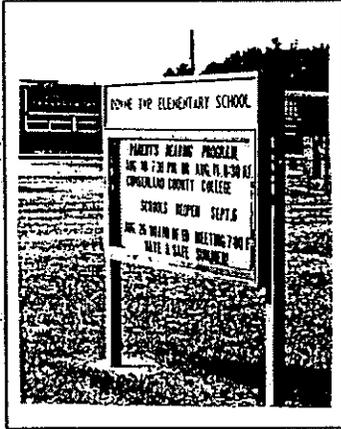
The solid waste convenience center was constructed in 1987. Like many other facilities throughout the County, it provides a location for the citizens of the Township to dispose of their solid waste without taking it to the County landfill located in Deerfield Township, approximately 10-12 miles from most Township residents. Trash pick up is handled by a private company. The municipality does not maintain a staff or truck fleet for this purpose.

Police and Fire Protection

The Township does not maintain its own police force but does have a local constable to deal with court transport and other court related issues. With only a small population base, Township officials have relied on the New Jersey State Police to provide emergency police protection.

There are two State Police barracks that could respond to an emergency in the Township. The nearest is in Port Norris, approximately six miles from most Downe Township communities. Bridgeton is the location of the other barracks, but it is more than fifteen miles away. The Port Norris barracks responds to most of the police calls in the Township.

The Downe Township Rescue Squad maintains an emergency vehicle at the municipal complex on Sharp Lane. This vehicle is the one most typically used for "ambulance" and medical emergencies. In addition, the Fortescue Rescue Squad provides "first response" assistance until emergency vehicles are called and has a vehicle that is used for support purposes, but not for transport. This team also has a diving unit for water emergencies. Dividing Creek Fire Company has a first response rescue team as well.



Fire protection is provided by three volunteer fire companies. One is in Newport; a second is in Dividing Creek; and the third one is in Fortescue. Coordination for fire, rescue and police calls is frequently handled through the Cumberland County Communications and Emergency Management Center and its newly installed "911" system. Downe Township, like all other Cumberland County communities, has an emergency coordinator who works closely with the County personnel on a variety of emergency planning and response issues.

In addition to these services, the U.S. Coast Guard has a seasonal station at Fortescue that handles search and rescue missions up and down the Delaware Bay Coast. The Marine Police, operating out of Port Norris in Commercial Township, monitor boat traffic on the navigable waterways of Cumberland County and the surrounding region.

School Services

The Downe Township School District serves children in Kindergarden

School enrollment has remained relatively constant for the past several years.

Table 9
School Enrollment: Downe Township

School Term	Enrollment
1988-89	266
1989-90	275
1990-91	271
1991-92	275
1992-93	294
1993-94	282

Source: The New Jersey Municipal Data Book and the New Jersey Department of Education, Cumberland County Superintendent of Schools. Special Note: The school enrollment figures also include a number of special education students from surrounding townships who receive their training in the Downe Township District.

through grade 8. There are three school buildings that are part of the system. The Downe Township Primary School, located on Main Street in Dividing Creek, handles grades K through 2. The Downe Township Elementary School on Route 553 in Newport accomodates classes from grade 3 to grade 8. In addition, the Downe Towne School on Fortescue Road in Newport, handles special education and child guidance needs. Table 7 outlines school enrollment in Downe Township for the past several school terms. As can be seen from this table, school enrollment has remained relatively stable over this period. After grade 8, Downe Township students attend the Bridgeton Intermediate School and High School or the Cumberland County Technical Education Center, if alternative vocational training is desired.

In addition to the public school system, private schooling is offered in computer training through Intelligent Robotics Systems, a business located on Sharp Lane in Newport. There are other private and parochial schools throughout the County that are available at cost to children in the Township. The Cumberland County College in Vineland offers post high school education for students from Downe Township and other communities in the region.



Many old churches dot the landscape throughout the community.

Places of Worship

There are six churches in the Township of primarily Protestant denominations. Both Newport and Dividing Creek have a Methodist and a Baptist Church. A small chapel is located in Fortescue and a non-denominational church, the Holy United Church of God in Christ, is located on Route 553 east of Dividing Creek. These churches play important roles in the religious and social life of the community. Many of the churches offer social and recreational outlets for the citizens of the Township in addition to religious worship and training. Several of these church congregations played important roles in the founding and early settlement of the community.

Recreation

Downe Township has numerous facilities, both publicly and privately owned, that provide opportunities for recreation. Some of these facilities are also important contributors to the local economy of the Township and have been discussed further in the economic base analysis.

Boating and fishing are important recreational activities in the Township. There are more than a dozen active marinas or boat rental businesses in the Township providing a range of services to local residents and the tourist trade. They include the State Marina at Fortescue, Newport Landing Marina, Higbee's Marina, Beaver Dam Boat Rentals, Dividing Creek Boat Rentals, Down-By-The-Creek Boat Rentals, Pringles Marina, Strain's Marina, Gandy's Beach Marina, Pollino's Marina, Borkowski's Triangle Marina, T.W.'s Crab Boat Rentals, AA Marina, and Triangle Marina. In addition, the Fortescue Captain's Association provides rental slips and boats.

The State Marina at Fortescue is an important recreational facility.

Fortescue has been called the "Weakfish Capital of the World." In addition to typical kinds of marina services and facilities, there is a sizeable charter business operating out of the village. There are twenty-seven charter operations in the Township with colorful boat names like "Miss Fortescue", "Fishin Fool", "Maverick", and the "Happy Hooker." (Source: Downe Township Local Guide for Visitors and Tourists, 1993). The fishing and boating business provides recreational opportunities and supports many ancillary businesses and activities as well. Bird watching and other forms of passive recreation are also increasingly popular recreational activities in the Township.

The Township has many permanently protected open spaces. While this has caused some controversy because so many acres of land have been removed from the tax rolls, the property also provides the basis for many of the fishing, crabbing, and recreation available in the community. The State of New Jersey's Division of Fish, Game and Wildlife manages four properties that are either wholly or partly in the Township. The Fortescue Fish and Wildlife Management Area is located just east of the village. Turkey Point and Egg Island Management Areas are situated on the southern tip of the Township. The Edward Bevan Fish and Wildlife Management Area is located in four municipalities; Downe, Commercial and Lawrence Townships and the City of Millville. In addition, the Natural Lands Trust manages a large property known as "The Glades", which is located just north of Fortescue. All of these properties provide a wide range of fishing, crabbing, hunting, and hiking. The Natural Lands Trust property has an established boardwalk and observation tower that caters to bird watchers and visitors wanting to experience a wetlands

environment. "The Glades Nature Center", located on Sharp Lane in Newport also provides passive recreational opportunities and interpretive instruction upon request.

This wide range of recreational opportunity is an asset to the Township. No other community in Cumberland County has the number of marine facilities, marinas, and natural areas that Downe Township has. Map 12 locates the principal community facilities and services highlighted in this narrative.

Summary

Downe Township is like most rural communities. The types of facilities and services provided are modest, given the limited municipal budget and scope of development. What is not handled by the municipality is provided by the private sector or some other public agency. Recreational services in particular, are provided by a range of State, local, and business organizations.

The information provided in this inventory will help citizens and Township officials to chart the types of services and facilities needed in the future. The existing service and facility base will be contrasted against population increases, expectations for future development, and the goals and objectives the Township sets for itself. This effort, complemented by the other strategies of the plan, will help to establish a comprehensive agenda for the growth and development of the community.

DOWNE TOWNSHIP DEVELOPMENT AND REDEVELOPMENT PLAN

Making the Transition to Planning Policy

The first twelve chapters in this Plan provide the background information and data that are essential to setting goals and establishing policy in the remainder of this document. The point at which this information is used to craft a direction for the Township begins here. This section of the Plan outlines many of the land use, development and redevelopment strategies the Township should begin to address in order to meet some of the goals that are important to the local planning board and the citizens of the community.

The Downe Township Plan is based on extensive background data found in the first twelve chapters of this document.

Before examining these goals and strategies, it is important to understand how they were developed. The Downe Township planning process has been built around a significant amount of public involvement and citizen input. In addition to a citizen survey on local planning and land use issues, there were two public workshops held in the Township. These workshops, conducted on August 8 and August 22, 1994 focused on a wide range of conservation and development issues. There were also four public meetings of the Downe Township planning board between September 1994 and January 1995 that focused on special issues arising from the workshop. The Board spent a considerable time discussing historic preservation, agricultural development, tourism, public land acquisition, the roles of the non-profit conservation groups, sand mining issues, the need for public infrastructure, and general land use patterns and trends.

Public involvement at three workshops, numerous planning board meetings, and citizen input helped to shape the goals and strategies found in this Plan.

Based on this wide ranging public dialogue, staff from the Cumberland County Department of Planning & Development put together draft sections of this Plan, including preliminary policies and strategies. These drafts were reviewed at public meetings of the Downe Township Planning & Zoning board and edits were made. The preliminary draft of the Plan policies and strategies was the subject of a public workshop on July 10, 1995. Additional changes were made to reflect the public input. A second workshop and advertised public hearing was held on August 9, 1999 after the Board had reviewed drafts of the Zoning and Development Regulations. This Plan was then adopted in March 2000 after this extensive Master Plan reexamination was completed.

Plan Overview

Plan elements are broken into five major sections.

The policy elements of this Plan are broken into five major sections. This section focuses on development and redevelopment issues. It includes strategies for land use, historic preservation, conservation and recreation, agricultural development, and economic development. Also included in this section as the foundation for the recommendations made in this plan are a series of goals developed from the public responses to the citizen survey and the various public meetings and workshops.

The next two sections focus on community facilities and housing. The final sections of the Plan deal with recycling, regional planning issues, and the affects of the proposed plan on municipal zoning and land use regulation. These elements all contribute to a Township Plan that meets the statutory requirements of the Municipal Land Use Law in New Jersey.

Defining Planning Goals and Policies

The goals form the foundation of the master plan.

Any recommendations for land use and the future direction of a community must be framed by both facts and broad policy parameters. The facts are included in the background chapters of this Plan. These facts help to determine what is or is not feasible, given land use constraints, existing conditions, and social, demographic, and natural trends. In order to get a sense of the degree to which land use characteristics and other conditions are likely to play a role in determining the future policies of the Township, a composite map was developed. This map depicts those lands that are free of major environmental and other development constraints, including ownership by public and non-profit agencies. As can be seen on this map, there are very few areas of the Township where significant new development can occur. Most of the unconstrained land is located in the vicinity of existing villages and highway arteries. The one major exception to this rule lies in the northern part of the Township along the Winchester & Western Railroad, just south of the Edward Bevan Fish & Wildlife Management Area. (See Map 13.)

Background mapping shows where there are natural constraints on new development.

Based on this very dramatic representation of development potential and given the public sentiment offered at planning board meetings, workshops, and in the citizen survey, a number of planning goals can be generated for the Township. These broad statements of Township policy will be the

foundation for the more detailed and specific strategies and recommendations which follow. They will also form the basis for regulatory changes that may be made in the municipal zoning ordinance and other local land use documents.

DOWNE TOWNSHIP PLANNING GOALS

Throughout the public discussion about land use issues in Downe Township, there are a number of key themes that have emerged. There is a considerable amount of interest in conservation and open space issues. Township residents mentioned several characteristics about the rural quality of life in the community that they felt are important. At the same time, there are concerns that there is a lack of development opportunity. The amount of land removed from the tax rolls is also an issue. Residents want to see a mix of commercial development, natural areas, and recreational opportunities. Existing industries should serve as one of the building blocks of a revitalized local economy -- particularly the fishing and boating industries. There are concerns about the need for new or improved infrastructure in certain areas of the community, but at the same time an awareness that development in unsuitable locations can impact adversely on natural features, shore bird migrations, water useage, and the general rural lifestyle that most residents seem to enjoy. In short, Township residents and planning board members seek to structure a balance in these issues that affords a more prosperous economy while conserving the characteristics of the community that they value. This is a difficult task. To help frame the policies and strategies that will balance these often competing interests, the following planning goals have been identified.

Public workshops, a citizen survey, and discussions with the planning board helped to shape the goals for this master plan.

- I. *Redevelopment of the existing commercial and residential centers in Downe Township should be a major focus of municipal planning policy.* Fortescue in particular serves as the base for many of the traditional commercial activities in the Township, and was for many years one of the largest and most prosperous villages along the Delaware Bay.
- II. *New commercial and residential activities should be encouraged to locate around existing villages and centers.* This pattern of development will be channeled in part by the constraints on land and by changes in municipal land use regulation.

