DRAFT

CITY OF VINELAND
MASTER PLAN

PREPARED BY:

T&M ASSOCIATES

APRIL 2008

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CITY MASTER PLAN

Statement of Goals and Objectives, Land Use Plan Element, Housing Plan Element and Fair Share Plan, Conservation Plan Element, Farmland Preservation Plan Element, and Statement of Plan Relationships

CITY OF VINELAND
CUMBERLAND COUNTY, NEW JERSEY

PREPARED FOR

CITY OF VINELAND
PLANNING BOARD

PREPARED APRIL 2008 BY

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EXECUTIVE SUMMARY

BACKGROUND

The City of Vineland Planning Board has prepared the 2008 Master Plan to guide the City's future growth, development, redevelopment, and conservation. The Master Plan responds to increasing development pressures and provides for balanced land use that would benefit the entire community

The plan is based upon a vision for future growth, redevelopment, and conservation that maintains a compact pattern of development within the City's sixty-nine square miles. The City envisions a revitalized historic urban center, appropriate infill, adaptive reuse, brownfield reclamation and new development in the suburbs surrounding the City's urban center, and a rejuvenated Delsea Drive corridor. Vineland's suburban development transitions at a low density to a rural greenbelt of preserved open spaces and farms that extends to the western, northern, and eastern City limits.

PRINCIPLES, GOALS, AND OBJECTIVES

The City of Vineland Master Plan is based upon the principles of balanced land use, sustainable development, and equitable growth.

BALANCED LAND USE ~ Land and water are finite resources. Residential, commercial, industrial, agricultural, public, recreational, and open space uses compete for a share of these two limited and increasingly valuable resources. The City's future land use and development must be balanced to meet the public needs and serve the goals and objectives of the City plan for housing and economic development, redevelopment of the City center, agricultural land use, community facilities and services, clean and abundant water, good quality air, and green spaces for recreation and biological diversity.

SUSTAINABLE DEVELOPMENT ~ Sustainable development meets the needs of the present without compromising the ability of future generations to meet their needs. Development should not exceed the limits of the City's natural systems and its infrastructure system nor should it degrade those systems.

EQUITABLE GROWTH ~ The benefits and the responsibilities of the City's growth, development and redevelopment, and conservation should be equitably shared.

The City Master Plan supports the vitality of the City's urban and suburban areas that have the appropriate infrastructure, regional highway access, and community facilities to support and serve the City's present and future population and provide for new job creation and housing. The City will utilize its existing urban and suburban footprint more efficiently through the redevelopment and rehabilitation of the City's downtown, by reclaiming brownfields and greyfields for beneficial economic development, through the adaptive reuse of existing developed sites, and by promoting the infill of areas where sewer and water lines already exist.

The Master Plan establishes goals and objectives for the City's future development, redevelopment, and conservation.

LAND USE PLAN ELEMENT

The City of Vineland is a diverse community with a land area that totals more than sixty-nine square miles. It includes urban, suburban, and rural land uses and a variety of housing types and commercial, institutional and industrial activities. A large portion of the community is actively farmed and significant areas of the City are open space lands in public or private ownership. Although a large area of the City is served by public sewer and water service from community wells, extensive areas of the City rely upon on-site wells and septic systems. The City's many community facilities include schools, library, emergency service facilities for police, fire protection, and first aid, and community recreation areas and playgrounds. Most of Vineland's public community facilities are located in the more densely populated areas of the City south of Forest Grove Road between Route 55 and the Menantico Creek and Hance Bridge Road. The City is served by a well developed transportation network that includes local streets, County roads, and State highways as well as an airport and a rail line. The City's rivers, streams, waterways, and wetlands are important features of Vineland's landscape and provide needed drainage, and flood control for the community as well as scenic rivers and habitat areas for rare or threatened native species.

The land use plan element presents the standards for density and development intensity recommended for Vineland.

The City land use plan is based upon the following generalized land use areas:

- Historic City Center
- City Center Suburbs
- Suburban/Rural Transition
- Special Economic Development
- Commercial/Industrial Nodes
- Rural/Conservation Greenbelt
- Greenways

Sanitary sewer is essential infrastructure for the City's future growth and development. The City has a limited sewage treatment capacity and a limited supply of water. The City plan is to limit future City sanitary sewer extensions to a defined area of the City that includes the historic City center, the City center suburbs, the area of suburban rural transition, commercial and industrial nodes, and the area of special economic development. Sanitary sewers will not be extended to serve the rural/conservation greenbelt.

City of Vineland
Future Land Use

Proposed Land Use	***Acres***	***Percentage***
Commercial	1,999	4.5%
Center City Redevelopment Area (Excluding Public and Parklands)	702	1.6%
Mixed Use	225	0.5%
Industrial	3,492	7.9%
Institutional Campus	169	0.4%
Institution	266	0.6%
Low Density Residential	5,302	12.0%
Medium Density Residential	7,284	16.5%
Multi-family Density Transfer	207	0.5%
Agriculture	7,680	17.4%
Conservation	7,379	16.7%
Mobile Homes	400	0.9%
Parks/Open Space	5,666	12.8%
Public Use/Public Land	3,379	7.7%
Total	**44,150**	**100.00%**

LAND USE PLAN ELEMENT ~ COMMUNITY DESIGN GUIDELINES

Vineland has a distinct pattern of land use and development that includes an historic urban center with a central business district and main shopping street, urban and suburban residential neighborhoods with tree lined streets, commercial corridors, commercial or industrial nodes, and a greenbelt of farms and open spaces. To establish a positive community image, the City requires sensitive community design in all areas of Vineland.

The orientation, form, and relationship of buildings, landscaping, signage, lighting, streets, open spaces, and parking to meet the public need for a well ordered community are basic considerations of community design.

The Master Plan land use plan element includes community design guidance for the following:

- Building design
- Off street parking and loading areas
- Streets and circulation
- Landscaping

- Conservation of trees and forests

- Delsea Drive corridor

HOUSING PLAN ELEMENT AND FAIR SHARE PLAN

The City of Vineland Master Plan Element and Fair Share Plan provides recommendations for the future development, rehabilitation, and improvement of housing in the City of Vineland. It also addresses the obligation of the City to plan for a fair share of the regional need for affordable housing.

The City of Vineland offers a wide variety of housing opportunities, including a large number of affordable housing units. Although the predominant housing type in the City is the single family detached dwelling, the City housing stock is diverse. The City has developed single-family and multi-family housing for families, the elderly, the lower income and the disabled. Vineland is improving the City center through housing rehabilitation. The 2000 Census indicated that the City contained nearly 21,000 dwelling units.

Approximately 33.7% of the City's total occupied housing units are rental units. In addition to single family detached dwellings, the City housing stock includes significant numbers of the following other types of dwelling units.

- Duplexes
- Multi-family dwellings
- Alternative living arrangements
- Housing for the disabled
- Age-restricted housing
- Assisted living
- Public housing
- Mobile homes

The City is obligated to plan to provide affordable housing. The City adopted its housing plan element and fair share plan in 2006 to address the housing needs identified by the New Jersey Council on Affordable Housing (COAH) in its rules adopted in 2004. Subsequent to the COAH rule adoption and the City adoption of its housing plan element and fair share plan, COAH has proposed a revised rule in response to an Appellate Court decision issued in January, 2007. The COAH revised rule, if adopted as proposed, will require changes to the City housing plan element and fair share plan.

CONSERVATION PLAN ELEMENT

The City of Vineland is distinctive in the variety of ecological communities and wildlife species that are sustained within the City limits. In a crowded state where open space and agricultural lands have been consumed by development and urban sprawl, the scenic vistas, farmlands, forests, pristine rivers, streams, and watercourses of Vineland are stand out features of the City's

environment. Vineland recognizes that, for the City to remain an attractive and healthy place to live and work, the City must protect its natural environment and resources from degradation.

The conservation plan element of the Master Plan responds to civic concern that the City's environment, open spaces, and rural areas are being consumed and compromised by land development practices that clear cut forests, aggravate flooding, impair water quality, fragment and reduce wildlife habitat, and consume open space and farmland.

The City should take the following actions to achieve its conservation goals and objectives and meet the City's needs for resource protection:

- *Establish a City Open Space and Preservation Program*
- *Establish a System of Greenbelts and Greenways*
- *Conservation of Stream Corridors and Flood Hazard Areas*
- *Regulate Development in Wellhead Protection Areas*
- *Encourage Compact and Energy Efficient Community Development*
- *Conserve Forests and Trees*
- *Provide Development Practices that Preserve Open Space and Farms and Reduce Environmental Impacts such as Transfer of Development Rights (TDR), residential cluster development, and lot size averaging.*

FARMLAND PRESERVATION PLAN

The City of Vineland's agricultural economy begins with the City's founding in 1861 as a planned agricultural community and runs through to the present day. The City plan is to preserve farms and farmland and to sustain agriculture as part of the City's economic base. Agriculture and agribusiness continue to be important to the City's economic diversity and to Vineland's character and identity as a South Jersey community and center for the production of fresh produce and other food products. The City's vision for a sustainable future includes maintaining a productive agricultural base as part of the local economy. The City is committed to balanced land use planning that preserves farming as a business and as a major land use within Vineland.

The City recognizes that productive farmland is a diminishing resource in New Jersey. Given the City's highly suitable soils and location for agricultural production, the City's goal is to promote farming as a business and preserve the greatest possible amount of Vineland's farmland.

To preserve farmland and farming in Vineland, the City, in conjunction with the County and the State, needs to encourage, support, and assist the participation of local farmers and landowners in farmland preservation programs. To maintain farming as a business, the City also needs to promote and protect the local farm economy and work with the State and the County to preserve

the agricultural economy of the region. To meet these needs, and to preserve as much farmland as possible, the City should take the following actions.

- *Establish a Permanent Agricultural Advisory Committee to work with the farm community to preserve the City's farmland*

- *Expand the City's Agricultural Development Areas to enable more of Vineland's farms to be eligible for farmland preservation by creating new and expanded ADAs extending to the farms in the eastern, northern, and southern areas of the City.*

- *Establish a City Farmland Preservation Program to leverage monies from the State and the County for preserving Vineland's farms.*

- *Protect Agricultural Areas from conflicting land use sand conserve a working landscape for farm activities by limiting, discouraging, or prohibiting the introduction of development and sewer infrastructure or land uses that are incompatible with or conflict with farm operations*

STATEMENT OF PLAN RELATIONSHIPS

The New Jersey Municipal Land Use Law (MLUL) requires that the City state the relationship of its Master Plan to the plans of adjacent communities, the Cumberland County plan, the State Development and Redevelopment Plan (SDRP), the Pinelands Comprehensive Management Plan and the District Solid Waste Management Plan. The City of Vineland is bordered by Franklin Township, Newfield Borough, Buena Borough and Buena Vista Township to the North, Maurice River Township to the east, Millville City to the south and Deerfield and Pittsgrove Township's to the west.

The policy of the City of Vineland is to work with neighboring municipalities, the County, the State, and the Pinelands Commission to advance sound planning and develop compatible plans.

The SDRP places Vineland within the Metropolitan (PA1), Suburban (PA2), Rural (4), Rural Environmentally Sensitive (4B), Environmentally Sensitive (PA5) State Park and Pinelands planning areas as designated by the State Plan.

The State is currently revising the State Plan and has proposed a revised plan and a revised State Plan map. Vineland has mapping issues with the State Plan which it hopes to work out through the State Plan cross acceptance process and through the plan endorsement process. The conflict is chiefly over the area that the City has invested in to expand and develop the City's economic base. This area lies between Delsea Drive and Route 55 and is part of the special economic development area conceptualized for the City Master Plan.

Approximately seven (7) percent of the City is located in the Pinelands Preserve. The City zoning plan within each district in the Pinelands is consistent with the Pinelands Comprehensive Management Plan.

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C. K. Landis

BACKGROUND TO THE PLAN

HISTORIC BACKGROUND

In 1861, Charles K. Landis, an attorney and banker from Philadelphia, seized the opportunity to create a new town on 31 square miles of land in southern New Jersey. Landis envisioned a vibrant town whose fine buildings would be well set back from an orderly grid of wide, tree-lined streets and surrounded by a hinterland of vineyards and farms. He named his town Vineland.

Since its founding, Vineland has grown in size and developed a rich heritage. This heritage has survived the test of time, and is still evident in the City's many historic sites and economy, which includes agribusiness, food processing, transportation, glass making, and mental health services. In addition, the City's population and many street names reflect Mr. Landis' effort to diversify the City by attracting Italian immigrants to the eastern part of the City. The City's population and diversity have grown to almost 60,000 residents.

REGIONAL LOCATION

Today, the City of Vineland, Cumberland County, has an area of approximately 69 square miles. It borders eight (8) municipalities in four (4) counties[1], and is situated just 40 miles from Philadelphia, PA and 50 miles from Wilmington, DE.

[1] Franklin Township (Gloucester County), Newfield Borough (Gloucester County), Buena Vista Township (Atlantic County), and Buena Borough (Atlantic County) to the North; Maurice River Township (Cumberland County) to the East; Pittsgrove Township (Salem County) and Deerfield Township (Cumberland County) to the West; and, the City of Millville (Cumberland County) to the South.

PRIOR MASTER PLAN DOCUMENTS

Vineland's prior Master Plan was adopted by the Planning Board on January 8, 1992, and subsequently reviewed in July 1998 and January 2000. It included a land use element, a housing element, a circulation element, a utility element, a community facilities element, a conservation element, and a statement of plan relationships. Although the January 2000 Master Plan Reexamination Report noted that there were no significant changes to the assumptions, policies, and objectives of the 1992 Master Plan, it expressed concern with the City's future growth and development. Among these concerns were issues related to the capacity of the City's sewer and water service; the subdivision of farmland for residential development; restoring the vitality of commercial areas within the historic City core; improving the quality of life for residents of the central neighborhoods in the City center; and, maintaining the City's competitive position to attract high-quality development after the scheduled loss of its Urban Enterprise Zone in 2008.

In 2000, the City adopted a housing plan to address the City's 1987 to 1999 fair share affordable housing obligations.

In 2004, in an effort to reverse the decline of the historic City core, the City adopted the Center City Redevelopment Plan following designation of this area as a federal empowerment zone.

In 2005, the City Planning Board amended the Master Plan to include a stormwater management plan element.

In 2006, the City Planning Board amended the Master Plan to include a Housing Plan Element and Fair Share Plan to address the rules and regulations of the New Jersey Council on Affordable Housing (COAH) adopted in 2004.

In 2006, the City Planning Board amended the Master Plan Land Use Plan Element to plan the future land use for the Institutional Campus Area of the City that included the Vineland Development Center and the Training School at Vineland.

From 2000 forward, the City of Vineland experienced an accelerated level of residential growth and extraordinary development pressures. This was evident in the fact that, while the community gained approximately 1,200 households during the 1990's, almost 1,000 households were added in the five (5)-year period from 2000 to 2005. Most of the development activity occurred outside the historic City center.

During the 1990's, the City's population grew by about 1,045 residents. However, in the years from 2000 to 2006 Vineland's population grew by more than 2,446 residents, which represents approximately 29 percent of Cumberland County's population growth for the same period.

In 2006, the City Planning Board received Master Plan Technical Review Reports on Existing Land Use, Zoning, Demographics, Economic Base, Natural Resources, and Environmental Conditions. The reports were prepared by the City's planning consultant for Planning Board use in reviewing and updating the City Master Plan.

As a result of the increasing development pressures, and in an effort to update the City Master Plan to provide balanced land use that would benefit the entire community, the Planning Board has prepared this Master Plan to guide the City's future growth and development.

The land use plan element, housing plan element and fair share plan, conservation plan element, and statement of plan relationships of this Master Plan supersede the land use plan, housing plan, conservation plan, and statement of plan relationships contained in the 1992 Master Plan.[2]

MASTER VISION STATEMENT

What will Vineland be in twenty years? The vision statement below looks ahead and describes the City's future.

Vineland is recognized as one of the most unique and livable communities in New Jersey. It has a thriving and attractive downtown that is the focus of community life. The Center City is a healthy mix of residential and nonresidential uses featuring restored buildings, exceptional streetscapes, stable neighborhoods, and affordable and well-maintained housing that provide the convenience of downtown living. The City has pursued a highly successful development strategy of utilizing its existing urban and suburban footprint more efficiently through the redevelopment and rehabilitation of the City's downtown, by reclaiming brownfields and greyfields for beneficial economic development, through the adaptive reuse of existing developed sites, and by promoting the infill of areas where sewer and water lines already exist. The City's business retention and expansion program is a model for economic development

[2] The circulation plan, utility plan, and community facilities plan of the 1992 Master Plan will continue as elements of the City Master Plan until such time as the Planning Board amends or replaces those elements.

that provides significant employment, modern infrastructure, and an expanding tax base. The City's farmland and open space program has preserved large contiguous areas of farm, forests, and important natural features. The City has capitalized on its transportation links and reputation as a businesses friendly community that offers the region's best quality of life. The City has successfully grown by directing development into the City's urban center and suburbs and into the revitalized and redesigned Delsea Drive corridor. The City's suburbs that transition to the greenbelt are the most sought after place to live in South Jersey.

As Vineland looks to the future, the residents seek to retain the community's character, its young residents, and to continue to provide employment, housing, and recreational opportunities for all age groups.

PRINCIPLES, GOALS, AND OBJECTIVES

PRINCIPLES

The City of Vineland Master Plan is based upon the principles of balanced land use, sustainable development, and equitable growth.

BALANCED LAND USE ~ Land and water are finite resources. Residential, commercial, industrial, agricultural, public, recreational, and open space uses compete for a share of these two limited and increasingly valuable resources. The City's future land use and development must be balanced to meet the public needs and serve the goals and objectives of the City plan for housing and economic development, redevelopment of the City center, agricultural land use, community facilities and services, clean and abundant water, good quality air, and green spaces for recreation and biological diversity.

SUSTAINABLE DEVELOPMENT ~ Sustainable development meets the needs of the present without compromising the ability of future generations to meet their needs. Development should not exceed the limits of the City's natural systems and its infrastructure system nor should it degrade those systems.

EQUITABLE GROWTH ~ The benefits and the responsibilities of the City's growth, development, redevelopment, and conservation should be equitably shared.

GOALS

The Vineland Master Plan is based upon the following goals:

1. To encourage public action to guide the appropriate use or development of all lands in the City in a manner which will promote the public health, safety, morals, and general welfare.

2. To secure safety from fire, flood, panic and other natural and man-made disasters.

3. To provide light, air and open space that maintains the best qualities of the City's urban, suburban, and rural environments.

4. To promote the establishment of appropriate population densities and concentrations for the well being of the City and its neighborhoods and the environment.

5. To encourage the appropriate and efficient expenditure of public funds by the coordination of public development with land use policies.

6. To provide sufficient space in appropriate locations for a variety of agricultural, residential, recreational, commercial and industrial uses and open space, both public and private, in a manner that will provide for balanced City growth, development, redevelopment, and conservation.

7. To encourage the location and design of transportation routes which will promote the free flow of traffic while discouraging location of such facilities and routes that result in congestion or blight.

8. To promote a desirable and an exceptionally high quality visual environment through creative development techniques and good civic design and arrangements.

9. To promote the conservation of historic sites and districts, open space, energy resources and valuable natural resources and to prevent urban sprawl and degradation of the environment through improper use of land.

10. To provide opportunities for senior citizen community housing construction.

11. To coordinate the various public and private procedures and activities shaping land development with a view of lessening the cost of such development and to the more efficient use of land.

12. To conserve, protect, and promote the wise use of water resources.

13. To promote the utilization of renewable energy resources.

14. To encourage improvements to neighborhoods throughout the City by providing for appropriate redevelopment, reinvestment, revitalization and capital improvements.

15. To manage stormwater in accordance with the best management practices for protecting water quality and promoting ground water recharge.

16. To maintain Vineland's rural features.

17. To encourage, support, and assist local farmers and landowners in permanently preserving as much farmland as possible.

18. To promote agribusiness and farming as part of the City's economic base.

19. To expand the City's economic base and provide economic opportunity for City residents.

20. To revitalize the City center.

OBJECTIVES

The Vineland Master Plan establishes the following objectives for the improvement of the City:

A. Upgrade substandard housing and eliminate illegal conversions through code enforcement, home improvement loans, technical assistance, effective property maintenance ordinances, and public improvements.

B. Maintain Vineland's rural features and secure the environmental, economic, and social benefits derived from farmland in the City by increasing the number of farms and the areas of the City that are eligible for farmland preservation programs through the expansion of the City's Agricultural Development Areas.

C. Establish a permanent Agriculture Development Committee to work with the County, the State, and the private sector to actively encourage, support, and assist participation by local farmers and landowners to permanently preserve as much of Vineland's farmland as possible and to retain and develop the City's agricultural industry.

D. Limit the extension of sanitary sewers to the sanitary sewer service area proposed by the City Master Plan.

E. Improve the visual qualities and amenities of the City through design standards that direct the orientation, form, and relationship of buildings, landscaping, signage, lighting, streets, open spaces, and parking to meet the public need for a well ordered, convenient, unified, functional, efficient and highly attractive community.

F. Provide for the beneficial adaptive reuse of vacant and underutilized buildings.

G. Focus development into center City in a manner that combines commercial, civic, cultural and recreational uses in a safe, clean urban environment that attracts visitors, residents, and patrons of local business.

H. Provide for the efficient use of water through natural drainage, drought tolerant landscaping and recycling.

I. Provide for a diversity of housing opportunities, with particular attention to affordable housing, through the enactment of a growth share ordinance that mandates the provision of affordable housing.

J. Promote the improvement of the Delsea Drive corridor to establish a positive visual image for the City, improve mobility for all modes of transportation, and capture opportunities for the enhancement and development of the City's economic base.

K. Reserve sufficient water and sanitary sewer capacity to promote the economic development of beneficial industrial and commercial uses.

L. Provide an area for the future growth of high quality, low density, suburban residential development, and permit clustering and lot averaging that preserves open space and minimizes the impact of development on the environment.

M. Identify and protect scenic roadway corridors in the City.

N. Provide a network of streets, pedestrian paths, trails and bike paths and bike lanes that interconnect community facilities and link into the center City.

O. Develop stream corridor restoration plans for impaired waterways.

P. Protect the community's wellheads from encroachment and degradation.

Q. Acquire ecologically significant areas for conservation activities and passive recreation.

R. Promote the conservation of riparian buffers to streams by enacting design standards for stream corridor protection.

S. Pursue the acquisition and preservation of open space within the City greenbelt through the State Green Acres Program, Cumberland County, the State Farmland Preservation Program, and non-profit land conservancies.

T. Enact design standards for new development to require tree save plans and woodland protection plans to minimize the clear cutting of trees and woodlands and requires mitigation for their loss.

U. Provide a greenway system that protects surface water quality and the riparian environment by conserving land adjacent to lakes, rivers, and streams.

V. Protect forests to improve air quality and prevent the fragmentation of forest habitat.

W. Protect native species and the habitat necessary to support biological diversity.

X. Protect groundwater resources and promote the recharge of groundwater.

Y. Regulate and preserve floodplains to reduce the hazards to life and property from flood events.

DEVELOPMENT POLICY

The policy of the City of Vineland is to work with neighboring municipalities, the County, the State, and the Pinelands Commission to advance sound planning and develop compatible plans.

Vineland encourages beneficial growth and development and the conservation of natural resources by directing future growth into the City's urban center and suburbs while conserving a surrounding greenbelt of ecologically sensitive areas, farm areas, and open spaces. This policy supports the vitality of the City's urban and suburban areas that have in place the appropriate infrastructure, regional highway access, and community facilities to support and serve the City's present and future population and provide for new job creation and housing. The City will utilize its existing urban and suburban footprint more efficiently through the redevelopment and rehabilitation of the City's downtown, by reclaiming brownfields and greyfields for beneficial economic development, through the adaptive reuse of existing developed sites, and by promoting the infill of areas where sewer and water lines already exist.

LAND USE

PURPOSE

The City of Vineland is a diverse community with a land area that totals more than sixty-nine square miles. It includes urban, suburban, and rural land uses and a variety of housing types and commercial, institutional and industrial activities. A large portion of the community is actively farmed and significant areas of the City are open space lands in public or private ownership. Although a large area of the City is served by public sewer and water service from community wells, extensive areas of the City rely upon on-site wells and septic systems. The City's many community facilities include schools, library, emergency service facilities for police, fire protection, and first aid, and community recreation areas and playgrounds. Most of Vineland's public community facilities are located in the more densely populated areas of the City south of Forest Grove Road between Route 55 and the Menantico Creek and Hance Bridge Road. The City is served by a well developed transportation network that includes local streets, County roads, and State highways as well as an airport and a rail line. The City's rivers, streams, waterways, and wetlands are important features of Vineland's landscape and provide needed drainage, and flood control for the community as well as scenic rivers and habitat areas for rare or threatened native species.

Vineland is part of the Millville-Vineland regional center identified by the State Development and Redevelopment Plan. It is also a designated urban enterprise zone (UEZ) and federal empowerment zone (EZ). The City population is growing. Since 2000, the City has experienced increased residential development pressures in its suburban and rural areas.

To meet the public need for the orderly growth and development and redevelopment of the City, and to provide balanced land use that includes housing, community facilities, economic development and

job creation as well as the conservation of its natural resources, the Vineland Planning Board has prepared this land use plan element in accordance with the New Jersey Municipal Land Use Law (N.J.S.A. 40:55D-28.b(2)). The land use plan is based upon the objectives, principles, policies and standards for the development of the Vineland Master Plan and takes into consideration all the other elements of the Master Plan as well as the State Development and Redevelopment Plan.

RELATIONSHIP OF THE LAND USE PLAN ELEMENT TO THE CITY ZONING ORDINANCE

The New Jersey Municipal Land Use Law requires that the City Master Plan include a land use plan element. The purpose of the plan is to guide the use of lands within the City to protect the public health, safety, and welfare. The Municipal Land Use Law further requires that the City may only adopt a zoning ordinance to regulate land use and the location of buildings and structures after the adoption of the land use plan element. The law further requires that the provisions of the City zoning ordinance or any amendment to the zoning ordinance shall either be substantially consistent with the land use plan element or designed to effectuate it.[1]

The land use plan map is based upon Vineland's vision for future growth, redevelopment, and conservation that maintains a compact pattern of development within the City's sixty-nine square miles. The City envisions a revitalized historic urban center, appropriate infill, adaptive reuse, brownfield reclamation and new development in the suburbs surrounding the City's urban center, and a rejuvenated Delsea Drive corridor. Vineland's suburban development transitions at a low density to a rural greenbelt of preserved open spaces and farms that extends to the western, northern, and eastern City limits.

The land use plan element also presents the standards for density and development intensity recommended for Vineland.

[1] N.J.S.A. 40:55D-62.a.

HISTORIC DEVELOPMENT PATTERN

Historic Vineland is a planned city in which the major aspects of development were determined prior to construction. In 1861, under the vision of Charles Landis, the construction of Vineland began. The principles of Mr. Landis' vision for Vineland included:

- A one square mile urban core that consisted of factories, shops, homes, schools, churches and halls for recreation.
- The lands surrounding the core would be farms, gardens, orchards and vineyards.

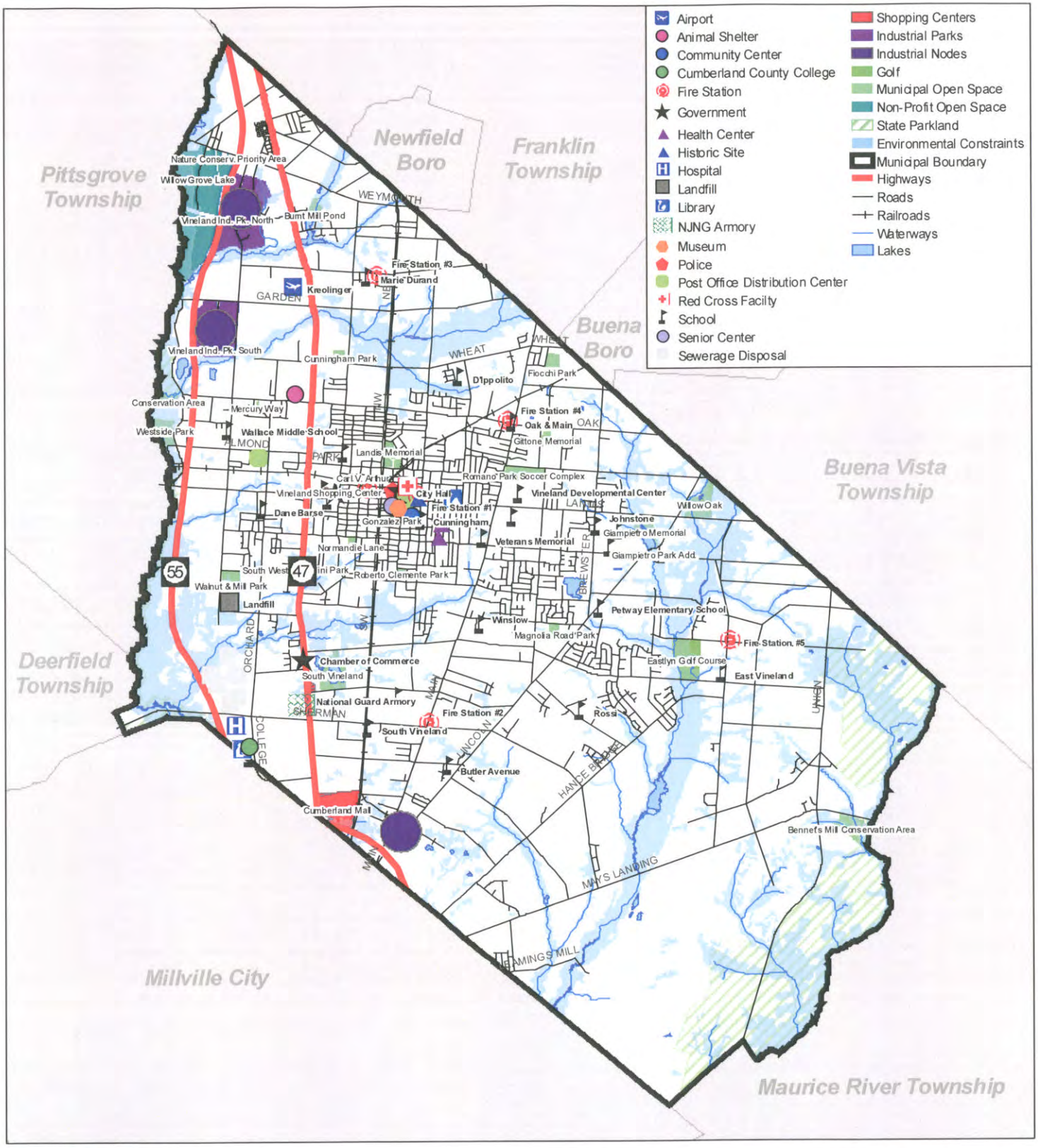
Vineland's location near Philadelphia contributed to the development of its strong agricultural base.

Originally, the historic center of Vineland was a borough of wide, tree-lined streets surrounded by Landis Township. Vineland's residential, commercial, and industrial land uses developed outward from the City's historic core. Vineland grew from its center onto the surrounding open lands following an expanding grid of streets and the major regional transportation routes. Sanitary sewer line extensions supported the growth and development pattern. In 1952, the Borough of Vineland and Landis Township consolidated to become the City of Vineland. As the automobile became the dominant transportation mode, the character of development changed and commercial and industrial development located along Delsea Drive, west of the historic core, and close to the interchanges of the street grid with Route 55. The City's center and suburbs developed to include a variety of residential, commercial, industrial, recreational, educational, and public and quasi-public uses to house and serve the City population. In general, the City's residential density and development intensity decrease moving outward from the historic center of development. Vineland has developed a network of community facilities and features clustered in the City's historic center and in the suburban areas beyond the center. (See the Community Features Map, Map LU-1).

The City's suburban area around the historic core is interspersed with active farms and open land, or underdeveloped land, in close proximity to existing sanitary sewer lines. The suburban ring also includes residential development located near, but not served by, sewer. Within the historic center and some areas of older suburban development, there is a need for redevelopment, rehabilitation, or adaptive reuse of existing developed lands and buildings and brownfields.

Beyond the City center and its suburbs and sewer lines, Vineland features an extensive area of environmentally sensitive open spaces and farmland.

Today, Vineland is shaping a new vision and direction in an effort to create a sustainable future.



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Map LU-1: Community Features
City of Vineland
Cumberland County, New Jersey

0 4,350 8,700 17,400 Feet

Prepared by: RED, April 2008
Source: NJDEP, TIGER Files, City of Vineland GIS
File Path: H:\VINE\00012\GIS\Projects\MAP LU-1.mxd

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NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

EXISTING LAND USE

Table LU-1, Existing Land Use by Type, tabulates how land in Vineland is utilized by acreage and by percentage of developed or open land, and by major category and subcategory of land use. Map LU-2 – Existing Land Use, graphically depicts the land use information contained in Table LU-1. Residential land use and farmland consume half of Vineland's land area.

As summarized below, twenty-seven percent (27%) of the land in Vineland is developed for residential use. Twenty - three percent (23%) of Vineland is farmland of which one percent (1%) is permanently preserved for agricultural use. Thirteen percent (13%) of the City's land area is dedicated as open space or as parkland. Eight percent (8%) is in commercial or industrial use. Eleven percent (11%) of the City's land area is vacant land.

- 27% - Residential
- 22% - Farmland (not preserved)
- 16% - Public/quasi-public properties
- 13% - Parks and open space
- 11% - Vacant unimproved land
- 6% - Commercial
- 2% - Industrial
- 1% - Mixed Use
- 1% - Farmland (preserved)

Out of the 44,150 acres in Vineland, approximately 29,244 acres, or over sixty-six percent (66%) of the land area is developed. Developed lands include preserved parks and open space that are permanently dedicated for recreational and open space purposes.

Lot sizes within the City generally increase moving outward from the City center. Lot size is generally less than a half acre in the historic City center and increases to ten acres or more at the City's periphery. (See Map of Existing Lot Sizes, Map LU-3).

Table LU-1
Existing Land Use by Type
City of Vineland

	Acres	Percent of Developed Land	Percent of Total Land
DEVELOPED LAND			
Residential			
Residential	10,885	37.4%	24.7%
Approved Residential	885	3.0%	2.0%
Apartments	202	0.7%	0.5%
Mixed Use			
Mixed Use	451	1.5%	1.0%
Commercial			
Commercial	2,753	9.5%	6.2%
Public/Quasi-Public			
Houses of Worship	395	1.4%	0.9%
Cemetery	124	0.4%	0.3%
Schools	577	2.0%	1.3%
Public Property	3,073	10.6%	7.0%
Rights-of-Way	2,621	9.0%	5.9%
Other Exempt	241	0.8%	0.5%
Farm			
Preserved Farmland	315	1.1%	0.7%
Industrial			
Industrial	870	3.0%	2.0%
Parks & Dedicated Open Space			
State Lands	3,906	13.4%	8.8%
Nature Conservancy	1,261	4.3%	2.9%
City of Vineland	530	1.8%	1.2%
TOTAL DEVELOPED	29,089	100%	66.0%

	Acres	Percent of Open Land	Percent of Total Land
OPEN LAND			
Farmland	9,907	67.0%	22.4%
Vacant	4,873	33.0%	11.0%
TOTAL OPEN LAND	14,780	100%	33.5%
TOTAL LAND AREA	**44,150**		

Totals and subtotals may not total due to rounding
Complied by T&M Associates
Sources: MODIV Tax Assessment Data from City of Vineland Geographic Information System (GIS)

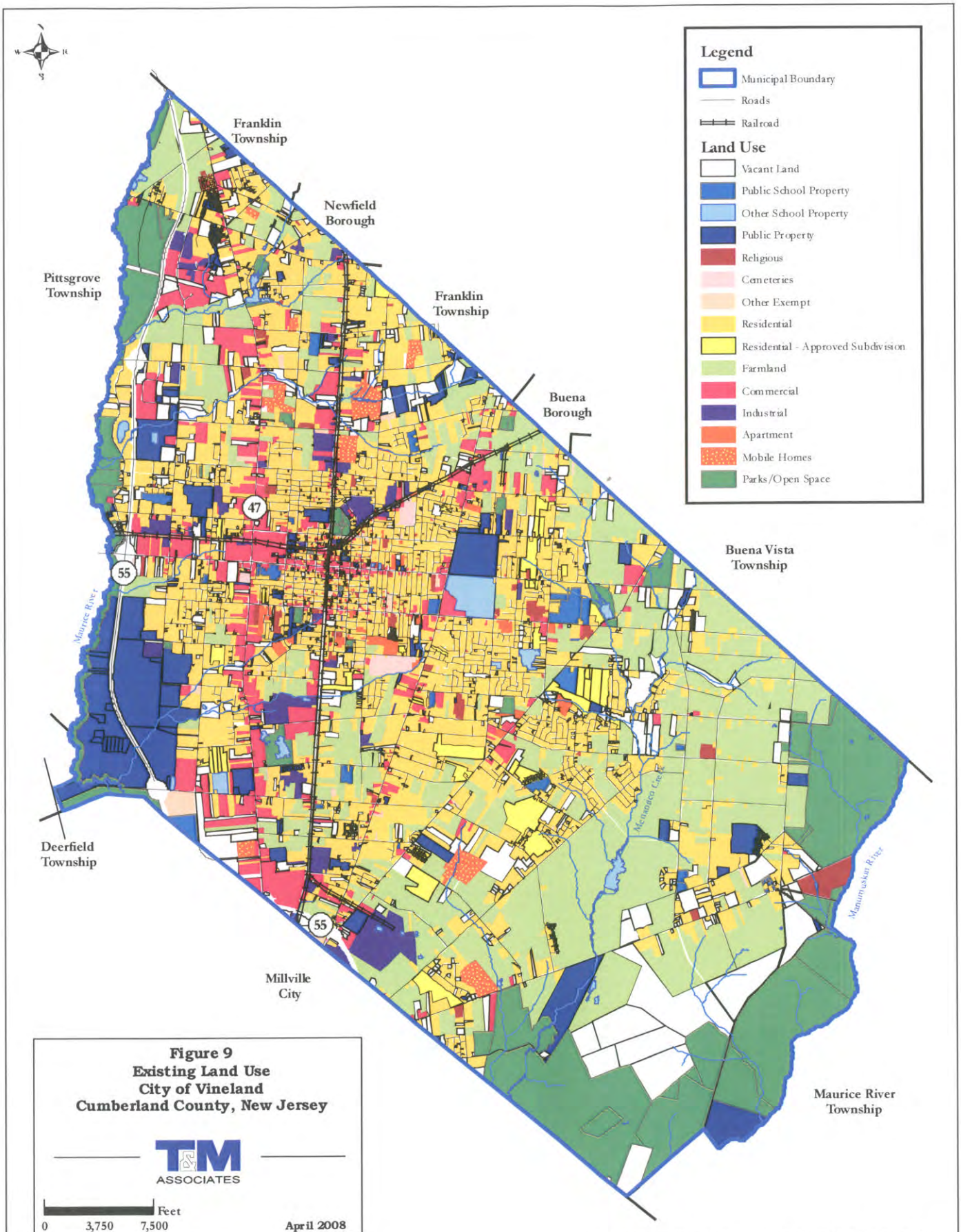


Figure 9
Existing Land Use
City of Vineland
Cumberland County, New Jersey

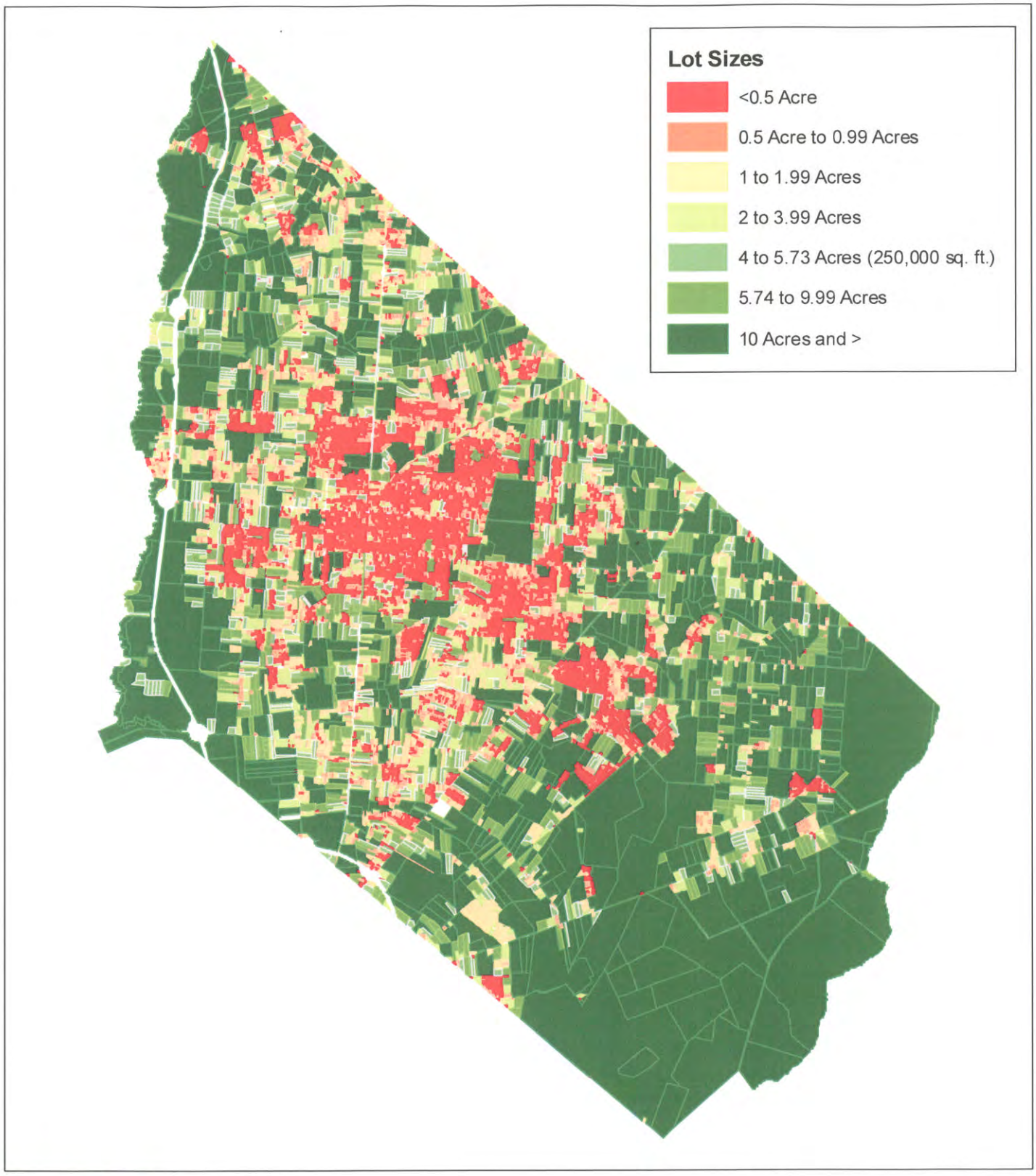
TM ASSOCIATES

0 3,750 7,500 Feet

April 2008

Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.

H:\VINE\00012\GIS\Projects\Figure LU-2 Existing Land Use.mxd



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Map LU-3 Existing Lot Sizes
City of Vineland
Cumberland County, New Jersey

0 4,500 9,000
Feet

Prepared by: PNR, April, 2008
Source: City of Vineland GIS
File Path: H:\VINE\00012\GIS\Projects\Lot size analysis - MP.mxd

N

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

FUTURE LAND USE

Strategy

The City's future land use strategy is to encourage beneficial growth and development and conserve natural resources by directing development into the City's urban center and suburbs while conserving a surrounding greenbelt of ecologically sensitive areas, farm areas, and open spaces. This strategy supports the vitality of the City's urban and suburban areas that have in place the appropriate infrastucture, regional highway access, and community facilities to support and serve the City population and provide for new job creation and housing. The City will utilize its existing urban and suburban footprint more efficiently through the redevelopment and rehabilitation of the City's downtown, by reclaiming brownfields and greyfields for beneficial economic development, through the adaptive reuse of existing developed sites, and by promoting the infill of areas where sewer and water lines are currently available.

The City will establish an open space system of greenbelts and greenways to protect its environmentally critical lands and natural resources. The system will conserve threatened and endangered species habitat, protect water quality and quantity, promote ground water recharge, protect the forest resources of the City, provide for resource based recreation opportunities, protect the City water supply, protect scenic resources and the community's desirable visual environment, control flooding, and promote balanced land use and a compact, efficient, and sustainable pattern of development within Vineland.

Concept

The concept for Vineland's future land use is based upon the following generalized land use areas shown on the concept plan (Map LU-5):

- Historic City Center
- City Center Suburbs
- Suburban/Rural Transition
- Special Economic Development
- Commercial/Industrial Nodes
- Rural/Conservation Greenbelt
- Greenways

Sanitary sewer is essential infrastructure for the City's future growth and development. The City has a limited sewage treatment capacity and a limited supply of water. The City's plan is to limit future City sanitary sewer extensions to a defined area of the City that includes the historic City center, the City center suburbs, the area of suburban rural transition, commercial/industrial nodes, and the area of special economic development. (See the Proposed Future Sewer Service Area map, Map LU-4). Sanitary sewers will not be extended to serve the rural/conservation greenbelt.

Vineland's generalized concept for future land use areas is shown on the land use concept plan and described below.

Historic City Center ~ The historic City center is the core of Vineland. It includes the old borough and the City's traditional downtown and main street along Landis Avenue. The residential blocks include the City's oldest residential neighborhoods. The major public buildings

and quasi-public buildings include City Hall, the City post office, and places of worship.
In May 2004, Vineland adopted the Center City Redevelopment Plan which controls the zoning and directs the future land use and redevelopment of most of the City's historic center. The City center is served by the City's sanitary sewer system.

City Center Suburbs ~ Surrounding the historic City center is the residential, commercial, institutional and industrial development that grew outward from the center onto the open lands on an expanding grid of streets and the major regional transportation routes. The City center suburbs are generally served by the City's sanitary sewer system.

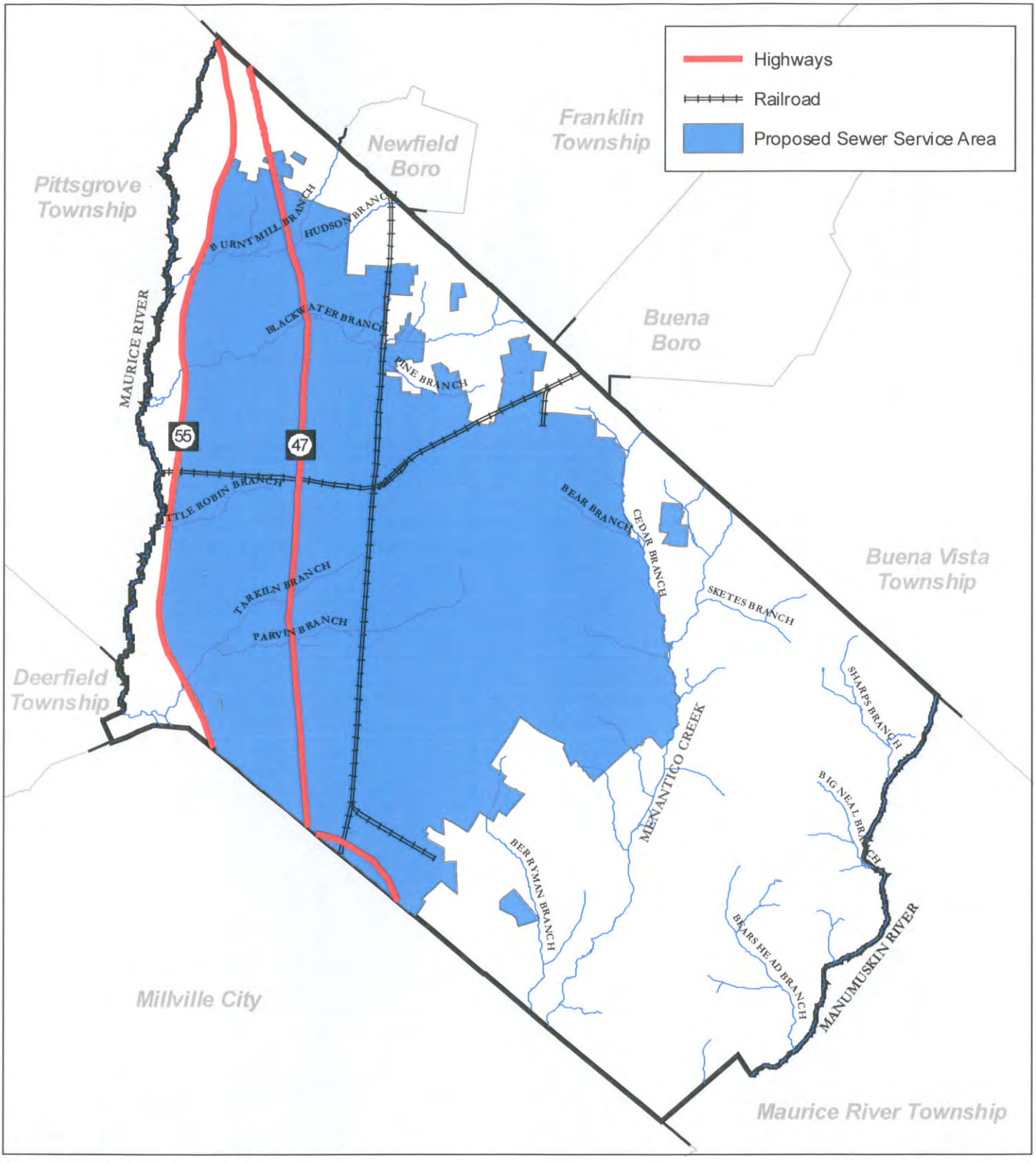
Suburban/Rural Transition ~ Adjoining the City center suburbs are areas of low and very low density residential uses interspersed with active farms. This area of the City has experienced substantial pressure for residential development. The City's sanitary sewer lines extend to only some of the suburban/rural transition areas. There are areas of residential development within the suburban/rural transition development that continue to rely on septic systems.

Special Economic Development ~ Vineland's economic development opportunities are strongly influenced by regional access from Route 55, which is a limited access highway, and its parallel highway, Delsea Drive (N.J.S.H. 47). Commercial and industrial development has located, and continues to locate, between Route 55 and Delsea Drive and along the Delsea Drive frontage and the City streets connecting Delsea Drive to the five Route 55 interchanges in Vineland. The result is an area of special economic development opportunity for the City that includes the City's industrial parks and the City sewer treatment facility, as well as institutional and retail uses. The special economic development area is generally served by the City's sanitary sewer system.

Commercial /Industrial Nodes ~ At key locations in the City street system and along the rail line are nodes of commercial or industrial land use that have developed in the City center suburbs and the suburban/rural transition areas. Retail, service, and office nodes have located at major street intersections. Industrial nodes have located along the rail lines. The nodes, which are mostly located in the City center suburbs and the areas of suburban/rural transition, are generally served by the City's sanitary sewer system.

Rural/Conservation Greenbelt ~ Between Route 55 and the Maurice River, along the City's northern boundary, and from along Hance Bridge Road and the Cedar Branch of Menantico Creek east to the Manumuskin River and the City's eastern boundary is a greenbelt of farms, forests, preserved open spaces, and very low density residential land use. This area includes the Willow Grove Lake Natural Area and wetlands mitigation bank, important natural habitat areas (including Bald eagle foraging areas), lands under the jurisdiction of the Pinelands Commission, and scenic, natural, and recreational resources associated with the Menantico Creek and the Manumuskin River.

Greenways ~ The City's greenways are located in all areas of the City along the City's streams. They are an essential ecological resource for Vineland and need to be conserved to provide drainage, flood control, bio-diversity, and recreational opportunities for the City.



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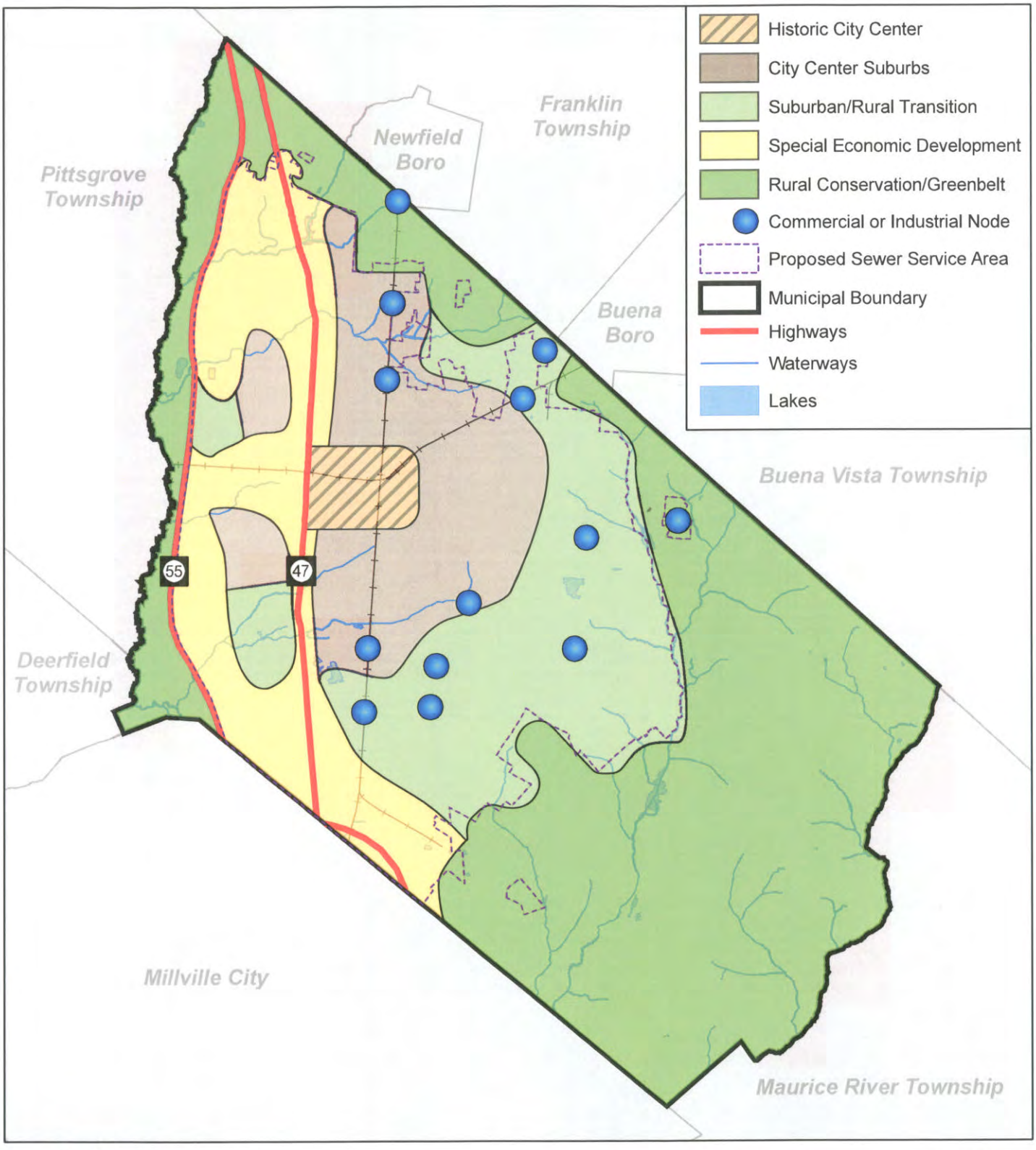
Map LU-4
Proposed Future Sewer Service Area
City of Vineland
Cumberland County, New Jersey

0 9,000 18,000 Feet

N

Prepared by: PNR, April 2008
Source: City of Vineland GIS, NJDEP
File Path: H:\VINE\00012\GIS\Projects\future sewer service.mxd

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.



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Map LU-5: Concept Plan
City of Vineland
Cumberland County, New Jersey

0 4,250 8,500 17,000 Feet

N

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

Prepared by: RED, April, 2008
Source: NJDEP, TIGER Files
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LAND USE PLAN

The land use plan map (Map LU-6) shows the recommended locations for future land use in the City. The land use plans, and its relation to the City zone plan, are described in the following section. [2] The standards proposed for the City zone plan are shown on the table of recommend standards for development density and intensity.

CENTER CITY REDEVELOPMENT AREA

The Center City Redevelopment area, inclusive of public lands and parks, covers approximately 755 acres or 1.18 square miles. It is within the historic City center and includes the City's downtown and main street area that runs along Landis Avenue eastward from Delsea Drive to Myrtle Street.

This is a developed area of the City and land use is predominantly commercial with retail uses, personal service uses, food service uses, and office uses. Within the mixed-use downtown, upper floors contain residential uses. The area includes public and quasi-public uses, such as places of worship. It historically functioned as the City's central business district and primary shopping, entertainment and service destination. During the past decades, however, the corridor has experienced economic and physical decline.

The Center City Redevelopment Area also includes residential areas of what is considered the "Old Borough". The residential areas, located in four (4) distinct quadrants were platted in a classic grid pattern. Approximately 1,500 parcels are located within the R district on lots averaging 10,000 square feet in size. Many of these lots contain public and non-residential uses on oversized lots. Initial development patterns consisted predominantly of single-family housing units in residential areas surrounding the downtown. However, many homes have been converted legally or illegally to multi-family housing units and businesses have infiltrated the district, which resulted in a change of character and sense of community in this area of the City.

The Center City Redevelopment Plan plans to stabilize and reclaim the core residential neighborhoods of Center City Vineland. A primary goal is to foster a return to single and two family owner-occupied homes and to encourage the construction of new owner-occupied houses and renovation back to single-family houses. Ultimately, the plan foresees the return of streets to a traditional two-way grid pattern, with traffic-calming measures that are safe for children and other pedestrians.

The City has made the revitalization of the downtown a priority. Vineland created a Downtown Improvement District Area, as part of the Vineland – Millville Urban Enterprise Zone (UEZ). This area also includes the majority of the Vineland Downtown Improvement District which is the public private partnership dedicated to revitalizing downtown. The Vineland Downtown Improvement District (VDID) operates as a quasi-governmental board which combines public

[2] In May 2004, the City adopted the Center City Redevelopment Plan which controls zoning and the future land use of the area. Most of the historic City center has been designated as an area in need of redevelopment. This land use plan element incorporates the recommendations of the Center City Redevelopment Plan as the land use plan for that area of the City.

and private community resources and initiatives to implement a comprehensive long-range plan for downtown Vineland. The VDID addresses specific needs of the downtown area including marketing, security, and maintenance.

VDID staff works with local businesses to improve economic conditions and business marketing. The City has initiated a program of streetscape improvements and a façade improvement program based on design guidelines developed for the downtown.

As the City implements the Center City Redevelopment Plan, the downtown commercial area will provide opportunities for niche retail, specialty services, civic activities, and entertainment in an urban environment that is separate and distinct from suburban shopping malls.

The downtown has many significant and architecturally distinctive historic buildings. Many of the ground floor facades have been changed from their original beauty. A façade improvement program will recapture and enhance the desirable architectural characteristics and features of downtown's buildings. Appropriate adaptive reuse for permitted uses of the second and third floors of these buildings and historic restoration of the original facades should be encouraged.

The downtown commercial area is organized into redevelopment districts that are the among the most intensive commercial districts in Vineland. The Center City Redevelopment Plan permits a broad range of commercial uses including retail sales, services, restaurants, office, age-restricted housing and apartments on upper floors as part of mixed-use buildings. The Redevelopment Plan does not permit auto-oriented uses that may create nuisance impacts since they are incompatible with the commercial character and pedestrian-friendly orientation of the downtown. Additional niche retail uses, such as sports stores catering to local teams and leagues, and restaurants that promote the unique identity of the City center are specifically encouraged. Uses that attract residents to the City center and generate foot traffic on Landis Avenue should also be promoted. As the downtown redevelops, particular attention should be paid to providing sufficient parking.

The zone plan for the Center City Redevelopment Area will correspond to the districts as recommended by the Center City Redevelopment Plan.

COMMERCIAL LAND USE

Areas planned for commercial land use are located outside the historic City center and cover approximately 3.1 square miles or 4.5% of the City's total land area. The commercial land use area recognizes the special economic development potential of the Delsea Drive corridor and also provides commercial nodes that serve the needs of the neighborhoods of the City center suburbs and the suburban/rural transition population for shopping and personal services.

Commercial land use is planned at twenty-one different locations and organized under the City zone plan into three distinct zones that provide opportunities for the development or expansion of regional, community, and neighborhood commercial land uses. The areas planned for commercial land use are served by the City's sanitary sewer system. The character of development consists of highway oriented commercial uses on Delsea Drive (SR-47) and neighborhood or community business areas at the intersection of major streets. The City plan is to concentrate commercial land use into these zones in order to promote compact nodes of commercial development. The zones are located as follows:

- B-1 Business District ~ One Location. Southwest corner of West Landis Avenue and North West Avenue.

- B-2 Business ~ Ten locations: Main Road and East Sherman Avenue; Main Road and East Landis Avenue; Main Road and East Grant Avenue; Main Road and Magnolia Road; Wheat Road and Main Road; Wheat Road and North East Boulevard; Weymouth Road and Northeast/North West Boulevard; E. Chestnut Avenue and Brewster Road; East Sherman and Southwest/South East Boulevard; Park Avenue and Northwest Avenue.

- B-3 Business ~ Six locations: Lincoln Avenue and Dante Avenue; East Chestnut Avenue and Main Road; Oak Road and Main Road; Vine Road and Main Road; South Delsea Drive (West Butler Avenue to Landis Avenue); North Delsea Drive (rail line to Washington Avenue).

- B-4 Business ~ Four locations: Burns Avenue and Main Road; South Delsea Drive; Landis Avenue and Lincoln Avenue; W. Landis Avenue from Delsea Drive to the Route 55 interchange.

The City should capture opportunities to improve community design in the areas planned for commercial land use. Future development, expansions, or building alterations in commercial areas need to follow the community design guidelines of this land use plan element. Benefits will include the creation of a more business friendly environment and improved circulation patterns on public streets and within the parking lots of existing businesses.

Description of Business Zones

Each category of business zone in the City zone plan is described below.

B-1 zone is a small part of the commercial area at the southwest corner of the intersection of West Landis Avenue and North West Avenue will be maintained in the zone plan as part of the B-1 zone. Historically the B-1 zone consisted of significant portions of the City's downtown along Landis Avenue. The purpose of the district is to recognize and preserve the character of the City's historic downtown or main street. With the adoption of the Center City Redevelopment Plan, the B-1 zone was reduced to approximately 3 acres to include three commercial businesses and one religious use. The land use plan recommends increasing the minimum lot size in the B-1 zone to 13,500 square feet consistent with existing conditions. The City should also increase the minimum lot width for the B-1 district to 50 feet and decrease the permitted building height from 50 to 40 feet (3 stories). No change is proposed to the permitted uses of the B-1 zone.

B-2 zones provide convenient service of everyday goods and needs to surrounding residential neighborhoods outside the historic City center. In total, 172 acres are zoned for this purpose (including right-of-ways). The mean lot size in the B-2 zone is 30,500 square feet where 30,000 square feet is required. While some residential uses are located in the B-2 zones, the zones have generally developed or are developing in accordance with the City zone plan. Approximately 35 acres of residential land and 12 acres of unimproved land are available for commercial development.

The characteristic uses of the B-2 zone include retail sales and personal services, offices, banks, restaurants and food service use, and public purposes uses.

B-3 zones comprise approximately 1,110 acres in Vineland. While there are six B-3 zones, the majority of land planned as B-3 fronts on Delsea Drive. The B-3 zone along Delsea Drive is over 7.5 miles in length. B-3 along the Delsea Drive provides for retail sales and service, hotels, new vehicle sales, food markets, service stations, restaurants, banks and similar uses that take advantage of larger lot sizes and the regional traffic flow along the Delsea Drive.

The B-3 zones of the Delsea Drive corridor are part of the special economic development area conceptualized by the Master Plan. The corridor is underutilized and does not project a favorable image for the City. Reinvestment and improved site and building design, signage, connections between adjoining uses and improved access management are needed. To improve this district, the City should investigate utilizing either rehabilitation or redevelopment powers, or a combination of the two powers. There are numerous split-zoned parcels on the western side of Delsea Drive in the B-3 zone. The City should evaluate deep corridor properties that are split zoned and review their development potential. Consistent with the special economic development concept, the land use plan includes - the Delsea Drive corridor as an overlay district and recommends that the City develop standards and use provisions distinct from the other B-3 districts to guide the future revitalization of the corridor.

The remaining B-3 zones are commercial nodes serving the suburban population in the eastern portion of Vineland.

B-4 zones provide for larger scale, comprehensively planned, commercial development on lots that are 50,000 square feet or greater or greater in area. The districts have developed in accordance with the City zone plan. The districts are located in the western portion of Vineland in proximity to the interchanges of Route 55 with major City streets and in eastern Vineland at the intersection of two major County roads. The B-4 zones near Route 55 are part of the special economic development area conceptualized by the Master Plan.

MIXED LAND USE

Areas planned for mixed land use are located within the historic City center and the City center suburbs. They cover approximately 0.35 square miles or 0.5% of the City's total land area. The purpose of the mixed land use classification is to provide for areas of mixed residential and non-residential use compatible with the character of established neighborhoods. While the single-family dwelling is the preferred use of these areas, the City permits business uses subject to conformance with zoning ordinance and design standards. It is not the intent for these areas to be in transition from residential to commercial uses or vice versa. The planning purpose is to provide for a mix of compatible residential and nonresidential uses appropriate to the needs of the City. The mixed land use areas are to be pedestrian-friendly and either urban or suburban in character.

Mixed land use is planned as two major corridors and as smaller nodes. One corridor, corresponding to the zone plan's R-B Residential Business zone and R-P Residential Professional zone, runs along Chestnut Avenue. From Holly Hill Terrace to South East Avenue, the corridor is planned for Residential-Business use. From South East Avenue to east of the intersection of Chestnut with Main Road, the Chestnut Avenue corridor is planned for Residential-Professional use. The R-P segment of the corridor includes the site of the now vacant Newcomb Hospital located between Howard Street and State Street.

In addition to the Chestnut Avenue corridor, two nodes of R-B are planned along North West Boulevard between Park Avenue and Birch Street. An R-B node is also planned at Crystal Avenue between Park Avenue and Cambridge Place.

The second mixed use corridor corresponds to the zone plan's R-P Residential Professional zone and runs along Landis Avenue from Myrtle Street to the Main Road commercial area. A third mixed use area corresponding to the R-P district is planned as a small node at the intersection of Main Road and Adams Street.

The areas planned for mixed use are served by the City's sanitary sewer system.

Each of the mixed use zone categories outside the Center City Redevelopment Area is described below.

R-B Residential Business zones provide for single-family residential, two-family residential, townhouses, garden apartments and businesses and commercial uses compatible with the historic character, scale and features of the buildings and the streetscapes of the historic City center and the B-1 zone district. New uses, conversions, adaptive reuse, expansion, or alteration of existing residential buildings should be consistent with the best aspects of the architectural character and the streetscapes of the historic City center.

The R-B zones are characterized by a combination of stand-alone residential and commercial uses in immediate proximity to each other. This mixed use pattern is desirable and should be maintained since some properties are ill suited for conversion to nonresidential use. Where residential dwellings are converted to commercial uses, the conversion needs to preserve the character, scale and features of the buildings and the streetscape and meet standards for nonresidential use.

The R-B zones developed largely for single and two-family residential and commercial uses. Public property, churches and an industrial property complete the district. The R-B zone is almost fully developed. New development will be in the form of conversions, infill development, or building alterations and expansions.

Appropriate nonresidential uses include business and professional offices uses with low parking demands that can be developed on relatively small lots, such as an accountant's office, home businesses and occupations, and small commercial uses compatible with a residential environment. The inability to provide screened off-street parking is a land use challenge for the district. The City should regulate lot sizes by the type or scale of use. Larger nonresidential uses with higher parking demand should be limited to larger lots that can provide sufficient space for parking and open space.

To maintain the single family character of the RB zones, mid-rise apartments should be eliminated as a permitted use.

RP Residential Professional zones preserve the streetscape and character of the residential area along Landis Avenue and Chestnut Avenue. These streets exemplify the historic vision of Charles K. Landis for a planned community of wide tree lined streets and expansive front yards. Maintenance of the streetscape and residential character needs to be part of conversions,

alterations, expansion or new construction. The R-P zones are not areas in transition evolving from residential to commercial uses. Single-family dwellings, two-family dwellings, and professional buildings are uses characteristic of the R-P zone. The intent of the R-P zone is to accommodate limited mixed-use development with the preferred use being single family residential.

Newcomb Hospital in the R-P zone on Chestnut Avenue is no longer operational. The hospital closing leaves the 9.6-acre hospital site and buildings available for other use. The land use plan identifies the site as overlay for adaptive reuse and recommends that the City develop standards and use provisions distinct from the other R-P zones to guide the reuse of the site. The area, needs reduced impervious coverage, open space, and improved site aesthetics. Appropriate reuse could include redevelopment for a limited number (not more than 75 to 80 dwellings) of affordable age-restricted housing units, public library, assisted living facility, senior day care, child care center, nursing home, convenience retail, educational uses, professional offices, medical offices, corporate offices, and medical research.

Both the R-B zones and the R-P zones should include design requirements for the following:

- That no parking, outdoor storage, or solid waste or recycling areas shall be permitted in the required front yard nor between any part of the front building façade and the street right-of-way line.
- Parking lot screening.
- Landscaping.
- Building design suitable to the architectural character of the residential neighborhood.
- Building design and requirements prohibiting enclosing of porches.
- Building design requirements for screening of mechanical equipment, maintaining a front building entrance, and the prohibition of fire escapes on the front façade of the building.

INDUSTRIAL

Industrial land use is planned at more than twenty locations and is organized under the City zone plan into five distinct zone categories that provide opportunities for the development or expansion of industrial land uses. The areas planned for industrial land use are served by the City's sanitary sewer system. While the City plans to provide for a variety of industrial uses, certain types of industrial uses that would be detrimental to the City's environment should be and are prohibited under the City zone plan.

Areas planned for industrial use in Vineland are located primarily in the special economic development areas conceptualized by the City plan near the Route 55 interchanges. Additional industrial areas are planned as nodes along the rail line in the City center suburbs and in the surburban/rural transition area. In all, the areas planned for industrial land use cover approximately 5.46 square miles or 7.9% of the City's total land area.

Vineland has a history as an active industrial city. The land use plan is to provide for a range of industrial uses in appropriate locations that are suitable to Vineland and that serve the City's economic development objectives.

In the northwestern area of the City south of Weymouth Road between Route 55 and Delsea Drive, the City encourages light industrial and corporate office development in a campus environment.

Portions of the industrial area planned for northwest Vineland are within the Airport Safety and Hazard Area which controls development to minimize airport and aeronautical hazards.

Industrial nodes are also located outside the historic City center in Vineland's sewered areas along the rail lines. These areas are light and medium industrial zones.

The southwestern area of Vineland is reserved for a limited range of heavier industrial uses to meet the City's needs, including the City's sewerage treatment plan.

Each category of the City's industrial zone plan is described below.

I-1 Industrial Zone ~ The purpose of the I-1 district is to encourage light industrial and corporate office development in a campus environment. The I-1 district is located in northwestern area of the City near Weymouth Road between Route 55 and Delsea Drive. The I-1 district is more commonly known as the Vineland Industrial Park. The park is approximately 440 acres in size. Seventy-two acres of developable land are available and suitable for large scale development. The development and retention of existing and new users in the Vineland Industrial Park is an important economic development objective for the City. Good building layout and design, landscaping, and berming are needed to retain the high quality industrial park atmosphere.

I-2 and I-3 Industrial Zones ~ The I-2 and the I-3 zones are established light to medium industrial areas within the City. The I-2 and I-3 zones allow a wider range of industrial uses than the I-1 district. The City zone plan prohibits the manufacturing of specified materials and uses which would have detrimental impacts on the City's environment and neighborhoods.

I-4 Industrial Zone ~ The I-4 zone is reserved for a limited range of heavier industrial uses to meet the needs of the City. Permitted uses include sewerage treatment plant, auto wrecking yard, nonhazardous waste reduction facility, junkyard, recycling operation, composting facility and public purpose uses.

I-B Industrial – Business Zone ~ The I-B zone differs from the other Industrial districts in Vineland in that single-family, farm and business uses are permitted. Land uses in the I-B zones were originally farmland and single-family residences. As the I-B zones develop, the potential for conflicts with single-family residential uses will increase. This plan recommends eliminating single-family as a principal permitted use in the I-B districts.

INSTITUTION

An area planned for institution use is located in the special economic development areas conceptualized by the City plan near the Route 55 interchange with West Sherman Avenue and at College Drive. The institution area covers approximately 0.42 square miles or 0.6% of the City's total land area.

The institution land use plan is to encourage development of a regional medical/educational/cultural center at that location. The institution area would correspond to the IN-1 Institutional Zone of the City zone plan.

INSTITUTIONAL CAMPUS

This unique and historic area of the City was planned, designed and developed as the campuses for public and quasi-public institutional uses. These uses include the Vineland Developmental Center and the Training School at Vineland. Both of these institutions began operation in this area in the late nineteenth century to provide residential facilities, training, care, and therapy for disabled individuals. These campuses have significant historical value, having period architecture from the late nineteenth and early twentieth centuries, in addition to being the grounds for pioneering efforts and advances in the study and treatment of disability and mental health conditions. The southeast corner of the intersection of East Landis Avenue and South Main Road features a memorial to the founder of the Training School at Vineland, S. Olin Garrison. These campuses also feature extensive areas of open space and landscaped grounds and are well-established features of the City's visual environment and civic life.

Both these facilities have been impacted by the de-institutionalization of the disabled population. The Vineland Developmental Center continues to operate, but a large portion of the campus is leased by the City for an outdoor recreation area with athletic fields. The Training School at Vineland also continues to operate, but has only a few residential clients remaining.

The continued institutional and public uses of the campuses should be permitted, and the campus environments should be maintained. Because of the de-institutionalization of the disabled, however, the Training School at Vineland campus may no longer be needed for institutional use. The City plan, therefore, recommends allowing planned development for age-restricted housing as an adaptive re-use of the campus. By permitting adaptive re-use, the City will expand the housing and care opportunities available to a growing senior citizen population. Any planned development to re-use the campus must be based on an overall plan for the campus that maintains historic buildings and the open space character of the campus landscape. At least fifty per-cent (50%) or more of the campus should be maintained as open space. The density of the planned development, inclusive of assisted living facilities, should not exceed three (3) dwelling units per acre. Additionally, the landscape and buffering at the perimeter of the tract should be maintained as open space as part of any planned development. The area of the Garrison memorial should also be designated and preserved as a public area.

The planned development for the campus may include a small commercial area located along Main Road. The uses within the commercial area should be limited to retail, office, personal service, restaurant or bank use. The total building area floor area of the commercial component should not exceed thirty thousand (30,000) square feet. The commercial area should be compact in design and pedestrian friendly. No use within the commercial development, except for a bank, should be a drive-in use or a drive-thru use to serve customers in motor vehicles. No gasoline station or automotive repair or auto body repair should be permitted as part of the commercial development.

While also impacted by the de-institutionalization of the disabled population, the Vineland Developmental Center continues to operate as a residential facility. Should the campus no longer be needed for institutional use, however, it should be retained as a public area and reserved for

public use because of the substantial public investment that has been made to the buildings and grounds.

(Editors note: The plan for institutional campus land use was adopted as an amendment to the Master Plan by the City Planning Board on May 31, 2006 as the IC Institutional Campus Area. The plan amendment was subsequently implemented by rezoning the area as the IN-2 Institutional Zone. Because the Vineland Developmental Center is a publicly owned and operated facility and was designated in the May 2006 Master Plan amendment as a public area, it is shown on the land use plan map in this document under the public use/public land category. The area planned as institutional campus that is not reserved for public use is 0.3 square miles or 0.4% of the City's total land area.)

RESIDENTIAL LAND USE

The City accommodates a wide variety of housing types as part of its plan for residential land use. The land use plan designates more than twenty square miles of the City for residential use. This represents approximately 30% of the City's total land area. Residential areas include lands planned for low density, medium density, multi-family housing, and mobile homes. The concept for the City's land use plan locates the most dense residential areas in the historic City center. Density is reduced in the suburbs around the City center and is further reduced in the suburban/rural transition area at the edge of the City's greenbelt. The residential categories of the land use plan and their relationship to the City zone plan are described below.

LOW DENSITY RESIDENTIAL

Low density residential land use is planned as a suburban/rural transition area from the edge of the City center suburbs to the beginning of the City's greenbelt. The low density residential areas cover 8.3 square miles, or 12% of the City. This area is located within the area planned for sanitary sewer service by the Master Plan. The intent is to provide an area for development of low-density single-family detached housing as a transition to the City's greenbelt. The low density residential area includes active farms. Farms would continue to be permitted in the low density residential area and their preservation as part of the low density residential area is encouraged and supported by the City. New residential development will be required to provide buffers to reduce the potential conflict with existing farms.

The low density residential areas should be implemented by enacting of two new low density single-family residential zones. The R-5 zones will permit a maximum density of one dwelling unit per acre. The R-6 zone will permit a maximum density of one dwelling unit per two acres. The R-6 zones will typically be located adjacent to the rural/conservation greenbelt at the limit of the planned sewer service area.

Residential cluster development and lot size averaging would be permitted at the City's option in the low density residential areas consistent with the recommendations of the Master Plan conservation plan element. Although lot sizes could be reduced with these options, there should be no increase in the gross density and the total number of dwellings permitted should be the equivalent of the number of dwellings allowed by a conventional layout. Cluster development and lot size averaging would only be allowed where the lots are served by sewer and public water and the reduction in lot size is offset by open space preservation.

MEDIUM DENSITY RESIDENTIAL LAND USE

Medium density residential areas are planned for the historic City center and the City center suburbs. The medium density residential areas cover 11.4 square miles, or 16.5% of the City, and are within the area planned for sanitary sewer service.

The medium density land use is organized by the City zone plan into the R, R-1, R-2, R-3 and R-4 residential zones. Residential land uses in the historic City center includes multi-family uses in converted single-family dwellings or dwellings that have the appearance of a single family dwelling. Density decreases as the distance from the historic City center increases. The R-3 and R-4 zones are predominantly single-family detached dwellings.

In and around the historic City center, the City needs to need to monitor and to eliminate illegal conversions of single and two family dwellings to multi-family dwellings and encourage the development of single and two family infill housing. It also needs to eliminate or prevent the intrusion of non-residential uses that conflict with, or detract from, or do not support a quality residential environment.

The medium density residential zones of the City zone plan are described below.

R-1 Residential

The adoption of the Center City Redevelopment Plan largely replaced the R-1 zone in Vineland. The R-1 zone that remains is approximately 45.5 acres in size. It is located between Park and Fenimore Street. Approximately 28.5 acres within the R-1 zone is occupied by a veterans' home. The remaining 17 acres of the zone is largely single-family and two-family structures. The intent of the R-1 zone is to provide a suitable environment for single and two-family structures and for the conservation and maintenance of the established pattern of development in this area.

Principal permitted uses in the R-1 district include single-family, two-family, townhouse, garden apartment, mid-rise apartment and professional building on 9,500, 15,000, 28,500, 45,000, 90,000 and 15,000 square foot lots respectively. This plan recommends eliminating garden apartments and mid-rise apartments as a principal permitted use in the R-1 district.

R-2 Residential

The intent of the Residential – 2 zone is to allow single-family and duplex residential housing units. The R-2 zone is approximately 1,092 acres or 1.7 square miles in area and is located at the edges of the historic City center. Portions of the City's Special Improvement District are located within the R-2 zone, which includes the historic Landis School. The R-2 zone is largely developed. New development is likely to be in the form of infill housing and additions to existing homes. As with other older areas of the City, the maintenance and repair of existing homes is critical for stable neighborhoods and the desirability of the R-2 zone.

This plan recommends eliminating triplexes and quadraplexes as a principal permitted use in this district to preserve the character of this area.

R-3 Residential

The R-3 zone allows residential development and redevelopment of lots where central water and sewer services extend the City's suburban growth pattern. Single-family detached residential development is the planned residential use of the R-3 zones. Farm uses are also permitted.

R-4 Residential

The R-4 district allows for the development and redevelopment of residential parcels where central water and sewer services extended the City's suburban growth pattern. The district provides for single-family detached residential development on a minimum lot size of 16,500 square foot. Farms are also permitted.

MOBILE HOMES

More than 0.6 square miles of Vineland, or 0.9% of the City land area, is planned for mobile home park use. Eight per cent (8%) of the City housing stock is mobile homes and Vineland has five per cent (5%) of all the mobile homes in the State of New Jersey. Vineland has provided sufficient opportunities for mobile home development. The housing plan element recommends that there be no further mobile home development in the City of Vineland. Consequently, the land use plan limits the location of mobile homes to the existing zones designated Mobile Home Park (MHP).

The Mobile Home Park zones are developed.

MULTI-FAMILY (DENSITY TRANSFER)

Three multi-family areas are proposed by the land use plan. These areas are within the suburban area of the City that is proposed by the Master Plan for sewer service. One area is located on East Elmer Road between S. East Avenue and South East Boulevard. The area is currently zoned R-3. A second area is located on the north side of Oak Road opposite Becker Drive. It is currently zoned R-3. The third area is located at the southeast corner of the intersection of Brewster Road and Chestnut Avenue. It is currently zoned R-4. The plan is to allow multi-family development at a density not to exceed six (6) units per acre. Multi-family development will be permitted by the zone plan at those locations as an alternative to the existing zoning, provided that the increased density is off-set by open space preservation, either on-site or off-site, as part of a planned residential cluster development, or through a transfer of development rights (TDR) program as recommended by the Master Plan farmland preservation element and the conservation plan element.

The multi-family density transfer area is approximately 0.3 square miles or 0.5% of the City's land area.

AGRICULTURE

Agriculture is an important component of the economic base of Vineland and an essential part of the City's unique character. The areas shown on the land use plan map for agriculture are located in the greenbelt conceptualized by the Master Plan at the City limit along Vineland's' northern boundary and in the area of the City that lies east of the Menantico to the City limit along the Manumuskin River. This agricultural area is outside the proposed sewer service area of the Master Plan. The agricultural areas shown on the land use plan map are approximately 12 square

miles or 17.4% of the City's total land area. The agricultural area is based upon the recommendations of the Master Plan farmland preservation element. The City plans to expand the existing Agricultural Development Areas and establish an Agricultural Development Committee to work with the farm community to permanently preserve farmland and promote farming as a business within the City.

Only the lowest density single family residential development is appropriate to this area. The current zone plan organizes the agricultural area into the A-5 and the A-6 agricultural zones. No change is proposed to the zone plan densities permitted for the agriculture area.

Any new residential development will be required to provide buffers to reduce the potential conflict with existing farms.

The farmland preservation plan recommends that the City consider a program for the transfer of development rights (TDR). As part of the studies required for such a program, the City should evaluate the potential of the agriculture area as a TDR sending district

The City notes that many farms and lands suited to agricultural use are located in the suburban/rural transition area conceptualized by the Master Plan for low density residential use. The City's goal, as expressed in the farmland preservation plan, is to preserve as much farmland as possible. Consequently, the City's efforts to expand the City's Agricultural Development Areas and permanently preserve farmland should include low density residential areas as well as agriculture areas shown on the land use plan.

CONSERVATION

The conservation area of the land use plan maintains the character of the City's rural areas and protects the environment by conserving the habitat of rare or threatened native plant and animal species, by promoting aquifer recharge, protecting the water quality and features of designated scenic rivers, by maintaining the character of undisturbed forested areas and by preventing the fragmentation of the forest environment. The conservation areas are an essential part of the City's unique character which includes a rural and natural landscape as well as an urban landscape.

The areas shown on the land use plan map for conservation land use are located in the greenbelt conceptualized by the Master Plan at the City limit along Vineland's' northern boundary and in the area of the City that lies east of the Menantico to the City limit along the Manumuskin River. The conservation areas lie outside the proposed sewer service area of the Master Plan. Portions of the conservation area are within the Pinelands. The conservation areas shown on the land use plan map cover approximately 11.5 square miles or 16.7% of the City's total land area. The conservation area is based upon the recommendations of the Master Plan conservation element.

Only the lowest density single family residential development is appropriate to this area. The City zone plan organizes the conservation area into the W-5 and the W-6 woodlands zone districts and the P-A Pinelands agriculture production zone district, the P-F Pinelands forest zone district, and the P-R Pinelands rural development zone district. No change is proposed to the zone plan density for the conservation area. No change is proposed to the zone plan for the Pinelands zone districts.

The conservation plan recommends that the City consider a program for the transfer of development rights (TDR). As part of the studies required for such a program, the City should evaluate the potential of the conservation area as a TDR sending district.

PINELANDS

Approximately seven (7) percent of the City is located in the Pinelands Preserve comprising 3,237 acres or five (5) square miles. The majority, or 2,344 acres, of the Pinelands within Vineland are located in the Pinelands forest management area; 607 acres are located in the Pinelands rural development management area; and 286 acres are located within the Pinelands agricultural production management area. The Pinelands are within the conservation area of the City Master Plan land use plan element and classified in the City zone plan as the PA, P-F and P-R zones.

No changes are proposed for the PA, P-F or P-R zones.