There needs to be a balance between conservation and development.

III. *The Township should allow large industrial uses in those areas of the community where the natural characteristics of the land are suitable and where the infrastructure is in place to accommodate such uses. This goal is important in providing for the expansion of existing industries as well as the development of new ones.*

IV. *In promoting the protection of Township lands, municipal officials need to identify ways that conservation activities can also include economic opportunities. The converse is also true. The expansion of the municipal economy must be promoted in ways that protect the outstanding natural resource base in the Township.*

V. *In protecting the historic character of the Township and its villages, and in promoting the conservation of agriculture and other natural resources, municipal officials should seek innovative ways in the municipal zoning and land use regulations to advance these objectives. Because the Township is a Delaware Bay shore municipality, and due to its unique natural environment, it is affected by a host of local, State, and Federal regulation. There is a desire by the Township to streamline and coordinate that regulation and to find new ways to achieve municipal objectives.*

VI. *Downe Township should provide affordable housing opportunities for its citizens. This is a requirement of the Mt. Laurel decision and a goal of the New Jersey Council on Affordable Housing. Affordable housing means housing that is within reach of families in the community with average annual incomes.*

Establishing sound partnerships can help Downe Township meet its planning goals.

VII. *The Township should seek to establish partnerships with those agencies, organizations, municipalities, businesses, and levels of government that can help advance the policies and strategies of this Plan. Regional involvement is essential if the Township is to address successfully its conservation and development objectives. Building partnerships and opening the lines of communication with these interests can help resolve problems and forge opportunities.*

VIII. *The health, safety, and welfare of Township residents should be an overriding goal of all Township planning policy. Whether promo-*

ting conservation, development, tourism, community facilities, recreational or other land uses, the Township should encourage the use of the best facts, data, and information available to support its actions and policies.

These broad goals do not contain any specific policies or strategies. Rather, they provide general guidance for building upon the data base, citizen interests, and planning board objectives that have been discussed. In each of the next several sections, these goals will be prominently noted as the Plan proceeds to formulate specific recommendations for the future of the Township.

The Future Land Use Plan

A Plan which sets forth a proposal for future land use in the Township is a requirement of the Municipal Land Use Law. The background data, the community input, and the broad planning goals of this Plan all help define the future land use recommendations for Downe Township.

At the January 1995 meeting of the Township planning board, members reviewed and discussed development alternatives and assumptions. Based on this discussion, board members outlined the parameters of a future land use plan for the Township.

Because there is so little land available for future development, redevelopment options are very important in Downe Township. The center for much of the current commercial activity in the community is the village of Fortescue. It is because Fortescue has historically been a center for tourism, boating, fishing, recreation, retail trade and other business, that this Plan will focus much of the discussion of redevelopment issues on that community. Another important reason for this is because there is very little land available in Fortescue for new development. The community is surrounded by the Delaware Bay, streams, creeks, and significant expanses of wetland.

The other principal population centers in the Township: Newport, Dividing Creek, Gandy's Beach, and Money Island, are all primarily residential communities. In Newport and Dividing Creek, there are limited areas available for new residential activity. While commercial activity, redevelopment of the housing stock, and new development may be important in

Redevelopment will be a primary focus of the master plan.



Fortescue must rely on redevelopment since there is very little vacant land for new construction.

each of these villages, they do not require the level of infrastructure or the range of redevelopment options that does Fortescue. Township planning board members and local citizens also felt that the future of these communities was more appropriate primarily as residential centers with less intrusive commercial uses, (eg. antique shops, bed & breakfast accommodations, or craft shops.) With this general context for future land use established, the next several pages make some specific recommendations about future development patterns in the Township.

Future Land Use Map

Central to an analysis of future land use in a community is the future land use map. This map paints a picture of the development patterns that a municipality wants to encourage. It is a generalized map and should not be confused with the zoning map which is a very detailed, regulatory tool used to implement the general directions established by the future land use map.

The future land use map paints a picture of how new development should be distributed in the Township.

To illustrate this point, a community may wish to encourage a mix of land uses as part of its village redevelopment planning. The future land use map would indicate where these mixed uses should occur, but it would not specify the details of how they should occur. For instance, mixed use development may mean that different uses could occur in the same building. Perhaps the first level of a structure would be used as a shop of some sort while the upper level is used as an apartment. Mixed use development could also mean that one use might be permitted as a secondary use or that different uses would be permitted side by side. The job of making these distinctions in detail belongs to the zoning ordinance and the zoning map. The future land use map simply outlines a general vision that is substantiated by the data in the plan and the public discussion.

New development in the Township should be centered around the existing villages.

Map 14 illustrates proposed future land use in Downe Township. As can be seen from this map, future land use patterns approximate the locations of developable areas shown previously on Map 13. There are five village centers shown on the map. They are located at Fortescue, Gandy's Beach, Money Island, Newport and Dividing Creek. It is in these village centers where much of the future development and redevelopment in the Township will occur. The outlying areas of the municipality will be devoted to low density residential uses, recreational and open space uses, farming, light industrial and institutional uses. A more detailed examination of these proposed future land use patterns is offered as follows.

A Vision for Fortescue

A theme echoed time and again by members of the Downe Township planning board concerned the redevelopment of Fortescue -- restoring the community as a thriving, recreational center. Realizing this vision is one of the primary goals of the master plan. A Fortescue of the future could be a community of small retail shops, tourist services, and family-oriented recreational activities. The boardwalks, fishing piers, beaches, and other visitor amenities that once made the village a more attractive destination could be developed.

Making Fortescue a thriving center for recreation will take commitment by the community and many other interests.

Fortescue could also be promoted as a place to retire. The community offers affordable housing and many redevelopment possibilities. A recent article in the *American Developer* (June 1995), indicated that 6,000 people reach the age of 65 every day in this country. Many of them, according to the article "are looking for the small-town atmosphere that reminds them of the rural hometowns and quiet times of their youths." There are not many places in the United States that can offer bayside living at affordable prices. This fact is something that Fortescue and Downe Township may wish to promote to enhance the redevelopment potential of the community.

The State must play a key role in helping to revitalize this area.

Another advantage associated with promoting Fortescue as a destination for senior citizens is that they demand relatively few services. They have no school age children. They do not add significantly to the tax burden of the community. Fortescue already has many retirees as residents. Promoting the village from this perspective does not mean that people will be displaced from their homes. There will be no condemnation of land or housing as part of this effort. Redevelopment initiatives must be promoted through a willing seller - willing buyer process and will occur gradually. This type of initiative will also help Fortescue remain a reasonably quiet, family-oriented, tourist destination.

Investments in new infrastructure, including streets, public wastewater, and other types of construction must be explored.

Regardless of the redevelopment theme that is chosen for the village, it will take time, money, and a considerable commitment by the community to make it happen. There are several key issues that must be addressed.

Outside Investment. The State, the County, the Federal government, non-profit conservation organizations, private citizens and foundations all have a stake in the future of this village. Downe Township residents alone cannot

be expected to transform Fortescue. Partnerships both locally and regionally must be formed to help make this happen.

Finding a special niche for Downe Township and Fortescue will be essential in attracting new visitors to the area.

Regulation Must Be Streamlined and Coordinated. This is primarily a State and Federal responsibility. Untangling overlapping regulations and targeting communities such as Fortescue for future investment is a promise of the New Jersey State Plan. The State must make this happen. The NJ Department of Environmental Protection must work with the Township to find ways to balance the protection of key natural resources in the municipality with the redevelopment needs of Fortescue. Only three miles of the eighteen mile Downe Township coastline are developed and in many instances, the development is not very intense. In addition, Fortescue is the only sizeable developed area within a 28 square mile area; (or within a three mile radius of the village.) Township residents and local officials should support the permanent protection of the undeveloped coast in exchange for State support to promote redevelopment objectives in Fortescue. By permitting and helping to fund new infrastructure such as package treatment systems for public wastewater or an improved public water system, much of the development and redevelopment that would come to the Township could be directed away from the more sensitive environmental areas and toward Fortescue. Other regulatory issues involving the maintenance or restoration of beaches, bulkheads, and marinas must also be addressed.

Improvements in beach restoration, parking, and public access are needed in the village.

Beach Restoration. Every year, the State spends millions of dollars to maintain beaches on the Atlantic Coast. The Delaware Bay is often called "The Other Jersey Shore." As such, it deserves to receive funding for similar recreation and habitat protection programs. In order to make Fortescue the type of recreational destination that would appeal to families, improve habitat for shore birds and horseshoe crabs, and offer additional security for beachfront residents, it is necessary to restore the beaches of this community. Downe Township has approximately 18-miles of shoreline. Only 3 miles, or 17% of the coast is developed in any way. While shoreline protection and beach restoration are important all along the Delaware Bay coast, it is particularly important where it can serve a multitude of needs. Places such as Fortescue, Gandy's Beach, and Money Island provide for these different objectives. The Army Corps of Engineers and officials from the New Jersey DEP need to get involved in designing a beach restoration project in Fortescue.

Better Public Infrastructure is Essential. Redevelopment in Fortescue simply will not happen unless there is an investment in public infrastructure.

This does not mean that the Township alone should have to make this happen. The County owns and maintains roads that are important to get people to and from Fortescue. Innovative ways to fund the maintenance of Township roads must be identified. There are a host of other infrastructure needs that must be met.

Private investment must play a leading role in spurring the redevelopment of Fortescue.

Development of a public wastewater treatment system must be explored in order to enhance the attractiveness of the community for future private investment. Boardwalks, observation areas, tourist amenities such as public restrooms, visitor kiosks, parking areas and marina maintenance are all necessary investments in public infrastructure to make the village a more appealing tourist destination. Infrastructure improvements such as these can also reduce the stress associated with tourism because the tourists are managed more appropriately. By designating parking areas for recreational vehicles, for example, they can be directed away from the waterfront and driveways of people's homes. Boardwalks and fishing piers can also direct visitors to places where the community wants them to go, instead of permitting the free roam of the island.

In addition to a public wastewater system, the distribution of public water must be improved significantly. Another well may have to be struck and the necessary pipes and other connections laid. It is important that these improvements as well as needed public wastewater be addressed before or simultaneous with any significant redevelopment efforts. Even though it is relatively low density redevelopment that is being promoted, the island must be able to sustain the types of improvements being made.

By developing amenities such as gazebos, pavillions, and a community center, the current residents of the village would benefit from this effort.

If the village is to market itself as a location for retirees and senior citizens, there needs to be activities for new and current residents. The nature walks and boardwalks can provide places to stroll and gather. Small neighborhood parks with gazebos and small pavillions would provide locations for special festivals and events. A community center would be a good facility for meetings, lectures, slide shows or films, and indoor recreation such as shuffle board, exercise classes, or table top games.

A new fishing pier extending into the Delaware Bay would be an asset not only for local residents but for visitors as well. Requiring a fee for the use of this pier could be an excellent source of funding for maintaining recreational facilities and developing new ones. The private sector must play a key role in spurring the redevelopment effort in Fortescue.

Finding a special niche for Downe Township and Fortescue will be essential in attracting new visitors to the area.

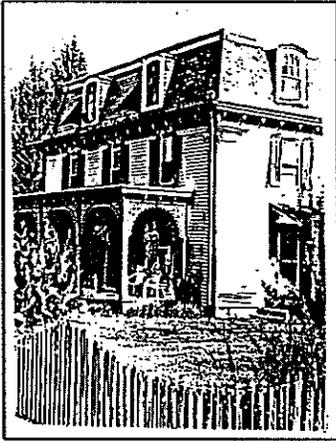
Marketing the Community. Fortescue must develop a niche. Residents and local officials must market those strengths of the community that make it a different place to fish, boat, vacation, live, and recreate. People from around Cumberland County and the region need to know why they should go to Fortescue as opposed to North Cape May, or other points along the Delaware Bay. By blending the idea of a community for retirees with the potential of the village as a revitalized tourist center, Fortescue can craft a theme for itself that can be matched by very few small villages. Residents of the community must unite in a self-improvement effort. Organizations in the village such as the fire company, rescue squad, Captain's Association, citizen groups, and others must promote village clean-up, fix up, landscaping, and other self-help efforts to make the village more attractive. Special events such as an annual clean-up day would help unite the village in a common purpose. Other types of festivals involving shore birds, boating, fishing, nature tours, and so forth will also help to shape a theme for the community. Government initiatives can only address some of the problems. Citizens and residents of the community must also take action.