PARKS/OPEN SPACE

The areas shown on the land use plan map as parks/open space are located in the greenbelt conceptualized by the Master Plan between Route 55 and the Maurice River and in the greenbelt of the City that lies east of Union Road along the Manumuskin River. The parks and open space area include public parks and permanently preserved open spaces owned by the New Jersey Department of Environmental Protection and the Nature Conservancy. These lands are held for conservation purposes only. The City zone plan may be modified, as appropriate, to designate their status and/or use as dedicated open space.

This category also includes City recreation and open space lands listed on the City Green Acres Recreation and Open Space Inventory (ROSI). City parks are located in the historic City center and its suburbs and in areas of the City to serve the population and provide opportunities for active recreation and passive recreation.

The parks/open space area shown on the land use plan map covers approximately 8.9 square miles or 12.8% of the City's total land area. These are the existing preserved open space lands. Consistent with the recommendations of the conservation plan element, Vineland should establish a program to preserve additional open space to protect the City's natural resources. A successful City program will include municipal funding to leverage monies from the State for preserving open space. This will expand the protected natural areas in Vineland and help implement a system of greenbelts and greenways.

PUBLIC USE/PUBLIC LAND

The public use/public area consists of publicly owned lands and buildings within Vineland that are committed to public use. Excluded from this category are publicly owned and dedicated parks or open space and public streets. The public use/public land category includes the City's public buildings and lands such as public schools and school administration buildings, public library, City hall, the lands of the Landis Sewerage Authority, public works yards, City wells and water storage tanks, public housing sites, and other governmentally owned facilities.

The public use/public land area covers approximately 5.3 square miles or 7.7% of the City's total area.

The City zone plan may be modified, as appropriate, to classify these areas as public use areas.

OVERLAY DISTRICTS

The land use plan includes land use overlays. Overlay land use areas cover a portion of, or all of, one or more underlying categories of planned land use. Within an overlay area, there are special features or considerations that need to be respected, managed, or regulated based upon City or State objectives or regulations. In Vineland the land use overlays include an airport hazard area, the downtown improvement district, the federally designated scenic segments of the Menantico and the Manumuskin rivers, the Delsea Drive Corridor, the Vineland Training School, the Newcomb Hospital site, wetlands and floodplains, and wellhead protection areas.

Airport Hazard Overlay Area

The airport hazard overlay applies to the airport safety zone around the Kroelinger Airport. Land use and development in this area is subject to the Air Safety and Zoning Act which the City has implemented through its zoning regulations.

Downtown Improvement District Overlay

In 1990, City Council created a special improvement district and designated a district management corporation to manage projects in the Vineland Downtown Improvement District (VDID). The primary purpose of VDID is to preserve and enhance the function and appearance of the traditional business core of the City.

The VDID is located between Delsea Drive and Myrtle Street along Landis Avenue. Development applications heard by the Planning and Zoning Board as well as construction permit applications are required to be referred to the VDID for comment and/or approval.

The VDID is responsible for the creation of design criteria for the construction or alteration of building facades within the district, including signage. The VDID acts as an advisory agency to the Planning and Zoning Boards of Vineland to help foster appropriate development in the downtown.

River Conservation Overlay Area

Congress established the National Wild and Scenic Rivers System in 1968 to protect certain outstanding rivers from the harmful effects of new federal projects, such as dams, hydroelectric facilities, bank armoring and bridges. To be considered "wild and scenic," a river (or river segment) must be free-flowing and have at least one outstanding natural, cultural, or recreational feature.

The Manumuskin River in its entirety and the Menantico Creek from the impoundment at Menantico Lake southward are designated "scenic" rivers.

In 1991 and 1993, City Council endorsed inclusion of these river segments in the National Wild and Scenic Rivers System and authorized development of an ordinance to implement local regulatory controls.

This overlay area regulates development for a distance of ¼ mile from each bank to conserve the river environment.

Delsea Drive Corridor

The commercial Delsea Drive is over 7.5 miles in length and is underutilized and in need of improvement. Improved design and revitalization should be implemented by applying community design standards within the corridor as proposed in the community design guidelines of the land use plan.

In addition, the use of redevelopment and rehabilitation powers of the Local Redevelopment and Housing Law (LRHL) should be considered to encourage coordinated development and design.

Adaptive Reuse Overlay

The Land Use Plan identifies two areas recommended for adaptive reuse as described in the land use plan. These are the Vineland Training school property and the property of the former Newcomb Hospital.

Floodplain Overlay

The Federal Emergency Management Agency (FEMA) has delineated floodplain areas in GIS format using Flood Insurance Rate Maps (FIRM). Floodplain boundaries have been determined from profiles based on high water marks and regional stage-frequency relations. Floodplain areas average about 1 chance in 100 that the designated area will be inundated in any year. Areas located within the 100-year floodplain are predominantly located adjacent to the Menantico Creek, the Maurice River, Manumuskin River and the tributaries of each river. In addition, the New Jersey Department of Environmental Protection (NJDEP) has adopted Flood Hazard Area Control Act Rules per N.J.A.C. 7:13 et seq. which provide methods for determining the Flood Hazard Area as outlined in N.J.A.C. 7:13-3. Flood Hazard Areas should be regulated as an overlay to conserve the floodplain from development and reduce damage to life and property from flood events.

Wellhead Protection Overlay

The City of Vineland Water-Sewer Utility provides and maintains the public water treatment and distribution system in Vineland. The City public water supplies are derived exclusively from ground water sources. Thirteen (13) wells, ranging in depth from 130 to 184 feet, supply water to the City's distribution system. The City's public water distribution system extends to approximately 65 per cent of the City. The balance of the City is served by individual wells or private water systems.

The source of the water is the Cohansey Kirkwood aquifer. Consequently, protecting the Cohansey Kirkwood aquifer and the City's wellheads from contamination is essential to the public health, safety, and welfare.

The New Jersey Department of Environmental Protection has mapped twenty-one (21) wellhead protection areas for the public community wells in Vineland. The well head protection areas mapped by the State are shown in the conservation element of this Master Plan. These are the protection areas for wells that serve at least fifteen (15) service connections to year round residents or regularly serve at least twenty-five (25) residents. This Plan recommends that the City establish wellhead protection areas for public community wells based upon the State mapping.

A wellhead protection area is the area around a well from within which groundwater is likely to flow to the well and through which ground-water pollution, if it occurs, poses a significant threat to the water quality of the well. The wellhead protection areas will overlay the City's zone districts to provide additional regulations to control the siting and development of land uses

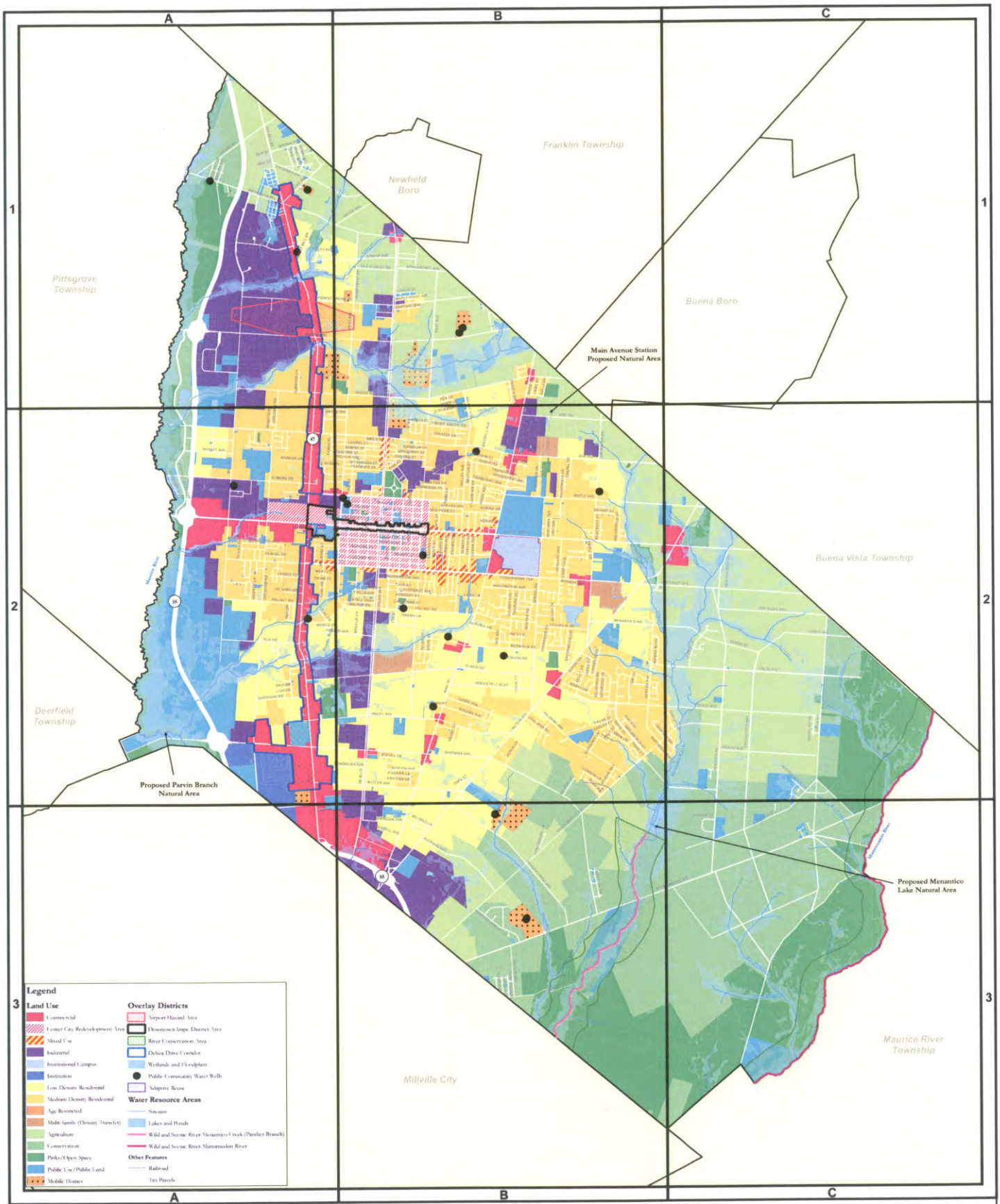
within the wellhead protection. Land use activity within the protection should be regulated by the City to reduce the potential for ground water contamination and the migration of pollutants into the ground water.

SUMMARY OF FUTURE LAND USE

The following table quantifies the City of Vineland's Future Land Use Plan. The largest land areas are proposed residential areas for medium and low density (28.5%) followed by conservation (16.7%) and agriculture (17.4%). Industrial land comprises 7.9 percent and commercial land uses comprise 4.5 percent. The Center City Redevelopment Area, mobile homes, institutional campus, mixed use, multi-family, and institutional uses comprise 1.6%, 0.9%, 0.4%, 0.5%, 0.5% and 0.6% respectively.

Table LU-2 – Proposed Future Land Use

Proposed Land Use	Acres	Percentage
Commercial	1,999	4.5%
Center City Redevelopment Area (Excluding Public and Parklands)	702	1.6%
Mixed Use	225	0.5%
Industrial	3,492	7.9%
Institutional Campus	169	0.4%
Institution	266	0.6%
Low Density Residential	5,302	12.0%
Medium Density Residential	7,284	16.5%
Multi-family Density Transfer	207	0.5%
Agriculture	7,680	17.4%
Conservation	7,379	16.7%
Mobile Homes	400	0.9%
Parks/Open Space	5,666	12.8%
Public Use/Public Land	3,379	7.7%
Total	**44,150**	**100.00%**



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Not to Scale

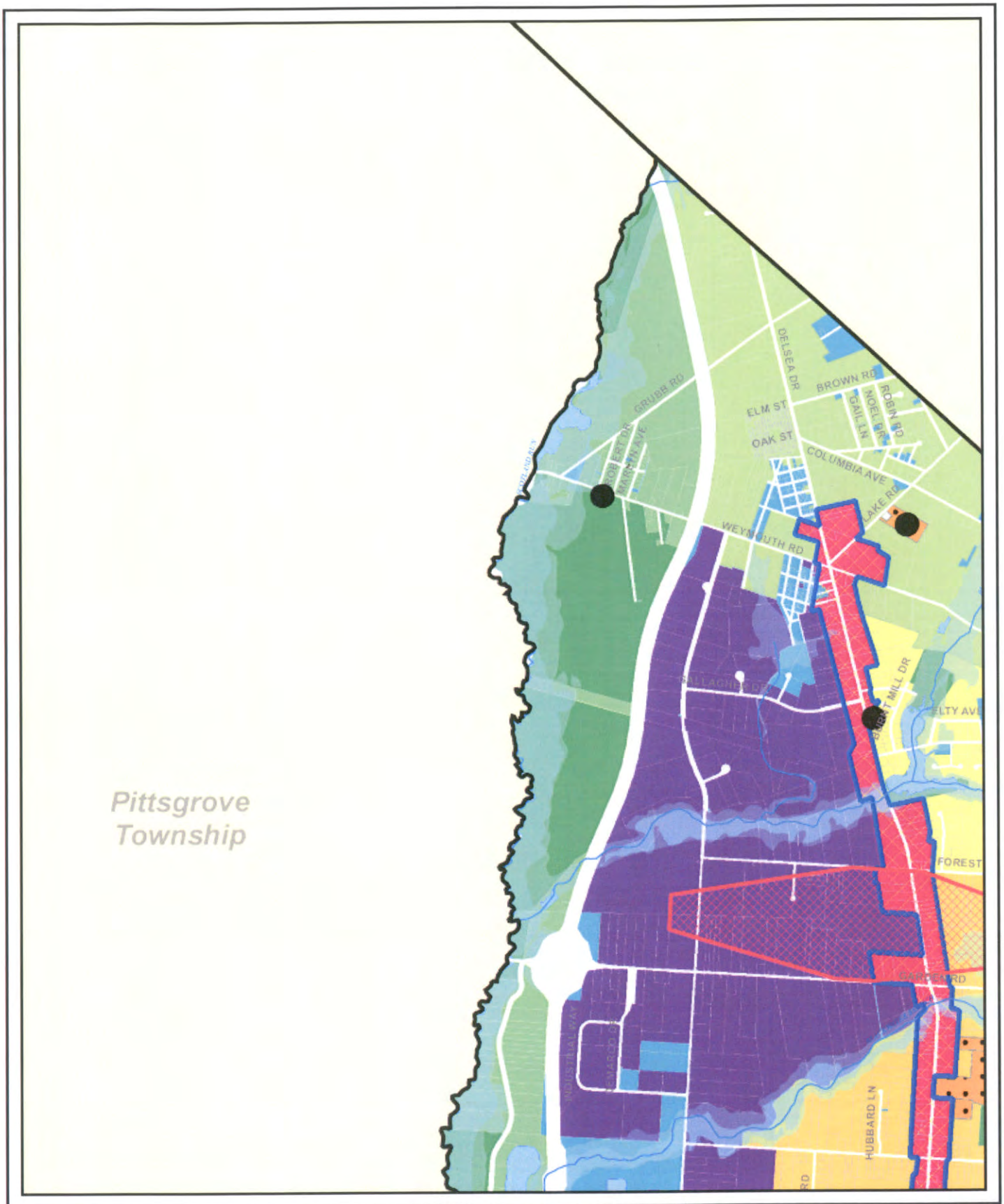
Prepared by: PMR, April 3, 2008
Source: City of Vineland GIS System, NJDEP, TIGER Files
File Path: H:\VINE\GIS\GIS\Master Plan Maps\Land Use Plan Working\LU06.mxd

Map LU-6:
Land Use Plan (Index Grid)

City of Vineland
Cumberland County, New Jersey

N

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized



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Map LU-6:
Land Use Plan (Section A-1)

City of Vineland
Cumberland County, New Jersey

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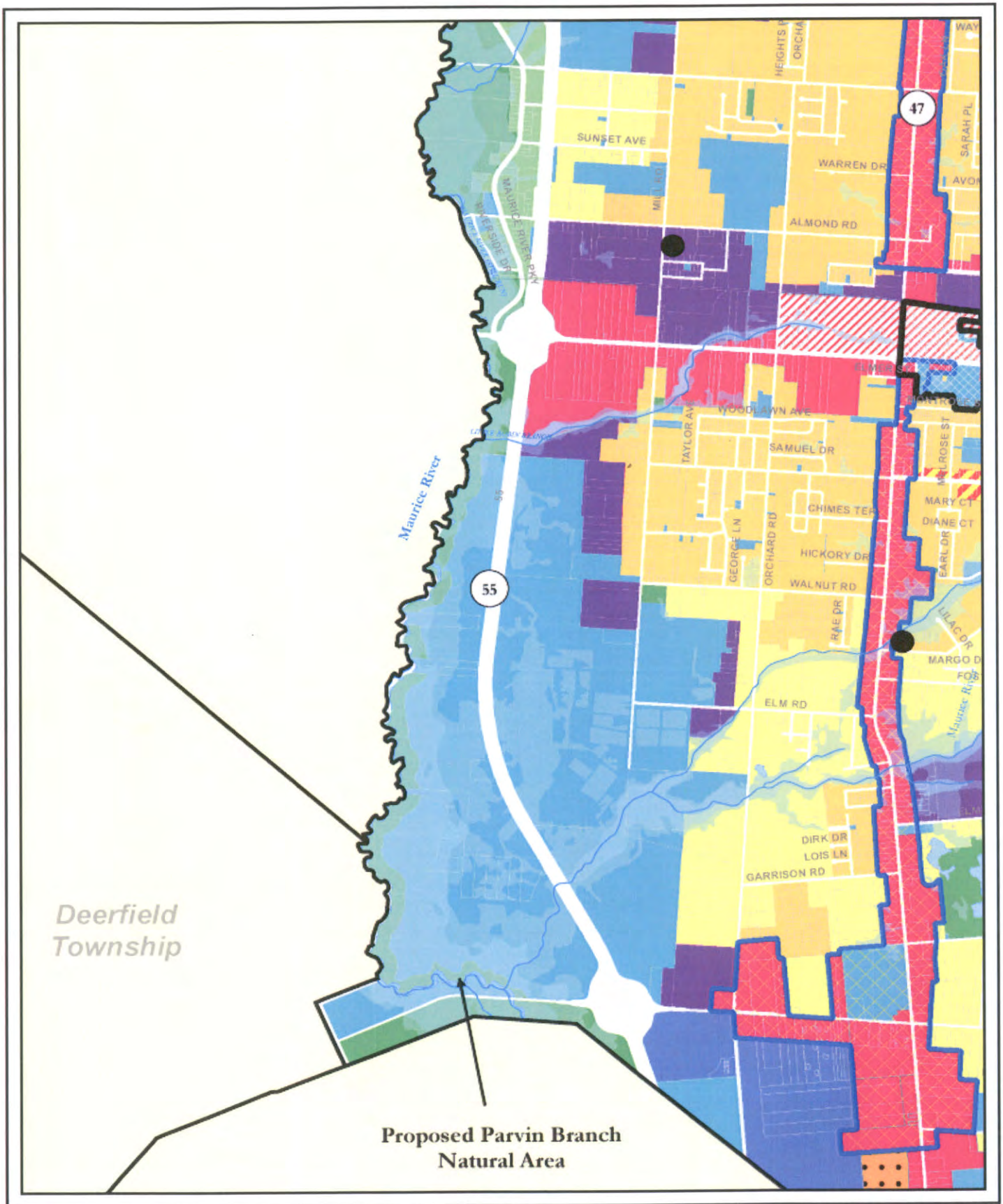

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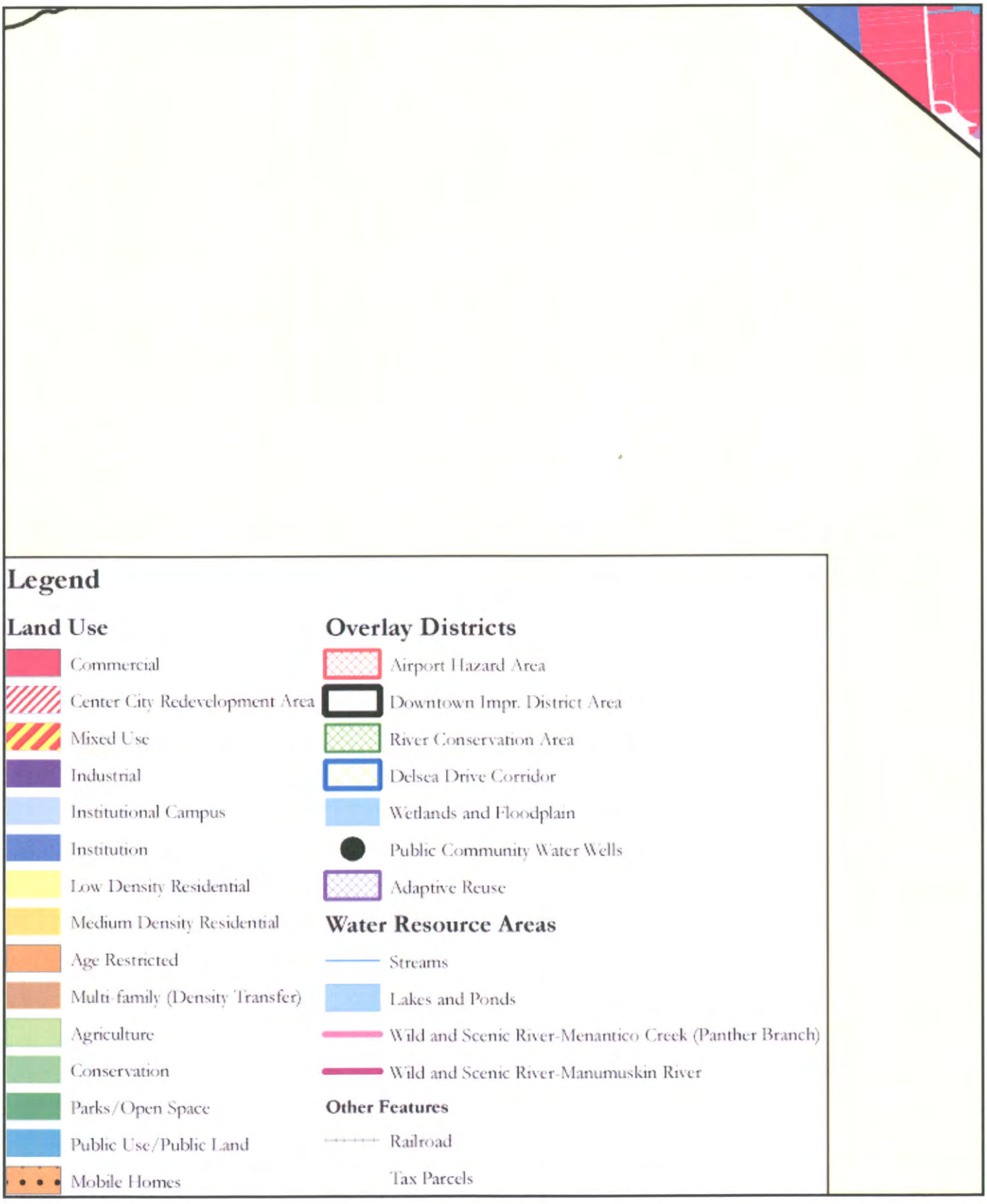
Map LU-6:
Land Use Plan (Section A-2)

City of Vineland
Cumberland County, New Jersey

N



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Map LU-6: Land Use Plan (Section A-3)

City of Vineland
Cumberland County, New Jersey

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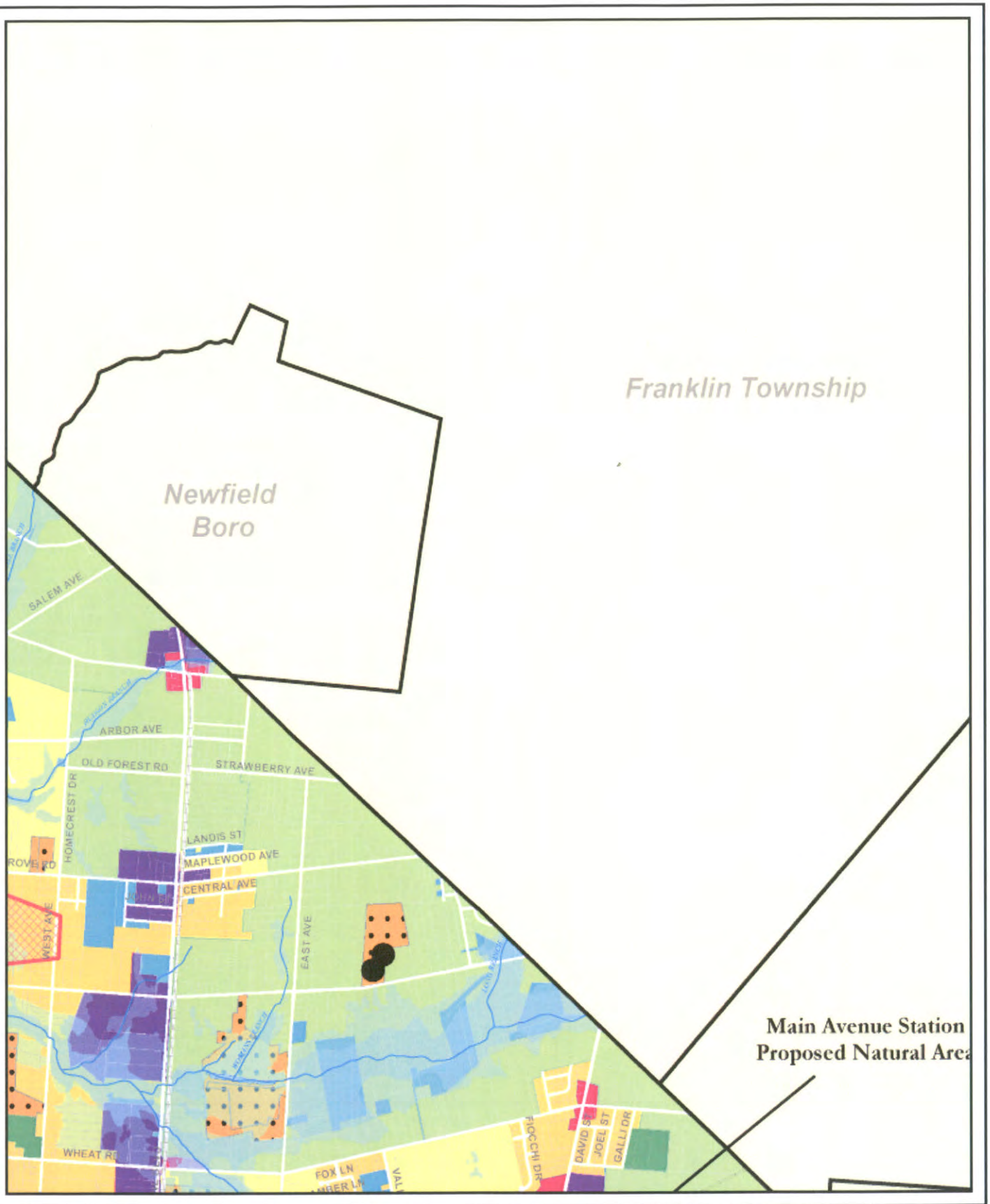

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Map LU-6:
Land Use Plan (Section B-1)

City of Vineland
Cumberland County, New Jersey

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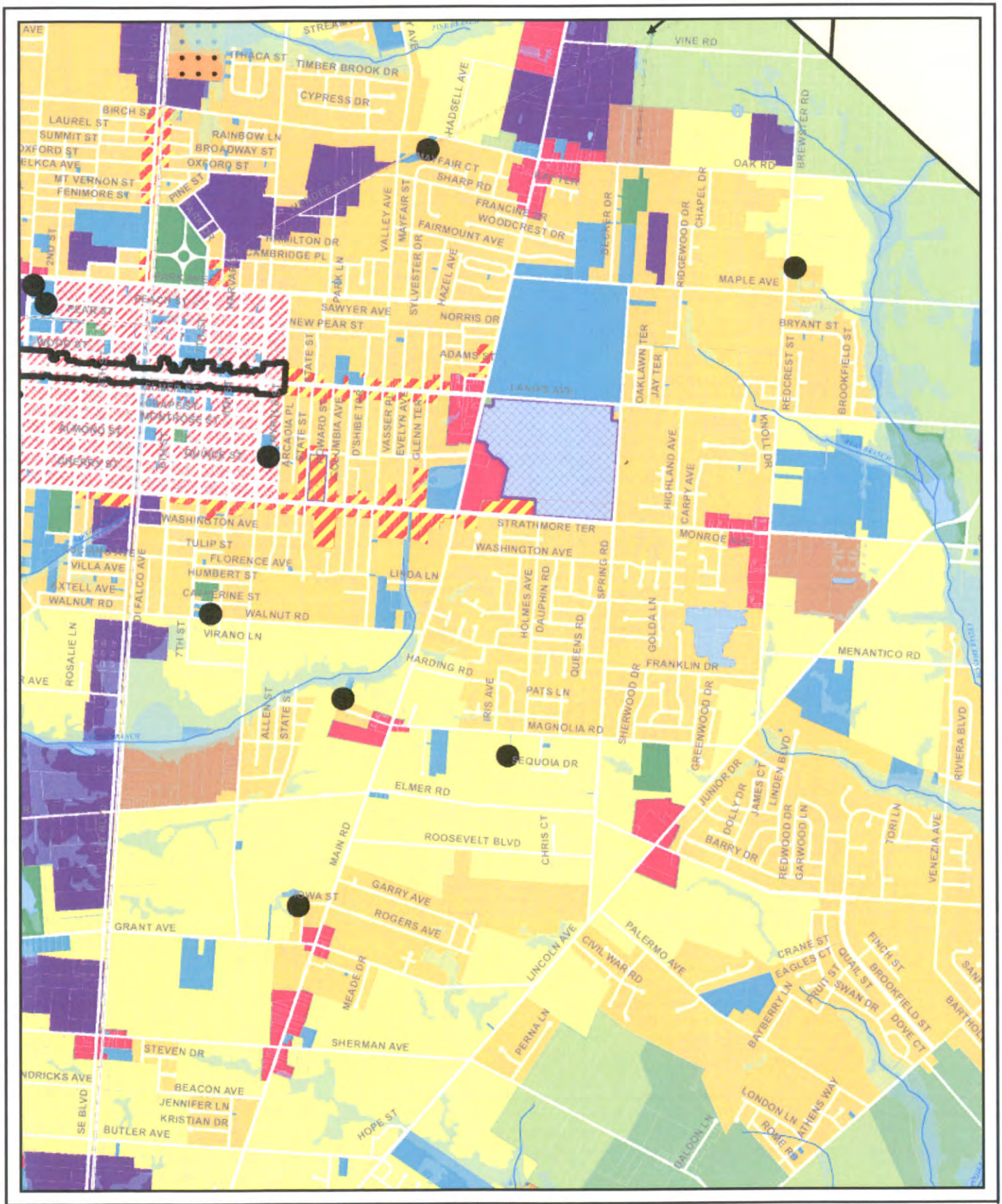

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Map LU-6:
Land Use Plan (Section B-2)

City of Vineland
Cumberland County, New Jersey

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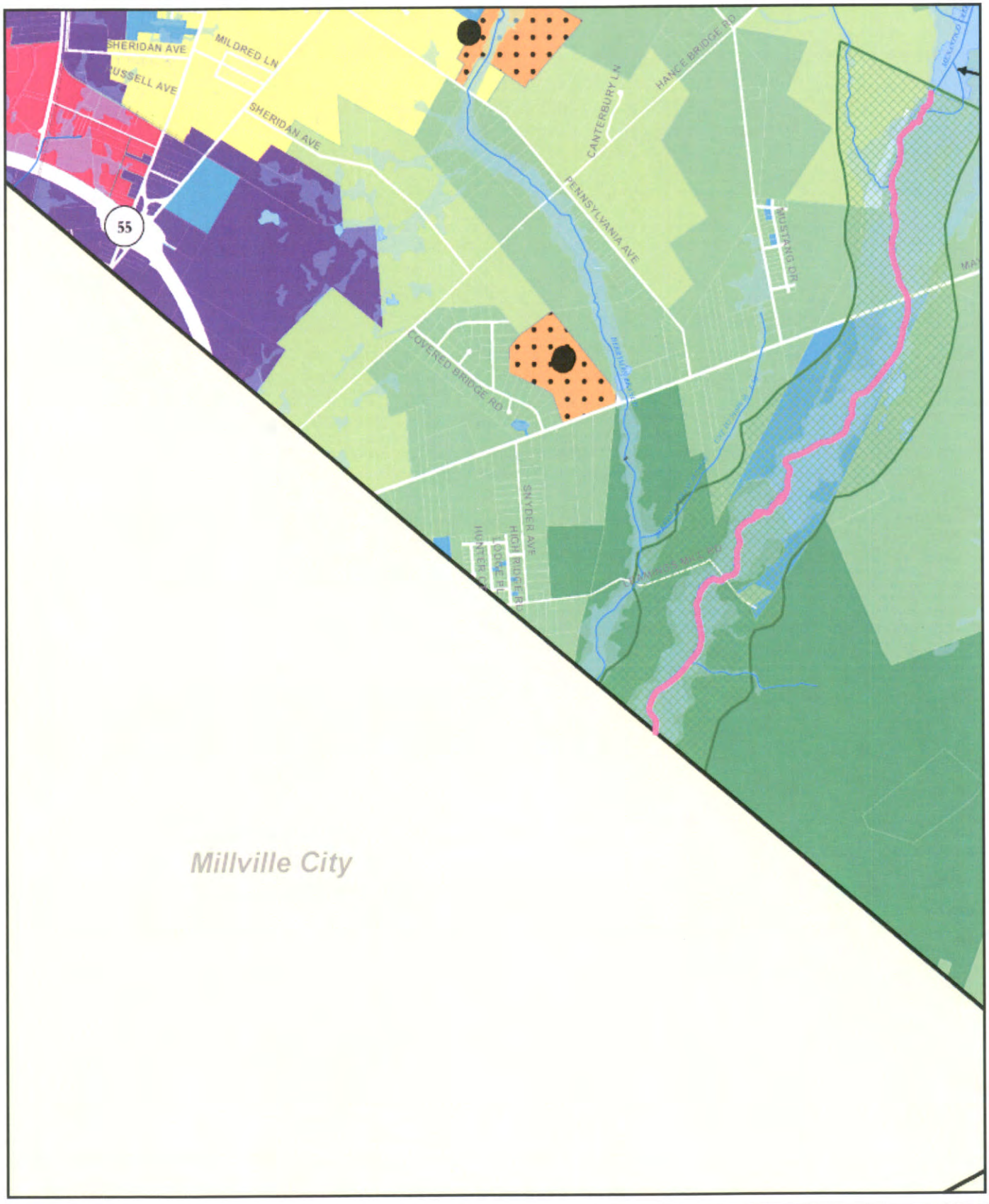

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Source: City of Vineland GIS System, NJDEP, TIGER Files
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Map LU-6:
Land Use Plan (Section B-3)

City of Vineland
Cumberland County, New Jersey

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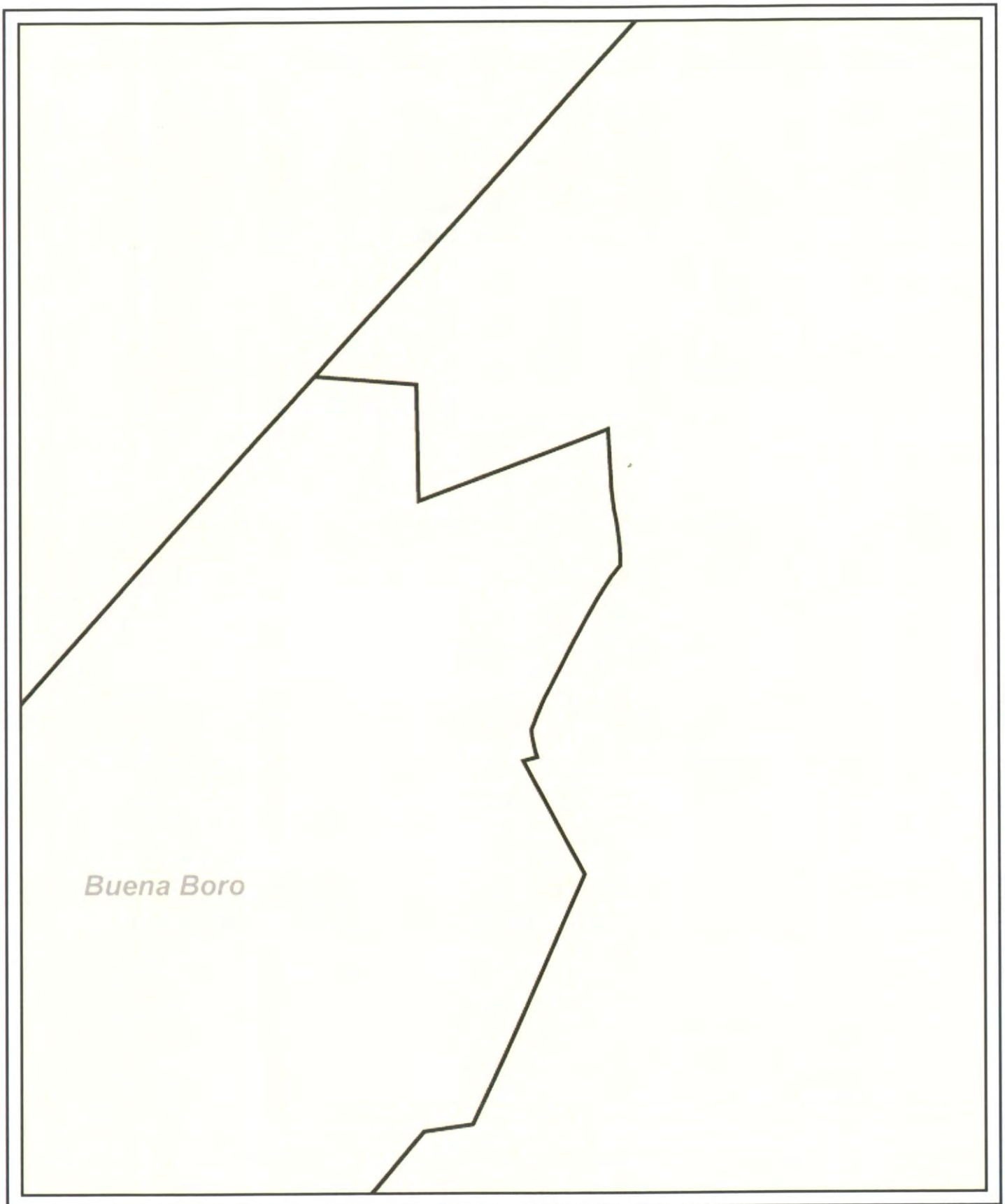
NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State authorized



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Not to Scale

Prepared by: PMR, April 3, 2008
Source: City of Vineland GIS System, NJDEP, TIGER Files
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Map LU-6:
Land Use Plan (Section C-1)

City of Vineland
Cumberland County, New Jersey

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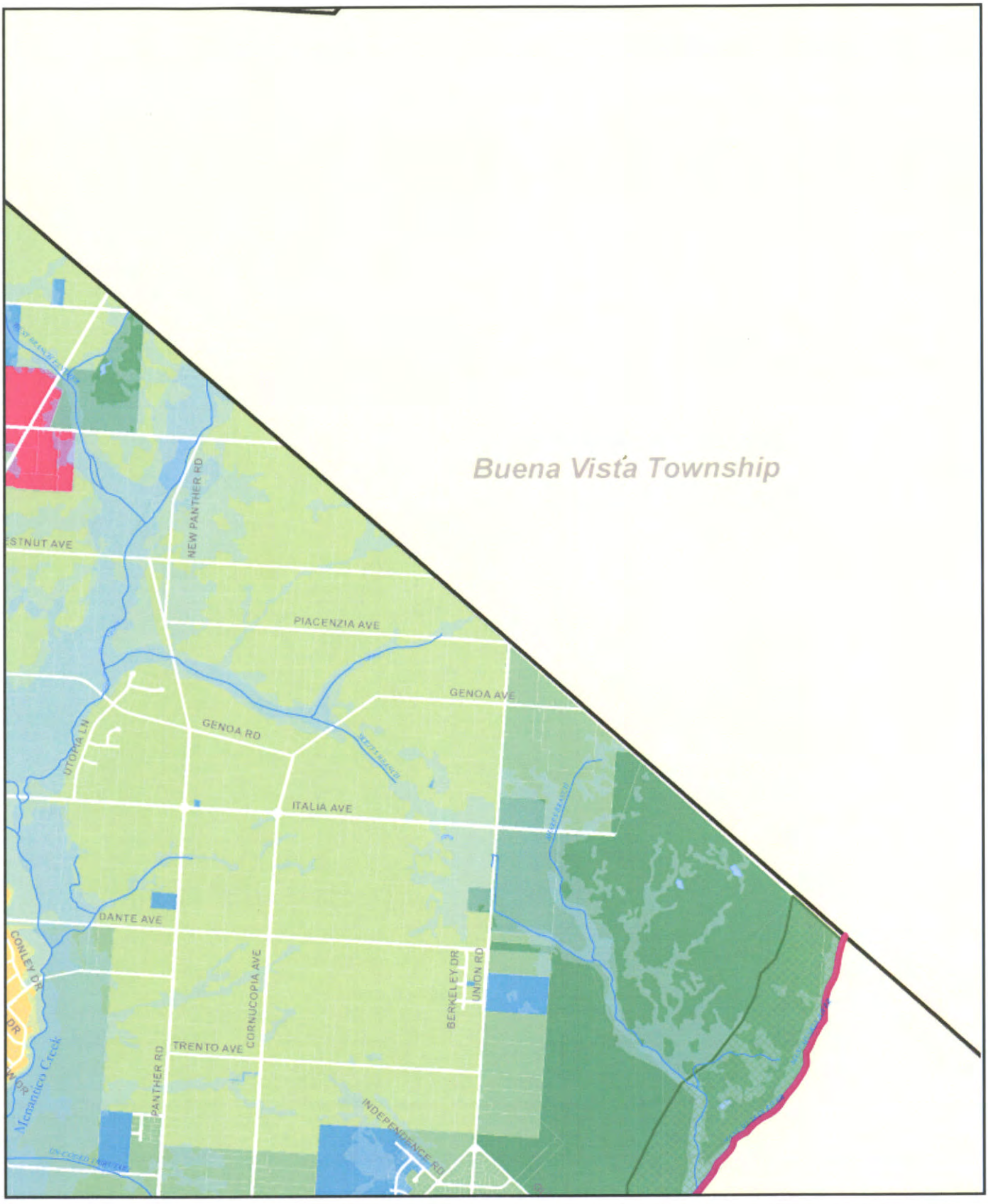

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Map LU-6:
Land Use Plan (Section C-2)