Improvements in beach restoration, parking, and public access are needed in the village. Signage to the community needs to be improved.

Map 15 is a general representation of the village of Fortescue. The map shows existing developed land and those vacant parcels where the Township may wish to consider providing additional parking, fishing opportunities, boardwalks, parks, and other public amenities. Also highlighted on this map is the principal commercial area of the village which might form the nucleus for a redevelopment effort. This area contains the State marina, several of the major services, restaurants, etc. located in the village. It is a location to begin the discussion about public wastewater treatment and infrastructure development. It is also an area where mixed use development might be encouraged. Retail shops, other service establishments, parking areas, bed and breakfast houses, overnight accommodations, restaurants, and any additional activities that demand improved infrastructure can be encouraged to locate here at such time that the infrastructure is available. Also shown on this map are areas where beach restoration efforts are critical and where aesthetic improvements to bulkheads are necessary.

These very broad-based recommendations provide a direction for the community's redevelopment efforts. Specific actions that the Township should consider are contained in the implementation section of this Plan. The vision for Fortescue presented here offers a starting point to get local officials and other key players in the region and the State focused on some of the key issues that must be part of this effort.

Other Villages and Centers



Newport and Dividing Creek are primarily residential communities with many old, historic homes.

The other villages in Downe Township are different from Fortescue. They do not have the range of problems and do not demand similar levels of investment. Gandy's Beach is primarily a residential community. Residents have indicated they would like it to remain that way. The same is true of Money Island. Like Fortescue, these villages are surrounded by wetland making their expansion almost impossible. There is also a very limited amount of vacant, buildable land there. For these reasons, the future of Gandy's Beach and Money Island must focus on residential redevelopment. While there may be some demand for commercial activities such as marinas and related boating and fishing facilities, mixed use development in these villages should be kept at a minimum and limited to very specific uses that existing roads and other infrastructure can handle.

Dividing Creek and Newport offer other possibilities. Both are very old, historic villages with considerable character. Comprised primarily of mid-nineteenth century and victorian era homes, these villages offer very pleasant, distinctive, rural village living. The single, most important characteristic that the Township's citizens felt makes the community a good place to live is its family environment. Newport and Dividing Creek are good places to raise a family. They are safe and quiet villages that offer children places to play. They provide lifestyles that are removed from the more developed and more complicated urban and suburban areas of the County. This is what the citizens of these villages appreciate and it is a feature of these communities that should be promoted in this Plan.

There is also a cluster of commercial uses in Newport, located at the intersection of CR 553 and CR 718.

Newport is a somewhat more diverse village than Dividing Creek since there are two separate clusters of development there. The one cluster is centered around the crossroad at County Route 553 (Port Norris Road) and County Route 718 (Ackley Road). This cluster contains several commercial uses, and is distinct from the residential center of Newport which is located just to the west. Some of the homes there are outstanding examples of small town Victorian architecture. The characteristics that make the village special are its uniformity of setback and design, coupled with a very distinct sense of scale. For example, homes are similarly oriented on their lots. Many have front porches. Construction material is similar -- predominantly clapboard. Fences, hedgerows, and other landscaping that help to define property lines are also similar in scale. The larger more

prominent structures in the village such as churches and other public buildings are found in its center.

Future development in the village should reflect these design characteristics. Preserving the old, tree-lined streetscape and promoting the traditional village development patterns help to foster a sense of community. Preserving the historic character of the village and its more prominent homes and structures should be an important objective of this Plan.

The larger, more visible commercial uses should be encouraged to locate on the main highway, Route 553, leaving the residential part of the village for smaller, less intrusive commercial development such as bed and breakfast establishments, antique stores and curio shops. These two distinct centers should remain separated. The development of new uses along Newport Landing Road that would tend to link these areas should be discouraged. Map 16 illustrates this general development pattern.

Maintaining the present design characteristics of the old villages will be important in preserving their historic character.

Dividing Creek shares in some of the same characteristics as Newport. Commercial uses in Dividing Creek are located primarily on the outskirts of the village. Structures of a larger scale such as churches, fire halls, the old union hall, and others are located in the center of the village. The village core is primarily a residential area and, similar to Newport, it reflects considerable uniformity in design and scale.

These design characteristics, the historic character of the village, and the scale of development should all be ingredients that should remain important aspects of village life. Promoting future development patterns, styles, and densities are just as necessary in Dividing Creek as in Newport, if the Township wishes to encourage its sense of community. The center of the village should continue to be the focal point of residential and related activities. Larger commercial uses should be limited to those areas where they currently exist, while the smaller, less intrusive commercial and non-residential development can be part of a mixed use theme in the village center.

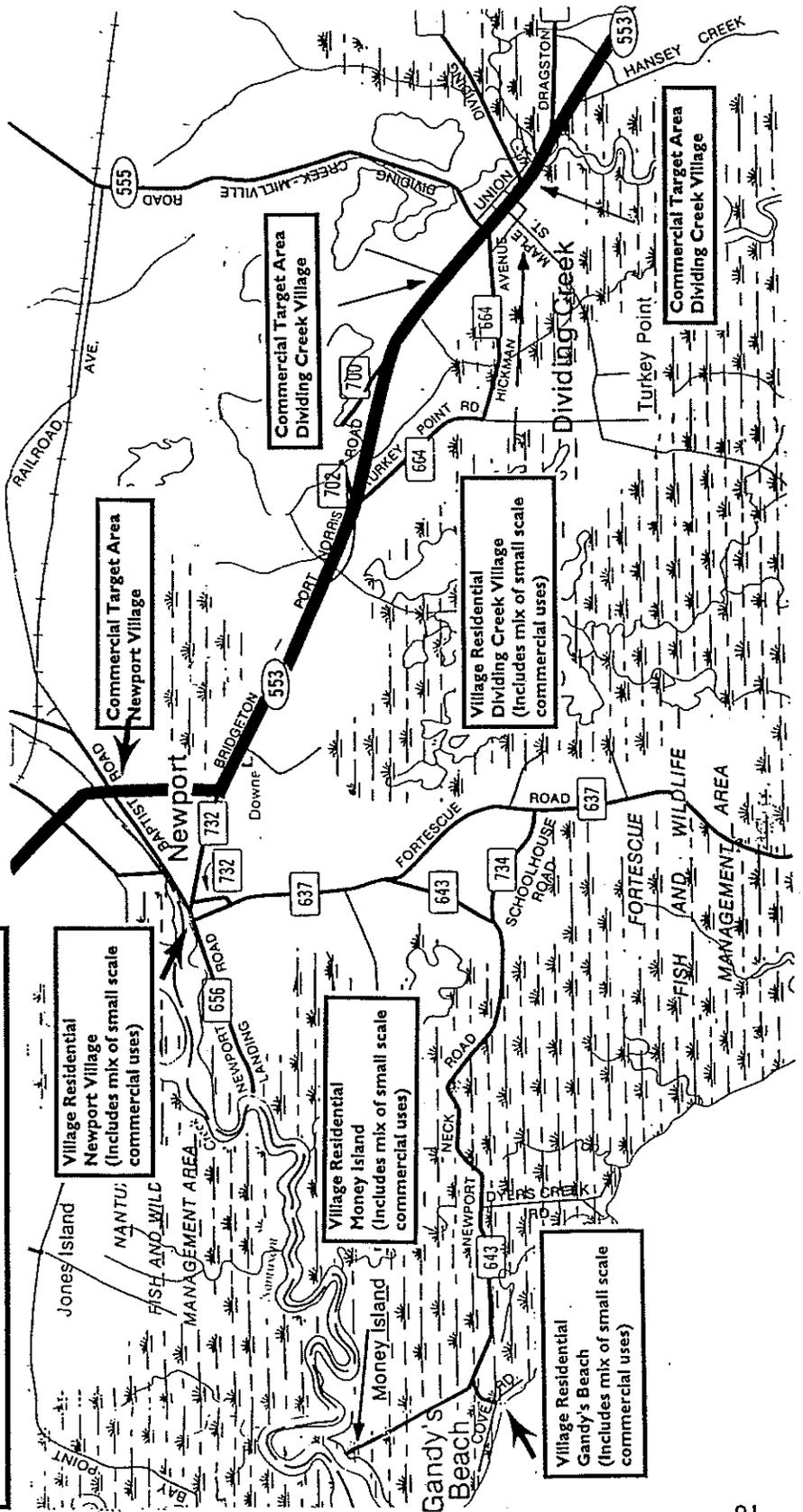
Industrial and Commercial Land Uses

The sand companies in the Township are the largest, traditional types of heavy industry in the community. Sand companies own about 4800 acres or 14% of the land in the municipality. Existing sand mining activities

GENERALIZED LAND USE TARGET AREAS *Downe Township Villages*

KEY

The generalized future land use map on page 83 defines the parameters of village development. This map outlines those areas where an emphasis on commercial development and redevelopment may be desirable. For example, in Newport Village, the crossroads at C.R. 553 and Baptist Road is where commercial development should be concentrated. In Dividing Creek, commercial activity should be centered on both ends of town. In the smaller villages such as Money Island and Gandy's Beach, the focus of the Plan should be on residential uses. While commercial uses at a small scale are appropriate, new and larger commercial uses should be encouraged to locate elsewhere. (Fortescue has been treated separately in this Plan, beginning on page 84.)



Sand mining is one of the largest industrial operations in the Township. Ways to share some common, community goals with sand mining companies should be explored.

New, light industrial uses might be suitably located on developable land adjacent to the Winchester & Western Railroad.

Research and development operations could provide other, compatible industrial activity in the Township.

should be encouraged in an around existing operations. New activities may be permitted when accompanied by a detailed plan of operation, reclamation, and future land use. Map 17 highlights the area where new sand mining activity is expected to occur in the near future. As circumstances may change, the Township and sand companies must work together to evaluate the need for new mining operations as new situations arise.

While in the past, certain sand mining operations have had an adverse affect on drainage, have diverted ground and surface water flows, and have not been properly reclaimed, there are numerous ways that the Township could and should encourage partnerships with sand companies. Unimin Corporation has expressed an interest in expanding its mining into the Bevan Fish & Wildlife Management Area where mineral rights to the property are currently held. Properly located, managed, and reclaimed, there can be advantages in this activity for the company, the Township, and the State. Some common interests regarding recreation, tourism, habitat diversification, and business enterprise can be married through this type of joint effort. Concepts such as this provide good starting points for more details discussions. Working with sand companies on land use issues such as these can help to implement the long term vision for the Township.

The Township also wishes to encourage light industry to locate in the community. A large tract of undeveloped and buildable land was identified in the vicinity of the Winchester & Western Railroad, along Ackley Road. This property would be suited to packing, warehousing, or other light industrial uses that might use the railroad to ship and receive products. Because there is no public sewage in the Township, the type of industry locating there would have to be one where there was limited need for disposal of processed wastes of any kind. That is why a warehouse or a clean assembly operation of some sort would be ideally suited for that location.

In addition, there is an interest in promoting research and development activities in the Township. The robotics enterprise located on Sharp Lane is an example of the type of firm that might locate in the Township given the proper electronic and communications environment. The arrival of optic fiber and the telecommunications revolution has enabled small firms in remote and rural areas to communicate with parent companies, suppliers, and customers without having access to many of the traditional urban support systems. The sale of scientific data, demographics, and other types of information has allowed rural areas to develop alternative workforces. These and similar types of industries would also be compatible with the sensitive ecology of Downe Township.

Remaining Lands

Lands outside the existing villages should remain relatively rural.

Previous pages have highlighted proposed residential, commercial, and industrial development in and around existing villages or proposed commercial/industrial centers. The land outside of these areas should remain predominantly rural. Much of it is already owned by the State, non-profit conservation groups, or sand companies. The Township should encourage the retention of agriculture, open space, and recreation in this area. In addition, rural residential development and public uses (schools, churches, etc.) should be permitted on lot sizes and at densities that do not contribute to septic problems. The following narratives on special issues outline agricultural preservation, open space, and recreation objectives in more detail.

SPECIAL PLANNING ISSUES IN DOWNE TOWNSHIP

Open Space and Recreation

There are a number of special issues that require attention in the master plan. They include open space and recreation, economic development, agricultural protection and historic preservation.

There are a number of very important open space and recreation issues that may shape the future of Downe Township. While Township residents share a desire to promote conservation and retain their rural lifestyles, there has been some controversy about the amount of land removed by the State and non-profit agencies from the local tax rolls. One of the challenges of this planning process has been to identify ways that conservation objectives can also contribute to the municipal economy. A planning board meeting in November 1994 with conservation agencies helped to frame some suggestions in this regard.