City of Vineland
Cumberland County, New Jersey

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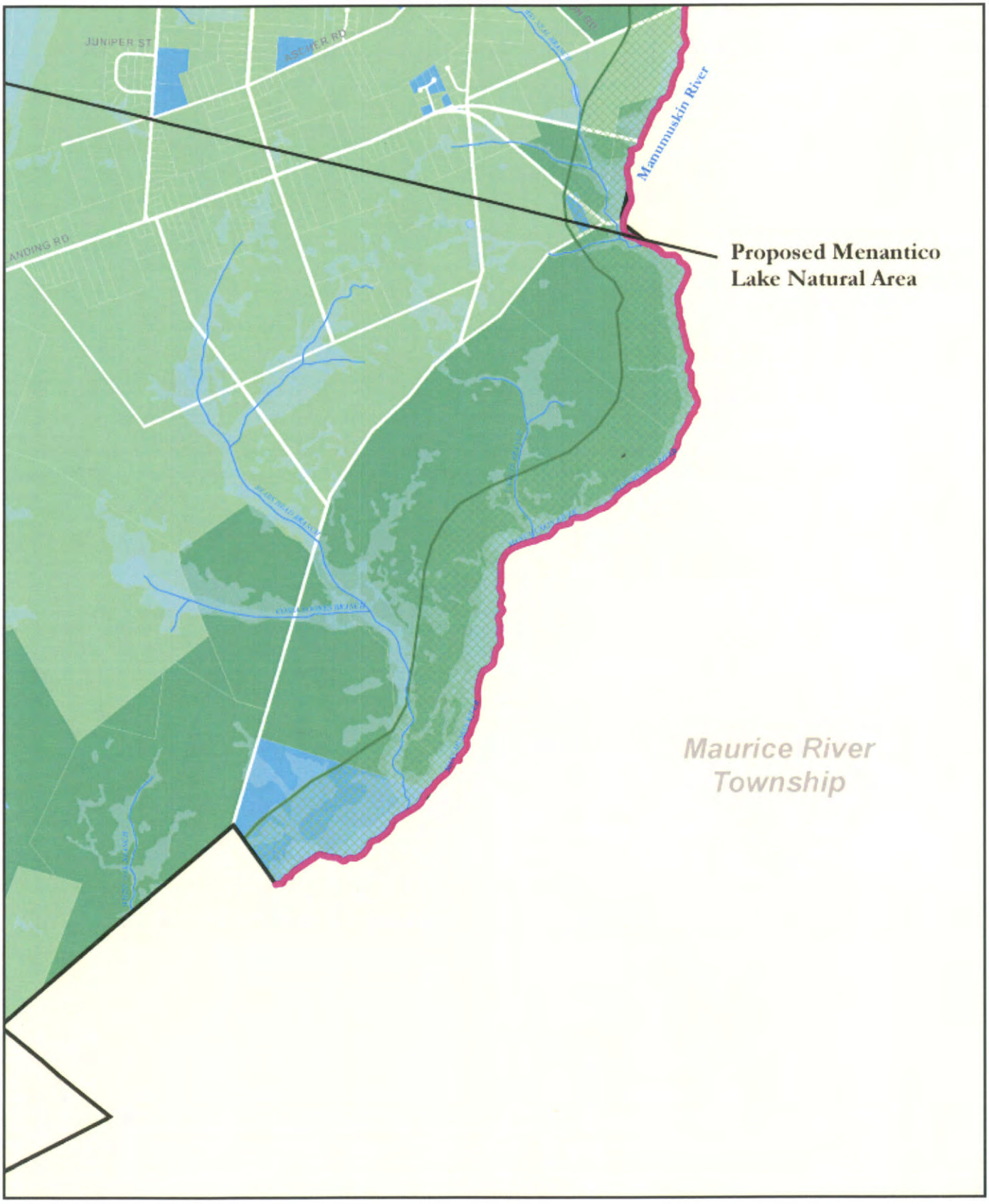

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Prepared by: PMR, April 3, 2008
Source: City of Vineland GIS System, NJDEP, TIGER Files
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Map LU-6:
Land Use Plan (Section C-3)

City of Vineland
Cumberland County, New Jersey

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NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized

Table LU-3: Recommended Standards for Development Density and Intensity[1, 2, 3] (Sheet 1 of 3)

		Minimum Lot Area						
Zone	**Use**	**Inside (sq. ft.)**	**Corner (sq. ft.)**	**Maximum Density (units per acre)**	**Sewer Required**	**Principal Building Height (ft.)**	**Building Coverage (%)**	**Lot Coverage (%)**
R-1	1-family	9,500	10,000	4.0	Yes	25	30	40
	2-family	15,000	16,900	5.0	Yes	25	30	40
	Townhouse	28,500	32,400	6.0	Yes	30	20	30
R-B	1-family	9,750	10,000	4.0	Yes	25	30	40
	2-family	15,000	16,900	5.0	Yes	25	30	40
	Townhouse	28,500	32,400	6.0	Yes	30	20	30
	Business uses	15,000	16,900	N/A	Yes	30	35	45
R-2	1-family	11,250	12,100	3.5	Yes	25	30	10
	2-family	19,500	22,500	4.0	Yes	25	30	40
	Triplex	24,000	28,900	5.0	Yes	25	20	30
	Quadruplex	28,500	32,400	5.6	Yes	25	20	30
R-P	1-family	11,250	12,100	3.5	Yes	25	25	35
	2-family	19,500	22,500	4.0	Yes	25	25	35
	Professional Bld.	19,500	22,500	N/A	Yes	30	20	50
R-3	1-family	13,500	16,900	3.0	Yes	30	20	30
	Farm	100,000	100,000	N/A	No	35	10	15
R-4	1-family	16,500	18,000	2.4	Yes	30	20	30
	Farm	100,000	100,000	N/A	No	35	10	15
R-5	1-family	40,000	40,000	1.0	(2)	30	12	25
	Farm	100,000	100,000	N/A	No	35	10	15

Table LU-3: Recommended Standards for Development Density and Intensity[1, 2, 3] (Sheet 2 of 3)

		Minimum Lot Area						
Zone	**Use**	**Inside (sq. ft.)**	**Corner (sq. ft.)**	**Maximum Density (units per acre)**	**Sewer Required**	**Principal Building Height (ft.)**	**Building Coverage (%)**	**Lot Coverage (%)**
R-6	1-family	80,000	80,000	0.5	(2)	30	10	18
	Farm	100,000	100,000	N/A	No	35	10	15
A-5	1-family	100,000	100,000	0.4	No	30	10	15
	Farm	250,000	250,000	N/A	No	35	5	10
	Other Uses	250,000	250,000	N/A	No	35	10	15
A-6	1-family	250,000	250,000	0.15	No	30	5	10
	Farm	250,000	250,000	N/A	No	35	5	10
	Other Uses	250,000	250,000	N/A	No	35	5	10
W-5	1-family	100,000	100,000	0.4	No	30	10	15
	Farm	250,000	250,000	N/A	No	35	5	10
	Other Uses	250,000	250,000	N/A	No	35	10	15
W-6	1-family	250,000	250,000	0.15	No	30	5	10
	Farm	250,000	250,000	N/A	No	35	5	10
	Other Uses	250,000	250,000	N/A	No	35	5	10
I-1	Industrial Uses	87,000	87,000	N/A	Yes	40	30	50
I-B	Industrial Uses	87,000	87,000	N/A	Yes	40	30	50
	1-family	250,000	250,000	0.15	No	35	5	10
	Farm	250,000	250,000	N/A	No	35	5	10
	Business uses	45,000	45,000	N/A	Yes	35	25	50

Table LU-3: Recommended Standards for Development Density and Intensity[1, 2, 3] (Sheet 3 of 3)

		Minimum Lot Area						
Zone	**Use**	**Inside (sq. ft.)**	**Corner (sq. ft.)**	**Maximum Density (units per acre)**	**Sewer Required**	**Principal Building Height (ft.)**	**Building Coverage (%)**	**Lot Coverage (%)**
I-2	Industrial Uses	43,500	43,500	N/A	Yes	40	50	60
I-3	Industrial Uses	62,250	62,250	N/A	Yes	40	50	60
I-4	Industrial Uses	130,750	130,750	N/A	Yes	40	50	60
B-1	Business uses	15,000	15,000	N/A	Yes	40	75	90
B-2	Business uses	30,000	30,000	N/A	Yes	35	35	60
B-3	Business uses	45,000	45,000	N/A	Yes	35	35	60
B-4	Business uses	50,000	50,000	N/A	Yes	35	30	60
MF	Townhouse	217,800	217,800	6.00	Yes	35	20	30
	1-family	16,500	18,000	2.4	Yes	30	20	30
MHP	Mobile homes	250,000	250,000	5.0	Yes	25	25	50

[1] Any proposed lot not serviced by public sewer should be a minimum of 43,560 square feet. Where a more stringent standard is recommended, then the more stringent standard should apply. All muti-family uses should be served by public sewer.

[2] Any proposed lot that is less than 43,560 square feet requires public sewer.

[3] Development density and intensity within the Center City Redevelopment Area should be based upon the Center City Redevelopment Plan.


Land Use Plan - Community Design Guidelines
VINELAND
NEW JERSEY

COMMUNITY DESIGN GUIDELINES

The purpose of this section of the City master plan is to establish general guidelines for improved community design in the City. The guidelines provide direction to decision makers, design professionals, and the public in the preparation of development regulations, capital improvement projects, and development applications.

Community design is the process of organizing and coordinating the different elements of the City's built and natural environment to achieve a unified, functional, efficient, and visually appealing physical setting. The orientation, form, and relationship of buildings, landscaping, signage, lighting, streets, open spaces, and parking to meet the public need for a well ordered community are basic considerations of community design. To direct community design, the City's development regulations should include design standards that maintain, establish, or improve the visual qualities and amenities of the City.

Vineland is a diverse community and it has a distinct pattern of land use and development. Its pattern includes an historic urban center with a central business district and main shopping street, urban and suburban residential neighborhoods with tree lined streets, commercial corridors, commercial or industrial nodes, and a greenbelt of farms and open spaces. To establish a positive community image, the City requires sensitive site design in all areas of Vineland. This section provides community design guidance for the following:

- Building design
- Off street parking and loading areas
- Streets and circulation

- Landscaping
- Conservation of trees and forests
- Delsea Drive corridor

BUILDING DESIGN

New buildings, and the alteration of buildings, should be designed giving substantial consideration to the context and relationship of the building to other buildings, neighboring uses, streets, parking, sidewalks, and public spaces. Particular consideration should be given to the location, orientation, and treatment of the public entrances to the building. Particular consideration should also be given to the quality and character of the façade of the building, particularly at ground or street level where the public has contact with the building either visually or through use or access.

Historic buildings and structures should be conserved and rehabilitated to respect the important historic features and landmark qualities.

All building facades facing streets or with exposure to public view should include elements of visual interest such as cornice lines, step-back lines, articulation of windows, articulation of entrances, cornices, and roof form.

Building facades within downtown areas should incorporate glass windows along the public sidewalk both for visual interest and police surveillance.

To provide visual interest, design consideration should be given to:

- Divisions or breaks in materials (reduce blank facades)
- Window bays

- Variation in roof lines
- Awnings
- Dormers, gables, recessed entries, cupolas
- Storefront character such as requiring corner building entrances on corner lots, large display windows on the ground floor to create additional window transparency

Mechanical equipment and service areas should be screened from public view either through architectural solutions, such as the roof form of the building to screen roof top mounted HVAC equipment, or landscape design

OFF-STREET PARKING AND LOADING AREAS

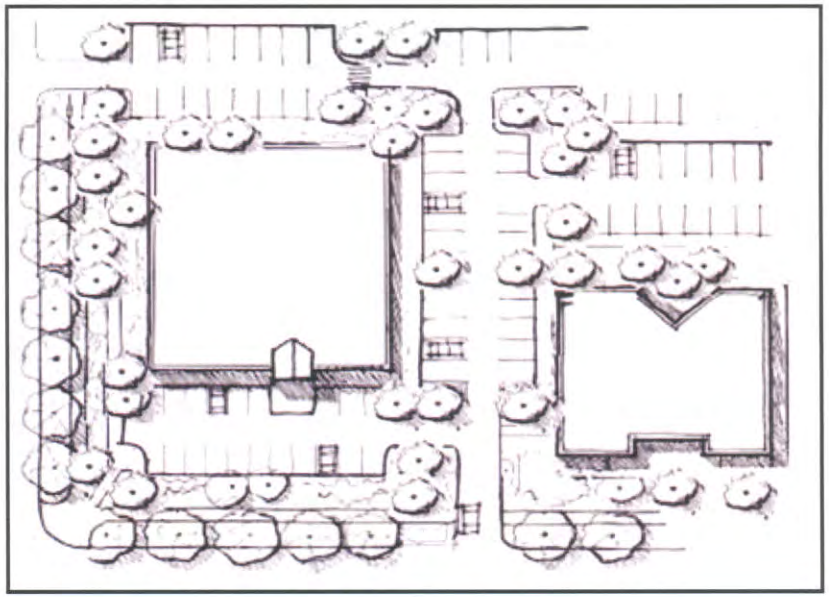
Off-street parking and loading areas are a necessary component for most development. Their location and appearance can determine the image of the development and the City.

Parking lots must be designed to serve the needs and the movements of pedestrians as well as the storage and circulation of vehicles. People must travel through the parking lot on foot and the design of the parking lot must meet the pedestrian's needs for convenience, safety, and visual comfort.

To establish a main street environment in the downtown, parking lots and loading areas should be located behind store fronts. Alternatively, off-street parking areas may be located on an adjacent block behind or near the main street, or in a satellite location in walking distance. Small parking lots between buildings may be appropriate if no alternative exists, but the design of the lot should continue the street wall by means of attractive fencing, masonry wall, or hedge. Structured parking should be placed in an unobtrusive location and may be combined with liner and/or aesthetically appropriate storefronts at the street level.

Parking lots need to be designed to make a positive contribution to the image of the area. This requires generous and well maintained landscaping with sizable trees and plant material and planting beds, decorative walls, raised walkways, changes in pavement material, and other attention to site details. Beyond the City's downtown, it is desirable to maintain the front yard of commercial, industrial, institutional, and residential areas as landscaped open space with the parking located to the side and rear of the building. Design of off-street parking areas should provide for the following:

- Buffering and screening at the perimeter of parking areas that includes ornamental walls, fencing and landscaping, including berms
- Internal landscape islands within the parking lot to provide shade, beautification, and reduction of the urban heat island effect
- Setbacks from the street to provide a landscaped greenbelt along the roadway
- Safe and convenient pedestrian routes through the parking lot leading to the building entrance(s)
- Surface materials and treatments appropriate to the different functions of the hardscape (asphalt, concrete, pavers, textured pavement)
- Different paving surfaces for pedestrian routes, such as pavers within the cross walks
- Prohibition of parking that requires vehicles to back out onto a public right-of-way
- Lighting for security and safety that includes decorative posts and fixtures
- Setbacks from all property lines, except where provisions are made for cross-access and shared parking
- Appropriate aisle widths based upon the angle of parking



- Multiple smaller parking areas rather than one large asphalt expanse
- Minimization of grading by designing to the topography
- Minimization of vehicular entrances and exits
- Stormwater management to reduce flooding and to maintain water quality
- Separation of truck routes from pedestrian routes and other vehicular routes
- Residential zones should maintain 75% of the front yard area as green, landscaped open space

Loading areas should be separated from parking areas and screened from public view. Loading areas should be designed so that trucks can circulate and maneuver off-street and do not back out onto a public right-of-way.

STREETS AND CIRCULATION

Street design within Vineland needs to provide for the safe and convenient circulation of pedestrians of all ages, as well as transit patrons, bicyclists, the disabled, and motor vehicles. At no time should one transportation mode, such as motor vehicles, dominate street design to the exclusion or impairment of the other modes of travel.

Street design should promote the development of a City wide network of sidewalks, paths, trails and bicycle lanes that provides attractive and safe routes of travel for cyclists and pedestrians. Such design should be applicable to all streets up to and including major thoroughfares, particularly those entering the historic downtown.

The City's street and circulation system should provide the following:

- Pedestrian friendly street design

- Traffic calming
- Street trees
- An interconnected and continuous system of sidewalks, bicycle routes, and trails linking the important activity areas of the City
- Appropriate levels of lighting
- Wayfinding systems with distinctive graphics to direct visitors and residents to the major activity areas of the City
- Appropriate and attractive street furnishings and amenities such as benches, transit shelters, bicycle racks, trash receptacles, tree boxes or planters, and kiosks.

LANDSCAPING

Landscaping is a major part of community design. Site plans and subdivision plans need to include well designed landscaping for nonresidential and residential projects. The benefits of a professionally installed and maintained landscape are economic as well as aesthetic and environmental. A well-designed landscape is inviting to customers and is generally accepted as producing higher rental fees and lower vacancy rates. The proper selection and placement of plant material can lower heating and cooling costs by as much as 20%.

Landscaping plans submitted for City approval should be prepared by a New Jersey certified landscape architect and be designed to achieve the following:

- Provide landscaping to screen parking areas, provide breaks from winter winds, and to provide summer cooling for buildings, streets, and parking.

- Provide landscaping to screen or create views, to define boundaries between public and private spaces, to mask noise, to articulate outdoor spaces, and to define circulation systems.
- Provide plant materials appropriate to the intended design function and to local soil conditions, water conservation, and the environment.
- Provide a varied palette of plant materials giving consideration to hardiness, susceptibility to disease, colors, seasonal interest, textures, shape, blossoms, and foliage.
- Provide native plant material and do not introduce invasive plant species.
- Consider the impact of growth of the plant materials on other elements of the development plan, such as sight distances.
- Accent site entrances with special landscaping treatment.
- Mass trees at critical points.
- Accent and complement buildings with foundation plantings and landscaping.
- Retain existing specimen trees, tree stands, and shrubs as part of the site design.

CONSERVATION OF TREES AND FORESTS

Trees and forests are important to the City's identity and its environmental health. Forests are an important part of the City's natural landscape and habitats. Forests help protect water and air quality and control flooding. They reduce stormwater runoff and erosion. They absorb carbon dioxide and release oxygen into the atmosphere. Forests reduce greenhouse gas emissions, especially carbon dioxide, and they help control global warming.

The clear cutting of forests and trees to prepare a development site has substantially adverse environmental impacts. To conserve forests and trees, the City design requirements for development should include the following:

- Submission of an inventory that identifies the existing trees and forest resources on a site.
- Requirements for the protection and retention of specimen trees or tree stands as part of a tree-save plan.
- Limitations on clear-cutting
- Requirements to ensure that some proportion of existing trees or wooded area are retained.
- Requirements for accommodating grade changes with retaining walls or tree wells to protect existing trees.
- Requirements for replacement planting, landscaping, or afforestation to mitigate the adverse impact of the development on the City's tree and forest resources.

DELSEA DRIVE CORRIDOR

Delsea Drive (State Highway 47) is the longest commercial corridor in Vineland. It is also a major regional highway. It runs for a distance of nearly nine miles from the northern boundary of the City with Franklin Township to its southern boundary with Millville. Approximately seven and a half miles of the corridor's length is developed or planned for commercial land use. Because the corridor is a well traveled State highway, development along the corridor is highly visible and the corridor is a defining feature of the City. There is a need to improve the corridor's visual environment and appearance in order to project a positive community image for Vineland.

The negative aspects of the corridor include a highway strip pattern of development with unattractive site design.

The City should work with the New Jersey Department of Transportation (NJDOT) to plan and implement improvements along the corridor that establish a positive visual image for the corridor and improve mobility for pedestrians, bicyclists, and transit users, as well as motorists. Improvements should include the following

- Better sign control to limit the size, placement, and spacing of site identification signs
- Implementation of a distinctive wayfinding system of graphics to direct visitors from the highway to the City's major activity areas
- Shared use of driveways and cross connections between sites that reduce vehicle movements onto the highway

Source: New Jersey State Development and Redevelopment Plan

- Improved pedestrian and bicycle access and circulation that includes pedestrian walkways, marked bike lanes and bike routes, bike racks, and ADA compliant connections between sites to facilitate pedestrian and bicycle circulation

- Shared parking arrangements to allow adjoining parcels to take advantage of different peak hours of parking demand

- Landscaping enhancements and shade trees along the highway frontage.

HOUSING

This section of the City Master Plan presents the Housing Plan Element and Fair Share Plan as adopted by the City of Vineland Planning Board on March 22, 2006

PURPOSE OF THE CITY HOUSING PLAN ELEMENT AND FAIR SHARE PLAN

The Master Plan Housing Plan Element and Fair Share Plan provides recommendations for the future development, rehabilitation, and improvement of housing in the City of Vineland. The City of Vineland has prepared this Master Plan Housing Element and Fair Share Plan in accordance with the requirements of the New Jersey Municipal Land Use Law and the State Fair Housing Act.

The Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq., requires that the City Master Plan include a Housing Plan Element in order for the municipality to exercise the power to zone and regulate land use. The Housing Plan Element and Fair Share Plan are adopted by the City Planning Board and endorsed by the City Council prior to the submission of a City petition to the New Jersey Council on Affordable Housing (COAH) for substantive certification of the Housing Element and Fair Share Plan pursuant to N.J.A.C. 5:95-3. The Housing Element and Fair Share Plan are drawn to achieve the goal of meeting the City obligation to provide for a fair share of the regional need for affordable housing for low and moderate income households.

This Housing Plan Element and Fair Share Plan addresses the planning requirements of the *Substantive Rules of the New Jersey Council on Affordable Housing for the Period Beginning on December 20, 2004 (N.J.A.C. 5:94 et seq.).* The City of Vineland has prepared this Housing Element and Fair Share Plan to achieve the goal of providing affordable housing to meet the City's total 1987-2014 affordable housing need. The City affordable housing need is comprised of the City's 1987-1999 affordable housing fair share (the first and second round fair share), an estimated growth share based upon the growth that is projected to occur in Vineland from 2004 to 2014 (the third round fair share), and a rehabilitation share of existing housing in substandard condition based on COAH estimates.

The Housing Plan Element and Fair Share Plan recommends that the City place a high priority on the rehabilitation and improvement of housing in the center of Vineland as part of the City's

redevelopment efforts. It further recommends that City housing policy encourage owner-occupied dwelling units and single family home ownership. The City should provide opportunities for mixed-use residential/commercial development and for the development of additional age-restricted housing at densities and in locations consistent with the recommendations of the Master Plan Land Use Plan Element.

The Housing Plan Element finds that eight per cent (8%) of the City housing stock is mobile homes and that Vineland has five per cent (5%) of all the mobile homes in the State of New Jersey. Statewide, one (1%) percent of the State's housing stock is mobile homes. Vineland has provided more than sufficient opportunities for mobile homes and addressed any need for mobile homes. The Housing Plan Element recommends that there be no further mobile home development in the City of Vineland.

BACKGROUND

The City of Vineland provides a wide variety of housing opportunities, including affordable housing. Although the predominant housing type in the City is the single family detached dwelling, the City housing stock is diverse. Based on the 2000 Census, Vineland has 5% of all the mobile homes in the State of New Jersey. The City, through the Vineland Housing Authority (VHA), has developed rental housing for families, the elderly, and the disabled. The VHA's nonprofit affiliate, the Vineland Housing Development Corporation (VHDC), develops units for sale that are affordable to low and moderate income households. The City, through its Community Development Program, offers programs to rehabilitate and improve existing housing and promote home ownership. Additional housing opportunities are provided in the City through private non-profit housing developers and through the Section 8 program.

Approximately 33.7% of the City's total occupied housing units are rental units. An estimated 43.7% of the City's households are low and moderate income.[1] In addition to single family detached dwellings, the City housing stock includes significant numbers of the following other types of dwelling units.

- Duplexes
- Multi-family dwellings
- Alternative living arrangements
- Housing for the disabled
- Age-restricted housing
- Assisted living
- Public housing
- Section 8 housing
- Mobile homes

[1] *Low and moderate income limits are set by COAH based upon household size. COAH adjusts the limits annually by region. Low income households make 50% or less of median household income for households of the same size. Moderate income households make more than 50% but less than 80% median household income for households of the same size. Vineland is in Housing Region 6, which consists of Atlantic, Cape May, Cumberland, and Salem counties.*

COAH Certification of Prior City Plans

COAH initially granted substantive certification to the Vineland Housing Element and Fair Share Plan on February 3, 1993 for the first round (1987 to 1993) of fair share housing. COAH certified the City's first round plan determining that Vineland was entitled to 246 prior cycle credits for the new construction of affordable housing from 1980 to 1986.

In order to maintain a current housing plan and COAH substantive certification, the City adopted a new housing plan on January 12, 2000.

COAH granted substantive certification to the Vineland Housing Element and Fair Share Plan on April 5, 2000. The plan addressed the City's second round (1987 - 1999) cumulative fair share obligation. Vineland qualified as an Urban Aid Municipality. Consequently, the City's 1987 to 1999 fair share obligation was limited to an indigenous need for the rehabilitation of 372 substandard lower income housing units. COAH accepted the City's documentation that Vineland had rehabilitated 331 dwelling units. In addition, COAH determined that the City could continue to take credit for all 246 new construction credits granted to Vineland's first round plan. In addition, COAH determined that Vineland had 17 group homes with a total of 60 bedrooms. In all, COAH determined that Vineland was entitled to credit for the 1987 to the 1999 period for the following 637 units of affordable housing:

Development	***Credits***
Luther Acres (Age-restricted)	100 units
Ester Olivio Towers (Age-restricted)	100 units
Single Family Homes	46 units
Group Homes	60 units
Rehabilitation Program	331 units
TOTAL	**637 units**

Vineland generated a surplus of 265 credits against its 1987 to 1999 fair share obligation of 372 lower income units (637-372 =265).

THE COAH THIRD ROUND RULE

The New Jersey Council on Affordable Housing (COAH) adopted substantive rules (N.J.A.C. 5:94 et seq.) that became effective on December 20, 2004. As a result of the rule adoption, the City must prepare a new housing plan to address the future housing obligation of the City to meet its fair share of the regional housing need. The rules govern the City obligation to plan and provide affordable housing for the third round period from 2004 to 2014. This substantive rule, also known as the third round rule, implements a "growth share" method to calculate the future obligation of the City based upon the actual City growth over a ten year period. The third round growth share methodology has three components. These are the rehabilitation share, which is a measure of old, overcrowded, deficient housing that is occupied by low and moderate income households; any remaining first and second round obligation for the period from 1987-1999; and the "growth share" for 2004 to 2014 which links the actual production of affordable housing with municipal development and growth. Consequently, the City has prepared this new Housing Element and Fair Share Plan. This plan

supersedes and replaces the City Housing Element and Fair Share Plan adopted in January 2000.

COAH calculates that the City rehabilitation share is two hundred fifty three (253) units. COAH identifies the remaining City first and second round new construction (1987 to 1999) obligation as zero (0) affordable units. The City projects that its growth share for new construction in 2004 to 2014 will be five hundred and twenty two (522) affordable dwelling units. COAH's rule permits the City to address its growth share with surplus credits from its prior Fair Share Plan.

This Housing Element and Fair Share Plan presents the required demographic, housing and employment data and the analysis that the City undertook to project the City 2004 to 2014 growth share obligation and the measures that the City will take to address its growth share.

MANDATORY CONTENTS OF THE HOUSING ELEMENT

The essential components of a housing element, as set forth in the State Fair Housing Act (N.J.S.A. 52:27D-310), are the following:

- *An inventory of the municipality's housing stock by age, condition, purchase or rental value, occupancy characteristics, and type, including the number of units affordable to low and moderate income households and substandard housing capable of being rehabilitated.*

- *A projection of the municipality's housing stock, including the probable future construction of low and moderate income housing, for the next eight years, taking into account, but not necessarily limited to, construction permits issued, approvals of applications for development and probable residential development of lands.*

- *An analysis of the municipality's demographic characteristics, including but not necessarily limited to, household size, income level, and age.*

- *An analysis of the existing and probable future employment characteristics of the municipality.*

- *A determination of the municipality's present and prospective fair share for low and moderate income housing and its capacity to accommodate its present and prospective* housing needs, *including its fair share for low and moderate income housing.*

- *A consideration of the lands that are most appropriate for construction of low and moderate income housing and of the existing structures most appropriate for conversion to, or rehabilitation for, low and moderate income housing, including a consideration of lands of developers who have expressed a commitment to provide low and moderate income housing.*

In addition, COAH regulations (N.J.A.C. 5:94-2.2(b)1-3) require the following:

- *A projection of the City's probable future construction of housing for ten years covering the period from January 1, 2004 through January 1, 2014.*

- *An analysis of the existing jobs and employment characteristics of the City, and a projection of the probable future jobs and employment characteristics of the City for ten years covering the period from January 1, 2004 through January 1, 2014.*

- *An analysis of how existing zoning or planned changes in zoning provide adequate capacity to accommodate the City's residential and non-residential growth projections.*

In adopting the housing element, the City may provide for its share of low and moderate income housing by means or any technique, or combination of techniques, that provide a realistic opportunity for the provision of its share.

Supporting Information and Data

The supporting information provided in this Housing Element, as required by N.J.A.C. 5:94-2.2, includes:

1. A projection of the City's probable future construction of housing for ten years covering the period January 1, 2004 through January 1, 2014 based upon the following information for residential development:

    i. Certificates of occupancy issued since January 1, 2004;
    ii. Construction and demolition permits issued and projected;
    iii. Approvals of applications for development; and
    iv. Historic trends, of, at least, the past ten years, which include demolitions and certificates of occupancy issued;

2. An analysis of the existing jobs and employment characteristics of Vineland, and a projection of the probable future jobs and employment characteristics of Vineland for ten years covering the period January 1, 2004 through January 1, 2014 based upon the following information for nonresidential development:

    i. Certificates of occupancy issued since January 1, 2004;
    ii. Construction and demolition permits issued and projected;
    iii. Approvals of applications for development including a breakdown of nonresidential projections by use group as outlined in Appendix E of N.J.S.A. 5:94.
    iv. Historic trends, of the past ten years, including demolitions and certificates of occupancy issued.

3. An analysis of the capacity of the City to accommodate residential and nonresidential growth projections consistent with the City growth projections.

4. Growth projections for 2015. The City Housing Element includes population, household and employment growth projections used to determine the City growth share obligation. Since the State Plan Projections for 2015 pursuant to N.J.A.C. 5:94-2.2(a)4 were not available when the City prepared this Housing Element, the City evaluated the most recent municipal population, household, and employment growth projections published by the City metropolitan planning organization (the South Jersey Transportation Planning Organization (SJTPO)). COAH requires consideration of the SJTPO projection as the minimum replacement for the State Planning Commission projections.

AN ANALYSIS OF DEMOGRAPHIC, HOUSING AND EMPLOYMENT CHARACTERISTICS

As required by N.J.S.A.52:27D-310, all housing elements must contain a discussion of the community's

demographic, housing, and economic characteristics. In fulfillment of this requirement, the following sections profile the City of Vineland with information obtained from the US Census Bureau, the South Jersey Transportation Planning Organization, and the New Jersey Department of Labor and Workforce Development.

Vineland's Demographics

The City of Vineland had a population of 56,271 residents at the time of the 2000 US Census. Though this figure represents a 2.7 percent increase over the 1990 US Census population figure of 54,780, it is important to note that when compared with that of Cumberland County, Vineland's population grew relatively slowly during the 1990s. However, in the years following 2000, the City's population growth accelerated. Table 1, as shown below, highlights the comparatively slow rate of growth experienced by the City of Vineland during the 1990s and the subsequent increase after 2000.

Table 1: Population Trends, 1990-2005

	1990	2000	2005	% Change 1990-2000	% Change 2000-2005
City of Vineland	54,780	56,271	58,588	2.7%	4.1%
Cumberland County	138,053	146,438	152,276	6.1%	4.0%

Source: US Census Bureau, South Jersey Transportation Planning Organization
Compiled by: T&M Associates

Vineland's growth rate for the past five years exceeds that of the prior decade. In addition, Vineland added 1,491 residents during the 1990s, but in the period from 2000 to 2005, an estimated 2,317 residents were added to the population. As a consequence, the City of Vineland has accounted for 39.7 percent of the population growth within Cumberland County from 2000 to 2005. This is a sharp contrast to the 1990s, when Vineland accounted for 17.8 percent of the County's population growth.

As indicated by the South Jersey Transportation Organization's (SJTPO) population projections for the City of Vineland and Cumberland County, the population for the City and the County at large will continue to grow, reaching 2025 populations of 70,176 and 181,481, respectively. It is also important to note that the SJTPO projects that Vineland's population will grow by 24.7 percent from 2000 to 2025, which is slightly more than the rate of 23.9 percent projected for the County during the same period.

According to the 2000 US Census, the City of Vineland's population is comprised of 19,930 households, with an average household size of 2.7 members. The median age of the City's population is 36.5 years, which is slightly older than that of Cumberland County (35.6 years), but less than that of the State of New Jersey (36.7 years). With regard to the percentage of population aged 65 years and over, Vineland has the highest percentage with 14.2 percent; the percentage of population aged 65 years and over in Cumberland County and the State of New Jersey is 13 percent and 13.2 percent, respectively. In addition, the median household income of Vineland's households is $40,076, which is significantly less than the respective figure for the State, but more than that of the County. These indicators are exhibited in Table 2:

Table 2: Demographic Indicators, 2000

	Number of Households	Average Household	Median Age	% of Population	Median Household

		Size		≥ 65 years	Income
City of Vineland	19,930	2.70	36.5	14.2%	$40,076
Cumberland County	49,143	2.73	35.6	13.0%	$39,150
New Jersey	3,064,645	2.68	36.7	13.2%	$55,146

Source: US Census Bureau
Compiled by: T&M Associates

As previously shown, 14.2 percent of Vineland's 2000 population was aged 65 years and over. More detailed information regarding the distribution of Vineland's population among different age cohorts is presented in Table 3:

Table 3: Population by Age, 2000

	Number	% of Total
Under 5 Years	3,477	6.2%
5 to 9 Years	4,203	7.5%
10 to 14 Years	4,274	7.6%
15 to 19 Years	3,964	7.0%
20 to 24 Years	3,194	5.7%
25 to 34 Years	7,664	13.6%
35 to 44 Years	8,654	15.4%
45 to 54 Years	7,747	13.8%
55 to 59 Years	2,849	5.1%
60 to 64 Years	2,269	4.0%
65 Years and Older	7,976	14.1%

Source: US Census Bureau
Compiled by: T&M Associates

Vineland's Housing Stock

The housing stock characteristics in the City of Vineland include the number and type of housing units, occupancy/household characteristics, age (the year the structure was built), condition of units, purchase or rental value of units, units affordable to low and moderate income households, and rate of construction. Table 4, located on the next page, lists these characteristics:

Table 4: Housing Characteristics, 2000

	Number	% of Total
I. Housing Units		
Number of units	20,958	100.0%
Occupied Housing Units	19,930	91.0%
Number of units (1990)	18,732	100.0%
Vacant Housing Units	1,028	9.0%
II. Occupancy/Household Characteristics		
Number of Households	19,930	100.0%
Persons Per Household	2.70	N/A
Family Households	14,201	71.3%
Non-Family Households	5,729	28.7%
Householders 65 and over	2,225	11.2%
III. Year Structure Built		
1999 to March 2000	289	1.4%
1995 to 1998	1,088	5.2%
1990 to 1994	1,003	4.8%
1980 to 1989	2,116	10.1%
1970 to 1979	3,986	19.0%
1960 to 1969	3,909	18.7%
1940 to 1959	5,258	25.1%
1939 or earlier	3,309	15.8%
IV. Condition of Units		
Lacking complete plumbing facilities	132	0.7%
Lacking complete kitchen facilities	79	0.4%
V. Home Value (Owner Occupied Units)		
$300,000 and up	109	1.0%
$200,000 - $299,999	344	3.1%
$150,000 - $199,000	1,007	9.1%
$100,000 - $149,000	3,578	32.3%
$50,000 - $99,999	5,823	52.6%
$0 - $50,000	208	1.9%
Median Value	$97,200	N/A
VI. Rental Value (Renter Occupied Units)		
$1,000 and up	369	5.6%
$750 - $999	1,420	21.3%
$500 - $749	2,872	43.1%
$200 - $499	1,229	18.5%
Less than $200	626	9.4%
No cash rent	146	2.2%
Median Rent	$638	N/A

Source: US Census Bureau
Compiled by: T&M Associates

Vineland had a total of 20,958 housing units according to the 2000 US Census. This was an increase of 2,226 units since the 1990 US Census, which reported a total of 18,732 units. Of the total dwellings, 1,028 units were listed as vacant in 2000. In addition, 66.3 percent of the housing units in the City of Vineland were owner occupied. With respect to rental housing, 33.7 percent of the City's housing units were renter occupied.

According to the 2000 US Census, Vineland had a total of 19,930 households. Of this total, 96 were listed as seasonal, recreational or occasional use households. Of the total number of households 14,201 were family households (71.3 percent) and 5,729 (28.7 percent) were non-family households. A non-family household consists of a householder living alone or where the householder shares the home exclusively with people to whom he or she is not related. Householders 65 years of age or older accounted for 2,225 (11.2 percent) of the households in Vineland.

Approximately 15.8 percent, or 3,309, of the 20,958 housing units in existence in March 2000, were built prior to 1939. Between 1940 and 1959, a total of 5,258 units were constructed which accounts for 25.1 percent of the current housing stock. Between 1960 and 1969, 3,909 housing units or 18.7 percent of the housing stock was constructed. A total of 3,986 (19.0 percent) housing units were constructed between 1970 and 1979, and between 1980 and 1989, 2,116 (10.1 percent) housing units were constructed. Between 1990 and March 2000, 2,380 or 11.4 percent of the City's housing units were constructed.

Approximately 132 dwellings, or about 0.7 percent, lack complete plumbing facilities, and 6.6 percent of the owner- and renter-occupied units reported overcrowded conditions (1.01 persons or more per room). Additionally, the US Census indicates that 79 units lack complete kitchen facilities.

The 2000 median value of the owner occupied housing units in Vineland was $97,200. Of this total, 208 units or 1.9 percent had a value less than $50,000, 5,823 or 52.6 percent had a value between $50,000 and $99,000, 3,578 units or 32.3 percent had a value between $100,000 and $149,000, 1,007 or 9.1 percent had a value between $150,000 and $199,000, 344 or 3.1 percent had a value between $200,000 and $299,999 and 109 or 1.0 percent had a value of $300,000 or greater.

The 2000 median gross monthly rent was $638 for rental housing units in the City of Vineland. Of the 6,662 renter occupied units reporting monthly rental rates, 146 units or 2.2 percent had a no cash rent, 626 had a monthly rate less than $200, 1,229 had a monthly rate between $200 and $499, 2,872 units had a monthly rental rate between $500 and $749, 1,420 units had a monthly rental rate of $750 - $999 and 369 units had a monthly rental rate of $1,000 or more.

The City housing stock is varied (Table 5). Although, the predominant type of dwelling unit in Vineland is the single family detached dwelling unit, two family structures, multifamily structures, and mobile homes are significant components of the City housing stock. Single family detached dwellings account for 63% of the dwelling units in the City and are the predominant dwelling type in most of the block groups in the City recorded in the 2000 Census. Eight (8) percent of the City's dwelling units are mobile homes. The mobile homes in Vineland account for nearly five (5) percent of the State's total mobile homes. Structures containing two dwelling units constitute 7.7% of the City housing stock. Multi-family structures containing three or more dwellings are a significant component of the City housing stock and account for 18.5% of Vineland's housing units. Concentrations of multifamily housing are found in the Census block groups south of Wheat Road and north of Sherman Avenue between Delsea Drive and Lincoln Avenue.

Table 5: Units in Structure, 2000

	Number		% of Total	
	Vineland	NJ	Vineland	NJ
Units in Structure				
1-unit, detached	13,205	1,794,967	63.0	54.2
1-unit, attached	613	285,268	2.9	8.6
2 units	1,608	331,393	7.7	10.0
3 or 4 units	880	223,580	4.2	6.8
5 to 9 units	767	160,249	3.7	4.8
10 to 19 units	653	161,666	3.1	4.9
20 or more units	1,563	318,765	7.5	9.6
Mobile home	1,669	33,600	8.0	1.0
Boat, RV, van, etc.	0	787	0.0	0.0

Source: US Census Bureau
Compiled by: T&M Associates

With respect to affordability, 73.2 percent of the selected monthly owner costs, as shown in Table 6, are less than 30 percent of the 1999 household income. In addition, 50.6 percent of all renters spent less than 30 percent of their household income on their housing. The general criterion for housing affordability is that no more than 30 percent of the gross income should be consumed by housing costs.

Table 6: Housing Affordability as a Percentage of 1999 Household Income

	Number	% of Total
Selected Monthly Owner Costs		
< 15%	3,506	31.7%
15% to 19%	1,843	16.7%
20% to 24%	1,579	14.3%
25% to 29%	1,161	10.5%
30% or more	2,892	26.1%
Gross Rent		
< 15%	814	12.2%
15% to 19%	838	12.6%
20% to 24%	766	11.5%
25% to 29%	954	14.3%
30% or more	2,965	44.5%

Source: US Census Bureau
Compiled by: T&M Associates

Vineland's Employment Characteristics

At the time of the 2000 US Census, 27,601, or 63.5 percent, of Vineland's population aged 16 years old and over was engaged in the labor force. Table 7 describes the varied activities of this segment of the population.

Table 7: Occupation of Employed Civilian Population Aged 16 and Over, 2000

	Number	% of Total
Management, Professional, and Related	6,467	26.3%
Service	4,437	18.0%
Sales and Office	6,045	24.5%
Farming, Fishing, and Forestry	488	2.0%
Construction, Extraction and Maintenance	2,378	9.7%
Production, Transportation and Material Moving	4,818	19.6%

Source: US Census Bureau
Compiled by: T&M Associates

The two largest occupational groups within the civilian labor force in 2000 were Management, Professional, and Related Occupations, and Sales and Office Occupations. With regard to the income earned by Vineland's households for activity in these and other occupational groups, Table 8 provides the following information:

Table 8: Household Income, 1999

	Number	% of Total
Less than $10,000	1,896	9.5%
$10,000 to $14,999	1,482	7.5%
$15,000 to $24,999	2,636	13.3%
$25,000 to $34,999	2,663	13.4%
$35,000 to $49,999	3,236	16.3%
$50,000 to $74,999	4,211	21.2%
$75,000 to $99,999	1,812	9.1%
$100,000 to $149,999	1,359	6.8%
$150,000 to $199,999	231	1.2%
$200,000 or More	350	1.8%
Median Household Income (Dollars)	$40,076	N/A

Source: US Census Bureau
Compiled by: T&M Associates

Per Capita Income within the City in 2000 was $18,797 while the median household income was $40,076. A total of 6,014 households reported income of less than $25,000, or 30.3 percent of the households. A total of 2,663 households reported income between $25,000 and $34,999 or 13.4 percent of the households. A total of 3,236 households reported income between $35,000 and $49,999 or 16.3 percent. A total of 4,211 reported income between $50,000 and $74,999 or 21.2 percent. A total of 1,812 households reported income of $75,000 - $99,999 and 1,940 households reported income of $100,000 or more.