Land conservation can be an asset in promoting tourism, recreation, and some of the other activities that have long been a part of the local economy.

Conservation groups and State agencies recognize that an unusually large amount of Township land has been permanently dedicated for open space. There will be more land that is acquired over time for this purpose. In order to help the Township generate some additional revenue from these land conservation efforts, changes in the State's payment-in-lieu-of-taxes structure will have to be made. Conservation groups and the County have indicated their willingness to assist the Township in this effort.

There are also opportunities in conjunction with additional land acquisition to provide recreation facilities for Township residents and as tourism destinations. For example, the State has indicated a desire to acquire Bear

Development of a regional park in conjunction with open space preservation could provide a nice amenity for Township residents.

Swamp West to add to its existing land holdings in the area. The Natural Lands Trust has identified a core area of approximately 90 acres that needs to be permanently protected. This area contains some of the largest remaining stands of old growth forest in the region. Rare plant life and wetland habitat also abound in this area. Bear Swamp West has been identified as a critical gap in the protection of Bay shore habitat. However, lands outside the core area are not as critical and could sustain some level of development for recreation. The Township should initiate discussions with officials at NJ Fish, Game, & Wildlife, Green Acres, Parks & Forestry, the non-profit conservation groups, the County, the present owner of the property, and other interested entities to develop a regional park in conjunction with any additional land acquisition in this area. By forming these types of partnerships, Township officials can advance some of their economic interests. A regional (State) park would bring more fishermen, bicyclists, families, campers, picnickers and others to the community. They would stop at the gas stations, bait shops, marinas, restaurants and delis while they are visiting the community. Park development could also be tied to a Downe Township tourist information or visitor center that would provide maps, guides, and other services. Perhaps the park staff could provide a guide service to some of the other natural areas and sites in the Township.

Another area where this type of partnership can be developed is on the Bevan tract. If sand company (Unimin) officials want to proceed with plans to mine a portion of that site, Township and company officials should meet with State, County, non-profit groups and others to determine whether a park facility of some sort is a viable option for reclaiming the mined area. Other options for reclamation would be diversified fish and wildlife habitat, a public fishing area, or more passive recreational facilities such as hiking trails, boardwalks, and wildlife observation areas.

A campground in the Township would provide a needed recreational facility in the region and a good tourist attraction.

A campground in the Township can also offer an alternative form of recreation. Camping facilities throughout Cumberland County are severely limited. The location of the Township, however, poses some difficult problems for developing campgrounds. The first is the insects. Mosquitos, green-head flies, and a host of other summer pests would preclude traditional types of tent camping in certain times of the year. Campgrounds for recreational vehicles is also a problem because of the sewage disposal issues that would be difficult to overcome. With an abundance of recreational opportunity and beautiful natural areas, a campground that provided a more controlled camping experience may be a very attractive asset to the



Preservation and improvement of the beaches and shorelines in the Township can be an asset for recreation and shorebird migration.

Township. For example, lean-tos and picnic stands that would be securely screened would offer some protection from the bugs. Limited public water, shower and toilet facilities might make it feasible to secure a DEP permit for this activity. If Township officials are interested in promoting this concept, pursuing this idea in conjunction with future State land acquisition may provide a focal point for building the partnerships and funding to make it happen.

Another important conservation issue in the Township is the preservation of the shoreline. While Fortescue residents may view the beach and shoreline as important amenities for recreation, the beach and shore also provide valuable habitats for shorebirds and other migratory waterfowl. Residents in these communities should participate in public outreach and information efforts to promote the proper management of these natural beaches. Providing greenways along the undeveloped shoreline and along the streams and waterways of the Township can help protect the natural habitat of these areas. Map 18 outlines the locations of those stream corridors and shoreline areas that are currently unprotected by public or conservation ownership and where future easements or public ownership might be desirable depending on the developable land available.

Related to the protection of stream corridors is the issue of water diversion. Past sand mining practices have contributed to a water diversion problem in the Dividing Creek. This has inhibited the water flow in the Fortescue Creek and has contributed to a lowered water level at the State marina. The appropriate agencies of the State and Federal government should be called upon to examine this problem and file a report to the Township on any remedial actions that might be warranted. The Township is also concerned about salt water intrusion. Large expanses of freshwater wetland and the presence of streams, ponds, and other bodies of fresh water make it important that good management practices are instituted.

Economic Development

Some general proposals for directing commercial and industrial development in the Township have been outlined in the discussion of land use. There are a number of other proposals that have been discussed by citizens and municipal officials.

Fishing, boating, and recreation represent some of the traditional economic activities in the Township. To help expand this base and encourage visitors to make use of the different activities in the municipality, a marketing

Public - private partnerships need to be formed to promote tourism activities in the Township.

strategy is necessary. This strategy should include those points of interest, activities, and facilities open to public access in the Township. These can include the marinas, nature preserves, crabbing, boating and fishing facilities, as well as the other tourist services. Here again, there are examples where public-private partnerships can be formed to help promote these ideas. For instance, a facility that rents crab boats could advertise a package deal where visitors could spend the morning catching crabs or clams and take them to a local restaurant where they would be cooked and served. The visitor could then spend the night at one of the overnight accommodations in the Township or region. Many different businesses would benefit. Many interests could be served, and the visitor would leave the Township having had a very unique experience not readily found anywhere else in the region.

A good road and highway network is necessary for private, tourist, and commercial travel.

Good roadways and proper signage are also important in directing the visiting public. In Downe Township, County Routes 553 (Port Norris Road), 555 (Dividing Creek - Millville Road), and 637 (Fortescue Road) are the most important routes for getting residents and visitors in and out of the Township. These are the routes that sustain the most traffic and should be County priorities for maintenance and repair. Ackley Road (CR 718) may take on additional significance when the area targeted for light industrial activity is developed. The Township planning board has identified Turkey Point Road and Hansey Creek Road as important for birders and as access to some of the natural areas in the community. The bridge on Turkey Point Road, which is a State bridge, is in bad shape and need of repair. The State needs to get this bridge on a study and development list for New Jersey DOT or Federal funding. The foot bridge to Turkey Point also needs to be maintained. Toms Bridge is also in need of repair. County officials would like to close this bridge permanently, swap land with a local sand company, and relocate the roadway. Since no residences are located along this road, Township officials should give serious consideration to this proposal. The Money Island bridge deck may need some repair, but other County owned bridges, roadways, and intersections in the Township are in fair to good condition according to the County's traffic and transportation plan update of 1991. The bridges along Haleyville Road and across the Dividing Creek were just rebuilt within the last few years. It was suggested during a municipal planning board meeting that the County clear additional vegetation from its right-of-way along Fortescue Road so that deer and other animals are more visible. Better clearing of vegetation would also make the approach to Fortescue more attractive and would open up the vistas to some of the beautiful wetlands along the road.

A couple of the larger bridges in the Township have been rebuilt recently.

Signage can be both directional and informative.

Signage helps people get where they are supposed to be and keeps them away from areas they are not welcome. Signage can be educational as well as directional. It can provide messages about sites, sounds, and the proper relationship with historical, cultural, or natural areas. The County, the State DOT, and the National Park Service are all working on improving signage to Bay shore sites. The Township should work with these agencies to suggest signage needs in the area. (See implementation narrative.)

Special events can also draw attention to the Township and help bring new commerce to the area. There are regional events such as the annual Bay Day celebration in neighboring Commercial Township that attract thousands of people. Downe Township businesses have an opportunity to market themselves at events such as these. The Township also has an opening to distribute flyers and brochures on the natural areas, recreational opportunities and tourist services available in Newport, Fortescue, Dividing Creek and elsewhere in the community. New events can be organized that stress some of the municipal assets. These new events can be marketed in conjunction with the other opportunities in the Township.

Agricultural Preservation

The amount of prime farmland in Downe Township is limited. There are very few full time farming operations left in the community. There are, however, some individuals who are part time producers of hay, vegetables, and other agricultural commodities.

Downe Township farmland has not been one of the primary targets of the County's farmland preservation program because of the relatively poor agricultural soils and the lack of ongoing local investment in agriculture. The Township planning board also felt that efforts to preserve farmland should have a lower priority than some of the other open space, recreation, and economic development issues. However, farm markets and produce stands could still be important elements in a local marketing guide.

Although farming activity is limited in Downe Township, protecting the right to farm and market products should be an important objective of the master plan.

The efforts of the Township to enhance the limited amount of agriculture remaining might best be focused on making land regulation less onerous on the farmer and making it easier for the farmer to market products directly. The zoning ordinance should be amended to make this possible. Farm operators should work with the County Agricultural Development Board on



Encouraging the preservation of historic homes and villages should involve voluntary, incentive driven programs.

its programs with the State for 50% matching grants for soil and water conservation, best management practices, the marketing of farm products, and land preservation.

Historic Preservation

Township officials would like to promote the historic aspects of their community. Some of the historic characteristics of Dividing Creek and Newport have already been mentioned. After some discussion at local planning board meetings, members felt that new regulation which would restrict landowner options such as establishing historic districts, regulating construction materials, paint schemes, etc. was not the way they wanted to approach this issue. Rather, board members felt that the Township should provide incentives in its land use regulation and municipal programs to encourage home owners to maintain and respect historic properties. This general direction provides a broad goal for the Township. It also highlights the important link between community character and marketing a community to prospective visitors and tourists. Specific suggestions for implementing this goal are found in the implementation narrative of this Plan.

Summary and Implementation

To date, this chapter of the Downe Township Master Plan has outlined some general direction for future land use, conservation, development and redevelopment in the municipality. The recommendations of this chapter do not represent a comprehensive listing of planning recommendations for the Township. The remaining sections of the Plan offer ideas for providing affordable housing and dealing with community facilities, regional planning, and zoning.

Before moving on to other planning issues, however, it is worthwhile to examine some possible strategies for implementing the recommendations presented here and to review their potential impacts.

Action Items: Implementing the Downe Township Development and Redevelopment Plan

The strategies for implementing the recommendations of this Plan are ordered in the same way as the narrative. Implementing the general land use

recommendations will be presented first, followed by actions for conservation and recreation, economic development, agricultural preservation, and historic preservation. Some of the material might be slightly repetitive, but there is significantly more detail added to some of the Plan recommendations at this point. The final part of this chapter reviews some potential impacts arising from the recommendations and strategies proposed.

There are forty specific action items listed. They are not presented in any order of priority. The manner in which they are implemented will be determined by the Township planning board and the Township Committee. In addition to an action item, in some cases agencies and organizations which could provide assistance to the Township are also listed.

Land Use Action Items

1. Zoning Changes. A number of changes will have to be made to the Township zoning ordinance to implement the recommendations of this Plan. In general, these changes include the following.

A. Create a zone called the "Village Conservation District". This zone would combine some of the presently permitted commercial and residential activities to accommodate those uses that are compatible in size, scale, and type with the traditional uses of the historic villages of Dividing Creek and Newport. The zone would provide for a certain degree of mixed use development, but would be sensitive to existing setbacks, lot dimensions, lot coverages, accessory building locations, landscaping, and design in order to encourage new development that reflects much of the charm and character of the present.

B. Create a zone called the "Village Commercial District". This zone would allow commercial uses that might be incompatible with the existing size and scale of the village center to be located elsewhere in the village, or on the outskirts of town, (see discussion of villages, pp. 81-92.)

C. Create a "Light Industrial Zone" that would encourage the development of clean, light industry such as those mentioned on pp. 90-92 of this Plan.

D. Create a "Rural Conservation District" that would allow for rural residential, agricultural, conservation, recreation, and other rural uses compatible with the environmental character of the Township.

Changes will be needed in the municipal zoning ordinance. It is important to note, however, that most of the changes will not affect current homeowners. Changes are intended to guide the location and design of new development in the Township.