The median household income and the per capita income of the municipal population were less than the median and the per capita income at the State level. With respect to per capita income, Vineland is in the lower quarter of the State's municipalities and ranks 501 out of 566 municipalities (Source: New Jersey

Department of Labor and Workforce Development). In addition, Table 8 indicates that a minimum of 43.7 percent of Vineland's households have a low or moderate income and earn less than $35,971, which is COAH's 2000 moderate income limit for households of three (3) people in Cumberland County.

With regard to growth in employment in Vineland, the South Jersey Transportation Planning Organization has published employment projections. According to the SJTPO projections, there will be 38,411 jobs in Vineland in 2015, a 15.2 percent increase over the number of jobs projected for the year 2005. These projections will be employed later in this report for the calculation of Vineland's non-residential growth share obligation, which is explained below.

Vineland's Affordable Housing Stock

Vineland has a large inventory of affordable housing produced by public and by non-profit agencies through State and Federal housing programs. The affordable units include family rental housing, family sale units, age restricted rental housing, assisted living facilities, and group homes.

The New Jersey Department of Community Affairs (DCA) has identified 1,699 affordable dwelling units in Vineland produced through public and non-profit programs. The DCA inventory is reproduced as Table 9.

Table 9

CITY OF VINELAND – AFFORDABLE HOUSING

Development	Street Address	Housing Type	Tenure	Units	Agent	Program
1070 Peach St.	1070 Peach St.	Family	Rent	1	Vineland Housing Development Corp.	MtL
1179 W. Park Ave.	1179 W. Park Ave.	Family	Rent	1	Vineland Housing Development Corp.	MtL
22 Avon Pl.	22 Avon Pl.	Family	Sale	1		MtL
26 Avon Pl.	26 Avon Pl.	Family	Sale	1		MtL
527 Montrose St.	527 Montrose St.	Family	Sale	1	Vineland Housing Development Corp.	MtL
529 Pear St.	529 Pear St.	Special Hsg	Sale	1	Vineland Housing Development Corp	MtL
53 Luciano Ave.	53 Luciano Ave.	Special Hsg	Sale	1	Vineland Housing Development Corp	MtL
535 Pear St.	535 Pear St.	Special Hsg	Sale	1	Vineland Housing Development Corp	MtL
65 Luciano Ave.	65 Luciano Ave.	Special Hsg	Sale	1		MtL
Antro Builders/ Almond & Mill Project		Family	Sale	3		MtL
Axtell Estates (Asselta Acres)	334 Axtell Ave.	Family	Rent	50	Vineland Housing Authority	Public Housing
Baywood Group Home	Intentional Blank	Disabled	Rent	4		MtL
Becker Group Home	Intentional Blank	Disabled	Rent	4		MtL
Brookfield Group Home	Intentional Blank	Disabled	Rent	4		MtL
David Group Home	Intentional Blank	Disabled	Rent	3		MtL
D'Shibe Group Home	Intentional Blank	Disabled	Rent	4		MtL

Table 9 - Continued						
CITY OF VINELAND – AFFORDABLE HOUSING						
Development	**Street Address**	**Housing Type**	**Tenure**	**Units**	**Agent**	**Program**
E&R Homes/Rainbow La. & N. East Ave.	Rainbow Ln.	Family	Sale	20		MtL
E. Vineland Group Home	Intentional Blank	Disabled	Rent	3		MtL
Farm Workers	527 Almond St.	Special Hsg	Rent	24	East Almond Estates	Farm Hone
Florence Park Apts.	Florence Ave.	Sr./Disabled	Rent	130	Florence Park Apts.	Section 221
Garrison Group Home	Intentional Blank	Disabled	Rent	3		MtL
Genesis	Scattered Sites	Family	Sale	7	Housing Affordability Service	UHORP
Genoa Group Home	Intentional Blank	Disabled	Rent	3		MtL
Green Valley				9		MtL/UHORP
Habitat for Humanity Program		Family	Sale	2		MtL
Health Care Properties Assisted Living	Intentional Blank	Senior	Rent	0		MtL
Kidston Towers	1040 E. Landis Ave.	Sr./Disabled	Rent	103	Vineland Housing Authority	Public Housing
Linda Lane Group Home	Intentional Blank	Disabled	Rent	4		MtL
Luther Acres Senior Housing	560 Sarah Pl.	Sr./Disabled	Rent	99	Luther Acres	Section 202/tax credit/Bal Hsg/MtL

Table 9 - Continued

Development	Street Address	Housing Type	Tenure	Units	Agent	Program
Maple Group Home	Intentional Blank	Disabled	Rent	4		MtL
New Horizons Scattered Housing	Scattered Sites	Family	Sale	12		Bal Hsg/MtL
New Pear Group Home	Intentional Blank	Disabled	Rent	3		MtL
Olivio Towers	1044 E. Landis Ave.	Senior	Rent	100	Vineland Housing Authority	Public Housing/MtL
Parent & Friends of Vineland Development	Intentional Blank	Family	Rent	24	Vineland Development Center	MtL
Park Group Home	Intentional Blank	Disabled	Rent	3		MtL
Parkview	420 N. 6th St.	Family	Rent	25		Public Housing
Parvin's Branch Townhouses & Apts.	110 Cohansey*	Family	Rent	24	Parvin's Branch Apts.	Tax credit/MtL
Rae Group Home	Intentional Blank	Disabled	Rent	4		MtL
Regency Village Apts.	752 S. East Ave.	Family	Rent	104	Regency Village Apts.	Section 207 & 223
Respite Group Home	Intentional Blank	Disabled	Rent	3		MtL
Rosalie Group Home	Intentional Blank	Disabled	Rent	3		MtL
Scattered Site Vineland	Scattered Sites	Family	Rent	24	Vineland Housing Authority	Public Housing
Scattered Site Vineland	Scattered Sites	Family	Rent	23	Vineland Housing Authority	Public Housing

* Editor's Note: Cohansey Street is the address of the developer. Parvins Branch Townhouses are located on East Walnut Street in Vineland.

Table 9 - Continued

Development	Street Address	Housing Type	Tenure	Units	Agent	Program
Scattered Site Vineland	Scattered Sites	Family	Rent	25	Vineland Housing Authority	Public Housing
Southwood Group Home	Intentional Blank	Disabled	Rent	3		MtL
Spring Gardens Senior Housing	1781 S. Spring Rd.	Sr./Disabled	Rent	125	Spring Gardens Senior Housing	Section 202/Bal Hsg/MtL
Spring Oak Assisted Living	1611 South Main Rd.	Senior	Rent	95	Spring Oak Assisted Living	HMFA[1]
Strathmore Group Home	Intentional Blank	Disabled	Rent	3		MtL
Tarklin Acres	191 Chestnut Ave.	Sr./Disabled	Rent	150	Vineland Housing Authority	Public Housing
Tarklin Park Apts.	364 Axtell Ave.	Family	Rent	48	Tarklin Park Apts.	Section 236
TCCAA/VHA Joint Venture (HUD)		Family	Sale	2		MtL
Victoria MIA	Rosewood & Mt. Vernon Ave.		Sale	11	Housing Affordability Service	Bal Hsg
Vineland Gardens	775 S. 6th St.	Family	Rent	75	Vineland Gardens Apts.	Section 221
Vineland Home Ownership (NJ Rural Hsg)		Family	Sale	5		MtL

[1] City tax records identify a HUD PILOT for 38 efficiencies at an affordability range of 60%.

Table 9 - Continued

Development	Street Address	Housing Type	Tenure	Units	Agent	Program
Vineland Housing Authority	191 W. Chestnut Ave.				Vineland Housing Authority	Public Housing
Vineland Housing Authority – for sale		Family	Sale	48		MtL
Vineland Housing Authority – turnkey		Family	Rent	47	Vineland Housing Authority	Bal Hsg/MtL
Walnut Manor Apts.	794 E. Walnut Rd.	Family	Rent	100	Walnut Manor Apts.	Section 221
Walnut Villas Apts.	1027 E. Florence Ave.	Family	Rent	100	Walnut Villas Apts.	Section 236 & 8
W. Haven (D'Orazio Terrace)	84 S. West Ave.	Sr./Disabled	Rent	100	Vineland Housing Authority	Public Housing

Compiled by T&M Associates
Source: New Jersey Department of Community Affairs, Guide to Affordable Housing 2004
www.nj.gov/dca/codes/affdhsgguide/pdf/cumberland

GROWTH SHARE PROJECTION

COAH's Third Round Substantive Rules introduce the concept of a growth share projection. As explained in N.J.A.C. 5:94-1.1.d, growth share is generated by statewide residential and non-residential growth during the period from 1999 through 2013, and delivered from January 1, 2004 to January 1, 2014. Consequently, for every eight (8) market-rate residential units constructed, the municipality is obligated to provide for one (1) unit that is affordable to low and moderate income households. In addition, every 25 jobs created within the municipality necessitates the provision of one (1) additional unit of low to moderate income housing.

The following pages detail the calculation of Vineland's growth share.

Growth Share Projection: Detail

In order to project the City's Growth Share Projection, the required historical data on the numbers of residential and nonresidential certificates of occupancy and demolition permits issued within the City during the last decade were obtained from the Department of Community Affairs, Division of Codes and Standards. The following tables display the historical data[3].

Table GS 1: Residential Certificates/Permits Issued (Number)

	1996	1997	1998	1999	2000	2001	2002	2003	2004
COs	103	292	116	137	191	191	188	247	225
DEMs	18	20	25	20	36	24	23	20	17

Source: DCA, Division of Codes and Standards

[3] Detailed information for the year 2005 is included below in Tables GS 3 and GS 4.

Table GS 2: Non-residential Certificates/Permits Issued (Sq. Ft., by Use Group)[4]

	1996	1997	1998	1999	2000	2001	2002	2003	2004
Group B									
COs	28,609	22,923	23,199	35,120	23,667	13,567	43,035	34,056	28,725
DEMs	3	7	3	2	2	4	6	5	21,000
Group M									
COs	130,765	216,145	166,337	24,438	40,185	27,537	9,816	0	2,392
DEMs	0	2	2	2	4	0	2	3	0
Group F									
COs	41,311	3,495	51,587	16,000	168,427	152,756	0	0	0
DEMs	0	0	0	0	0	1	0	0	0
Group S									
COs	30,470	29,259	26,785	116,846	81,651	23,432	24,477	13,194	103,030
DEMs	1	2	3	5	6	3	4	2	0
Group H									
COs	0	0	0	0	0	0	0	0	0
DEMs	0	0	0	0	0	0	0	0	0
Group A1									
COs	0	0	49,120	0	0	2,430	0	0	0
DEMs	0	0	0	0	0	0	0	0	0
Group A2-A4									
COs	1,749	27,094	10,244	9,495	8,466	76,818	6,225	3,600	9,386
DEMs	0	0	3	0	2	1	0	1	10,000
Group E									
COs	0	0	14,062	46,548	16,498	0	8,869	15,140	0
DEMs	0	0	0	0	0	1	1	0	0
Group I									
COs	0	0	0	2,095	58,204	1,894	1,188	39,287	39,071
DEMs	0	1	0	0	0	0	1	0	0
Group R1									
COs	0	95,467	218	18,029	0	0	1,540	3,774	0
DEMs	1	0	1	0	0	1	2	0	0

Source: DCA, Division of Codes and Standards

[4] The square footages of 2004 non-residential demolitions were unavailable from the DCA or the City's Department of Licenses and Inspections. However, the DCA's Division of Codes and Standards was able to provide use group, block, and lot information for these demolitions, which allowed for the interpretation of aerial photographs to arrive at an estimate of the demolished area. This procedure has not been replicated for 1995-2003 due to the fact that these years do not impact the growth share projection.

In addition, the calculation of the Growth Share Projection requires an estimate of the residential and In In addition, the calculation of the Growth Share Projection requires an estimate of the residential and nonresidential development that is anticipated to occur within the City from 2005 through 2013[5]. This information for both residential and non-residential development is provided in Tables GS 3 and GS 4, respectively.

Table GS 3: Anticipated Residential Development (Number)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Approved Applications										
Deleonardo	0	4	0	0	0	0	0	0	0	4
Woodcrest Fields	0	10	11	0	0	0	0	0	0	21
Chestnut Crossing	0	10	10	0	0	0	0	0	0	20
Twin Oaks	0	10	11	0	0	0	0	0	0	21
Foxmoor	0	15	15	13	0	0	0	0	0	43
Vineland Housing Develop. Corp.	0	10	7	0	0	0	0	0	0	17
Louis' Court	0	12	12	0	0	0	0	0	0	24
Del Mar Estates	0	17	17	17	17	12	0	0	0	80
Almond Crossing	0	12	12	0	0	0	0	0	0	24
Foxmoor 2	0	15	0	0	0	0	0	0	0	15
Cuculino Estates/OCA	0	8	0	0	0	0	0	0	0	8
Landis Pointe Estates	0	20	20	20	20	20	14	0	0	114
Menantico Estates	0	25	25	25	25	25	25	25	23	198
Walnut Estates	0	6	0	0	0	0	0	0	0	6
Brewster Meadows	1	6	0	0	0	0	0	0	0	7
NJ Land Devel.	2	10	13	0	0	0	0	0	0	25
Nylund	2	4	6	0	0	0	0	0	0	12
Oak Ridge at Vineland	10	20	20	20	20	0	0	0	0	90
Maple Run	0	7	0	0	0	0	0	0	0	7
Hunter's Glen	5	17	17	0	0	0	0	0	0	39
Redcrest Fields	2	8	0	0	0	0	0	0	0	10
Spring Hollow Phase 2	5	26	26	26	0	0	0	0	0	83
Gracie's Way	4	2	0	0	0	0	0	0	0	6
Brendale	10	15	10	0	0	0	0	0	0	35
Madison Square	5	7	10	0	0	0	0	0	0	22
COs reflected in DCA information from 01/05 through 10/05	182	0	0	0	0	0	0	0	0	182
Pending Applications										
Addison Bradley	0	0	23	23	0	0	0	0	0	46
Bella Rosa II	0	13	13	0	0	0	0	0	0	26
B&S Partners	0	0	0	0	40	40	40	41	0	161
Rockefeller Estates	0	0	19	19	0	0	0	0	0	38

Continued on next page.

[5] Please note that information for the year 2005 is included in Tables GS 3 and GS 4, due to the fact that the City of Vineland began the preparation of its housing plan in 2005. In addition, including information from the year 2005 in these tables has the added benefit of increased detail and description.

Table GS 3: Anticipated Residential Development (Number) (CONTINUED)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Anticipated Applications										
Vineland Housing Develop. Corp. (Age Restricted)	0	0	0	0	75	0	0	0	0	75
Elwyn (Training School) Site (4 units per acre, 154.7 acres)	0	0	0	0	124	124	124	124	123	619
Miscellaneous and Infill	0	0	0	65	65	130	130	130	130	650
Total COs	228	309	297	228	386	351	333	320	276	2,728
Demolitions										
Demolitions reflected in DCA info from 01/05 through 07/05	91	0	0	0	0	0	0	0	0	91
Anticipated Demolitions[6]	0	21	21	21	21	21	21	21	21	168
Net Development	137	288	276	207	365	330	312	299	255	2,469

Source: City of Vineland, T&M, and DCA, Division of Codes and Standards

Table GS 4: Anticipated Non-residential Development (Sq. Ft.)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Use Group B										
S. NJ Med. Realty, LLC (2)	7,913	25,837	0	0	0	0	0	0	0	33,750
S. NJ Reg. Med. Center	39,000	39,000	0	0	0	0	0	0	0	78,000
1051 Realty Co., LLC (2)	14,679	14,678	14,678	0	0	0	0	0	0	44,035
S. NJ Med Realty, LLC	15,000	15,000	15,000	0	0	0	0	0	0	45,000
Madison Square II	0	0	13,800	0	0	0	0	0	0	13,800
Bennigan's / Roth 55	0	17,920	0	0	0	0	0	0	0	17,920
V'land Const. / Sun Bank	10,715	0	0	0	0	0	0	0	0	10,715
S. NJ Health Center	0	11,000	11,000	11,000	11,000	0	0	0	0	44,000
Century Savings Bank	0	13,570	0	0	0	0	0	0	0	13,570
Lucca Freezer & Storage	2,434	0	0	0	0	0	0	0	0	2,434
1103 Realty Co. LLC	0	0	0	10,000	10,000	0	0	0	0	20,000
Murray (Byers) Phase 1	0	0	0	11,287	11,287	0	0	0	0	22,574
Prof. Office Complex (2)	0	0	9,410	9,410	9,410	0	0	0	0	28,230
Walters	0	0	10,000	10,000	10,000	0	0	0	0	30,000
Davy Cold Storage, LLC	0	6,240	0	0	0	0	0	0	0	6,240
Eye Associates	2,048	0	0	0	0	0	0	0	0	2,048
Miscellaneous and Infill	0	0	10,000	15,000	15,000	25,000	25,000	25,000	25,000	140,000
Net Use Group B	**91,789**	**143,245**	**83,888**	**66,697**	**66,697**	**25,000**	**25,000**	**25,000**	**25,000**	**552,316**
Use Group I										

[6] The number of anticipated demolitions is the average of 1996 to 1999 and 2001 to 2004 demolitions; 2000 was not included due to the unusually high number of demolitions that occurred in that year

S. NJ Reg. Med. Center	0	130,652	130,652	130,651	0	0	0	0	0	391,955
Net Use Group I	**0**	**130,652**	**130,652**	**130,651**	**0**	**0**	**0**	**0**	**0**	**391,955**

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Table GS 4: Anticipated Non-residential Development (Sq. Ft.) (CONTINUED)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Use Group E										
Tiny Tots Preschool	2,787	0	0	0	0	0	0	0	0	2,787
Reflected in DCA information from 01/05 through 10/05	2,128	0	0	0	0	0	0	0	0	2,128
Vineland Public Schools (New Elementary School)	0	74,000	0	0	0	0	0	0	0	74,000
Vineland Public Schools (New Middle School)	0	128,000	0	0	0	0	0	0	0	128,000
Vineland Public Schools (Center City School)	0	0	0	130,000	0	0	0	0	0	130,000
Vineland Public Schools (Middle School #2; South Lincoln)	0	0	0	0	100,000	0	0	0	0	100,000
Vineland Public Schools (Addition to Memorial School)	0	15,000	0	0	0	0	0	0	0	15,000
Vineland Public Schools (High School)	0	0	0	0	0	0	0	170,000	0	170,000
Vineland Public Schools (Center City High School; Adult Ed. Portion)	0	0	0	0	40,000	0	0	0	0	40,000
Net Use Group E	**4,915**	**217,000**	**0**	**130,000**	**140,000**	**0**	**0**	**170,000**	**0**	**661,915**
Use Group M										
Best Buy	30,540	0	0	0	0	0	0	0	0	30,540
Dollar General	9,100	0	0	0	0	0	0	0	0	9,100
Wal-mart	0	231,485	0	0	0	0	0	0	0	231,485
Tractor Supply Company	0	22,680	0	0	0	0	0	0	0	22,680
Reflected in DCA information from 01/05 through 10/05	422	0	0	0	0	0	0	0	0	422
Miscellaneous and Infill	0	0	80,000	80,000	80,000	80,000	80,000	80,000	80,000	560,000
Demolitions (DCA info)	9,100	0	0	0	0	0	0	0	0	9,100
Net Use Group M	**30,962**	**254,165**	**80,000**	**80,000**	**80,000**	**80,000**	**80,000**	**80,000**	**80,000**	**845,127**
Use Group F										
General Mills Cereals	2,152	0	0	0	0	0	0	0	0	2,152
Pastridor USA Phase 1	45,453	45,453	45,454	45,454	45,454	45,454	0	0	0	272,722
Boulevard Business Center	30,000	30,000	30,000	0	0	0	0	0	0	90,000
BDGS, Inc.	32,400	32,400	32,400	32,400	32,400	0	0	0	0	162,000
V'land Electric and Power	8,450	0	0	0	0	0	0	0	0	8,450
Friedrich & Dimmock, Inc.	8,320	0	0	0	0	0	0	0	0	8,320

Glendale Press, LLC	7,500	0	0	0	0	0	0	0	0	7,500
Commercial Trailer Service	0	8,000	0	0	0	0	0	0	0	8,000

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Table GS 4: Anticipated Non-residential Development (Sq. Ft.) (CONTINUED)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Reflected in DCA information from 01/05 through 10/05	13,212	0	0	0	0	0	0	0	0	13,212
Miscellaneous and Infill	0	0	0	0	0	25,000	30,000	30,000	30,000	115,000
Net Use Group F	**147,487**	**115,853**	**107,854**	**77,854**	**77,854**	**70,454**	**30,000**	**30,000**	**30,000**	**687,356**
Use Group S										
V'land Coop. Produce Auction	2,400	0	0	0	0	0	0	0	0	2,400
V'land Syrup, Inc.	4,000	0	0	0	0	0	0	0	0	4,000
Philcorr V'land, LLC	0	44,100	0	0	0	0	0	0	0	44,100
Berman	0	49,450	0	0	0	0	0	0	0	49,450
Garden State Bulb / Longfield	0	23,600	0	0	0	0	0	0	0	23,600
Route 55 Self Storage	0	0	44,500	0	0	0	0	0	0	44,500
Modern Const. Co.	4,642	0	0	0	0	0	0	0	0	4,642
Lucca Freezer & Storage	0	0	47,300	0	0	0	0	0	0	47,300
Reflected in DCA information from 01/05 through 10/05	9,768	0	0	0	0	0	0	0	0	9,768
1st Choice Freezers	0	0	25,952	0	0	0	0	0	0	25,952
Davy Cold Storage, LLC	0	0	49,980	0	0	0	0	0	0	49,980
Demolitions (DCA info)	2,530	0	0	0	0	0	0	0	0	2,530
Net Use Group S	**18,280**	**117,150**	**167,732**	**0**	**0**	**0**	**0**	**0**	**0**	**303,162**
Use Group A2 to A4										
Dante Carlo Hospitality Corp.	1,968	0	0	0	0	0	0	0	0	1,968
Bennigan's / Roth 55	0	10,840	0	0	0	0	0	0	0	10,840
Dunkin Donuts	2,013	0	0	0	0	0	0	0	0	2,013
Bassetti & Isihos (Emerald)	0	5,181	0	0	0	0	0	0	0	5,181
Southern Radical Skate Park	0	0	11,296	11,296	11,295	0	0	0	0	33,887
Reflected in DCA information from 01/05 through 10/05	49,808	0	0	0	0	0	0	0	0	49,808
Net Use Group A2 to A4	**53,789**	**16,021**	**11,296**	**11,296**	**11,295**	**0**	**0**	**0**	**0**	**103,697**
Use Group R1										
V'land Gardens (Resource)	1,800	0	0	0	0	0	0	0	0	1,800
Walnut Manor (Resource)	1,800	0	0	0	0	0	0	0	0	1,800
Reflected in DCA information from 01/05 through 07/05	16,020	0	0	0	0	0	0	0	0	16,020

Net Use Group R1	19,620	0	0	0	0	0	0	0	0	19,620

Source: City of Vineland, T&M, and DCA, Division of Codes and Standards

To project the City's growth share, the historical data from 2004 is paired with the information on anticipated development for the period from 2005 through 2013 that is shown above. For residential development, the sum of all development is divided by nine (9) to reach a Growth Share Obligation. For nonresidential development, the total net square footage is converted to jobs by means of multipliers developed by COAH (detailed in Appendix E of N.J.A.C. 5:94), and then divided by 25 to reach a Growth Share Obligation. The following tables detail the calculation of the Growth Share Obligation that is generated by residential and nonresidential development.

Table GS 5: Residential Growth Share Projection

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Projected COs	0	228	309	297	228	386	351	333	320	276	2,728
2004 COs	225	0	0	0	0	0	0	0	0	0	225
Demolitions	17	91	21	21	21	21	21	21	21	21	276
Net Units (Household Growth)	208	137	288	276	207	365	330	312	299	255	2,677
Credits[7]	0	0	0	7	0	75	0	0	0	0	82
Final Net Units	208	137	288	269	207	290	330	312	299	255	2,595
Affordable (Final Net/9)	**23.11**	**15.22**	**32.00**	**29.89**	**23.00**	**32.22**	**36.67**	**34.67**	**33.22**	**28.33**	**288.33**

Table GS 6: Non-residential Growth Share Projection

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Net Anticipated Jobs											
Use Group: B	23	275	430	252	200	200	75	75	75	75	1,680
Use Group: M	2	31	254	80	80	80	80	80	80	80	848
Use Group: F	0	295	232	216	156	156	141	60	60	60	1,375
Use Group: S	21	4	23	34	0	0	0	0	0	0	81
Use Group: A2 to A4	-2	161	48	34	34	34	0	0	0	0	309
Use Group: E	0	5	217	0	130	140	0	0	170	0	662
Use Group: I	78	0	261	261	261	0	0	0	0	0	862
Use Group: R1	0	16	0	0	0	0	0	0	0	0	16
Total Net Jobs	122	787	1,465	876	861	610	296	215	385	215	5,833
Affordable (Total Jobs/25)	**4.90**	**31.48**	**58.62**	**35.04**	**34.44**	**24.39**	**11.84**	**8.60**	**15.40**	**8.60**	**233.30**

[7] A total of 82 credits have been applied in this case. These result from affordable units that will be constructed as part of the Vineland Housing Development Corporation's projects, which are reflected in Table GS 3. These credits are taken in accordance with N.J.A.C. 5:94-2.4(a)3.

Based upon the above, the total combined Growth Share Obligation is then 522 units of affordable housing (288.33 + 233.30 = 521.63 → 522). The residential component of this projection consists of 288.33 units; the non-residential component consists of 233.30 units. Table GS-7, shown below, provides a summary of this growth share projection.

Table GS 7: Summarized Growth Share Projection (Units Affordable)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Components											
Residential	23.11	15.22	32.00	29.89	23.00	32.22	36.67	34.67	33.22	28.33	288.33
Non-Residential	4.90	31.48	58.62	35.04	34.44	24.39	11.84	8.60	15.40	8.60	233.30
Total	**28.01**	**46.70**	**90.62**	**64.93**	**57.44**	**56.61**	**48.50**	**43.27**	**48.62**	**36.93**	**521.63**

Note: Growth share obligations are customarily rounded to the nearest whole number. Thus, the City's growth share obligation is 522 units.

Growth Share Projection: Presumption of Validity

In accordance with COAH regulations, Vineland has calculated Household and Employment Growth Projections with US Census data and projections from the South Jersey Transportation Planning Organization. The following tables detail these projections.

Table GS 8: SJTPO Household Growth Projection

2015 SJTPO Population	-	2005 SJTPO Population	=	Population Change	/	2000 Household Size	=	Household Growth
64,610	-	58,588	=	6,022	/	2.7	=	2,230

Table GS 9: SJTPO Employment Growth Projection

2015 SJTPO Employment	-	2005 SJTPO Employment	=	Employment Change
38,411	-	33,332	=	5,079

The total number of households projected in Vineland's growth share obligation is 2,677, which exceeds the SJTPO household growth projection. The total number of new jobs projected in Vineland's growth share obligation is 5,833, which also exceeds the SJTPO employment growth projection. Because the household and employment growth projections meet those of the SJTPO, they shall be considered by COAH to be valid, as provided by N.J.A.C. 5:94-2.3(a).

Growth Share Projection: Potential to Accommodate Growth

The City has conducted a buildout analysis of its current zoning regulations and the availability of vacant land. Based on this analysis, the City anticipates that it will be able to accommodate the development projected in the growth share projection.

FAIR SHARE PLAN

The City has successfully produced affordable housing for low and moderate income households through the Vineland Housing Authority (VHA) and through the City Community Development Program. In addition, affordable housing has been successfully produced in Vineland through non-profit developers and through State and Federal programs. In all, the City has approximately 1,700 affordable units produced through public and non-profit efforts.

City of Vineland Community Development and Home Program

The City of Vineland Community Development Program promotes home ownership and provides housing rehabilitation assistance to income eligible single-family owner occupied units to correct code violations. The City also provides homeownership assistance toward the purchase of single-family or duplex residential properties in Center City Vineland as part of the Strategic Neighborhood Assistance Program (SNAP). The focus of SNAP is an area bounded by East, West, and Chestnut avenues and Oak Road.

Vineland Housing Authority

The Vineland Housing Authority (VHA) provides affordable housing for the lower income including families, the elderly, and the disabled. It operates 600 dwelling units and oversees 347 Section 8 Vouchers. In addition, the VHA, through its nonprofit affiliate, the Vineland Housing Development Corporation (VHDC), develops homes for sale to low and moderate income buyers.

The VHA, through its Turnkey III program, initially promoted home ownership for lower income households utilizing an inventory of 194 single family dwellings that it accumulated from 1975 to 1981. The Turnkey III program was one of three such programs in the State. By 2003, the VHA had successfully sold 190 units. Under the 1986 certification, COAH granted credit to 46 units produced by the Turnkey III program. In its 2000 certification, COAH determined that the 46 credits continued to be valid.

Utilizing revenues from Turnkey III, the VHA launched its Project Homeownership Program in 1995 to construct and sell affordable housing through the VHDC. Project Homeownership is ongoing.

Table of Vineland Housing Authority Projects										
Development	**HUD #**	**DOFA**	**Type**	**Total Units**	**0-BR**	**1-BR**	**2-BR**	**3-BR**	**4-BR**	**5 or more**
Parkview Apts.	NJ063001A	11/30/1967	Family	25	0				2	0
D'Orazio Terrace	NJ063001B	11/30/1967	E/D	100	60	40	0	0	0	0
Tarkiln Acres	NJ063002	6/30/1970	E/D	150	90	60	0	0	0	0
Asselta Acres	NJ063004	10/31/1973	Family	50	0	0	0	21	15	14
Scattered Site	NJ063005	9/30/1971	Family	25	0	0	18	7	0	0
Kidston Towers	NJ063006	7/31/1979	E/D	103	75	28	0	0	0	0
Olivio Towers	NJ063014	1/31/1986	E/D	100	0	100	0	0	0	0
Scattered Site	NJ063018	4/30/1986	Family	23	0	0	0	23	0	0
Scattered Site	NJ063019	3/31/1989	Family	24	0	0	0	16	5	3

Source: VHA
Key: DOFA = Date of HUD Fund Availability
E/D = Elderly/Disabled
HUD = U.S. Department of Housing and Urban Development

The VHDC is currently developing seventeen new homes for sale to low and moderate income and market rate buyers. Funding for the development cost is being provided by the New Jersey Housing and Mortgage Finance Agency. Two of the units will be sold to low income families and eight of the units will be sold to moderate income families. The remaining units may be sold to market rate buyers. The VHDC anticipates that the project will be completed by the end of 2006.

The VHDC is planning construction of an additional seventy-five affordable age restricted rental units. Planning is in the preliminary stages and construction is not expected until 2009 to 2013.

Alternative Living Arrangements - Group Homes

The City has twenty-nine group homes for the developmentally disabled.

Twelve of the group homes are owned by the Parents and Friends Association (PAFA). PAFA is a private not for profit volunteer advocacy organization comprised of parents, relatives, or friends of the Vineland Developmental Center (VDC). To assist in providing community residences for VDC residents, PAFA formed a relationship with the VDC in which PAFA builds and renovates homes as group housing

and oversees their maintenance. The VDC provides staffing for each house. The first residence was created in 1982. PAFA's twelve group homes contain fifty-five (55) bedrooms.
Seventeen of the group homes are owned by the Vineland Training School. The School, established in 1888, is managed by the Elwyn Institute of Media Pennsylvania. The School's seventeen group homes in Vineland contain fifty-five (55) bedrooms. The City assessment records indicate the first group home acquisition by the School was in 1986.
The group homes provide 110 units of credit toward the City fair share new construction obligation and its rental obligation.

Affordable Housing Obligation

- The City is obligated to plan to provide affordable housing. Vineland's affordable housing obligation consists of the following three components:

Rehabilitation Obligation[8]	253 units
1987 to 1999 New Construction Obligation	0 units
2004 to 2014 Growth Share Obligation	522 units

- The City's growth share is based on a projection of residential and non-residential development in the City using a procedure specified in the regulations of the New Jersey Council on Affordable Housing (COAH). The City housing plan projects that from 2004 through 2013, the City will add approximately 2700 new dwelling units to its housing stock. Nonresidential development will generate nearly 6,000 additional jobs.

- Of the 522 unit affordable housing growth share obligation, Vineland is required to provide at least 131 rental units. Not more than 65 of the rental units may be age restricted

- Vineland is eligible to receive a rental bonus credit of one unit for every rental unit provided in excess of its rental requirement so long as the excess units are available to the general public.

- No more than 50 percent of the City's obligation that is addressed by new construction within Vineland may be age-restricted units. Consequently, not more than 261 units of the City's new construction fair share may be age restricted

Rehabilitation Share

The City rehabilitation share is two hundred fifty three (253) units. The City rehabilitates housing through the City Community Development Program. The City will continue its rehabilitation program and rehabilitate 253 units in accordance with COAH requirements.
Obligation from 1987 to 1999

[8] Based on COAH calculation derived from US Census.

With regard to the prior round from 1987 to 1999, the City had a 372 unit fair share rehabilitation obligation. In granting substantive certification to the City plan in 2000, COAH determined that the City had exceeded its obligation and produced a surplus of units.

Table FS1 **City of Vineland** 1987 to 1999 Affordable Housing Obligation		
Affordable Housing Required		***372***
Affordable Housing Activity		*Completed Units*
Housing Rehabilitation		331
Luther Acres (Age Restricted Rental)		100 units
Ester Olivio Towers (Age Restricted Rental)		100 units
Single Family Units		46 units
Group Homes		60 units
TOTAL PROVIDED		***637 units***

Growth Share Obligation and Compliance Plan - 2004 to 2014

The City's growth share obligation is projected to be five hundred and twenty two (522). In addition, no more than 261 units of the obligation may be age-restricted. At least 25% of the obligation, or 131 units of the 522 units, shall be addressed by rental housing. Not more than half of the rental units may be age restricted.

The City will address the 522 unit growth share obligation with prior cycle credits; with the extension of affordability controls on existing units; with the enactment of a growth share ordinance to require the construction of affordable housing by developers; by adoption of an affordable housing ordinance that provides for the collection of development fees and/or payments in lieu of the construction of affordable housing and the establishment of an affordable housing trust fund for affordable housing; through credits for alternative living arrangements; through rental bonus credits; and through publicly sponsored new construction of affordable housing.

Prior Round Credits

The City will apply two hundred forty seven (247) credits from prior rounds for Luther Acres, Ester

Olivio Towers, and apply the construction of forty seven (47) scattered site single family detached rental dwellings to its growth share obligation.

Growth Share Ordinance

The City will enact a growth share ordinance to require that residential development address the growth share obligation generated by residential development. The City estimates that the growth share requirement will generate one hundred fifty (150) units of affordable housing.

Vineland Housing Development Corporation (VHDC)

The VHDC will complete ten (10) additional affordable single family for sale units by the end of 2006.

Group Homes

The City claims rental credit for twenty-nine group homes containing one hundred and ten (110) bedrooms established by the Parents and Friends Association and by the Vineland Training School.

Parvins Branch Townhouses

The City claims rental credit for twenty-four (24) units of family housing constructed with tax credits at the Parvins Branch Townhouses.

Extension of Expiring Controls

The City claims credit for the extension of expiring controls for one hundred seventy five units (175) at Vineland Gardens and Walnut Manor Apartments.

Bonus Rental Credits

The City will take bonus rental credits for exceeding the minimum requirement for affordable rental housing. The minimum requirement is projected to be one hundred thirty one (131) rental units. The City claims two hundred forty-six (246) credits for rental bonus units for family housing under the scattered site single family rental program, the Parvins Branch townhouses, Vineland Gardens, and Walnut Manor Apartments.

Additional Credits

The City reserves the right to identify and document additional credits from any housing development within the City that contains affordable units that qualify for credit.

Credits Without Controls

An estimated 43.7% of the City's households are low and moderate income. The City reserves the right to undertake a survey to identify affordable units that are not subject to affordability controls. The City will

undertake a survey of housing units built by the private market between 1980 and 1986 prior to the adoption of COAH's initial rules to identify units that are not subject to affordability and occupancy restrictions but are in sound condition and affordable to and still occupied by low and moderate income households. Each such unit will qualify, pursuant to COAH's rule, as a credit without controls against the City's fair share obligation. The City reserves the right to identify and claim all eligible credits without controls.

Summary of Growth Share Compliance

The combination of compliance mechanisms proposed by the City will fulfill the City growth share obligation. This compliance strategy is summarized by the table below.

Table FS2

City of Vineland ~ Summary of Compliance

Growth Share Obligation (2004 – 2014)

Growth Share Obligation	
Growth Share Obligation	522
Compliance	
Luther Acres (Age Restricted Rental)	100
Ester Olivio Towers (Age Restricted Rental)	100
Scattered Site Single Family Rental	47
Scattered Site Single Family Rental Bonus	47
Growth Share Ordinance	150
VHDC Single Family	10
Vineland Training School Group Homes	55
Parents and Friends Group Homes	55
Parvins Branch Townhouses (Family Rental)	24
Parvins Branch Townhouses (Bonus Rental)	24
Spring Gardens Senior Housing (125 Rentals)	61
Vineland Gardens (Family Rentals Extended Controls)	75
Vineland Gardens (Rental Bonus)	75
Walnut Manor Apts. (Family Rentals Extended Controls)	100
Walnut Manor Rental Bonus	100
Total Credits	**1023**

Summary of Additional Credits

The City reserves the right to identify and document additional credits from any housing development within the City that contains affordable units that qualify for credit. Developments that are subject to affordability controls that have the potential to provide additional credits for affordable housing are identified below. These credits would be in addition to the 1023 credits listed in the previous table. The identification of additional credits is not limited to the developments listed on the table below. The City also reserves the right to identify credits without controls.

Table FS3
City of Vineland ~ Summary of Additional Credits
Growth Share Obligation (2004 – 2014)

E&R Homes	20
Farm Workers East Almond Estates	24
Florence Park Apartments	130
Genesis	7
Green Valley	9
Health Care Properties	~
New Horizons Scattered Properties	12
Regency Village Apartments	104
Spring Oak Assisted Living	38
Tarkiln Park Apts	48
TCCAA/VHA Joint Venture	2
Victoria MIA	11
Vineland Home Ownership (NJ Rural Hsng)	5
Walnut Villa Apts.	100
Credits without Controls	~

Summary of Compliance with Rental Requirements

With regard to the City's one hundred thirty one (131) unit rental obligation, the City will apply 65 of the rental units from Luther Acres and Ester Olivio Towers toward the rental requirement. It will apply 110 credits from group homes and 24 credits from the Parvins Branch Townhouses to satisfy the non age restricted rental component. In all, the City has provided 421 rental units that are eligible for rental credit. Because the City exceeds its 131 rental obligation, the City claims two units of credit for each affordable rental unit available to the general public that exceeds the 131 unit obligation.

Table FS4

Summary of Compliance,

Growth Share Obligation - Rental Units

Growth Share Rental Obligation	
Rental Requirement	**131**
Family Rental	246
Group Homes	110
Age Restricted Rentals	65
TOTAL RENTALS PROVIDED	**421**

Accessible Townhouse Units

Pursuant to N.J.A.C. 5:94-4.21, ten percent of any affordable townhouse units constructed under this fair share plan shall be accessible in accordance with the accessibility requirements set forth at N.J.A.C. 5:23-7.5(b) and (c) in the Barrier Free Subcode, N.J.A.C. 5:23-7. Townhouse units in projects that have received development approvals up to June 20, 2005 are exempt from this requirement.