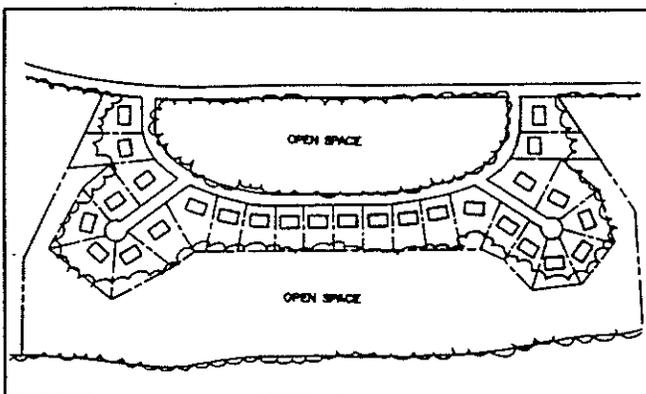
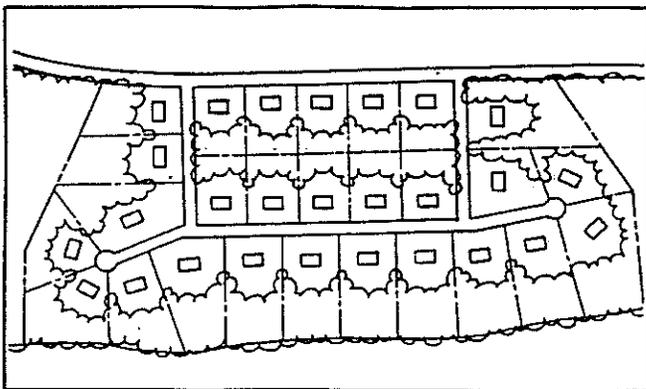
The Township's mining regulations should be reviewed for changes that would enhance future land uses and the needs of the mining industry.

E. Weave into these proposed districts a series of performance standards which would establish the conditions under which certain activities could occur and that would encourage new development to meet the goals of the master plan.

F. Review mining and reclamation standards. Similar to those regulations in other communities, the Township should work with the sand mining companies to produce mining and reclamation standards that provide for well planned future land uses once the sand has been mined and to the extent feasible reflect the needs of the industry.

G. Provide for stream corridor preservation in the zoning ordinance by developing a standard for buffers, setbacks, and greenways along the major, unprotected stream corridors in the Township, (see Map 18.)

H. Provide for Cluster Development. Cluster development is a concept whereby a municipality allows development at a greater density on a portion of a tract of land in exchange for a permanent dedication of open space on the remainder of the tract.



space on the remainder of the tract. This concept can be illustrated through the following example. On a hypothetical 80 acre tract, the local zoning allows residential development at a density of one unit per 3 acres. This means that there would be about 27 lots allowed on the 80 acre tract using conventional zoning regulations. A provision for cluster development might provide incentives for the developer to reduce the lot size and preserve open space. This provision might allow the 27 units to be built on one acre lots on a portion of the tract while preserving the remaining 53 acres. The Township should consider providing this type of incentive in an amendment to the Downe Township land

use regulations. While there are few large tracts in the Township that are completely developable, this type of concept can also be used to isolate new development from environmentally sensitive areas, woodlands, streams, and other natural features.

The Township currently has a contract with the County to produce a revised zoning ordinance.

Assistance in preparing zoning ordinance amendments will be received from the County Department of Planning & Development per the Interlocal Services Contract with the Township.

Conservation and Recreation Action Items

1. The Township should develop a partnership with the New Jersey Green Acres Program, the New Jersey Division of Fish, Game, & Wildlife, the New Jersey Division of Parks & Forestry, The Nature Conservancy, the Natural Lands Trust, and the County to explore developing park and recreational facilities in conjunction with any additional State acquisition of land in Bear Swamp West. This partnership should begin to examine potential tracts of land where park development would be feasible; identify with the Township planning board and citizen groups the types of park facilities desired; and establish a long range strategy of land acquisition and development that meets the needs of the Township, State, private sector, and other interests.

2. Contact State legislators, non-profit conservation groups, the County, and interested citizens to draft legislation that would amend the current payment-in-lieu-of-taxes structure in New Jersey. Work with other counties and municipalities, environmental groups, and legislators to move bill through the State Senate and Assembly and onto the Governor's desk for signature.

3. Contact the U.S. Army Corps of Engineers and Congressman LoBiondo's office to explore getting an Army Corps study of the water diversion problems associated with the Dividing Creek. Study should identify the problem, possible solutions, funding strategies, and timetable.

4. Participate in shorebird and public awareness programs conducted by various conservation groups and others to inform area residents, businesses, and visitors about the importance of shorebird habitat conservation.

5. Develop land management partnerships. Management of public lands has been a problem in Downe Township and elsewhere in the County.

Numerous State, Federal, and other government agencies will have to be involved in meeting some of the objectives of this Plan.

Partnerships with the conservation groups and public agencies can help manage land and other resources in the community.

Littering, illegal dumping and partying are frequent occurrences on public property. Township officials should meet with State agencies and non-profit conservation groups to determine ways that partnerships could be developed to manage these properties. For example, the State could invest in gates and other types of barriers that would restrict access to lands during certain hours. Township volunteers could open and close the gates, patrol the areas, and assist game wardens in identifying problems. Funding for this effort could come from State agencies, private conservation grants, or a voluntary fund raising effort (corporate contributions). Along the same lines, the Township could undertake a local, clean communities program, where certain businesses, citizen groups, local residents, and other organizations in the community would be responsible for cleaning litter from roads and highways.

6. Streetscape conservation. The Township should replant trees along Route 553 through Dividing Creek that were storm damaged or taken down as part of the County's road widening and sidewalk improvement program. Trees also need to be replanted along Methodist Road. Trees along County roads in Newport and other villages and communities in the Township should not be eliminated unless a severe safety problem arises or there is no practical alternative identified.

7. The Township may wish to establish a local environmental commission. Under New Jersey Law, N.J.S.A. 40:56A, the governing body of a municipality may appoint an environmental commission whose job it will be to make recommendations and advocate for environmental issues in the community. The commission is advisory only and does not have any authority to regulate land use although it can make recommendations to the planning board and governing body.

8. The Township should work with the New Jersey Department of Environmental Protection to develop a groundwater monitoring program. Perhaps the State would be willing to work with the Township on a pilot project as part of its wellhead protection program or other DEP water quality initiative.

The conservation of streetscapes can help promote the historic character of the old homes and villages in the Township.

9. The Township should revise its land use regulations to provide for adequate buffers, setbacks, and other site requirements for development adjacent to streams, ponds, lakes, and other fresh water bodies. These

regulations will help to filter pollutants, stormwater runoff, and other possible contaminants from the fresh water sources in the community.

This Plan outlines areas where mosquito control needs to be a high priority.

10. Mosquito control. The responsibility for mosquito control in Cumberland County rests with the Department of Public Works. Over the years, the Department has relied on several techniques to control the mosquito population. The first is to maintain the free flow of water in ditches and streams. In Downe Township, many of these waterways are inundated by the tides. Others are small freshwater streams that need to be kept clear of blockage. In addition to ditch maintenance, both aerial and localized spraying occurs. Some of the salt hay farms in the region are the largest breeding grounds for mosquitos. County officials believe that the PSE&G program to acquire and open some of these areas to tidal flow will reduce significantly the mosquito problems along the Bay shore and in Downe Township. Map 19 illustrates those areas that should be priorities for mosquito control programs.

Economic Development Action Items

1. Prepare a detailed redevelopment strategy for Fortescue. The Nature Conservancy has offered technical assistance to the Township in this effort. Follow-up support from the County is also available. This strategy should outline a number of projects.

A. The cost and feasibility of public wastewater treatment. Based on the presentations made to the Township planning board in December, 1995, the Township should pursue one of the wastewater management options, identify facility sites, connections, phasing of the project, and alternative funding sources.

B. Evaluation of public water system to determine need for infrastructure upgrade and improvement. Funding sources outlined.

C. Detailed sketches showing location of boardwalks, observation platforms, parking areas, fishing piers, and other public amenities to enhance recreation and tourism in the community. Recommendations needed for type of construction material, costs, and funding sources.

D. Detailed outline for beach restoration proposal. Preliminary guidance from State and Federal engineers needed to determine best

Marketing and promoting the Township will be essential to providing more business and commerce in the community.

locations for enhancement of habitat and recreational use.

2. Establish a Downe Township Chamber of Commerce. Chamber would be responsible for being an advocate for business needs, coordinating Township wide marketing program, and assisting in tourism and ecotourism efforts in the community. Action by local businesses.

3. Appoint a Township Tourism Coordinator. There are a number of people in the Township who may be willing on a volunteer basis to serve in this capacity. The coordinator's job would be to assist Township officials in signage programs, distribution of marketing materials, coordinating grant and business assistance applications, and be the point person in the Township to handle inquiries about tourism services and facilities and coordinate with adjacent municipalities. Action by Township Committee.

4. Improve signage to some of the key historic, cultural, and recreational sites in the Township. Key locations include: Fortescue, Dividing Creek, Newport, the Glades natural area, Turkey Point, Bird watching areas (per County birding guide), restaurants, services and facilities. Signage program could be coordinated with State and County effort. Potential sites eligible for NJ Coastal Heritage Trail program should be identified. Signage should conform to local, County, and State regulations and should be an attractive in design, (see appendix for suggested detail.)

Advancing new concepts such as environmental enterprise zones can bring attention to some of the economic and environmental objectives of the Township.

5. Develop marketing program for the Township. Key elements of the marketing program would include flyers on sites and facilities in the community. Some examples might include a "Welcome to Downe Township" flyer; a flyer to small businesses on the advantages of eco-tourism; a map of the Township that would key visitors to some of the local sites, facilities, and services; a business attraction pamphlet that outlines the reasons for investing in the community; and a guide to the history and culture of the area -- (a driving or walking tour of some of the villages). In addition, the Township should contact the New Jersey Lottery Commission about a suggestion made at a local planning board meeting that Fortescue be highlighted as a fishing and recreation destination (the "weakfish capital of the world") on the back of NJ Lottery tickets. The address and phone number of the Commission are: New Jersey Lottery Commission, One Lawrence Park Complex, Brunswick Avenue Circle, Lawrenceville, N.J. 08648. Phone: (609) 599-5800.

6. Investigate with State legislators the concept of 'Environmental Enterprise Zones'. These zones would be targeted toward providing tax relief and funding assistance to those businesses that contribute to a successful ecotourism program in economically distressed communities. Examples: marinas, restaurants, bait and tackle shops, and retail shops specializing in ecotourism merchandise. The Township should develop partnerships with County and State agencies, non-profit groups, business interests, and environmental organizations to outline the details and provide support for this concept before initiating legislative action.

7. Develop and implement a small business workshop on ecotourism that would help the business community in Downe Township develop ideas, strategies, and funding sources for promoting and expanding their trade. Assistance is available in this effort from the County Department of Planning & Development and from the County College.

8. Plan and produce special events to bring more business and commerce to the Township. Other municipalities hold such events and they help promote an awareness of the unique natural, cultural, and historic assets that the community has to offer. Examples for Downe Township: "Newport by Candlelight," "Green-head Festival," Fishing Tournament (eg. the Weakfish Tournament), "Shorebird Festival," "Dividing Creek Days," etc.) Technical assistance and information on planning and producing these events is available from the County Department of Planning & Development, the Cumberland County Tourism Advisory Council, the NJ Division of Travel and Tourism, the County Cultural and Heritage Commission, The Nature Conservancy, and other municipalities in the region.

9. Participate in the County's ecotourism planning program. Contacts are being made now with local government to assess the degree of municipal interest and needs in this effort. Involvement in the County ecotourism plan will help the Township coordinate with County, regional, and State efforts in this regard. Contact: Cumberland County Department of Planning & Development.

10. Promote development of a Visitor Center in the Township. Coordinate effort with State agencies, non-profit organizations such as the Natural Lands Trust which has indicated an interest in this project, and other private and public funding sources. While there may be a number of places in the

Ecotourism can be an important element in the Township's overall economic development effort.

Township where such a facility might be suitable, locating one close to Route 553 in the Newport area would serve the entire Township rather than one village.

An Army Corps project is needed to remedy the beach erosion in Fortescue.

11. Work with the Army Corps of Engineers to identify beach restoration projects, per the Fortescue redevelopment strategy. Current Army Corps projects to dredge the Delaware River and local river channels may provide options for beach, bulkhead, and dune restoration in the Township.

12. Explore a partnership with the County to develop a water and sewer authority that would manage the provision of these services in Fortescue and any other location in the Township where such services may be warranted.

13. Explore a wetlands banking concept with N.J. DEP in conjunction with centers development.

Historic Preservation Action Items

1. Apply for matching grant from New Jersey Historic Preservation Office for a historic sites survey of the Township's historic structures. Contact: Historic Preservation Office, Division of Parks and Forestry, New Jersey DEP, CN 404, Trenton, N.J. 08625. Phone: (609) 292-2023.