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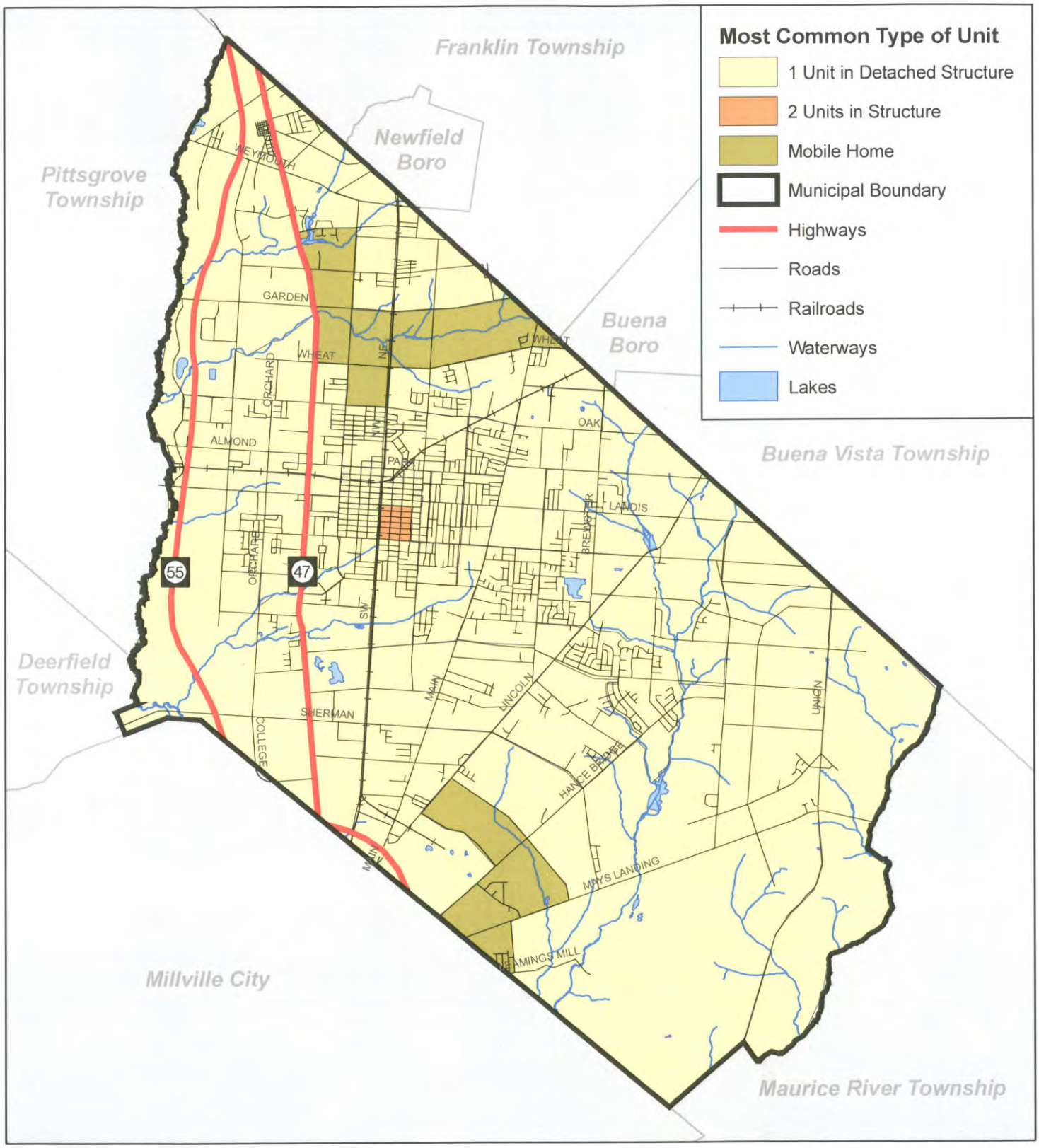
MAP HM1

Most Common Housing Unit Type at the Block Group Level



T&M ASSOCIATES
11 Tindall Road
Middletown, NJ 07748-2792
Phone: 732-671-6400
Fax: 732-671-7365

Map HM-1: Most Common Housing Unit Type at the Block Group Level City of Vineland Cumberland County, New Jersey

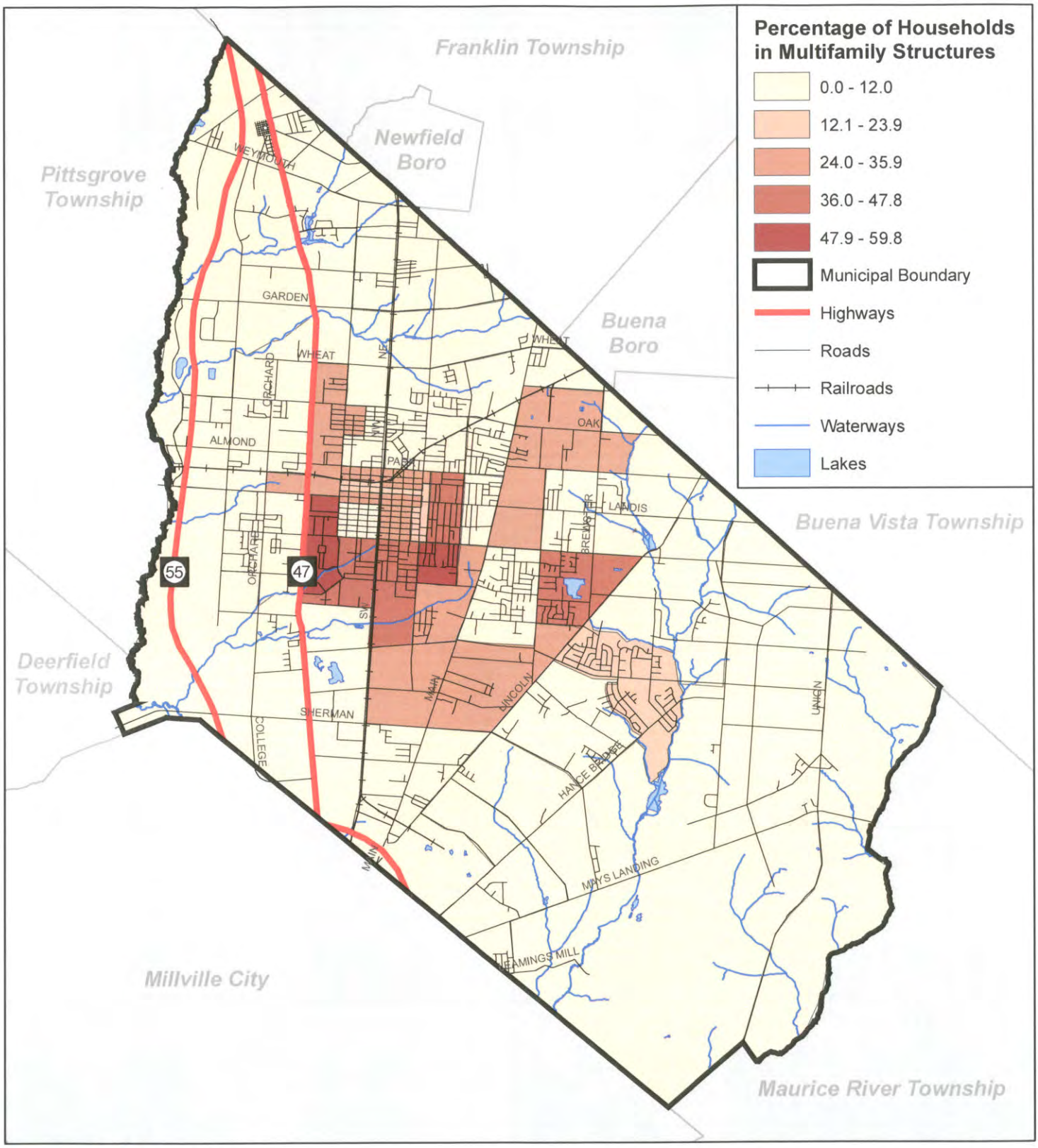
0 4,250 8,500 17,000 Feet

Prepared by: RED, August 17, 2006
Source: NJDEP, TIGER Files, US Census Bureau
File Path: H:\VINE\00010\GIS\Projects\Final\MAP HP-1.mxd

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

MAP HM2

Percentage of Households in Multi-Family Structures at the Block Group Level



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Phone: 732-671-6400
Fax: 732-671-7365

0 4,250 8,500 17,000 Feet

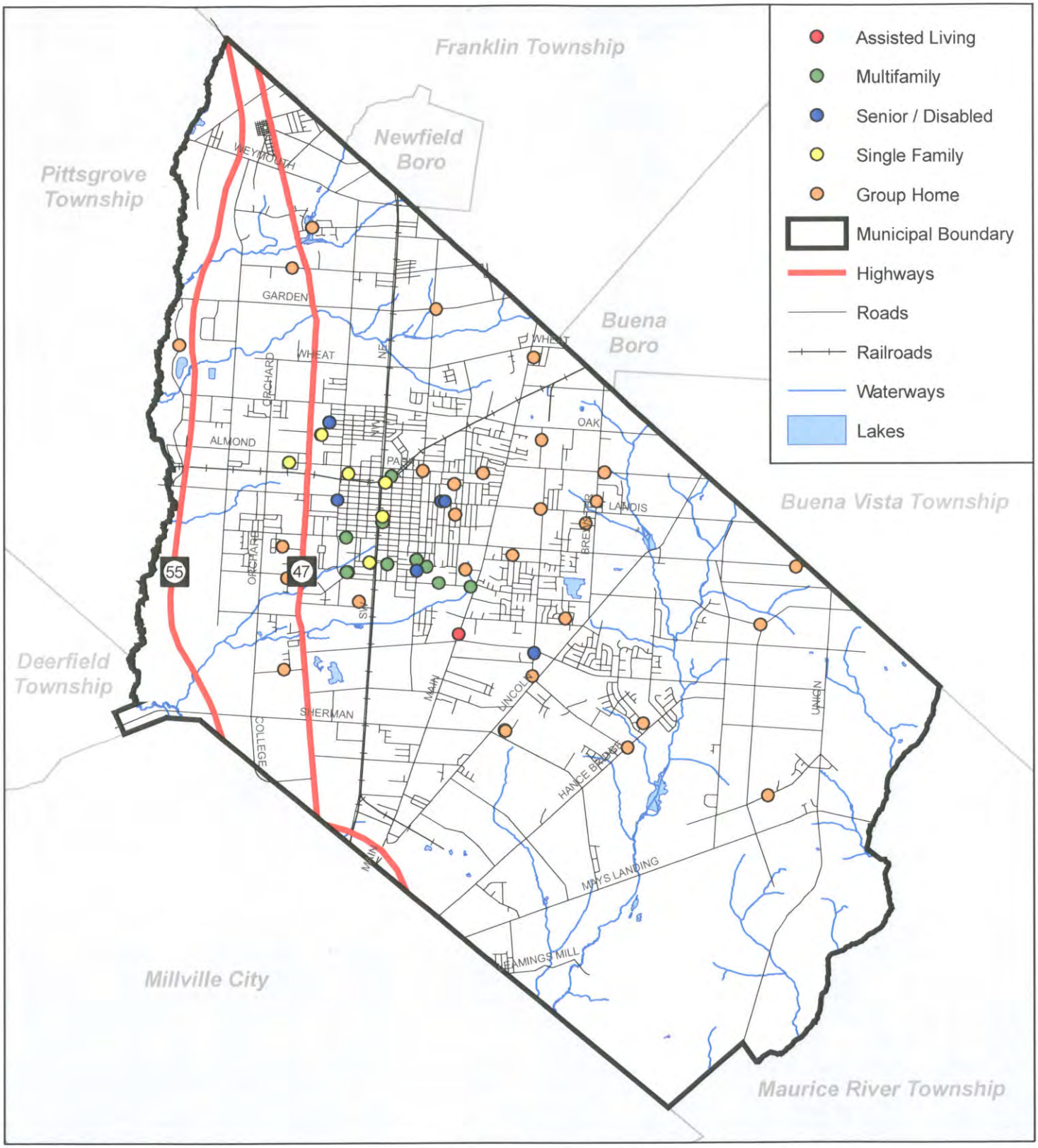
Map HM-2: Households in Multifamily Structures at the Block Group Level
City of Vineland
Cumberland County, New Jersey

Prepared by: RED, August 17, 2006
Source: NJDEP, TIGER Files, US Census Bureau
File Path: H:\VINE\00010\GIS\Projects\Final\MAP HP-2.mxd

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

MAP HM3

Existing Affordable Housing



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Phone: 732-671-6400
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Map HM-3: Existing Affordable Housing
City of Vineland
Cumberland County, New Jersey

0 4,250 8,500 17,000 Feet

Prepared by: RED, August 17, 2006
Source: NJDEP, TIGER Files, City of Vineland GIS, NJDCA
File Path: H:\VINE\00010\GIS\Projects\Final\MAP HP-3.mxd

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

CONSERVATION

PURPOSE

The City of Vineland, with its verdant landscapes, fertile soils, gentle topography, favorable climate, and ample rainfall, embodies New Jersey's State Motto, the "Garden State." Vineland is distinctive in the variety of ecological communities and wildlife species that are sustained within the City limits. In a crowded state where open space and agricultural lands have been consumed by development and urban sprawl, the scenic vistas, farmlands, forests, pristine rivers, streams, and watercourses of Vineland are stand out features of the City's environment. Vineland recognizes that, for the City to remain an attractive and healthy place to live and work, the City must protect its natural environment and resources from degradation.

Vineland has prepared this conservation plan element in accordance with the requirements of the Municipal Land Use Law (N.J.S.A. 40:55D-28.b.(8)) to provide for the preservation, conservation, restoration, and appropriate utilization of natural resources. Natural resources include open space, energy, water supply, air, forests, soils, wetlands, rivers and other waters, endangered and threatened species and wildlife, and other resources important to the well being of the community and the region. This element of the Master Plan responds to civic concern that the City's environment, open spaces, and rural areas are being consumed and compromised by land development practices that clear cut forests, aggravate flooding, impair water quality, fragment and reduce wildlife habitat, and consume open space and farmland.

VINELAND'S NATURAL RESOURCES

Overview

Vineland's natural resources enhance the community aesthetically, as well as environmentally, and are essential for the future economic development that will be needed to sustain the City's population and commerce and to enable Vineland to successfully compete with other locations for beneficial development. In order to conserve natural resources from degradation, the conservation plan element identifies the key resources and features within the City that should be maintained and protected as the green infrastructure of the City. The conservation plan also recommends the actions that the City should undertake to focus public and private conservation efforts to achieve Vineland's conservation goals.

Land development needs to be balanced by land conservation to protect Vineland's resources and environment. Clean and abundant water, good quality air, and green spaces for recreation and biological diversity are essential for the well-being of the community and its residents.

Vineland's conservation goals are to:

- Preserve surface water quality and the riparian environment of the City's surface waters by conserving land and open spaces adjacent to lakes, rivers, and streams.
- Protect forests to improve air quality, reduce erosion, and prevent the fragmentation of forest habitat.
- Protect native species and the habitat necessary to support native biological diversity.
- Protect groundwater resources and promote the recharge of groundwater.
- Preserve open space and farmland.
- Preserve floodplains to reduce the hazards to life and property from flood events and to maintain the ecological health of stream corridors.
- Expand the City's natural areas and buffer them from development.

Resource Protection Needs

Vineland needs to manage the environmentally critical lands to protect the City's natural resources. The critical environmental lands of the City are characterized by environmentally sensitive features whose function is integral or important to a natural system or landscape. The environmentally critical lands of the City include:

1. Scenic Rivers (Maurice tributaries~ Menantico Creek, Manumuskin River)
2. Category One Watersheds (Segments and tributaries of the Maurice River)
3. New Jersey Pinelands ~ Outstanding National Resource Waters (Manumuskin River and tributaries)
4. Stream Corridors
5. Menantico Lake
6. Willow Grove Lake

7. Flood Hazard Areas
8. Freshwater Wetlands and Wetland Transition areas (Maurice River System Priority Wetland)
9. Wellhead Protection Areas
10. Groundwater Recharge Areas (Kirkwood-Cohansey Formation)
11. Prime Farmland
12. Preserved Open Space
13. Habitats of Threatened, Endangered and Priority Species and Wildlife Corridors
14. Bald Eagle Foraging Areas
15. Mature Woodlands

Resource protection in Vineland will be addressed through the following actions:

- City land use regulation to implement the conservation plan for greenbelts, greenways, and environmentally critical lands through the City zone plan and through appropriate site plan and subdivision design standards.

- State regulations that protect wetlands, wetlands transition areas, and air and water resources.

- Open space and farmland preservation programs administered through the State, County, City, and non-profit organizations to preserve land from development through fee simple acquisition or easement purchases.

- Infrastructure management to limit the extension of growth inducing City infrastructure, particularly sanitary sewer, to a defined area that includes the City core and surrounding suburban lands where the City encourages economic growth and development and redevelopment.

The major environmentally sensitive features that City plans to conserve are shown on the conservation plan map (Map CO-1: Conservation Plan). The importance of these features to the City plan and Vineland are reviewed below.

CONSERVATION PLAN

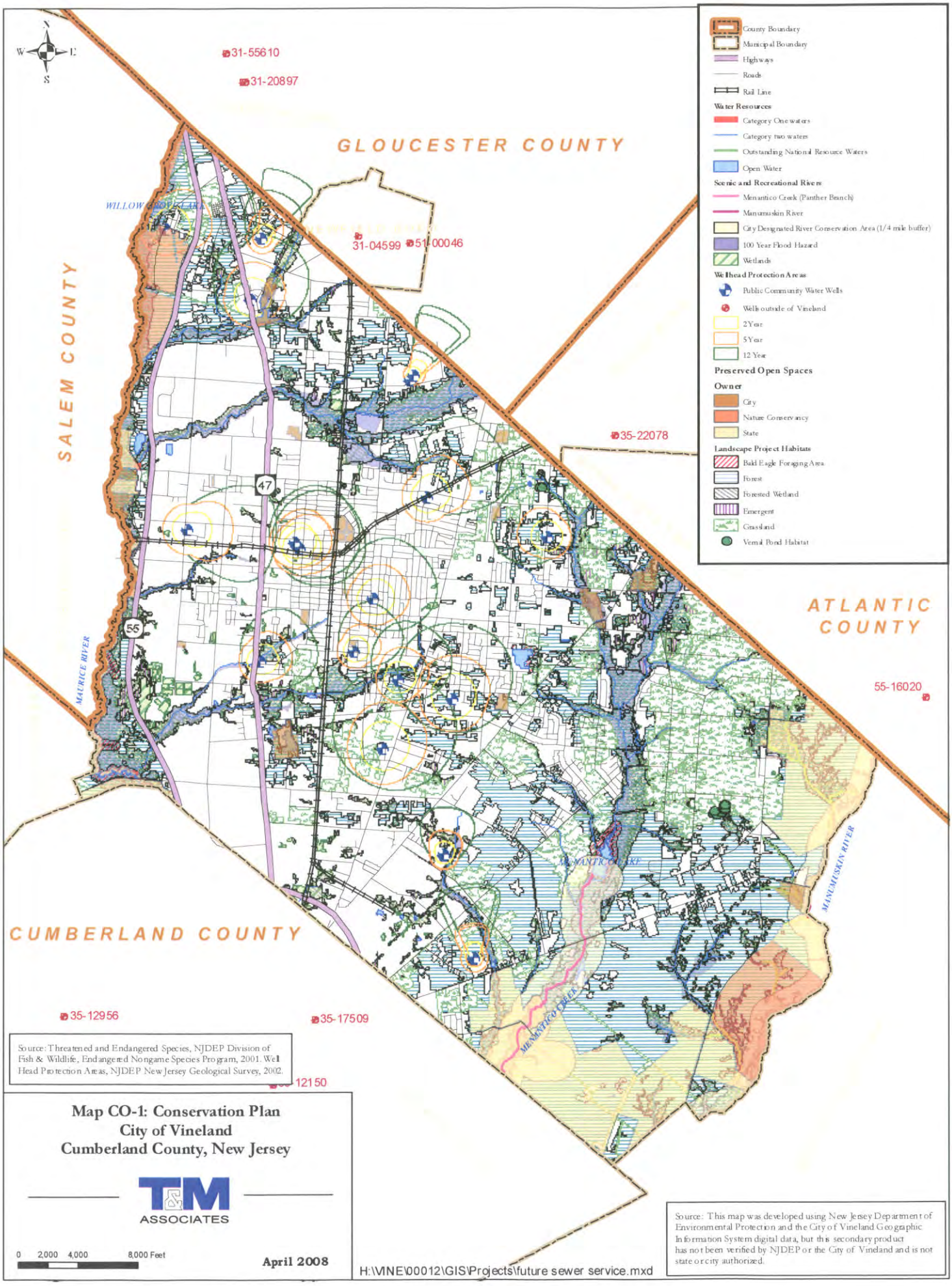
Water Resources in General

Water is critical to the City's well being and future growth and economic development. Residents, businesses, industry, and farms in Vineland are dependent on groundwater supply. Groundwater supplies are vulnerable to pollution and over-pumping of aquifers. The surface waters of the City, including its rivers and streams, are important as habitat areas, as recreational resources, as scenic resources, and for flood control and drainage. Surface waters are vulnerable to degradation and pollution from development and mismanaged land use. Both the groundwater and surface water resources in the City are finite resources that need to be conserved and protected.

The City is drained by the Maurice River system. The Maurice River and its tributaries are a relatively pristine Atlantic Coastal river system and part of the National Wild & Scenic River System that was created by the Wild and Scenic Rivers Act. The Maurice River system is also identified by the United States Environmental Protection Agency (USEPA) as a priority wetland area. Vineland contains sections of the river system that are classified as scenic rivers. The purpose of the Wild and Scenic River designation is to provide the benefits and enjoyment of free flowing streams to present and future

generations. In Vineland, a portion of the Menantico Creek and the entire length of the Manumuskin River are categorized as scenic rivers. The Maurice River system, and its tributary Manumuskin River and the surrounding areas, provide suitable habitat for the major wintering population of the federally threatened and state endangered Bald eagle and for other state listed species such as Ospreys, Red-shouldered hawks, Southern gray and Pine Barrens tree frogs, and Barred owls.

Wetlands are vital resources for the variety of wildlife and vegetative species in Vineland for the protection of water resources. One wetland area along the Maurice River, Willow Grove Lake, is a mitigation bank for watershed management areas that drain into the Delaware River drainage basin.



Source: Threatened and Endangered Species, NJDEP Division of Fish & Wildlife, Endangered Nongame Species Program, 2001. Well Head Protection Areas, NJDEP New Jersey Geological Survey, 2002.

Map CO-1: Conservation Plan
City of Vineland
Cumberland County, New Jersey

T&M ASSOCIATES

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April 2008

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Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.

The New Jersey Pinelands Commission considers the entire Manumuskin watershed as an ecologically critical area, with the vast, unspoiled Kirkwood-Cohansey aquifer underlying most of the region. The New Jersey Department of Environmental Protection (NJDEP) has designated the Maurice River Main Stem and its tributaries that border the Union Lake Wildlife Management Area (City of Millville) as Category One.

The rivers and stream corridors within the City are subject to flooding and are vulnerable to the adverse impacts from poorly planned land development.

The environmentally critical lands and the measures for protection of the City water resources are reviewed below.

Stream Corridor Protection

The stream corridors of the City consist of rivers, streams, ponds, lakes, and associated wetlands together with adjacent upland areas, including the floodplain and areas that support protective bands of vegetation that line the waters edge. The maintenance of a stream buffer as part of the corridor along the bank of a surface water body is recommended to protect the stream from development impacts. A stream buffer is an area of undisturbed vegetation (except in agricultural uses that utilize best management practices to prevent or reduce non-point source pollution) that is maintained along the bank of a surface water body to protect the stream corridor from development impacts. Buffer widths may vary depending upon the degree to which the stream and its resources and the functions need to be protected. Considerations include water quality and stream functions such as for wildlife habitat, scenic value, and recreational value.

The City's stream corridors are part of the Delaware River Basin and located in the NJDEP Watershed Management Area 17, Maurice, Cohansey and Salem. (See Map CO-4 for the subwatersheds in Vineland.) These stream corridors provide an extensive network of woodland and wetland areas that are a significant ecological and recreation resource for Vineland. The major stream corridors include the Maurice River, the Menantico Creek, and the Manumuskin River and their associated tributaries. The tributary streams identified are as follows:

- Bear Branch;
- Big Neal Branch;
- Blackwater Branch;
- Burnt Mill Branch;
- Canute Branch;
- Cedar Branch (Manumuskin River and Menantico Creek);
- Cossa Boones Branch;
- Hudson Branch;
- Little Robin Branch;
- Parvin Branch;
- Scotland Run;
- Sharp Branch;
- Sketes Branch;
- Tarkiln Branch;
- West Branch Panther;

- White Oak Branch; and,
- Womans Branch.

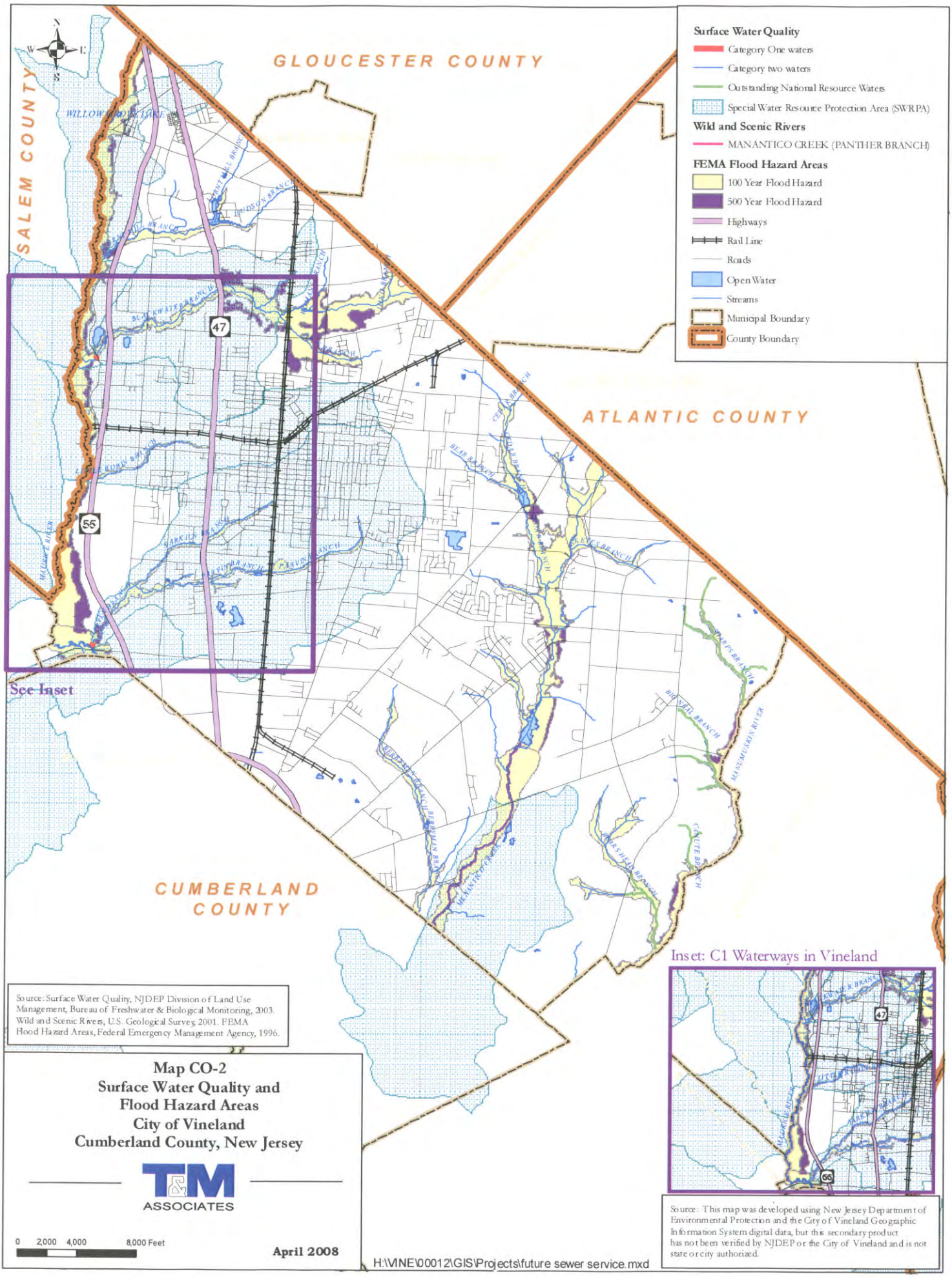
The Maurice River system is part of the National Wild & Scenic River and sections of the Menantico Creek and the Manumuskin River in Vineland are designated as scenic rivers. Recognizing the ecological importance of the Menantico Creek and the Manumuskin River, the City includes as part of its zone plan, a River Conservation Area Overlay to provide for the protection of the segments of the Menantico Creek and the Manumuskin River that are designated as scenic. The overlay establishes a buffer that restricts land development within a quarter mile of each bank in order to protect the scenic, recreational, and the environmental value of the stream. Portions of the Maurice River have been designated as Category One waterways which require a 300 hundred buffer area to protect the "special water resources" (N.J.A.C. 7.8-5.5(h)). The "special water resource" designation also applies to portions of the Menantico Creek below the Menantico Lake (Map CO-2: Surface Water Quality and Flood Hazard Areas).

The Pinelands includes the Manumuskin River tributaries (Sharps Branch, Big Neal Branch, Canutte Branch, Bears Head Branch) as part of the Outstanding National Water Resource delineation.

Maurice River. The Maurice River forms a natural western boundary and linear open space of the City and includes Parvin, the Blackwater, and Burnt Mill branches and the West Grove Lake. The Maurice River corridor includes forests and forested wetland habitats that form the core of natural habitat for endangered, threatened and priority species, such as the Bald eagle and Southern gray and Pine Barren tree frogs. Almost the entire length of Maurice River has been preserved as an open space area. The Nature Conservancy maintains the Willow Grove Lake Preserve which is located in the northwest section of Vineland and in the Township of Pittsgrove, Salem County. Part of the Union Lake Fish and Wildlife Management Area is located within in Vineland and includes two sections of the Maurice River. Called the Maurice River Wildlife Conservation Area, it runs the length of the Maurice River from the rail road right-of-way north of Landis Avenue to Union Lake in Millville and a smaller portion runs between Oak Road, north to Wheat Road, west of the Maurice Parkway. The City owns two natural preserved areas called the Willow Grove Natural Area and Westside Park. The Maurice River also contains floodplains and is subject to serve flooding. The Blackwater Branch is also subject to extensive flooding and contains forested wetland habitats.

Menantico Creek. The Menantico Creek drains the eastern portion of Vineland and includes the Cedar Branch and Panther Branch and the Menantico Lake. The area south of the Lake (Panther Branch) has been designated as a scenic river and the City has zoned a ¼ mile buffer River Conservation Area Overlay on that section. NJDEP, Division of Fish and Wildlife maintains the Peaslee Fish and Wildlife Management Area as open space on the southern portion of the Menantico Creek and along the Berryman Branch. Forests and forested wetland habitats form a band along the Menantico Creek. Surrounding Menantico Lake, there is suitable Bald eagle foraging habitat.

Manumuskin River. The Manumuskin River forms the eastern boundary of Vineland and is recognized by the Pinelands for its pristine natural value. The three branches Sharps, Big Neal and Cantune are designated as outstanding national resource waters. The entire length of the Manumuskin is designated as a scenic river and within River Conservation Area Overlay zone established by the City. The Nature Conservancy maintains the Manumuskin River preserve and the City maintains a conservation area. The river contains large contiguous woodland areas that are within the Pinelands and the City.



Source: Surface Water Quality, NJDEP Division of Land Use Management, Bureau of Freshwater & Biological Monitoring, 2003. Wild and Scenic Rivers, U.S. Geological Survey, 2001. FEMA Flood Hazard Areas, Federal Emergency Management Agency, 1996.

Map CO-2
Surface Water Quality and Flood Hazard Areas
City of Vineland
Cumberland County, New Jersey

T&M ASSOCIATES

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April 2008

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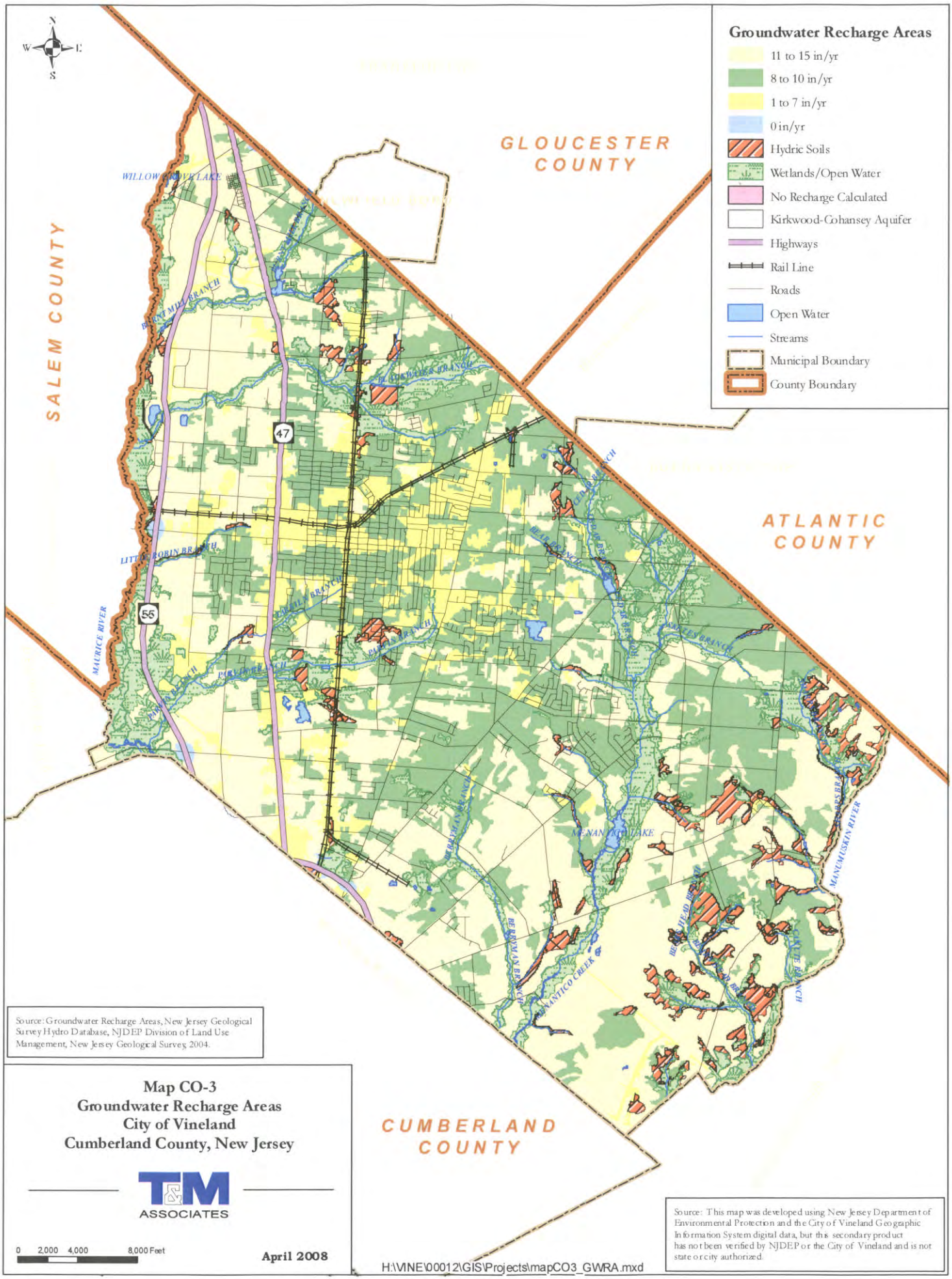
Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.



Source: Groundwater Recharge Areas, New Jersey Geological Survey Hydro Database, NJDEP Division of Land Use Management, New Jersey Geological Survey, 2004.

Map CO-3
Groundwater Recharge Areas
City of Vineland
Cumberland County, New Jersey

T&M ASSOCIATES

April 2008

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Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.

Impaired Waterways

NJDEP Water Monitoring Standards Division monitors impairments to waterways; referring to waterways that exceed the permitted State's total maximum daily loads for a particular heavy metal or biological impairment. In Vineland, the NJDEP lists the following impairments to the waterways as follows:

Table CO-1: Impaired Waterways

Site ID	*Location*	*Parameters*
Maurice River		
AN0739	Blackwater Branch at Maurice River Pkwy	Benthic Macroinvertebrates
AN0735	Burnt Mill Branch at Route 55	Benthic Macroinvertebrates
17-HUD-1	Hudson Branch	Arsenic, Chromium, Cadmium, Copper, Mercury, Nickel, Selenium, Silver, Thallium, Zinc
AN0740	Maurice River at Almond Ave	Benthic Macroinvertebrates
AN0733	Maurice River (Scotland Run) at Willow Grove Rd	Benthic Macroinvertebrates
AN0751	Maurice River at Sherman Ave	Benthic Macroinvertebrates
AN0750	Parvin Branch at Route 55	Benthic Macroinvertebrates
Menantico Creek		
AN0757	Menantico Cedar Branch at Italia Ave	Benthic Macroinvertebrates
AN0759	Menantico Creek at Hance Bridge Rd	Benthic Macroinvertebrates
Menantico Pond	Menantico Lake-17	Fish Community
Menantico Pond	Menantico Pond	Phosphorus
Vineland YMCA	Vineland YMCA	Fecal Coliform
Manumuskin River		
AN0762	Manumuskin River at Old Mays Landing Rd	Benthic Macroinvertebrates
AN0758	Panther Branch (Menantico Creek) at Italia Ave	Benthic Macroinvertebrates

Source: New Jersey Department of Environmental Protection, Water Monitoring and Standards. New Jersey 2004 Integrated Water Quality Monitoring and Assessment Report. Web search May 18, 2005.

To protect streams and prevent further degradation of water quality, stream restoration and best management practices are needed. The City should establish minimum standards for stream corridor protection to provide a stream buffer width having a minimum distance of 75 feet and an average distance of 100 feet, as measured from the one-hundred year floodline. If there is no 100-year floodline, then the buffer should be maintained from the bank of the stream, lake, or pond.

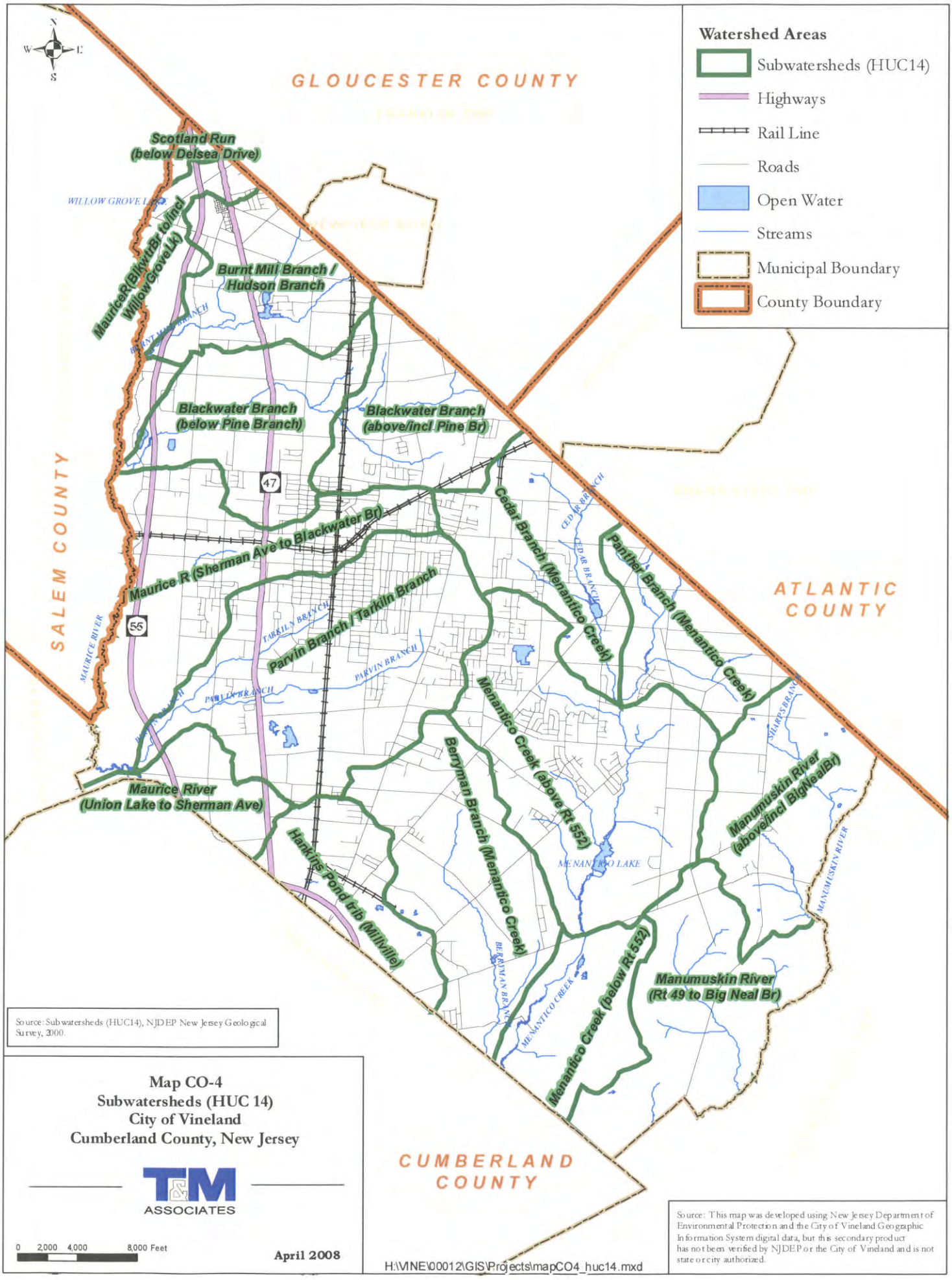
The buffer will slow water entering the stream and trap sediment, fertilizers, pesticides, pathogens and heavy metals, thereby filtering particulates from entering the surface water body. The buffer will also provide a source of food, nesting, cover and shelter for wildlife species and a corridor for the migration

and movement of wildlife. Buffers are desirable that provide least three (3) layers of vegetation, including herbaceous plants that serve as ground cover, understory shrubs, and trees that when fully mature, will form an overhead canopy. When constructing a buffer area, vegetation should be indigenous, non-invasive species and be consistent with the soil, slope and moisture conditions of each site.

Flood Plains and Flood Hazard Areas

Floodplains are usually flat areas of land bordering streams, which are periodically inundated by floodwaters. Rainstorms of severe intensity may cause the entire floodplain to flood. Floodplains are areas of substantial ecological value. The sediments deposited in the floodplain by slow-moving floodwaters increase the fertility of the land. Where floodplains are undeveloped, the natural shrub and lowland forest vegetation provide excellent habitat for wildlife. Proximity to water heightens the floodplains' value to wildlife, and overhanging vegetation offers shade and refuge for stream organisms and helps maintain natural stream temperatures. Vegetated floodplains can also act to filter out non-point source pollutants before they enter streams, thus providing a natural mechanism for water quality benefits. Floodplains are excellent locations for water-related recreation sites, as well as for nature study. Since standing floodwaters are steadily absorbed by flood plain soils, groundwater supplies are maintained and flood peaks downstream are reduced.

Flood hazard areas are the areas within the floodplain that are subject to flooding from a storm with a frequency of recurrence of once or more per 100 years (Map CO-2: Surface Water Quality and Flood Hazard Area Map). In general, development should be discouraged within the flood hazard areas and the flood hazard areas should be preserved from developments. Uses that are not significantly harmed by periodic flooding, such as agriculture, recreation, and nature study, should be permitted.



Source: Subwatersheds (HUC14), NJDEP New Jersey Geological Survey, 2000.

Map CO-4
Subwatersheds (HUC 14)
City of Vineland
Cumberland County, New Jersey

T&M ASSOCIATES

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April 2008

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Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.

Wetlands

Wetlands provide critical habitats for endangered and threatened species, as well as being vital to the recharge of aquifers, the control of flooding, and the removal of pollutants from the environment. (See Map CO-5.)