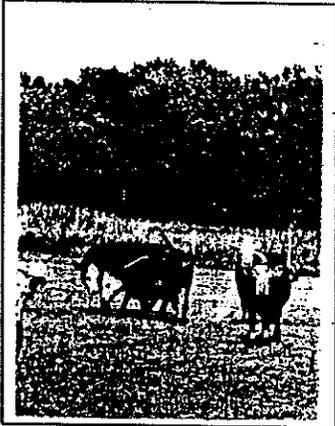
2. Zoning changes, per p. 101 of the Plan.

An inventory of historic sites and structures is necessary to develop more effective preservation programs.

3. Public information effort to heighten awareness of historic characteristics of the community. A flyer could be produced and made available to property owners in the historic villages that suggests guidelines for maintaining, improving, and restoring historic homes and buildings. This voluntary program would inform property owners of the financial advantages to them in maintaining and restoring historic properties.

4. Establish local historical society and designate official Township historian to coordinate accurate records of historic sites and properties. An official history of the Township should be compiled from the various narratives that currently exist.

5. Grant and fix-up program. Funding for local home repair (or tax credit) program, per p. 100 of this Plan.



There are still a limited number of agricultural operations in the Township.

Agricultural Preservation Action Items

1. Changes to the municipal zoning ordinance and other land use regulation should encourage local efforts to market farm products. This can be done by making it easier to construct a farm marketing stand; by encouraging joint efforts to promote the sale of farm products; and by ensuring that agricultural activities are uses by right in the rural zoning district.
2. Agricultural land owners should take advantage of County and State programs for water and soil conservation funding, where appropriate.
3. If there are conflicts between agricultural and non-farm uses, the Township should consider implementing a right-to-farm ordinance which would protect local growers from nuisance suits and other attempts to limit or halt normal farm practices.

Impact of Plan Recommendations

The demographic data presented in Chapter 10 of this Plan indicates that population in the Township has been relatively constant for decades. Significant population growth is not expected in the near future. Population levels in the Township should remain at about 1800 - 1900 residents through the turn of the century.

Should the Township implement a public wastewater system in Fortescue, this could have a significant impact on the pace of redevelopment in that village. Most of the redevelopment would occur on existing lots and would probably involve seasonal residences. While this would not affect significantly the population of the Township year-round, it could have impacts on traffic volumes, fire services, business activity, and other types of community infrastructure. It is the recommendation of this Plan that the costs of developing this infrastructure be borne primarily by grants and outside funding sources to limit the costs of construction to the Township. Without this type of investment, it is clear that population growth trends alone cannot create a desirable level of redevelopment in the community. There must be incentives for redevelopment provided by investments in infrastructure in order for the community to realize many of its economic development goals. Conversely, too much redevelopment and growth in the community can threaten the fragile balance that must be maintained between the human environment and the natural resource base. Care must be taken that

can threaten the fragile balance that must be maintained between the human environment and the natural resource base. Care must be taken that infrastructure is properly sized to accommodate a reasonable amount of new construction, but not so much that the scale and character of the community are radically altered.

The density of development will not be significantly affected by this plan. Residential lot sizes in Newport and Dividing Creek currently range from one-quarter acre lots to one acre and above. The plan calls for a continuation in village development patterns that reflect current use. Outside of the villages and other centers, the amount of publicly owned lands coupled with the demographic trends in the Township make it unlikely that there will be a significant demand for rural housing. Where development is targeted for existing villages and centers, development regulation should encourage standards which protect the villages from malfunctioning septic systems, drainage problems, and over development.

This element of the Master Plan outlines land use goals and objectives that can provide consistent Township policies on many development and redevelopment issues.

It is also important to point out that the recommendations of this Plan are intended to be implemented gradually and over time. No strategy outlined in this Plan requires the condemnation of property. Such action is not sanctioned by this Plan to implement any of the actions identified.

This chapter of the Downe Township Master Plan has provided many ideas for charting the future of the community. Realizing this future will not be easy. It will take a concerted effort of the Township administration, citizens, and business community. A significant amount of assistance will have to be provided by outside agencies and organizations.

That is why this Plan is so important. It provides a road map for the Township. It enables the community to focus on some long term goals and objectives. While getting there may take some time, the master plan will provide guidance to the municipality so that regardless of political changes, citizen involvement or the mix of outside interests, there can be consistency in municipal policy and programs.

DOWNE TOWNSHIP HOUSING PLAN

Background

The Master Plan provides an opportunity for a community to examine its housing stock, trends in the housing market, and other housing characteristics and make some judgement about official housing policy. It is also a requirement of the Municipal Land Use Law that a community assess its ability to provide affordable housing for its citizens.

The Municipal Land Use Law makes the Housing Element a mandatory part of the Master Plan.

Because Downe Township is a rural community without a rapidly expanding housing market and because there is very little developable land in the Township, this section of the Master Plan will focus primarily on the characteristics and trends in the housing of the community. It will make some judgements about the future based on the demographics contained in the background sections of this plan. Finally, a series of recommendations will be made about ways the community can promote good housing for its residents.

Characterisitcs

According to the 1990 U.S. Census, (Profile 22), there were 1,049 housing units in the Township. These include single-family detached units, (the typical detached home), attached units such as duplexes or apartments, and mobile homes or trailers. There were 742 detached units in the Township, accounting for the great majority of units, (70.1%). Only 21 units of attached housing existed in the municipality. There were 269 mobile homes or trailers. This represents about 25% of the total housing stock. Of the other municipalities in Cumberland County, only Commercial Township has a larger percentage of mobile homes. There were also a large number of vacant homes in the community, (418). This is because many of the villages along the Township's Bay shore have seasonal units that were not occupied during the period (early April) that the 1990 Census was taken.

Of the current housing units in the Township, most are single-family detached dwellings, including many mobile homes.

The typical home in Downe Township is relatively old. More than a third of the units (34%) were constructed before 1940. Just under 4% were constructed after 1985 and only about 12% have been built since 1980.

The value of the average home in the Township is \$60,026. The typical mobile home is valued at \$39,103. This makes home ownership in Downe Township among the least expensive in Cumberland County. Of the limited number of rental units in the Township, the typical rent asked was \$323.

The construction of new housing in the Township will be limited. Housing values today are relatively low and are expected to remain so, given a limited market for new development.

Trends

The demographic analysis presented in Chapter 10 of this Plan indicates that the population of the Township fluctuated between 1500 and 1800 persons from 1880 to 1990. The number of housing units increased by 128 between the 1960 and 1990 census periods, resulting in an average annual rate of just over four new homes per year.

The trend in housing value is interesting. In 1980, the average owner-occupied housing unit in Downe Township had an average value of about \$22,161. This figure increased to \$59,492 in 1990. Relative to the County, an owner-occupied housing unit in the Township represented 60.2% of a similar unit. By 1990, the same type of unit was valued at 73.5% of the County average. Home values in the Township increased at a rate greater than that of the County as a whole even though they still represent less than three quarters the value of a typical County home.

Developable land in the Township is also very limited. As a result, there are few opportunities for significant new housing developments.

It is always difficult to forecast changes in a community. In Downe Township, what has been a very small rate of increase in the number of housing units is expected to continue. Population and employment growth will also be modest throughout the remainder of the decade. Assuming a level of construction in the Township typical of the past thirty years, housing units should not exceed 1,100 by the year 2000. This would represent just under a 5% increase for the census period. Even if the Township opts to develop a new, wastewater treatment system and improve the infrastructure in Fortescue, this should not appreciably affect the growth in new units since most of the construction in the village would center around residential rehab, tourist, or commercial projects. Redevelopment in Fortescue could have a positive impact on employment and economic conditions, but there is simply not an amount of developable land or a regional housing market to prompt a large jump in new housing starts. The new construction that does occur will most likely be located in and around the existing villages of Newport, Dividing Creek, Fortescue, and Gandy's Beach. There will also be limited new construction in the very rural reaches of the community where small amounts of developable land exist.

Examining Housing Affordability in Downe Township

Housing affordability is a measure of the community's average housing value versus the income of a typical family in the community. In New Jersey, the Council on Affordable Housing, (COAH), is responsible for determining affordable housing obligations in each of the state's municipalities. The New Jersey Supreme Court has ruled that municipalities have a constitutional obligation to provide for their fair share of a region's affordable housing need. The Council on Affordable Housing is a creation of this court mandate.

The New Jersey Council on Affordable Housing prescribes housing targets for municipalities in the State.

While there is no obligation for municipalities to participate in the COAH process, there is an incentive for the most rapidly developing communities to avoid exclusionary zoning suits. The certification of a municipal fair share housing plan by COAH can guarantee a community six years of protection from such suits.

The term "affordable housing" does not necessarily mean low income housing. Many times when the term affordable housing is used, people envision a typical subsidized housing project, high rise, or apartment complex. In reality, affordable housing can be targeted at senior citizens or at families earning a family wage typical of the community.

To get some sense of the affordability of housing in Downe Township, a comparison is offered between the value of housing in the community and the average family income. The average value of a housing unit in the Township was estimated previously at \$60,026, or 73.5% of the County average. Median family income in the Township, also extracted from the 1990 U.S. Census, was \$14,744, or 84.0% of the County average. Based on these two figures, it would appear that the typical home in Downe Township is more affordable for the average family than in the rest of the County. Coupled with the small rate of growth in new housing, the increase in mobile homes, and the redevelopment opportunities that may be available in places like Fortescue, housing affordability in the Township should remain relatively positive.

The term "affordable housing" does not necessarily mean low income housing. Affordable housing is that which can be purchased by a family of average income in a given community.

To meet the obligations stemming from the Mount Laurel decision of the New Jersey Supreme Court, the Council on Affordable Housing has established affordable housing targets for all municipalities in the State. In

Downe Township, COAH has determined a very small affordable housing need of 23 units; 13 of which could be met through rehabilitation programs. These figures will be used as an official estimate of the Township's fair share housing need in the event the Township should ever be faced with a challenge that it does not provide for adequate affordable housing opportunities.

A number of recommendations in this Master Plan can provide for a good mix of housing types, densities, and locations.

In municipalities where there is a rapid rate of new development and a sizeable number of new homes constructed annually, the possibility of legal challenges to a community's housing plan and zoning ordinance is very real. In Downe Township, where the development trends are limited and where housing affordability is relatively high, the probability of this type of legal action is limited. In addition, it has been documented in considerable detail that there is very little land available in the Township for any type of new development. In the event of an affordable housing challenge, the Township should be able to demonstrate that because the level of affordability in the community is high today and because the opportunity for new construction is significantly limited, the present target figures from COAH, while small, should be adjusted downward. Nonetheless, it is an objective of this Plan to protect the Township from legal challenges related to its fair share affordable housing obligation.

Recommendations

1. *Provide for a mix of housing types and densities.* By encouraging a range of housing types and densities, the Township is providing an opportunity for the construction of housing that can be afforded by the typical family income in the Township. As outlined in the previous chapter, any new housing should be encouraged to locate in and around the existing villages and centers.

The Township can promote a number of initiatives to enhance the housing opportunities for its citizens.

2. *Explore the need for dedicated senior citizen housing in the Township.* A portion of any community's fair share of affordable housing can be credited to senior citizen housing. Some municipalities have rehabilitated deteriorated housing units or constructed new ones that have been permanently restricted to senior citizen ownership. In Downe Township where there is a sizeable percentage of senior citizens, the Township might find considerable support for dedicated senior housing.

Filing this housing element with the N.J. Council on Affordable Housing can help limit the liability of the Township in any affordable housing challenge.

3. *Pursue state grants for housing rehabilitation.* The New Jersey Department of Community Affairs offers grants up to \$200,000 per municipality to help low and moderate income residents of a community fix up their homes. With the proper documentation that these grants are being directed to low and moderate income residents, a community can receive credit for meeting a certain portion of its affordable housing obligation.

4. *Maintain safe construction practices and standards.* The adoption and enforcement of uniform construction codes, such as the BOCA code, are good ways to ensure that the housing being constructed in the Township meets the necessary building standards. Township officials should continue to rely on these standards as part of the construction approval and management process in the Township. Construction review practices should be examined to ensure that the proper inspections of new construction in the community is occurring.

5. *File a copy of this housing element with the NJ Council on Affordable Housing.* By filing a copy of this housing element with COAH, the Township is afforded access to COAH's administrative process of review and mediation in the event of any litigation regarding the affordable housing issue. Without a housing element on file with COAH, legal challenges on this issue are decided in the New Jersey Superior Court. In this arena it is likely that Township costs and other legal expenses may be greatly increased without the benefit of an administrative solution of any kind.

Summary

There is very little pressure for new development in the Township.

Downe Township today is a small, quiet, rural municipality. There is no significant development pressure in the community. Large expanses of the Township are currently owned as permanently dedicated open space by either the State of New Jersey or private, non-profit conservation groups. The State Development and Redevelopment Plan includes most of the Township in Planning Areas 4 and 5, the rural and environmentally sensitive Planning Areas. Environmental constraints such as flood plains, wetlands, and poor soils significantly limit the amount of new housing that can be constructed in the community.

Based on these characteristics of the community and the existence of some of the lowest priced housing anywhere in the State, it would appear that the Township is meeting de facto, the objectives of the State to provide

The Township today has housing that is generally more affordable than that in the County as a whole.

affordable housing opportunities to its citizens. By encouraging the continuation of a mix of housing types and densities the Township is ensuring that the opportunity to construct affordable housing continues to exist. Additional programs for senior citizens or housing rehabilitation can enhance these opportunities further.

The provision of affordable housing, however, is just one objective of the Township Master Plan. There are other objectives noted earlier to protect some of the community's historic resources, to encourage new development patterns and styles that reflect the heritage of the small towns and villages in Downe Township, and to foster an environment that allows for rehabilitation and development to address the tourism and recreational interests of the community. These objectives coupled with an interest in affordable housing issues can help ensure that Downe Township provides a wide range of housing opportunities for its citizens and does it in a way that promotes the unique character of the area.

COMMUNITY FACILITIES PLAN

The Parameters of Community Facilities Planning

This Plan focuses only on those services and facilities that are municipally owned and managed.

In rural communities such as Downe Township, the range of community facilities and services is quite limited. Chapter 12 of this Plan highlighted the principal facilities and services found in the Township. Aside from the services offered at the complex on Sharp Lane which include the municipal offices, road garage, senior center, and convenience center, there are no other municipal services provided in the Township. All other services and facilities are provided by the private sector or by quasi-public agencies.

Given that municipal services are limited, this Plan will address only the changes in service that can be directed by the Township. It is not within the jurisdiction of this Plan to direct the level of service provided by the school board, fire companies, rescue squads, churches, non-profit groups or other non-municipal organizations. However, trends or recommendations outlined in this Plan may provide guidance in facility planning outside of the municipal jurisdiction.

Several factors can influence the demand for new facilities and services. Demographic changes are some of the most important ones.

The need for new or expanded municipal services and facilities is determined by several factors. Demographics are the main determinants. Changes in the municipal population, housing base, or commercial/industrial composition of a community often drive the need for new services and facilities. Other factors can include changes in social customs. For example, the increase in women in the workforce over the past couple decades has driven a demand for day care facilities, both public and private. Increases in leisure time has resulted in new and different recreational facilities and services. All of these factors are considerations that are part of the facilities planning process in Downe Township.

Analysis of Facility and Service Needs

Municipal Services and Facilities

Various elements of this Plan demonstrate very slow growth in municipal population. The number of persons living in the community has remained

relatively constant for several decades. This fact, coupled by a slow increase in housing and commercial construction in the Township point to a low demand for new facilities and services. The current municipal complex should serve the needs of the Township residents and staff for the foreseeable future.

The most controversial community facility issues in the Township center around trash disposal.

During the public discussion on community facility needs, there were two issues raised by citizens of the Township concerning municipal services which deserve attention in this Plan. Both are related to recycling and trash disposal. The first was a suggestion that the Township consider municipal trash pick-up rather than relying on the use and operation of the convenience center to transfer trash and recyclables to the County landfill. The second involved the location of the Township convenience center and its impact on the surrounding human and natural environment. This Plan recommends that the Township Committee continues to review trash pick-up and disposal policies to ensure that municipal residents are getting the most affordable and environmentally sound trash disposal as possible.

Recycling Strategy

In accordance with the Municipal Land Use Law, the Master Plan must also address recycling in the Township. Currently, the Township's recycling efforts are coordinated in conjunction with the Cumberland County Improvement Authority. The County Solid Waste Management Plan Amendment #4 identified a strategy for recycling materials on a County-wide basis. This Amendment was adopted in 1988 and requires the County's municipalities to adopt ordinances for mandatory recycling. These ordinances require the separate collection and recycling of newspaper, commingled glass and metal food and beverage containers, PET and HDPE plastic bottles, food waste, corrugated cardboard, high-grade paper, white goods, leaves and other materials. Downe Township officials have passed such an ordinance.



The Convenience Center is located on Sharp Lane.

Because the Township is very rural, the curbside collection of recyclables may not be practical. Therefore, Township residents use the convenience center for the collection and separation of its recyclable material. The convenience center contains bins for the collection of these materials, including white goods. The center operates two days a week -- Wednesday and Saturday -- for collection of recyclable material.

An objective of this Plan should be to ensure that the Convenience Center, regardless where it is located, is a clean and well managed facility.

It is the goal of this Master Plan to advance the Township's recycling effort. The County Improvement Authority has a goal of 50-60% for its recycling rate. This means that Township residents must work to recycle more than the household plastic, metal cans, and newspaper. The Township needs to publicize the availability of outlets for other types of recyclable material. For example, the County has a used motor oil recycling program. There are four sites in the County, in addition to the one at the County Road Department Garage on Route 49, that accept used oil and antifreeze. There are also established locations for recycling concrete, asphalt, masonry materials, and wood waste. Flyers on the location of these facilities should be made available at the Township office. The convenience center should be as accessible as possible for local residents to encourage the recycling of material. The Township should work closely with the County Health Department to ensure a safe and effective management of the Center.

Other Facilities and Services

This Master Plan, (pp. 94-96), recommends exploring a number of recreational facilities. These initiatives should move forward in conjunction with the partners identified. Special facilities and services for Fortescue Village such as wastewater treatment, fishing piers, and other improvements to the village should be coordinated through the Fortescue Redevelopment Plan that is proposed. There is also a need for public restrooms, parking areas, roadway improvements and other public infrastructure to accommodate additional visitation to the community. Dumping stations located in Fortescue can also help alleviate some of the waste disposal problems associated with campers who visit the area. Specific locations for recreational vehicle camping need to be identified as well.

Private facilities, and public facilities such as schools and churches are outside the domain of this Plan. It is reasonable from an intuitive perspective, that given the slow rate of growth and development in the Township, future demand for an expansion of these services should be minimal. However, the specific policies and program needs for those services are best addressed through the boards, agencies, and organizations that are charged with administering the particular service or facility.

Summary

Goals for recycling all types of municipal waste are important elements of the Master Plan

Demand for new services and facilities in Downe Township will be minimal through the remainder of the decade. This could change if the development

trend in the community is altered. An increase in population growth, a significant change in the composition of the population, or an increase in housing, commercial, or industrial development could all spark a demand for increased services.

The redevelopment of Fortescue could have an impact on the delivery of services in the long term. Clearly, however, this possibility should not be used as a rationale for accepting the status quo. The future of Fortescue as the commercial center of the community can have many positive impacts on the Township. The issue of service delivery and facility construction is one that must be evaluated continuously as part of the ongoing planning effort in the Township.

Generally, the demand for more municipal services and facilities should be limited, given the low rate of growth and development in the Township.

Recycling programs in the Township should be promoted in order to ensure as high a rate of recycling as possible. Locations for the safe disposal of various types of recyclable material should be publicized through the Township office. Municipal officials should work with the County Health Department and the County Improvement Authority to manage the convenience center as safely and effectively as possible. Calls for a municipal trash service or the relocation of the Township convenience center should be determined through fact-based cost/benefit and environmental impact analyses to insulate these issues from the personal and political considerations involved.

REGIONAL PLANS AND IMPACTS

Impacts on Neighboring Municipalities

Because Downe Township is very rural and somewhat isolated from the urbanized areas of the County, there are relatively few land use issues posed by this Plan that might impact on neighboring communities. Downe Township is bordered on the north by Millville; on the east by Lawrence Township; and on the west by Commercial Township. Land uses adjacent to these borders are also very rural, low density uses. There are two land use issues, however, that do transcend municipal boundaries. These issues involve sand mining and the public ownership of land.

The Downe Township master plan is very compatible with those plans of neighboring municipalities

City of Millville

The Millville Planning Board adopted its municipal master plan in 1990. That plan shows the area bordering Downe Township as part of a land conservation district. That designation is due, primarily, to the fact that the Edward Bevan Fish and Wildlife Management Area comprises the entire boundary between the City of Millville and Downe Township.

Despite the State ownership of the Bevan tract, there are several issues outlined in this Plan that may have an impact on the City. The first is related to sand mining. This Plan encourages the State, the Township, and the sand mining companies to assemble a strategy for mining a portion of the Edward Bevan tract that would meet a multitude of needs. One of the outcomes of this negotiation might be the development of a State park in a portion of the Bevan property that would provide greater recreational opportunities for Downe Township residents and tourists from outside the community.

There may be a need in the course of such negotiation to coordinate the effort with city officials. Access to any sand mining area or proposed park may impact roadways in the city. These impacts should be assessed. In addition, the Buckshutem Creek drains this area. Any sand mining impacts on stream flow, the diversion of water, or the level of the water table also need to involve the citizens in Laurel Lake and other affected areas in the city.

On the whole, however, there is significant compatibility between the City and the Township Plans. The two areas mentioned are those where coordination and dialogue must occur.

Commercial Township

There is a much longer border that is shared between Commercial and Downe Townships than the one shared with Millville. There are also public lands along this border. The Turkey Point and Egg Island Fish and Wildlife Management Areas comprise a sizeable portion of the border south of County Route 553. The Edward Bevan Fish and Wildlife Management Area comprises a small portion of the northern border. There are large tracts of sand mining in the northwestern corner of Commercial Township which abut Downe. There are also other operations in the vicinity of Dragston Road.

Sand mining is an important land use along the Commercial and Downe Township border. Coordination among municipal regulations can help the townships and the sand companies do business.

While both municipalities encourage low density land uses in the area of their common border, sand mining activity is an important shared land use. Because there are so many streams and small tributaries running between the communities draining to either the Maurice River or the Dividing Creek, land uses that impact on the water resources of the region can have impacts on both municipalities.

The Downe Township Master Plan recommends that the municipality develop a sand mining ordinance in consultation with the sand companies in the area. Commercial Township's ordinance was cited by the Unimin Corporation as an example of a mining ordinance that works well to meet both company and municipal needs. Downe Township should consider tailoring its ordinance to be compatible with Commercial Township's. This would make intermunicipal coordination of mining activities possible, and would make it easier for the mining companies to work in sites that might transcend municipal lines.

The public ownership of land is prominent along all the Township's borders with neighboring communities.

Lawrence Township

As was true with Millville and Commercial Townships, there is also a large portion of Downe Township's border with Lawrence Township that is publicly owned. The Edward Bevan Fish and Wildlife Management Area comprises about half the total border. The Nantuxent Fish and Wildlife Management Area represents a small area along the Township border, south of Route 553. Only the area around Newport is privately owned. In this area,

Newport village is located in both Downe and Lawrence Townships. Intermunicipal coordination of land plans may be useful in helping to shape the future of this village.

both Townships advocate rural land uses. In the case of Lawrence Township, agricultural land uses are encouraged. In Downe Township, village development with limited commercial and recreational activities are proposed around Newport. It would make sense for both municipalities to share common objectives in the development of Newport village and along its major access roads since development patterns transcend municipal lines. While the current situation does not pose any adverse circumstances for either community, there may be the need for some additional coordination of land use regulations at the point Lawrence Township updates or revises its master plan.

Coordination with the New Jersey Development and Redevelopment Plan, (The State Plan)

The State of New Jersey is in the process of extending its State Planning objectives into the Coastal Zone. During the negotiation with State Planning officials regarding the delineation of planning areas and development centers, there were three villages identified as areas where future development and redevelopment should occur. They were Newport, Dividing Creek, and Fortescue. In subsequent meetings with the State, Township officials asked that Gandy's Beach also be designated as a center. While the State does not intend to regulate these areas through zoning-type controls, there are policies at the State level that direct agency decisions on funding, infrastructure development, and permitting based on center designation. In other words, the State is trying to create a situation where its own decisions will be driven by good planning. Villages that have been designated as centers will be eligible for State grants, loans, and permits. Areas outside of centers may not be.

Compatibility with the State Plan can help to direct funding for infrastructure development and other redevelopment efforts.