In the City of Vineland, hydric soils support ecological conditions for wetlands. The following Vineland soils are hydric soils or have hydric components:

Table CO-2: Hydric Soils

Hydric Soil	Hydric Rating Components
Atison Sand (AtsAr)	Galloway loamy sand (GamB)
Berryland and Mullica Soils (BEXAS)	Hammonton sandy loam (HboA)
Fallsington sandy loam (FamA)	Lakehurst sand (LakB)
Manahawkin much (MakAt)	Woodstown sandy loam (WoeA)
Othello and Fallsington (OTKA)	

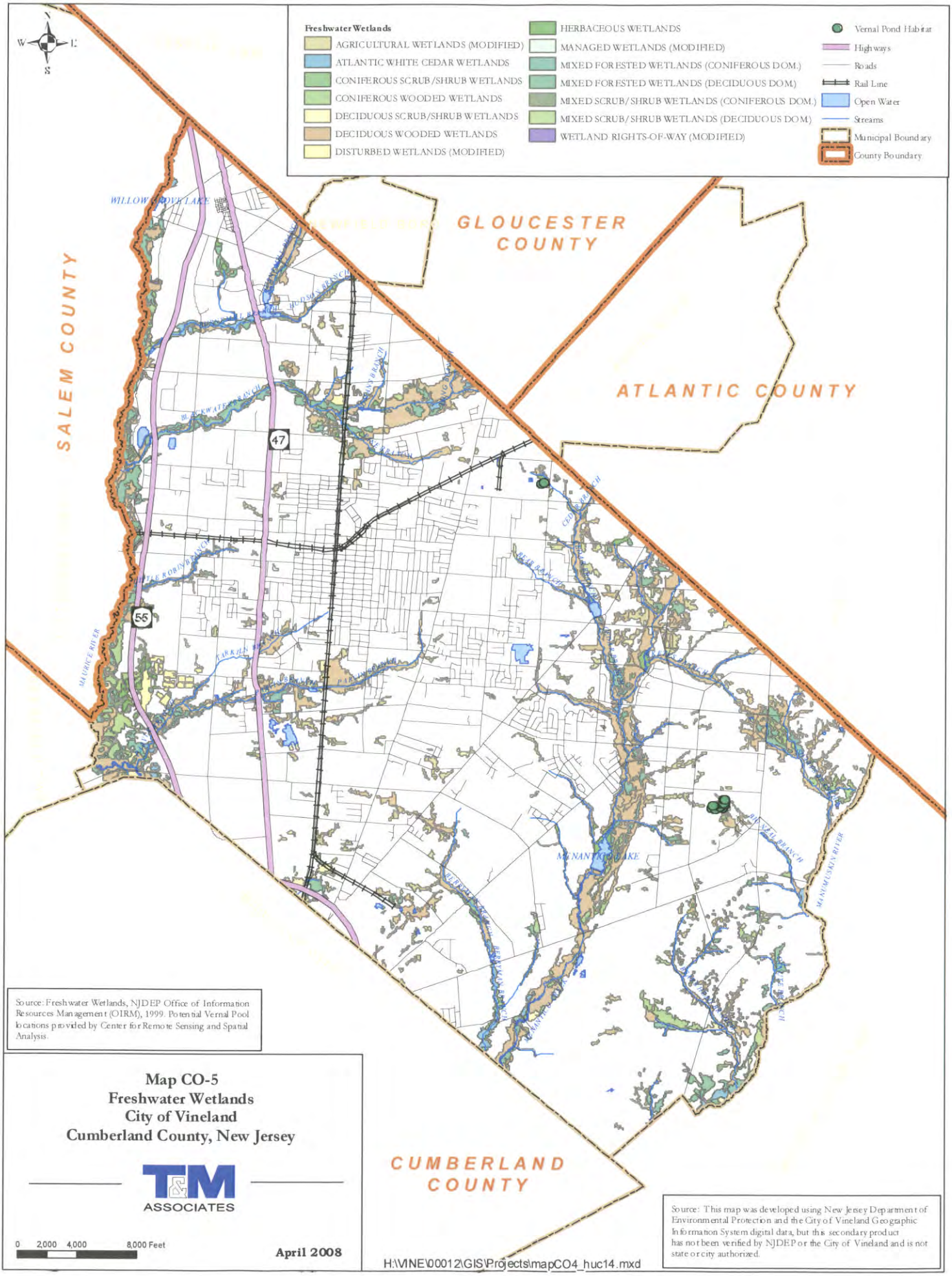
Source: United States Department of Agriculture, Natural Resources Conservation Services. Soil Data Mart, NJ011 Cumberland County, New Jersey. Web search May 13, 2005

The USEPA designated the entire Maurice River system as a priority wetland area. The purpose of the priority wetland designation is to protect resources from potential adverse impacts from dredged or fill material discharged into waters and to recognize regional planning efforts. The resource values are as follows:

- Wetlands of this drainage area are amongst the most pristine natural areas in New Jersey.
- Wetlands support major wintering population of the federally threatened and state endangered Bald eagle and provide historically suitable nesting habitat for this species. By protecting these areas, it is hoped that this area will provide habitat for additional nesting pairs. There are three Bald eagle foraging suitable habitat sites in Vineland. The first is in the southwest corner of Vineland on State preserved property, the second is in a water body near Route 672 and the third surrounds Menantico Lake.
- Other state listed species present include Ospreys, Red-shouldered hawks, Southern gray and Pine Barrens tree frogs, and Barred owls.

Vineland's wetlands are part of the Palustrine System that are grouped as vegetated wetlands (marsh, swamp, bog, fen, and prairie) and are small, shallow, permanent or intermittent water bodies often called ponds. Wetlands are delineated based on the dominate type of vegetation, a total land area less than 20 acres, low water depth and relative salinity. The following species are dominant emergent plants: Cattails, Common reed, Water willow, Purple loosestrife, Rice cutgrass, Burreeds, Arrow arum, Goldenrods, Woolgrass, Soft ruch, Pickerelweed, Smartweeds, Three-way sedge, Sedges, Twig rush,* Bayonet rush,* Canada rush,* Pipeworts,* Bull sedge,* Cottongrass,* Golden club,* Lowland broomsedge,* Manna grasses,* and Beakrushes* (The asterisk (*) donates species characteristics of the Pinelands). Vineland includes deciduous wooded wetlands which are categorized as emergent, flooded, either seasonally or permanently, along the Maurice River and Menantico Creek. The Manumuskin River contains some Atlantic white cedar wetlands and herbaceous wetlands. In the southwest corner, east of Route 55 and above the Parvin Branch there are some disturbed wetland areas. Agricultural wetlands account for a total

of 466.9 acres of Vineland or more than five percent of Vineland. An agricultural wetland is a modified wetland that supports the production and cultivation of water-dependent crop.



Source: Freshwater Wetlands, NJDEP Office of Information Resources Management (OIRM), 1999. Potential Vernal Pool locations provided by Center for Remote Sensing and Spatial Analysis.

Map CO-5
Freshwater Wetlands
City of Vineland
Cumberland County, New Jersey

T&M ASSOCIATES

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April 2008

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Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.

The Nature Conservancy manages a 1,073 acre wetland mitigation bank at the Willow Grove Lake in the City of Vineland and the Township of Pittsgrove. The bank received a total of 40-wetland mitigation credits for freshwater wetland/upland preservation activities. A mitigation bank is a large tract of created or restored wetlands, which has been set aside to offset the future loss of other wetlands.

The wetlands within the City are regulated and protected by the NJDEP pursuant to the State Freshwater Wetlands Protection Act.

Groundwater and Wellhead Protection

The Kirkwood-Cohansey formation is the main source of potable water for the City. The NJDEP Water Supply Administration identifies Vineland's water source as deficit/critical water supply. This designation is given to aquifers where there is significant threat to water supply because of excessive water usage or diversions that result in a diminution of surface water due to the excess groundwater diversion. Vineland is currently permitted to withdraw 3,430 million gallons per year (MGY) of 495.5 million gallons per month (MGM) from the Kirkwood-Cohansey aquifer.[1] The City of Vineland Water-Sewer Utility has a firm capacity of 16.932 million gallons per day (MGD) and is in the process of increasing its capacity to 17.112 MGD. The Water-Sewer Utility reports that draw down from the aquifer is at a rate 6 to 16 MSD. NJDEP reports a total daily peak figure of 14.711 MGD. The monthly total demand is 444.581 MGM and a yearly total demand of 3416.518 MGY. Although operating at a surplus, there is increasing concern on the availability of water for new development and existing farming uses. In addition, if groundwater withdrawal is to continue at its present rate or increased, adequate recharge of important aquifers must be maintained.

Because the Kirkwood-Cohansey formation is the water source for many communities in Southern New Jersey, management of the aquifer is a regional issue. Water supply and stream levels in Vineland can be impacted by development and water withdrawals outside of Vineland.

Groundwater Recharge

Ground water recharge is essential to the health of streams, wetlands, and the yield of water supply wells. Groundwater is needed for the base flow to streams, wetlands, and other water bodies in order to maintain the ecology and geomorphology of these resources.

In Vineland, the highest rate of groundwater recharge to the aquifer is 11 to 15 inches per year (Map CO-3: Groundwater Recharge Areas). The eastern portion of Vineland along the Manumuskin River and Menantico Creek and the western area from Route 47 to the Maurice River provide the highest level of groundwater recharge in Vineland. City planning needs to consider the level of aquifer recharge. Aquifer recharge is the amount of rainwater that actually reaches and replenishes an aquifer instead of being evaporated, consumed by plants and animals, or simply running off the ground surface into streams, rivers, lakes, and the ocean. NJDEP, with New Jersey Geological Survey, is devising a geographic information mapping method to identify how much water can be pumped from water wells drilled into the aquifer.

[1]New Jersey Department of Environmental Protection, Water Supply Administration. (January 20, 2006). Public Water System Deficit/Surplus. Vineland City Water and Sewer Utility- PWSID: 0614003. http://www.state.nj.us/cgi-bin/dep/watersupply/pwsdetail.pl?id=0614003 Accessed January 25, 2006.

The City needs to manage and regulate development to ensure recharge of the aquifer. Areas along the Manumuskin River and in between Route 55 and Route 47 the highest level of groundwater recharge areas in Vineland.

Wellhead Protection Needs

An important water supply and groundwater protection issue is the protection of public community water supply wells from the impact of contaminants associated with particular land uses and chemical management practices. Pollutants can seep through the soil from the land surface and contaminate groundwater and the water supply. Utilizing NJDEP's wellhead protection guidelines, the City has identified twenty-one wellhead protection areas within the City. Wellhead protection area 31-053227 in the northwest section of Vineland has been severely impacted with groundwater pollution and a known contaminated site. To reduce the risk of contamination to the City's water supply, the City needs to regulate the placement and operation of land use activities within wellhead protection areas. The USEPA identifies common sources of contaminants by land use categories as follows:

Table CO-3: Protecting Wellhead Protection Areas: Land Uses and Contaminant Sources

Category	Contaminant Source	
Agricultural	Animal burial area	Irrigation sites
	Animal feedlots	Manure spreading areas/pits
	Fertilizer storage/use	Pesticide storage/use
Commercial	Airports	Jewelry/metal plating
	Auto repair shops	Laundromats
	Boatyards	Medical institutions
	Construction areas	Paint shops
	Car washes	Photography establishments
	Cemeteries	Railroad tracks and yards
	Dry cleaners	Research laboratories
	Gas stations	Scrap and junkyards
	Golf courses	Storage tanks
Industrial	Asphalt plants	Petroleum production/storage
	Chemical manufacture/storage	Pipelines
	Electronics manufacture	Seepage lagoons and sludges
	Electroplaters	Storage tanks
	Foundries/metal fabricators	Toxic and hazardous spills
	Machine/metalworking shops	Wells (operating/abandoned)
	Mining and mine drainage	Wood preserving facilities

Table CO-3: Protecting Wellhead Protection Areas: Land Uses and Contaminant Sources (Continued)

Category	Contaminant Source	
Residential	Fuel oil	Septic systems/cesspools
	Furniture stripping/refinishing	Sewer lines
	Household hazardous products	Swimming pools (chemicals)
	Household lawns	
Other	Hazardous waste landfills	Recycling/reduction facilities
	Municipal incinerators	Road deicing operations
	Municipal landfills	Road maintenance depots
	Municipal sewer lines	Storm water drains/basins
	Open burning sites	Transfer stations

Source: U.S. Environmental Protection Agency. (1991). Protecting Local Ground-Water Supplies Through Wellhead Protection. http://www.epa.gov/r10earth/offices/water/whpgprnt.pdf. Accessed January 19, 2006.

Wellhead protection areas are delineated around public community water wells based on site-specific wellhead information, such as time of travel, rate of pumping and aquifer characteristics (thickness, transmissivity, porosity, and hydraulic gradient). Time of travel of the pollutant to the well is directly related to the distance the water has to travel to arrive at a well once its starts pumping. The time is divided into three tiers based on travel time to wells:

- Tier 1: 2 years (730 days)—This boundary accounts for the time travel to the outer boundary and presence. The boundary extends from the well to the boundary established to represent the 2 year time travel.
- Tier 2: 5 years (1,826 days)—This boundary accounts for the discharge of known pollution contamination and the ability of the NJDEP to locate responsible parties. The boundary accounts for the "smearing effect" observed in pollution plumes and the acceleration of groundwater near a pumping well. The Tier 2 boundary extends from the perimeter of Tier 1 to the boundary representing the 5 year time travel.
- Tier 3: 12 years (4,383 days)—This boundary is the complete zone of contribution and the limit of the wellhead monitoring areas. The Tier 3 boundary extends from the perimeter of Tier 2 to the outer boundary representing the 12 year time travel.

The conservation plan element identifies the boundaries of the wellhead protection areas within the City. The wellhead protection areas for the City's public community wells are located west of the Menantico Creek and clustered in and around the historic City core, as well as the western portion of the City near the Route 55, along the City's northerly boundary, and in the southerly portion of the City. Along the Maurice River, the Nature Conservancy preserved land includes portions of one wellhead protection area in the northwest section of the City. Wellhead protection area preservation requires intergovernmental coordination amongst the neighboring municipalities. For example, in the southern portion of Vineland,

several protection boundaries of wellheads in Millville City are within the City. In addition, two well protection boundaries extend into Franklin Township in the northwestern boundary bordering the City.

Preserved Open Space

Open space is critical for the protection of the City's environment, for maintaining a desirable visual character for the community, and for providing a balanced pattern of land use to address public needs. Preserved open space maintains vegetative and wildlife habitats, provides a natural amenity for the community and opportunities for passive and active recreation, and helps safeguard public health and safety through the protection of air and water quality.

Within Vineland, 5,662 acres of land are publicly owned or owned by non-profit conservancies and dedicated as preserved open space. This represents 12.8 percent of the total land area in Vineland. Nearly seventy percent of the preserved open space is managed by the State, and twenty-two percent is under the Nature Conservancy. The City has preserved under ten percent of the dedicated open space.

The existing preserved open spaces of the City are shown on Map CO-1: Conservation Plan Map and identified in the table below.

Table CO-4: Preserved Open Space

City of Vineland	State	Nature Conservancy
Burnt Mill Pond	Maurice River Wildlife Conservation Area	Manumuskin Preserve
Cunningham Park	Peaslee Fish and Wildlife Management Area	Willow Grove Preserve
Fiocchi Park		
Giampietro Memorial		
Gittone Memorial		
Landis Memorial		
Normandie Lane		
South Vineland Park		
Westside Park		
Willow Grove		
Willow Oak		

Compiled by: T&M Associates

The City, working with the State, the County, private land-owners and conservancies should preserve additional open space within the community. The City conservation plan element proposes to add three additional natural areas for open space preservation purposes as follows:

- Main Avenue Station. Located on the Central Railroad line and adjacent to Vine Road, the Main Avenue Station is a site with known rare vegetative species that the City of Vineland Environmental Commission has identified for preservation as a natural habitat area for indigenous plants.[2]

[2]Moore, G. (February 1995). A Report on Rare and Endangered Plants of the Maurice River Watershed. Prepared for Citizens United.

- Parvin Branch. Located in the vicinity of Sherman Avenue & Mill Road and at the Vineland Parvin Branch segment is a site with known federal endangered vegetative species (Swamp pink *Helonias bullata*) and suitable habitat for Bald eagles.
- Menantico Lake. Menantico Lake is located at the beginning of the segment of Menantico Creek that is classified by the National Wild and Scenic River System as a scenic river. The Lake provides suitable habitat for a variety of threatened and endangered species, as well as Bald eagle foraging habitat. The Menantico dam has been compromised and both the dam and the lake need to be restored. The Menantico Lake area should be protected for its biological diversity and for resource based recreation opportunities including fishing, wildlife observation, and trails.

The public effort to preserve open space should include lands in addition to the above natural areas in order to protect the City's resources and environmentally critical lands. There is no set formula for calculating the land area which should be preserved as open space for resource protection. The objective is to preserve sufficient land to protect the resource.

In addition to the new natural areas proposed by this conservation plan for preservation as open space, the City should expand existing natural areas to buffer them from the impact of development.

Rare, Threatened, Endangered or Priority vegetative and wildlife species

The City contains significant suitable habitat for rare, threatened, endangered or priority species that has been identified as critical for the survival of native flora and fauna, the recharging of aquifers, biodegradation of environmental contaminants, the prevention of flood damage, and the protection of drinking water and air quality, as well as preservation of open space for outdoor recreation.[3]

Vineland supports many rare vegetative species (see Map CO-6). A third of the rare vegetative species recorded in the watershed occur in upland systems.[4] The City's rare species include:

Table CO-5: Rare and Ecological Community Habitat Vegetative Species

State Endangered	
Chickasaw plum *Prunus angustifolia*	Coast Flatsedge *Cyperus polystachyos*
Pine Barren Boneset *Eupatorium resinosum*	Small-yellow Pond Lily *Nuphar microphylla*
Virginia False Gromwell *Onosmodium virginianum*	
Rare	
Aster-like Boltunia *Boltonia asteroids var asteroids*	Barratt's Sedge *Carex barrattii*
Clasping Leaf St. John's Wort *Hypericum gymnanthum*	Curly Grass Fern *Schizaea pusilla*
Floating Heart *Nymphoides cordata*	Hyssop-leaf Hedge-Nettle *Stachys hyssopifolia*
Mudbank Crown Grass *Paspalum dissectum*	Narrow Leaf Bluecurls *Trichostema setaceum*
Oaks Pondweed *Potamogeton oakesianus*	Racemed Milkwort *Polygala polygama*
Red milkweed *Asclepias rubra*	Rose-color coreopsis *Coreopsis rosea*

[3]The Landscape Project defines priority species as nongame wildlife that are considered by the Department to be species of special concern as determined by a panel of experts. The term also includes wildlife species of regional concern in regional conservation plans such as Partners in Flight Bird Conservation Plans, North American Waterbird Conservation Plans, United States Shorebird Conservation Plan, etc.
[4]Moore, G. (February 1995). A Report on Rare and Endangered Plants of the Maurice River Watershed. Prepared for Citizens United.

Pencil-flower *Stylosanthes biflora*	Pine Barren Smoke Grass *Muhlenbergia torreyana*
Purple Bladderwort *Utricularia purpurea*	Slender nut-rush *Scleria minor*
Twisted spike-rush *Eleocharis tortilis*	Velvety tick-Treefoil *Desmodium viridiflorum*

Source: New Jersey Department of Environmental Protection, Office of Natural Lands Management. Natural Heritage Database. Web search May 16, 2005.

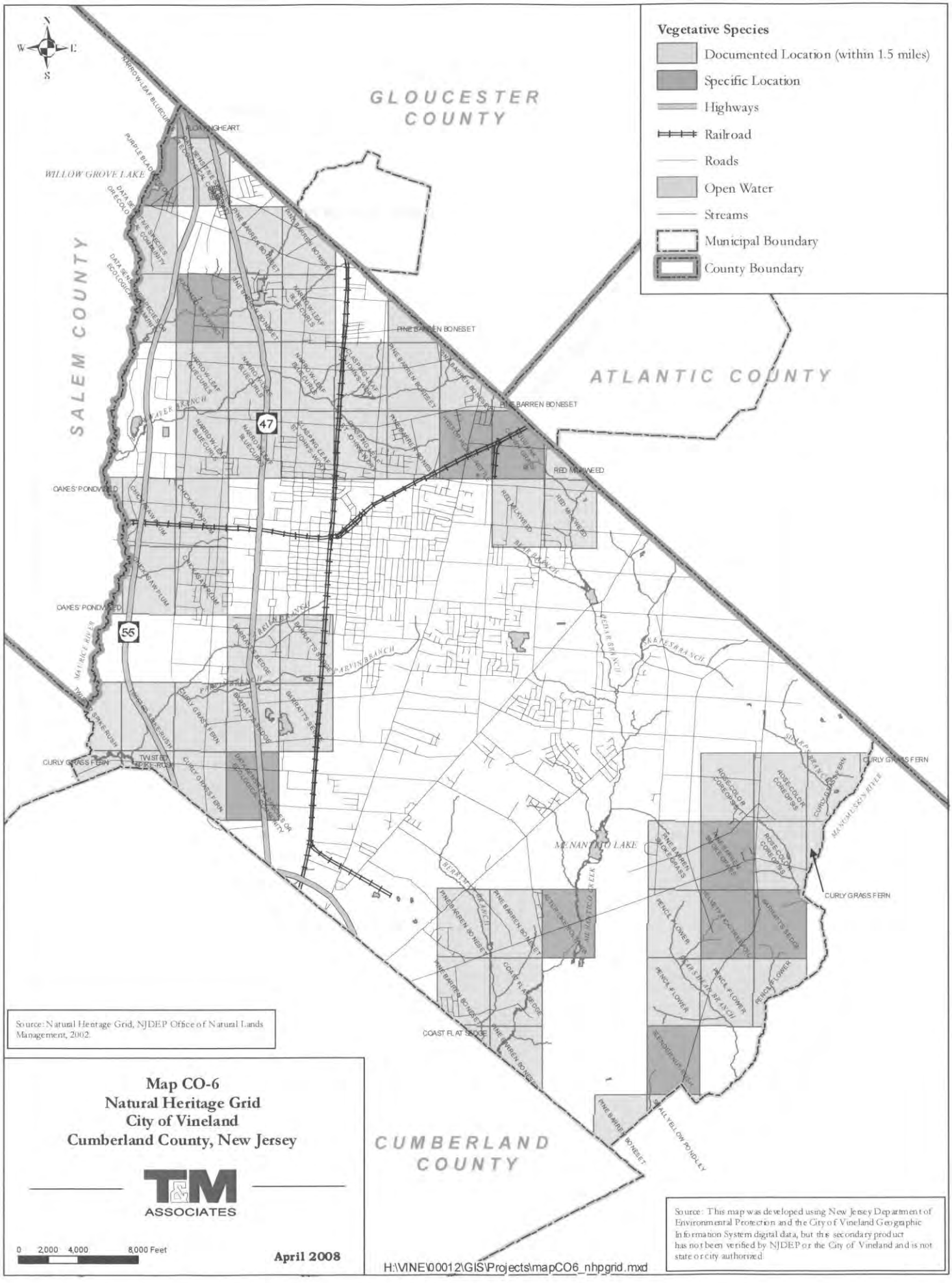
Vineland is located within Delaware Bay Region, which is nationally recognized as one of the country's most important migratory "stopovers" for hundreds of bird and insect species. The City contains vast tracts of contiguous area that are crucial to species survival. In Vineland 46.04% (20,328.66 acres) is forest cover, 12.95% (5,719.64 acres) is forested wetland, 1.54% (679.12 acres) is emergent wetland and 11.10% (4,899.76 acres) is grassland. Bald eagle foraging habitat totals 1.0% or 421.85 acres.

NJDEP has devised a ranking system to identify suitable habitat areas for threatened and endangered species in the Landscape Project (see Map CO-7: Habitats) and are ranked on a scale of 1 to 5, as follows:

Rank	Indication
1	Suitable habitat, no special concern, threatened or endangered species sighted
2	Habitat patch with species of special concern present
3	Habitat patch with State threatened species present
4	Habitat patch with State endangered species present
5	Habitat patch with containing one or more occurrences of at least one wildlife species listed as endangered or threatened on the Federal list of endangered and threatened species.

To successfully preserve threatened, endangered or priority species, the City should plan to reduce habitat fragmentation. Fragmentation results in smaller, dispersed, disconnected "edge habitats." Edge habitats are the zones along the boundary of a habitat that increase while the amount of interior core habitat decreases.

The degree of area sensitivity (minimum core breeding habitat) and vulnerabilities (fragmentation, disease, invasive species) varies from species to species. For example, some species that prefer interior forests are vulnerable to habitat fragmentation, while others are not. Species that prefer interior forests and are vulnerable to fragmentation include the Neotropical Acadian flycatcher and the Black-and-White warbler and the "resident" Carolina chickadee and the Hairy woodpecker. However, the Neotropical Baltimore oriole is not vulnerable to habitat fragmentation. Of the species that prefer grassland habitat, most are short distance species and have area sensitivity. However, the "resident" species, the Northern bobwhite does not. Species that prefer shrub-scrub/barrens emergent wetland ecology are Neotropical and much is not known of their vulnerability to fragmentation.


Vegetative Species
Documented Location (within 1.5 miles)
Specific Location
Highways
Railroad
Roads
Open Water
Streams
Municipal Boundary
County Boundary
GLOUCESTER COUNTY
SALEM COUNTY
ATLANTIC COUNTY
CUMBERLAND COUNTY
WILLOW GROVE LAKE
MENANTICO LAKE
47
55
PINE BARRENS BONESET
RED MAYWEED
CURLY GRASS FERN
COAST FLAT SEDGE
Source: Natural Heritage Grid, NJDEP Office of Natural Lands Management, 2002.
Map CO-6
Natural Heritage Grid
City of Vineland
Cumberland County, New Jersey
TM ASSOCIATES
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April 2008
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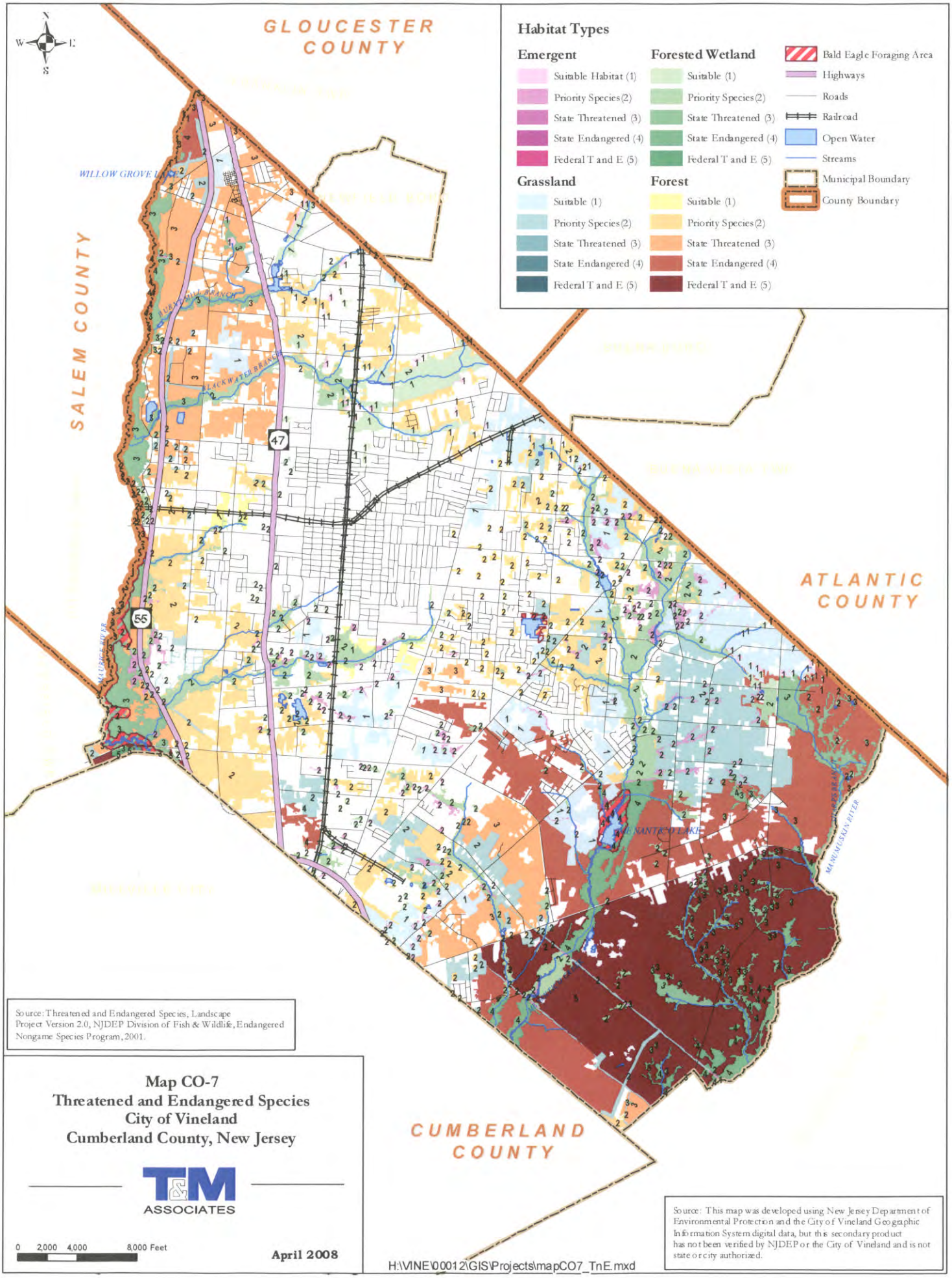
Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.

Table CO-6: City of Vineland Endangered, Threatened, and Priority Species

Delaware Bay	Emergent Wetland	Forested Wetland	Forest	Grassland
Birds				
Federal Threatened				
Bald Eagle Foraging Area (NB: Non-breeding population only *Haliaeetus leucocephalus*				
Priority Species				
Acadian Flycatcher *Empidonax virescens*		X	X	
Baltimore Oriole *Icterus galbula*			X	
Black-and-White Warbler *Mniotilta varia*		X	X	
Blue-Winged Warbler *Vermivora pinus*		X		
Brown Thrasher *Toxostoma rufum*		X	X	
Carolina Chickadee *Parus carolinensis*		X	X	
Eastern Kingbird *Tyrannus tyrannus*				X
Eastern Towhee *Pipilo erythrophthalmus*		X	X	
Gray Catbird *Dumetella carolinensis*		X	X	
Hairy Woodpecker *Picoides villosus*			X	
Northern Bobwhite *Colinus virginianus*				X
Herptiles				
Priority Species				
Carpenter Frog *Rana virgatipes*	X	X		
Eastern Box Turtle *Terrapene carolina carolina*				X
Eastern Kingsnake *Lampropelitis getula getula*		X	X	
Fowler's Toad *Bufo fowleri*	X	X		

Source: New Jersey Department of Environmental Protection, Division of Fish and Wildlife, Endangered and Nongame Species Program—*New Jersey's Landscape Project, Version 2.0.* Web Search May 12, 2005.



Source: Threatened and Endangered Species, Landscape Project Version 2.0, NJDEP Division of Fish & Wildlife, Endangered Nongame Species Program, 2001.

Map CO-7
Threatened and Endangered Species
City of Vineland
Cumberland County, New Jersey

T&M ASSOCIATES

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April 2008

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Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.

Bald Eagle Foraging Areas

The City contains three Bald eagle (*Haliaeetus leucocephalus*) foraging habitat areas. Suitable Bald eagle habitat contains areas with forests that are associated with bodies of water. Eagles prefer areas that are free of human disturbance and build large nests in "supercanopy" trees (Supercanpoy trees are much taller than the immediate surrounding trees). Typical foraging habitats include large perch trees, which are critical for hunting fish and other waterfowl.

To support and maintain the City's Bald eagle population, it is essential to protect eagle breeding, roosting, and wintering areas. This is achieved by keeping shoreline areas free of development, maintaining large trees and establishing buffers around known nests. This conservation plan recommends preserving the known Bald eagle foraging areas as part of the City's open space. The plan further recommends that a forestry management plan be prepared to determine the adequate appropriate measures to protect Bald eagles habitat.

Forest

Forested area makes up a large part of Vineland's ecology. In the southeastern section of Vineland there are contiguous forested areas which are within the Pinelands National Reserve, the Nature Conservancy's Manumuskin River Preserve, and the Peaslee Fish and Wildlife Management area. Forested areas can also be found along the Maurice River and its tributaries.

According to the Landscapes Project, there are nine known priority species that are located within forested areas. Suitable habitat is provided for the following bird priority species: Acadian flycatcher, Black-and-White warbler, Baltimore oriole, Brown thrasher, Carolina chickadee, Eastern towhee, Gray catbird, and Hairy woodpecker and the state priority herptile, the Eastern kingsnake.

Forested Wetland

Forested wetland habitat forms a natural band along the Maurice River and its tributaries and the Menantico Creek. The three branches Sharps, Big Neal and Cantune of the Manumuskin River also contain forested wetlands.

According to the Landscapes Project, there are nine known priority species that are located within forested wetlands areas. Suitable forested wetland habitat is provided for the following bird priority species: Acadian flycatcher, Black-and-White warbler, Black-winged warbler, Brown thrasher, Carolina chickadee, Eastern towhee, and Gray catbird. The forested wetland areas contain suitable habitat for the state priority herptile Carpenter frog and the Fowler's toad.

Emergent

There are some emergent wetland areas along the Cedar Branch of the Menantico Creek. The City contains suitable habitat for the state priority herptile Carpenter frog and the Fowler's toad.

Grassland

Grasslands encompass an area in the northeastern section of Vineland along the Menantico Creek. The City contains habitat suitable for the state priority bird species the Eastern kingbird and Northern bobwhite and for the herptile the Eastern box turtle.

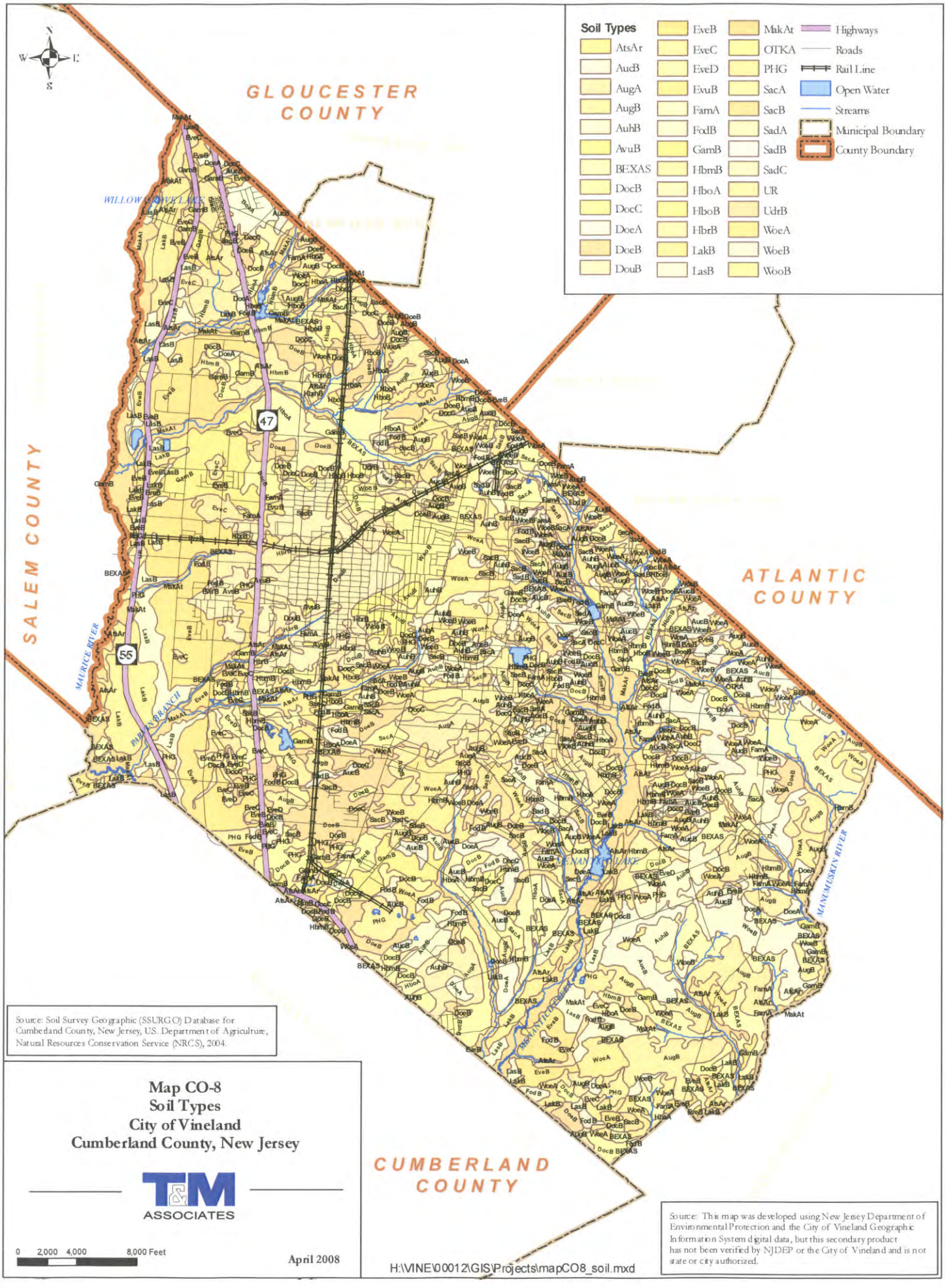
In order to retain ecological integrity, land development patterns should minimize the harm to habitats and ecosystems. The extent of land development, the type of development, and the location of infrastructure have direct and long-lasting implications for ecosystems. By interrupting feeding, dispersal, and breeding patterns, even a single roadway can affect the population and diversity of species across a wide area.

Vernal Ponds

The conservation plan identifies two vernal ponds within the City at Main Avenue Station and along the Big Neal Branch of Manumuskin tributary. Vernal ponds are temporary pools of water created by snow melt or spring rains and are essential spawning grounds for salamanders.

Soils

Soil characteristics affect the suitability of land for development and different types of use and activity. Septic suitability, erodibility, depth to water table, and fertility are all affected by the characteristics of a community's soils. According to the United States Department of Agriculture, Natural Resource Conservation Services, there are sixteen soil series, each with a corresponding component, totaling thirty-six in the City of Vineland (see Map CO-8). Table CO-7 presents the hydric rating, the seasonal water table depth, runoff potential, and the land class and suitability for different land uses and septic suitability for each soil. Map CO-9 presents the limitation for septic systems in Vineland based upon soil conditions.



Source: Soil Survey Geographic (SSURGO) Database for Cumberland County, New Jersey, U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS), 2004.

Map CO-8
Soil Types
City of Vineland
Cumberland County, New Jersey

T&M ASSOCIATES

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April 2008

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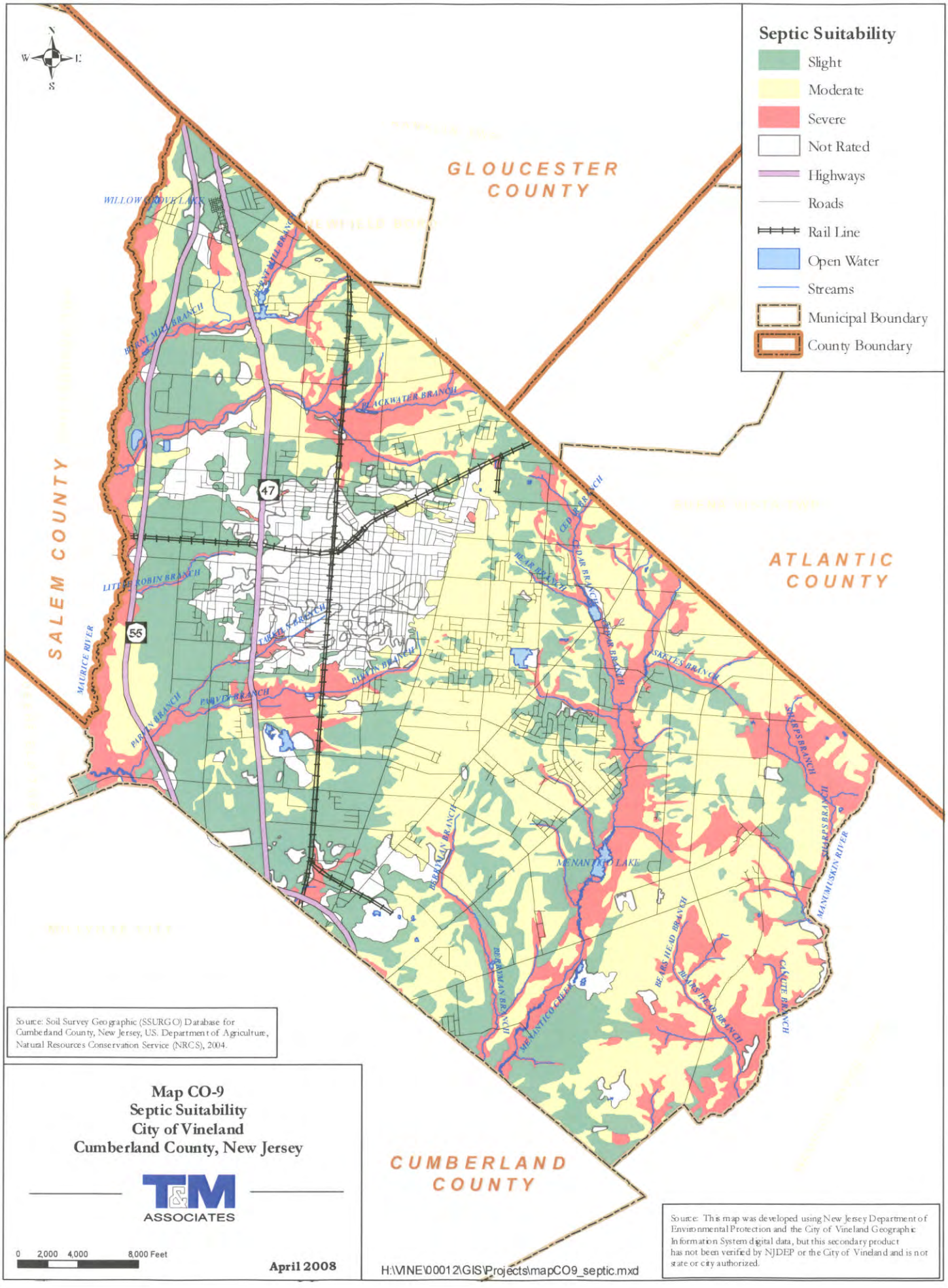
Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.


Septic Suitability
Slight
Moderate
Severe
Not Rated
Highways
Roads
Rail Line
Open Water
Streams
Municipal Boundary
County Boundary
GLOUCESTER COUNTY
ATLANTIC COUNTY
CUMBERLAND COUNTY
SALEM COUNTY
47
55
MAURICE RIVER
BLACKWATER BRANCH
MENANTICO LAKE
MANUMUSKIN RIVER
Source: Soil Survey Geographic (SSURGO) Database for Cumberland County, New Jersey, US. Department of Agriculture, Natural Resources Conservation Service (NRCS), 2004.
Map CO-9
Septic Suitability
City of Vineland
Cumberland County, New Jersey
T&M ASSOCIATES
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April 2008
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Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.