If places in Downe Township such as Fortescue are to be deemed eligible for State redevelopment assistance; if the community is to be found eligible for a package wastewater plant; if regulation is to be streamlined in developed areas, it is important that Fortescue retain its designation as an official village center. The same is true for the other villages in the Township where local officials want to encourage a loosening of State regulation and an increase in the incentives for redevelopment.

This level of compatibility exists in the Downe Township master plan. Based on the analysis of natural features, public lands, development constraints, and existing land use, it is only the areas in and around the existing village centers that future development activity makes any sense.

The only exceptions to this observation are the sand mining properties and the limited commercial district proposed outside of the villages along the Winchester & Western Railroad. In this case, it can be argued that the existing infrastructure (rail line) is the focus of the limited commercial district and that the location for future sand mining activity is determined by the sand deposits and the land ownership patterns.

Compatibility with Other Regional Plans

There are a number of other regional plans that impact Downe Township, and where the Township Plan can have some impact. At the county level, the recent endangered species inventory included a number of land use objectives in volume III. More than 80 land use issues were raised in this document; many of them by Downe Township citizens. The need to develop around existing centers; to protect critical habitat; and to foster a shorebird management program are examples of conservation issues that were highlighted in this study. Other issues such as the need to change the payment-in-lieu-of-taxes structure in the State or to streamline regulation and permitting are issues that are central to the Downe Township Plan. Many of the County's objectives in planning its coastal area originated in meetings held in the Township. There is a significant amount of compatibility between Township and County direction.

There are many plans being assembled at the State and Federal levels where input from Downe Township citizens has made a difference.

The Delaware Estuary Comprehensive Conservation Management Plan, being developed by the U.S. Environmental Protection Agency, through the Delaware Estuary Program, is another document where many of the Township's concerns about public ownership of land have been addressed. Conservation issues such as stream corridor protection, watershed planning, shorebird and shoreline conservation receive considerable attention in this Plan. The Delaware Estuary Plan may need to include more objectives for streamlining regulation and eliminating red tape in developed areas such as Fortescue. The County and the municipality need to work together in conjunction with State officials and non-profit conservation groups to advance concepts such as these.

The PSE&G land acquisition program is one that Township officials should continue to monitor.

In addition to the Delaware Estuary Plan, the Public Service Electric & Gas Company, (PSE&G), is involved in a significant wetlands acquisition program throughout the Delaware Bay region. While this effort does not have a direct impact on Downe Township, since few if any acres are targeted for acquisition at this point, there will be impacts on surrounding municipalities with which Downe Township officials should stay informed.

Impacts from wetland acquisition and flooding of these areas will have future impacts on land development patterns, maintenance activity on dikes and embankments, the ownership of land, and the amount of tax revenue collected. Should this program move into the Township, local officials can benefit from the type of discussions and agreements that have been reached in other municipalities.

Tourism and Recreation Initiatives

Cumberland County and the State of New Jersey are beginning to focus on ways to advance tourism initiatives in the region. One of the ways mentioned has been to develop strategies for ecological tourism. Many of the recommendations in the Downe Township Plan are compatible with this objective. The Township's historic economic base centers around fishing, boating, and recreational pursuits that would be a natural part of any ecotourism program. Local businesses would benefit from an increase in tourist traffic in the community. While there is a need to properly manage and promote this initiative, the Township Plan shares many of the county, State, and regional objectives in this regard. The New Jersey Coastal Heritage Trail can provide opportunities to highlight community resources for tourists coming to the area.

The Downe Township Plan fits nicely into the objectives of the State and County for encouraging more tourism initiatives in the area.

Summary

The Downe Township master plan is compatible with plans of neighboring communities, the region, county, and state. There are a few areas where intermunicipal impacts will have to be coordinated. These involve issues related primarily to sand mining and the public ownership of land.

Generally, the Downe Township master plan is very compatible with plans and activities in the region. The Township must continue to work to advance many of the local, regulatory issues its citizens feel are important.

Township residents, planning board members, and elected officials have done an excellent job in articulating many of the problems facing a small, coastal community. Public ownership of land, tax issues, and regulatory concerns are just a few that have begun to receive attention at the State and Federal levels as a result of Downe Township's efforts.

Community leaders and citizen groups must stay involved as this master plan is adopted to move these issues forward. There is a growing consensus at the local, County, and State levels about the future of the coastal area. By establishing partnerships with business, environmental organizations, and government officials, the Township can make considerable progress toward ensuring greater compatibility between the concerns of its citizens and the relationship of the Township to the larger region.

DOWNE TOWNSHIP PLAN SUMMARY

Importance of the Master Plan

Downe Township is at a critical crossroad. The future of the community depends on the success of this Plan.

Downe Township is at a critical crossroad. Recent trends both locally and regionally have left the Township with fewer residents, declining economic opportunities, and little demand for new growth and redevelopment. Many of the factors contributing to these trends are beyond the scope of Township officials. State and Federal regulations are very restrictive. There is very little land left in the municipality where development can occur. The natural resource characteristics in the Township such as wetlands or poor soils make it impossible to develop in certain areas. Sand mining companies, while important industries in the community, are targeting much of the land that is developable for future mining activity.

Despite these obstacles, however, the municipality has many important assets that can point the way toward a brighter future. Downe Township has an incredibly rich natural resource base. Some of the finest examples of wetland habitat anywhere in the world are located here. Pristine marsh meadows, an abundance of wildlife, a internationally reknown shorebird migration, and an array of old forest growth and other vegetation found in very few places in New Jersey make the community, as described in municipal publications, a "nature lover's paradise."

There are many assets the community has to help realize the vision of the Plan

The Township is also rich in its cultural heritage. Fortescue remains one of the most active fishing villages on the Delaware Bay, despite some of the economic hardships the village has had to endure. Newport and Dividing Creek are fine examples of small town life in an area of New Jersey that has been untouched by rampant suburban development. Most residents like it that way. As indicated in the citizen survey of the Township conducted prior to assembling this Plan, Downe Township is a good place to raise a family, to escape from the faster pace of urban life, and to find the peace and quiet of rural living.

The challenge of this Master Plan has been to build on the assets that the community in ways that strike the balance between natural resource

protection and redevelopment needs. There are many competing interests in Downe Township that must be involved in this process. The State of New Jersey owns 13,547 acres, or about 40% of the land area of the Township. Non-profit organizations, principally the Natural Lands Trust and the The Nature Conservancy, own another 5,335 acres, or 16% of the Township's land. Sand companies control another 4,807 acres, or 14% of the land. Clearly, if the Township is going to be successful in implementing many of the objectives of this Plan, partnerships will have to be established and nurtured with these players and other interests. The Master Plan sets forth a philosophical strategy as well as the specific actions required to make this happen. All municipal regulation, development activity, and initiatives along these lines should be built upon the foundation established by this Plan.

Building Partnerships

Balancing Resource Protection and Development Goals

The premise of this Plan is that a brighter future for Downe Township centers on many of the historic businesses that depend on natural resources; fishing, recreation, sand mining, and tourism. It is important, therefore, that the natural resources of the Township are conserved. Partnerships with the State and the conservation organizations can help to foster land acquisitions, land management strategies, and other resource protection measures that ensure the long term preservation of the outstanding environmental characteristics that are part of Downe Township. In examining these alternatives, Township officials, citizens, and businesses need to appreciate that this natural resource base can be an asset for development, rather than a liability. By promoting partnerships with the conservation community, recreational opportunities, ecotourism strategies, or the development of new community facilities can occur in conjunction with resource protection. In this fashion, the Township can work to expand economic opportunity while simultaneously protecting the environment. One does not have to occur at the expense of the other.

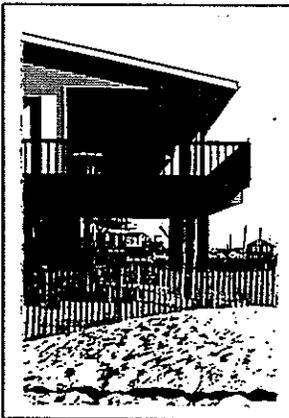
Building partnerships and enlisting the support of larger agencies and organizations will be critical to the success of this Plan.

There are important roles that the non-profit organizations and the State can play in making this happen. The non-profits can assist in promoting a more equitable "payment-in-lieu of taxes" program statewide that would provide some relief to Downe Township residents. These groups can also work to

include economic development, tourism, or recreational elements in any proposals they advance for land acquisition. Helping the Township finance flyers, brochures, and other marketing tools that promote Fortescue as a desirable fishing destination, or the natural areas for bird watching or other ecotourism pursuits would be very helpful. State agencies can also work to advance some of these objectives with the Township. The Division of Fish, Game, & Wildlife needs to improve the management of its property and open up the property for more active recreational pursuits. Working in conjunction with other agencies of State, County, or municipal government, some of this land could be used for park development, campgrounds, fishing areas, wildlife observation platforms, or nature walks. Certain acreage, because of its environmental sensitivity is obviously off limits, but other areas are less sensitive and can sustain an increase in visitor use. These are just a few of the things that have to happen if the Township is to be successful in advancing the strategies of this Plan.

Fortescue is the Key to Economic Revitalization

While ecotourism, expanded recreational activity, resource protection, and retaining the character of Dividing Creek and Newport are important ingredients in the success of this Plan, the redevelopment of Fortescue is the key objective. This village is currently the premier tourism and recreational destination in the Township. If the character of Fortescue and its tourist services continue to decline, it will be very difficult for other areas of the Township to compensate for this loss. Therefore, the redevelopment of this village must be the primary goal of the Township.



Redeveloping Fortescue must be the primary objective of the Township.

To accomplish this will take time. It is not something that will happen overnight. This Plan has outlined some broad strategies for redeveloping the village. It will take considerable outside investment. The State, the County, the Federal government, non profit conservation groups, foundations, business, and the citizens of the community all have a stake in the future of Fortescue. Regulation must be streamlined. The State is moving in this direction, but there is a long way to go to coordinating State and Federal policy with the objectives of the Plan. Wastewater treatment, and other infrastructure investments are necessary as is an innovative marketing plan, (see page 87 for details.) Partnerships will have to be established with many agencies and organizations if the Township is to secure the funding, technical assistance, and regional support to accomplish this goal.

The Role of the County as Partner

As the agency primarily responsible for facilitating the production of this Plan, the County Planning & Development Department has gained a good understanding of many of the issues and problems confronting the Township. The Department can continue to provide technical assistance to the Township government, citizens, and business organizations in implementing the objectives of the Plan. There are other ways, however, that County government can help. The County Road Department needs to involve citizen and community interests when making road improvements in the Township that would detract from the character of the area. Key roadways that can provide the lifeline to a rebirth in the municipal tourism and recreation industry must be maintained. The County College can provide training for businesses wanting to get more involved in pursuing ecotourism or in marketing their products. The County Improvement Authority can provide financing options for long term investments in infrastructure, recreational facilities, and other physical improvements to the community. The County Planning & Development Department can work to coordinate these activities and agencies with the Township in implementing this Plan.

Many agencies of County government can assist the Township in this effort.

The Private Sector as Partner

Much of the success of this Plan will depend on citizens, business people, entrepreneurs, and other interested parties latching on to some of the recommendations of this Plan and making them happen. Keeping one's personal property in good condition is a simple way to enhance the appearance of the community and make it an attractive place to visit. For the more adventurous, starting a campground, new ecotourism business, or recreational pursuit can help expand the economic base of the community. Being protective of shorebirds, and mindful of the importance of the Township's natural resources can aid in their protection. Working to inform others of these considerations is also important.

Changing the Township Means Changing Attitudes

In closing this Plan, a final recommendation is necessary. Success means working together. A "Can Do Attitude" must be fostered among Township residents, businesses, and community leaders. Implementing this Plan will require that many people, organizations, and other interests pull together in

Success means working together.

the same direction. There is little room in a small community such as Downe Township for divisive and protracted political battles that detract from the common objectives of the community.

There are many resources in government and the private sector available to assist the Township in this effort. It is important that the community, including government, citizens, and businesses, draw on these resources and technical skills. Redevelopment in Downe Township will have to be done sensitively and in keeping with the scale and character of the Township. Poor or inappropriate development may be worse than no development at all.

This Master Plan is a Blue Print for the future. It is only valuable if it is used regularly as a guide and a rallying point for community action.

Turning things around will take a great deal of drive and initiative. This Plan has provided a blue print for starting down the road to a brighter future for the Township. Making it happen will require the help of everyone.