TABLE CO-7: SOILS (Sheet 1 of 3)

Soil	Hydric Rating	Seasonal Water Table Depth	Septic Suitability	Potential Runoff Class	Kw Erodibility Factor	NonIrrigated Capability Class (Irrigated)	Farmland Soils Designation	Structures Permitted	Road Suitable (Hazard of Erosion)	Open Space Trails
AtsAr	2B3	2 Inches	Severe	Negligible	.17	5w	Unique	Very Limited	Moderate (Slight)	Very Limited (too sandy)
AucB		6 feet	Moderate	Medium	.15	2s	Prime	Not Limited	Well (Slight)	Somewhat Limited (too sandy)
AugA		20 Inches	Moderate	Medium	.20	2s	Prime	Not Limited	Well (Slight)	Not Limited
AugB		20 inches	Moderate	Low	.20	2e	Prime	Not Limited	Well (Moderate)	Not Limited
AuhB		6 feet	Moderate	Medium	.15	2e	Prime	Not Limited	Well (Moderate)	Not Limited
AvuB			Unknown		.20	2e				
BEXAS (Berryland/ Mullica)	2B3, 3	0 inches	Severe	Negligible	.10/.28	5w (For BEXAS)	Unique	Very Limited	Poorly (Slight)	Very Limited (too sandy)
DocB		Greater than 6 feet.	Slight	Very Low	.15	2s	State	Not Limited	Well (Slight)	Somewhat Limited (too sandy)
DocC		Greater than 6 feet.	Slight	Low	.15	3e	State	Not Limited	Moderate (Moderate)	Somewhat Limited (too sandy)
DoeA		Greater than 6 feet	Slight	Very Low	.15	1	Prime	Not Limited	Well (Slight)	Not Limited
DoeB		Greater than 6 feet	Slight	Low	.28	2e	Prime	Not Limited	Well (Moderate)	Not Limited
DouB		Greater than 6 feet	Unknown	Low	.20	2e				
EveB		Greater than 6 feet	Slight	Negligible	.10	7s		Not Limited	Moderate (Moderate)	Very Limited (too sandy)

TABLE CO-7: SOILS (Sheet 2 of 3)

Soil	Hydric Rating	Seasonal Water Table Depth	Septic Suitability	Potential Runoff Class	Kw Erodibility Factor	NonIrrigated Capability Class (Irrigated)	Farmland Soils Designation	Structures Permitted	Road Suitable (Hazard of Erosion)	Open Space Trails
EveC		Greater than 6 feet	Slight	Negligible	.17	7s		Not Limited	Poorly (Moderate)	Very Limited (too sandy)
EveD		72 inches	Moderate	Negligible	.17	7s		Somewhat Limited	Moderate (Slight)	Very Limited (too sandy)
EvuB		Greater than 6 feet	Unknown	Negligible	.17	7s				
FamA	2B3	2 inches	Severe	Negligible	.28	4w	State	Very Limited	Moderate (Slight)	Very Limited
FodB		72 inches	Slight	Very Low	.20	3s(2s)	State	Not Limited	Well (Slight)	Somewhat Limited (too sandy)
GamB	2B3	21 inches	Unknown		.17	3w	State	Somewhat Limited	Well (Slight)	Somewhat Limited (too sandy)
HdmB		18 inches	Moderate	Very Low	.10	2w	State	Somewhat Limited	Well (Slight)	Somewhat Limited (too sandy)
HboA	2B3	18 inches	Moderate	Very Low	.32	2w	Prime	Somewhat Limited	Well (Slight)	Somewhat Limited
HboB		18 inches	Moderate	Very Low	.32	2w	Prime	Somewhat Limited	Well (Slight)	Somewhat Limited
HbrB		18 inches	Unknown	Very Low	.10	2w		Not Rated		
LakB	2B3	18 inches	Moderate	Negligible	.10	4w		Somewhat Limited	Moderate (Slight)	Very Limited (too sandy)
LasB		Greater than 6 feet	Slight	Negligible	.10	7s		Not Limited	Moderate (Slight)	Very Limited (too sandy)
MakAt	1, 3	0 inches	Severe	Negligible	.10	7w	Unique	Very Limited	Poor (Very Serve)	Very Limited (too sandy)
OTKA (Othello/ Fallsington)	2B3	2 inches	Severe	Negligible	.37/.05	3w	State	Very Limited	Moderate (Slight)	Very Limited

TABLE CO-7: SOILS (Sheet 3 of 3)

Soil	Hydric Rating	Seasonal Water Table Depth	Septic Suitability	Potential Runoff Class	Kw Erodibility Factor	NonIrrigated Capability Class (Irrigated)	Farmland Soils Designation	Structures Permitted	Road Suitable (Hazard of Erosion)	Open Space Trails
SacA		Greater than 6 feet	Slight	Low	.28	1	Prime	Not Limited	Well (Slight)	Not Limited
SacB		Greater than 6 feet	Slight	Medium	.28	2e	Prime	Not Limited	Well (Moderate)	Not Limited
SadA		72 inches	Moderate		.37	2e	Prime	Not Limited	Well (Slight)	Not Limited
SadB		72 inches	Moderate		.17	2e	Prime	Not Limited	Well (Slight)	Not Limited
SadC		72 inches	Moderate		.37	3e	State	Not Limited	Moderate (Moderate)	Not Limited
UdrB	2B3, 3	Greater than 6 feet	Unknown		.37			Somewhat Limited	Moderate (Moderate)	Somewhat Limited
WoeA	2B3	18 inches	Moderate	Negligible	.15	2w	Prime	Somewhat Limited	Well (Moderate)	Somewhat Limited
WoeB		18 inches	Moderate	Very Low	.20	2w	Prime	Somewhat Limited	Well (Moderate)	Somewhat Limited
WooB		18 inches	Unknown	Very Low	.24	2w		Not Rated		

Source: United States Department of Agriculture, Natural Resources Conservation Services. Soil Data Mart, NJ011 Cumberland County, New Jersey. Web search May 13, 2005. & United States Department of Agriculture, Soil Conservation Service. Soil Survey of Cumberland County, New Jersey (1973).

CONSERVATION PLAN RECOMMENDATIONS

The development of Vineland should be consistent with the principle of sustainable development. Sustainable development meets the needs of the present without compromising the ability of future generations to meet their needs. Development should not exceed the limits of Vineland's natural systems and its infrastructure system nor should it degrade those systems. Consistent with the principle of sustainable development, the City should take the following actions to achieve its conservation goals and objectives and meet the City's needs for resource protection:

Establish a City Open Space and Preservation Program

Vineland should establish a program to preserve additional open space to protect the City's natural resources. A successful City program will include municipal funding to leverage monies from the State for preserving open space. This will expand the protected natural areas in Vineland and help implement a system of greenbelts and greenways. Vineland should take the following actions to implement an open space preservation program:

- Maintain a dedicated source of funding or alternative means to fund open space preservation in Vineland and use the funds to leverage additional State funds for open space in Vineland.

- Apply to the State Green Acres Program for a Planning Incentive Grant for open space preservation funds from Garden State Preservation Trust to preserve open spaces in Vineland.

Establish a System of Greenbelts and Greenways

Vineland should establish an open space system of greenbelts and greenways to protect its environmentally critical lands and natural resources. The system will conserve threatened, endangered or priority species habitat; protect water quality and quantity, promote ground water recharge, protect the forest resources of the City, provide for resource based recreation opportunities, protect the City water supply, protect scenic resources and the community's desirable visual environment, control flooding, and promote balanced land use and a compact, efficient, and sustainable pattern of development within Vineland.

A. Greenbelts

Greenbelts are areas of open land that define the developed edge of a community and may be cultivated or left in its natural state. Vineland should maintain a western greenbelt, an eastern greenbelt, and a northern greenbelt.

The western greenbelt would be located and maintained between the Maurice River and Route 55. The western greenbelt will sustain the river environment and the natural resources associated with Vineland's largest stream and the upper segment of one of the most important river systems in New Jersey. The greenbelt would include the wellhead protection areas along Wheat Road, the Willow Grove Lake Natural Area and wetlands mitigation bank, Swamp pink habitat, and help buffer existing preserved open spaces from sprawl or leap-frog development. The proposed Parvin Branch Natural Area would be located in the western greenbelt.

The eastern greenbelt would generally run along Hance Bridge Road and the Cedar Branch of Menantico Creek east to the Manumuskin River and the City's eastern boundary. The eastern greenbelt will sustain

greenfields and an important agricultural area of the community, preserve important natural habitat areas (including Bald eagle foraging areas) from fragmentation, and help buffer existing preserved open spaces from sprawl or leap-frog development. The eastern greenbelt includes lands under the jurisdiction of the Pinelands as well as scenic, natural, and recreational resources associated with the Menantico Creek and the Manumuskin River. The proposed Menantico Lake Natural Area would be located in the eastern greenbelt.

The northern greenbelt would run generally along the northern boundary of the City from the Maurice River to the upper branches of Menantico Creek. The greenbelt would include existing farms, open spaces and greenfields, streams, low density development, and wellhead protection areas along the City's northern border. The proposed Main Avenue Station Natural Area would be located in the eastern greenbelt.

B. Greenways

A greenway is a linear corridor of open space that includes preserved public or private land and that may link Vineland's historic core and outlying areas, public recreation areas, and environmentally sensitive areas. Parts of greenways may be established as scenic or recreational open space and parts may be set aside for farming or wildlife habitat. Trails and streams may be included in greenways, but greenways or parts of greenways may not allow public access. Greenways may be owned either publicly or privately and acquired as open space through fee simple acquisition or through conservation easements. Greenways may function as part of one of the City's greenbelts and vice versa.

The City greenway system will be located along the City's stream corridors in conjunction with a program of stream corridor protection and restoration. The City has already successfully preserved open space segments along the Maurice River, the Blackwater Branch, and the Manumuskin River to begin its greenway system.

Conservation of Stream Corridors and Flood Hazard Areas

Vineland needs to regulate development to conserve its stream corridors and its flood hazard areas. City regulations should conserve stream corridors from development and from activities that would adversely affect the stream environment. The flood hazard areas should be regulated to minimize the potential for damage to life and property from flood events and to recognize that the flood hazard area needs to be maintained as an open space area to reduce the impact of flood events on the City.

The City zone plan includes districts to conserve the segments of Menantico Creek and the Manumuskin River that are designated as scenic as part of the National Wild and Scenic River System. State regulation protects certain streams within Vineland as Category One waters. The City should enact minimum standards to protect all stream corridors and to restrict the development of flood hazard areas. The minimum standards for stream corridor protection should provide for a stream buffer with a minimum width as part of the stream corridor. The City should regulate all flood hazard areas to conserve the flood hazard area from development and minimize the potential for flood damage. The regulations should identify the activities and uses that would be permissible within the stream corridor and the flood hazard areas.

Regulate Development in Wellhead Protection Areas

Vineland provides and maintains the public water treatment and distribution system in the City. Vineland public water supplies are derived exclusively from ground water sources. Thirteen (13) wells, ranging in depth from 130 to 184 feet, supply water to the City's distribution system. The source of the water is the Cohansey-Kirkwood aquifer. Consequently, protecting the Cohansey-Kirkwood aquifer and the City's wellheads from contamination is essential to the public health, safety, and welfare.

The State has mapped twenty-one (21) wellhead protection areas for the public community wells in Vineland. These are the protection areas for wells that serve at least fifteen (15) service connections to year round residents or regularly serve at least twenty-five (25) residents. The City should establish wellhead protection areas for public community wells based upon the State mapping.

A wellhead protection area is the area around a well from within which groundwater is likely to flow to the well and through which ground-water pollution, if it occurs, poses a significant threat to the water quality of the well. The wellhead protection area should be regulated to control the siting and development of land uses to reduce the potential for ground water contamination and the migration of pollutants into the ground water.

Encourage Compact and Energy Efficient Community Development

Energy consumption is growing and energy is increasingly expensive. A compact pattern of community development, in conjunction with practices that promote energy efficient design and conservation, will consume less material and energy resources and will be beneficial both environmentally and economically. Compact development will help reduce the emission of greenhouse gases into the atmosphere and promote better air quality. Vineland plans to conserve energy, material, and natural resources by directing future growth away from ecologically sensitive areas and farm areas and toward the City's previously developed urban and suburban areas. This strategy supports the vitality of the City's urban and suburban areas that already have in place the appropriate infrastructure and community facilities to support and serve the City population. The City will promote energy conservation by utilizing its existing urban and suburban footprint more efficiently through the redevelopment and rehabilitation of the City's downtown, by reclaiming brownfields for beneficial economic development, through the adaptive reuse of existing developed sites, by promoting the infill of areas where sewer and water lines are currently available, and by designing walkable neighborhoods and an environment that is friendly to pedestrian, bicycle, and public transportation use.

In addition, the City should incorporate LEED® (Leadership in Energy Environmental Design) building standards into all public buildings and encourage their use in new development. The U.S. Green Building Council has established a green building certification process called LEED. LEED establishes specific standards for site suitability, water efficiency, energy and atmosphere conservations, building materials and resources and indoor environmental quality for new construction, existing buildings, and commercial interiors. LEED standards are currently being applied in New Jersey. In all of New Jersey's Abbott districts, such as Vineland, the construction of new schools requires LEED certification.

Conserve Forests and Trees

Forests and trees are important to the City's identity and environmental health. Vineland's forests are an important part of the City's natural landscape and habitats. Forests provide protect water and air quality, control flooding, reduce stormwater runoff and erosion. Forests absorb carbon dioxide and release oxygen

into the atmosphere. Forests reduce greenhouse gas emissions, especially carbon dioxide, and they help control global warming.

Trees are important to urban and suburban areas. The planting, maintenance, and protection of trees benefits the urban and suburban environment. Planting or preserving trees in strategic locations can reduce energy demand in buildings and heating and cooling costs. Trees are beneficial for stormwater management, for controlling erosion, and for masking urban noise. Trees can mitigate the adverse impacts of the urban heat island effect. When planted in parking lots and streets, trees are effective in cooling and beautifying the urban and the suburban environment.

The clear cutting of forests and trees to prepare a development site has substantially adverse environmental impacts. To conserve its forests and trees, Vineland's conservation plan recommends the enactment of development design standards and requirements to effectively conserve the City's forest and tree resources and mitigate their loss to development. The requirements would include submission of information and an inventory to identify the existing trees and forest resources of sites proposed for development, measure, protect and to retain specimen trees or tree stands as part of a tree-save plan, limitations on clear-cutting, and requirements for replacement planting, landscaping, or reforestation to mitigate the adverse impact of the development on the City's tree and forest resources.

Provide Development Practices that Preserve Open Space and Farms and Reduce Environmental Impacts

Maintaining a compact pattern of development and protecting environmentally critical lands, resources, and farm areas is a principle of the City plan. Vineland should provide for development practices that support this principle. Consequently, the City plan recommends that Vineland plan for the following three practices to facilitate the preservation of farms and open space and to reduce the environmental impact of development. The three practices are the Transfer of Development Rights (TDR), residential cluster development, and lot size averaging.

A. TDR

The State Transfer of Development Rights Act enables a municipality to transfer the development potential from a sending area where the public plans to preserve open space or farms, to a receiving area where the community plans for growth and development. In order to implement a TDR program as authorized by the State Transfer of Development Rights Act, Vineland would have to complete additional analyses and planning documents as required by the State in order to adopt and implement a TDR ordinance. TDR could be applied in Vineland to preserve the farms and open spaces of the City's planned greenbelts, greenways, and natural areas and then transfer the development potential to support the revitalization of Vineland's historic urban center. TDR could also be applied to the infill of suburban and rural transition areas that have sewer and water infrastructure in place.

B. Residential Cluster Development

Residential cluster development is a land use and zoning technique permitted by the New Jersey Municipal Land Use Law. Residential cluster development places the housing and roads on only a portion of the total land area proposed to be developed. The remainder of the land area is preserved as open space by the developer. The open space portion of the development may then be dedicated and owned and maintained by a homeowners association or dedicated to a land trust or to the municipality.

Cluster zoning is a common suburban development technique and an alternative to conventional subdivision for single family development. Under the residential cluster option, the number of dwellings permitted is equal to the number of dwellings that could be developed under a conventional subdivision. However the cluster lots would be smaller than the conventional lots. The buildings and land development and disturbance would be concentrated in specific areas on the site to allow the remaining land to be preserved as common open space.

A well designed cluster reduces impervious surfaces and reduces the construction cost and site disturbance from the installation of roads and infrastructure. This results in savings to the community, to the environment, and to the developer.

Clustering is most effective in preserving open space and reducing site disturbance and infrastructure in low density suburban areas that are sewered and where the permitted density of conventional development is 0.5 to 1.0 dwelling unit per acre. Under such conditions, the cluster lots can be reduced in area so that at least 50 percent of the land can be retained as permanent common open space.

C. Lot Averaging

Lot Averaging is a subdivision technique permitted by the Municipal Land Use Law and allows a reduction and variation in individual lot areas and yards in a subdivision provided that the average of the subdivision lot areas and yards conforms to the conventional zone requirements. Under this technique, smaller lots are offset by larger lots. In very low density areas (0.2 dwelling units per acre or less) and on large tracts, lot averaging can facilitate subdivision design that reduces impacts on environmentally critical lands and can help preserve farms and open space. To be effective and prevent abuse, the number of residential lots permitted under lot averaging should be the same as the number that would be allowed without averaging. In addition, to secure the environmental and open space benefits of lot averaging, deed restrictions should be required prohibiting further subdivision of lots that are creating though lots size averaging.

FARMLAND PRESERVATION

PURPOSE

The City of Vineland's agricultural economy begins with the City's founding in 1861 as a planned agricultural community and runs through to the present day. The City plan is to preserve farms and farmland and to sustain agriculture as part of the City's economic base. Agriculture and agribusiness continue to be important to the City's economic diversity and to Vineland's character and identity as a South Jersey community and center for the production of fresh produce and other food products. The City's vision for a sustainable future includes maintaining a productive agricultural base as part of the local economy. The City is committed to balanced land use planning that preserves farming as a business and as a major land use within Vineland.

The City recognizes that productive farmland is a diminishing resource in New Jersey. Given the City's highly suitable soils and location for agricultural production, the City's goal is to promote farming as a business and preserve the greatest possible amount of Vineland's farmland.

The State adopted the Garden State Preservation Trust Act to fund the preservation of farmland and it amended the Municipal Land Use Law to authorize a farmland preservation element as a component of the City master plan. Vineland has prepared this Farmland Preservation Plan Element in accordance with the requirements of the Municipal Land Use Law (N.J.S.A. 40:55D-28.b.13) to promote the preservation of the City's farmland and agricultural economy.

Accordingly this element of the City Master Plan provides the following:

- An inventory of farm properties and a map illustrating significant areas of agricultural land.
- A statement showing that municipal ordinances support and promote agriculture as a business.
- A plan for preserving as much farmland as possible in the short term by leveraging monies made available by the Garden State Preservation Trust Act (P.L. 1999, c. 152 (C.13:8C-1 et al.)) through a

variety of mechanisms including, but not limited to, utilizing option agreements, installment purchases, and encouraging donations of permanent development easements.

AGRICULTURE IN VINELAND

Agricultural activity in Vineland is extensive, with 10,250 acres, or approximately 23 percent of the total land surface, in farm use. The area's fertile soils[1] and favorable climate[2] contribute to the viability of this industry. Together, Vineland and other Cumberland County communities rank first in cabbage, lettuce, eggplant, parsley, strawberry, wheat, flowering tree, shrub, herbaceous perennial and broadleaf evergreen production as compared to the rest of New Jersey[3]. Map FM-2, Agricultural Land Use Coverage, shows the dispersion of farm activity within Vineland.

Vineland has numerous farms and produce marketing companies, which help to distribute products from local and regional entities to markets throughout North America. In addition, Vineland's farms have fostered the genesis of an industry cluster, which includes food transportation as well as other types of food processing. For example, numerous companies such as Mamacita, J&L Poultry, Casa Di Bertacchi, Vineland Kosher Poultry, Eatem Foods, General Mills and Aunt Kitty's Foods all have operations in Vineland[4]. The City's close proximity to Philadelphia and central geographic location within the New York City – Washington, DC Metropolitan area support these developments.

The City of Vineland is a major agricultural center within both the State of New Jersey and Cumberland County, which ranks first among all other New Jersey counties in the market value of agricultural products sold[5]. Vineland's importance as a major agricultural center is underscored by the fact that it plays host to approximately 38 percent[6] of Cumberland County's agricultural employment, as well as about 14 percent of its farmlands[7]. Indeed, the City plays an important role in the agricultural industry of both the State and County.

Despite its current status as a major agricultural center, the City of Vineland must act to sustain its agricultural economy base. Only a small portion of Vineland's productive farmland has been preserved for agricultural use. Data from the New Jersey Department of Labor suggests that although Vineland has been able to maintain its agricultural employment during the 1990s, the City has started to lose agricultural employment since the year 2000. This decline is estimated to have been nearly 16 percent during the period from 2000 to 2003[8]. The City recognizes that it must act to preserve its agricultural heritage and this important part of the economy.

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[1] A graphical depiction of the extent of Vineland's prime agricultural soils is provided in Map FM-1.
[2] Cumberland County characterizes Vineland's climate as favorable due to its 270-day growing season, 43 inches of average annual rainfall, and average annual temperature of 55.6 degrees.
[3] Source: Cumberland County Agriculture Development Board
[4] For an overview of the dispersion of Vineland's food industry within the City, please see Map FM-3
[5] Source: US Department of Agriculture, National Agricultural Statistics Service
[6] Source: New Jersey Department of Labor, calculated from 2003 agricultural employment estimates
[7] Source: Calculation derived from information provided by Cumberland County and the City of Vineland
[8] Source: Calculation derived from the 2000 US Census estimate of 598 civilian agricultural workers and a 2003 New Jersey Department of Labor estimate of 504 civilian agricultural workers

VINELAND'S ORDINANCES SUPPORT FARMING AS A BUSINESS

Vineland is committed to its farms and providing a favorable environment in which farming can continue to prosper as a business. This is evidenced by the City's land use ordinance, which, as of 2008, allows farms as permitted uses in the following zone districts: R-3 (Residential); R-4 (Residential); W-5 (Woodlands); W-6 (Woodlands); I-B (Industrial-Business); A-5 (Agricultural); and, A-6 (Agricultural). The City also permits agriculture in the River Conservation Areas, P-A (Pinelands Agriculture Production), P-F (Pinelands Forest), and P-R (Pinelands Rural Development) zone districts.

The City's A-5 and A-6 (Agricultural) zone districts are expressly for the purpose of supporting Vineland's agricultural base. Section 300-305.A of the City's zoning ordinance provides the following:

> *It is the purpose of these zones to recognize and preserve areas of active agricultural use, together with adjacent areas of prime or unique agricultural soils suitable for the expansion of agricultural operations, together with contiguous lands whose development would impact upon areas of active agricultural use. It is recognized that areas of active agricultural use are essential to the agricultural industry, which is a major component of the economic base of the City. It is the intent that areas of active agricultural use be sustained and that an environment compatible with agricultural operations be ensured. It is important that zone requirements and design standards not be sacrificed to allow overdevelopment of properties, as this would negatively impact upon the character of these areas of active agricultural use. It is the intent that a farm be the preferred use of the property, as none of the other permitted uses are to be considered unless all other requirements of this chapter can be met.*

The City commitment is also evident in Chapter 151 of the Code of the City of Vineland adopted by the City Council on May 10, 1998. Chapter 151 prioritizes agricultural uses within agriculturally-zoned areas, and notes that landowners must inform prospective purchasers of land located within agricultural zones that the agricultural use is subject to the provisions and protections of N.J.S.A. 4:1C-1 et seq. (commonly known as the Right to Farm Act).

FARMLAND INVENTORY

The inventory of assessed farmland (Table F-1) and the mapping of prime agricultural soils (Map FM-1), agricultural land use (Map FM-2), assessed farmland (Map FM-3), and existing agricultural development areas (Map FM-6) provide a baseline of information for implementing the City farmland preservation plan.

As of April 2, 2008, there were a total of nine (9) preserved farms, amounting to approximately 315.26 acres. The Cumberland County Agriculture Development Board and the New Jersey State Agriculture Development Committee are collectively responsible for the preservation of these farms.

The preserved farms are listed on Table F-2 and shown on Map FM-5.

FARMLAND PRESERVATION PLAN

As of April, 2008, only 3.1 percent of the total farmland acreage in Vineland has been preserved for farm use. This relatively small percentage underscores the need for increased efforts to preserve City farmland. The City faces increasing pressures for development of its greenfields. The City goal is to maintain and preserve as much farmland and farm activity in the City as possible. The City of Vineland recognizes that preservation of farmland is essential to the State, regional and local economies; farmland preservation is essential to controlling sprawl; and farmland preservation is essential to maintaining the City's unique identity and character. The success of farmland preservation efforts in Vineland will depend upon City initiatives to control and manage land use. It will also depend upon coordination with and participation in the methods and programs used by the State and County to maintain and preserve farmland. The most common methods and programs utilized by the State and County to permanently preserve farmland are described below.

FARMLAND PRESERVATION METHODS

Sale and Purchase of Development Easements

The sale and public purchase of development easements is noted by Cumberland County to be the most prevalent farmland preservation method in Cumberland. The City of Vineland supports the use of this technique to preserve Vineland's farms.

In the sale and purchase of a development easement, an owner of a farmland assessed property sells its non-agricultural development rights to the Cumberland County Agriculture Development Board or the New Jersey State Agriculture Development Committee. The easement's value is the difference between the fair-market development value and the value of the land if sold as farmland, both as determined by a real estate appraiser licensed in the State of New Jersey. Such a transaction enables the landowner to maintain control of the land, and preserves farmland without the City, County or State bearing the burden of maintaining the land.

Eligibility to participate in the program is contingent upon whether the property is assessed as farmland and located within an Agricultural Development Area (ADA)[9]. An ADA is an area identified by the Cumberland County Agriculture Development Board, and certified by the New Jersey State Agriculture Development Committee, where agriculture uses are prioritized due to environmental suitability and other factors. The current ADA in the City is confined largely to the eastern portion of Vineland. (See Map FM-6.) However, the City's productive farms and prime agricultural soils extend well beyond the current ADA. (See Maps FM-1, FM-2, and FM-4.) Consequently, there is a need to expand the City ADA to make as much farmland as possible eligible for the development easement purchase program.

Planning Incentive Grants (PIG) for Farmland Preservation

Planning Incentive Grants (PIG) for farmland preservation are available to Vineland through the New Jersey State Agriculture Development Committee (SADC) for the preservation of farmland through the purchase of development easements. The Planning Incentive Grant Program supports New Jersey's agricultural industry by permanently preserving large tracts of contiguous farmland. The SADC establishes preliminary funding allocations for all applications receiving preliminary approval. Currently,

[9] N.J.S.A. 2:76-6.3

the maximum initial allocation is $1.5 million per municipal/county applicant per year. However, the SADC may increase or decrease applications in subsequent years based upon progress in preserving farmland.

Since the PIG program purchases development easements, the landowner selling the easement maintains control of the land. A Vineland PIG would tap into State funds committed to the preservation of farms in Vineland. Although a PIG application may be made by the City directly to the SADC, if the City applies through the Cumberland County Agriculture Development Board, the City will secure supplementary County funds for the preservation of Vineland's farmland. This is a desirable option since it enables the City to leverage as much funding as possible for project areas in Vineland. The County generates supplementary funds from its open space tax of approximately one and one half (1.5) cents for every $100.00 of assessed property value.

To be eligible for a PIG for Vineland's farms, the City of Vineland must establish an Agricultural Advisory Committee and meet certain other program requirements. In addition, the City will have to maintain a dedicated source of funding or alternative means to fund farmland preservation in Vineland. A dedicated source of City funding could be a dedicated tax, or repeated issuance of bonded indebtedness, or repeated annual appropriations for farmland preservation. Additional information on the PIG Program is available from the SADC.

Fee-Simple Acquisition

Farmland can be acquired at fair-market value from willing landowners through the New Jersey State Agriculture Development Committee's Fee-Simple Program. After a property is acquired, it is then deed restricted to prohibit non-agricultural uses and resold at auction to the highest bidder.

In order to participate in this program, the property must be located in an ADA and eligible for farmland property tax assessment. The New Jersey State Agriculture Development Committee also considers the property's soils; percentage of tillable acres; existence of suitable boundaries and buffers; the City's commitment to agriculture; property size; intensity of agricultural uses in the general vicinity; and, development pressures placed upon the farm by current and anticipated market conditions. Applications to participate in this program are made by the landowner to the New Jersey State Agriculture Development Committee.

Besides ensuring that farmland is preserved for perpetuity, the New Jersey State Agriculture Development Committee's Fee-Simple Program provides an added benefit to the property owner in that the landowner is exempt from rollback taxes, and survey and title costs.

Donation of Land or Development Rights

A property owner can donate the entire land area owned, or the development rights associated with the land, for the purpose of farmland preservation. This method of preservation provides several advantages to the landowner. In certain cases, such a donation may provide favorable tax benefits to the landowner. Additionally, donation can be arranged through wills and is an effective tool in estate planning.

Donation of farmland, or farmland development easements, frees funding and enables more farmland to be preserved.

Transfer of Development Rights

An additional mechanism for preserving farmland is utilizing the Transfer of Development Rights (TDR) legislation, which enables a municipality to transfer the development potential from one piece of property in a community to a different piece of property. [10]

By using a TDR for the purpose of farmland preservation, the development rights associated with a farmland property are sold to the owner of another property that is suited for development. In this type of transaction, the seller of the development rights severs the right to further develop its land. The purchaser of the development rights is then entitled to apply those rights to develop its property at a higher density or intensity than would otherwise be permitted by the City's zoning ordinance. The actual valuation of the development rights, and the ability of the receiving property to accommodate the increased density or intensity of development, is determined by the rules set forth in N.J.A.C. 5:86 et al[11].

The City should consider TDR as a method of farmland preservation. In order to implement a TDR program as authorized by the State Transfer of Development Rights Act,[12] the City would have to prepare and adopt a development transfer plan element as a component of the City Master Plan; adopt a TDR ordinance; and the City would have to complete additional analyses in accordance with the requirements of the State Transfer of Development Rights Act. Consequently, the initial planning cost to the municipality to set up a TDR can be high. Financial assistance for local planning costs, in the form of Planning Assistance Grants of up to $40,000, with a fifty (50) percent local match of funds, is authorized by the State Transfer of Development Rights Act[13]. Additional planning and financial assistance may be provided by the Department of Community Affair's Smart Future Planning Grant Program to enable a municipality to establish a TDR program.

FARMLAND PRESERVATION PLAN RECOMMENDATIONS

To preserve farmland and farming in Vineland, the City, in conjunction with the County and the State, needs to encourage, support, and assist the participation of local farmers and landowners in farmland preservation programs. To maintain farming as a business, the City also needs to promote and protect the local farm economy and work with the State and the County to preserve the agricultural economy of the region. To meet these needs, and to preserve as much farmland as possible, the City should take the following actions.

Establish a Permanent Agricultural Advisory Committee

The City should establish a permanent Agricultural Advisory Committee to work with the farm community to preserve the City's farmland. This Committee, which would include farmers among its membership, should be established in accordance with the requirements of N.J.A.C. 2.76-17.4, and it would be charged with the task of reviewing, and making recommendations on the provisions of the

[10] N.J.S.A. 40:55D-137 et seq. (The State Transfer of Development Rights Act)
[11] N.J.A.C. 5:86 et al. (Transfer of Development Rights Real Estate Market Analysis Rules).
[12] N.J.S.A. 40:55D-137 et seq.
[13] The State Transfer of Development Rights Act authorizes Planning Assistance Grants of up to $40,000, with a fifty (50) percent local match, for the purpose of preparing the documents required by the legislation, which include: a utility service master plan element; a development transfer master plan element; a real estate market analysis; and, a capital improvement plan. These funds are administered through the New Jersey Department of Agriculture.

City's code that affect the local agricultural base. In addition, the Committee should be given the task of identifying any developments in farmland preservation techniques that would be made subsequent to the adoption of the City farmland preservation plan element.

The Committee would take the lead role for the City to market the farmland preservation program to City's farmers. It would provide assistance, support, and information to farmers who are interested in making application for preservation funding. It would work with the City to promote agriculture as a business in Vineland.

Expand the City's Agricultural Development Areas

Because a landowner's eligibility to participate in State and County farmland preservation easement purchase programs, or to utilize certain other farmland preservation techniques, is contingent upon a property's location within an ADA[14, 15], the City should work with the Cumberland County Agriculture Development Board to create new and expanded ADAs to enable more of Vineland's farms to be eligible for expanded farmland preservation opportunities.

An ADA is identified by the Cumberland County Agriculture Development Board and certified by the New Jersey State Agriculture Development Committee. In order for an area to be identified by the Cumberland County Agriculture Development Board as an ADA, the following criteria must be satisfied:

- The area encompasses productive agricultural lands that are currently in production, or, when not currently in production, have a strong potential to be productive in the future.
- Agriculture must be a permitted use within the zone district(s) the area is located in.
- The area does not serve as the location of extensive suburban or commercial development.
- Only tax lots that are eligible for farmland tax assessment may be included within the area of an ADA.
- The majority of the land area contained by an ADA must be comprised by prime soils or soils of statewide significance.
- The majority of the land area contained by an ADA must be within State Planning Areas 3, 4, 4B, or 5.

In addition to the above, only entire tax lots are incorporated into an ADA, even if only a portion of the tax lot meets the criteria for inclusion in an ADA. When reviewing an area for identification as an ADA, the Cumberland County Agriculture Development Board considers the development pressures facing the area and whether the farmlands it contains have received development approval, or are within close proximity of sewer and water service.

The City should work with the Cumberland County Agriculture Development Board to create new and expanded ADAs extending to the farms in the eastern, northern, and southern areas of the City. The farms

[14] N.J.A.C. 2:76-6.3
[15] The current ADAs are displayed in Map FM-6.

in these areas represent more than 4,000 acres of farmland. Inclusion of these farms would more than double the 3,567 acres that are currently located within the City's ADAs. The expansion of the City's ADAs is needed to preserve as much farmland as possible in Vineland.

Establish a City Farmland Preservation Program

The City should establish and aggressively pursue a City program to preserve farmland and to work with local farmers to promote agriculture as a business. A successful City program will include municipal funding to leverage monies from the State and the County for preserving Vineland's farms. The City should take the following actions to implement a farmland preservation program:

- The City should maintain a dedicated source of funding or alternative means to fund farmland preservation in Vineland that it can utilize to leverage State and County funds for farms in Vineland.

- The City should consider applying to the SADC through the County for a Planning Incentive Grant (PIG) for funds from the State Farmland Preservation Trust dedicated to preserving farms in Vineland.

- To accelerate the preservation of its farms, the City should consider the advance purchase of farmland development rights and seek County and State reimbursement for such purchases. If necessary, the City should consider a bond issue to expedite such purchases.

- The City should work with the State and County to develop creative financing mechanisms, such as installment purchases wherein the landowner receives periodic interest payments with the principle due at the end of a negotiated contract term, in order to maximize the utility of available funds.

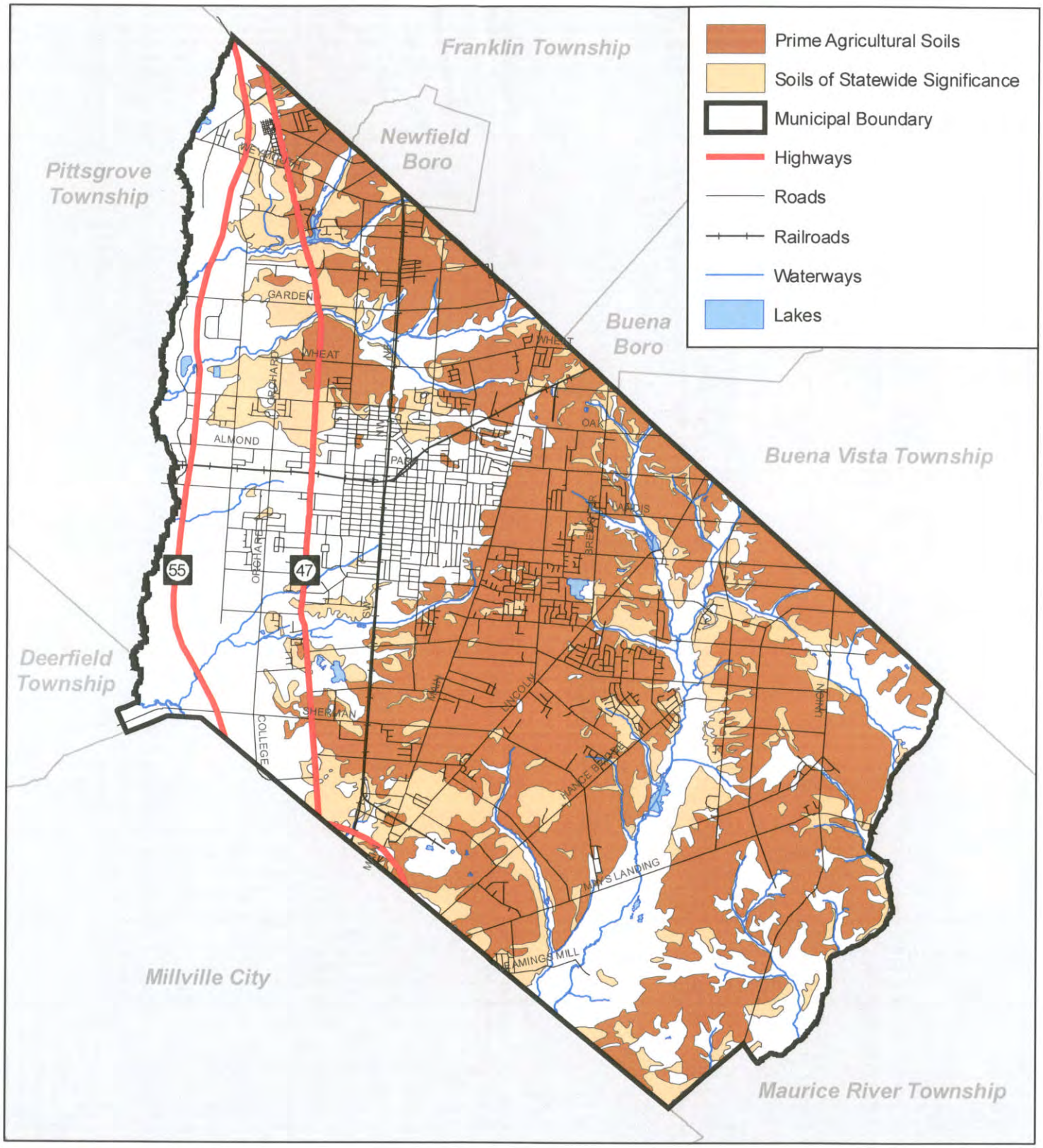
- The City should apply for State funding to plan and implement a TDR program in Vineland.

- The City should work with the State to ensure that adequate supplies of water are available to meet the irrigation needs of the City's farms and the City's food processing industry.

Protect Agricultural Areas from Conflicting Land Uses

The City zone plan should protect agricultural areas and conserve a working landscape for farm activities by limiting, discouraging, or prohibiting the introduction of development or land uses that are incompatible with or conflict with farm operations. The City should allow for compact patterns of development that can reduce land consumption, maintain farm operations, and preserve agricultural areas. Sanitary sewers induce growth and suburban development. The City, therefore, should confine sanitary sewers and sanitary sewer extensions to defined areas of the City planned for residential, commercial, and industrial development.

MAP FM-1:
Location of Areas with Prime Agricultural Soils



T&M ASSOCIATES
11 Tindall Road
Middletown, NJ 07748-2792
Phone: 732-671-6400
Fax: 732-671-7365

Map FM-1: Prime Agricultural Soils
City of Vineland
Cumberland County, New Jersey

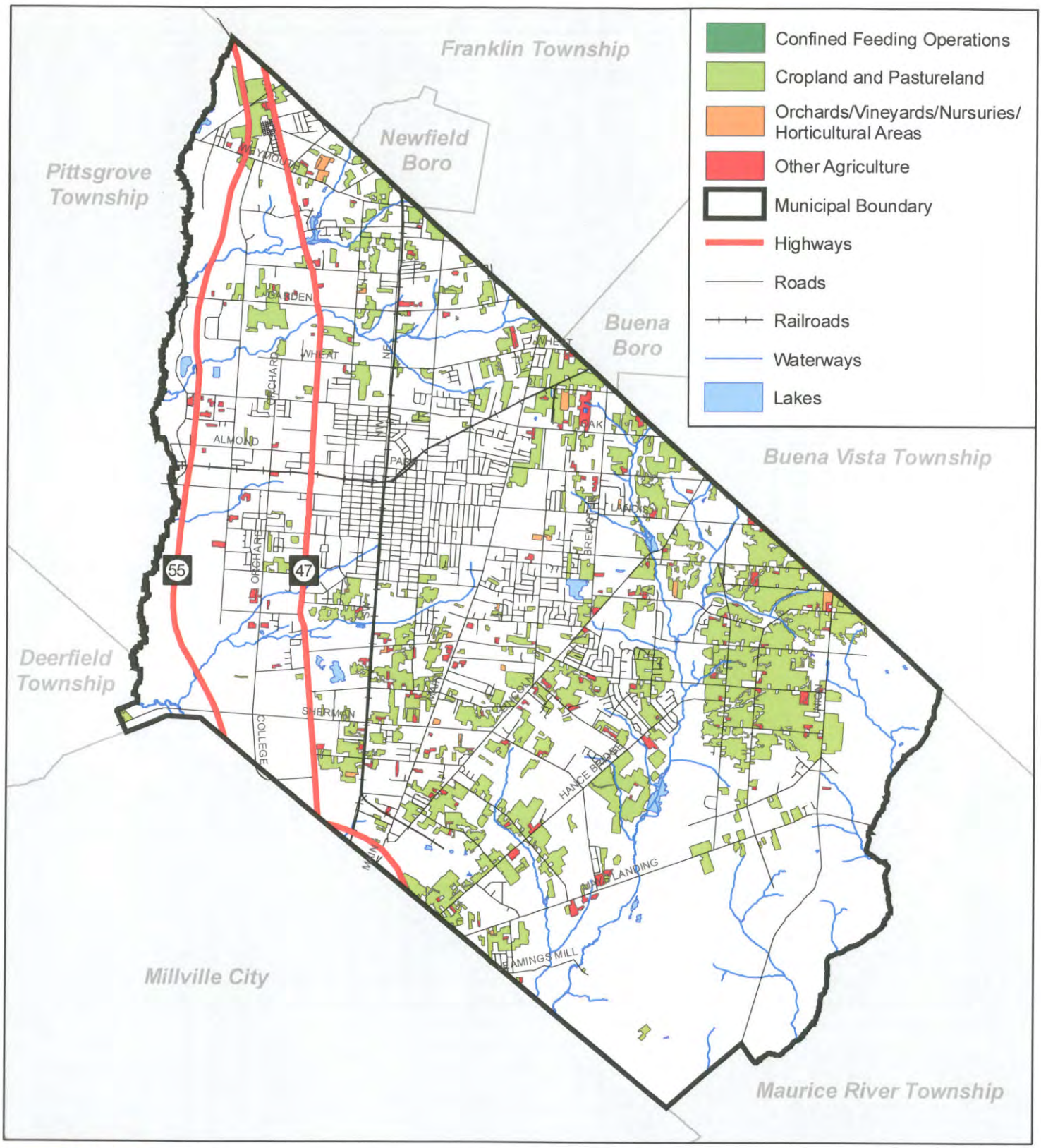
0 4,250 8,500 17,000
Feet

Prepared by: RED, April, 2008
Source: City of Vinland GIS System, NJDEP, TIGER Files
File Path: H:\VINE\00010\GIS\Projects\Final\MAP FM-1_04-08.mxd

N

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

MAP FM-2:
Agricultural Land Use Coverage



11 Tindall Road
Middletown, NJ 07748-2792
Phone: 732-671-6400
Fax: 732-671-7365

Map FM-2: Agricultural Land Use
City of Vineland
Cumberland County, New Jersey

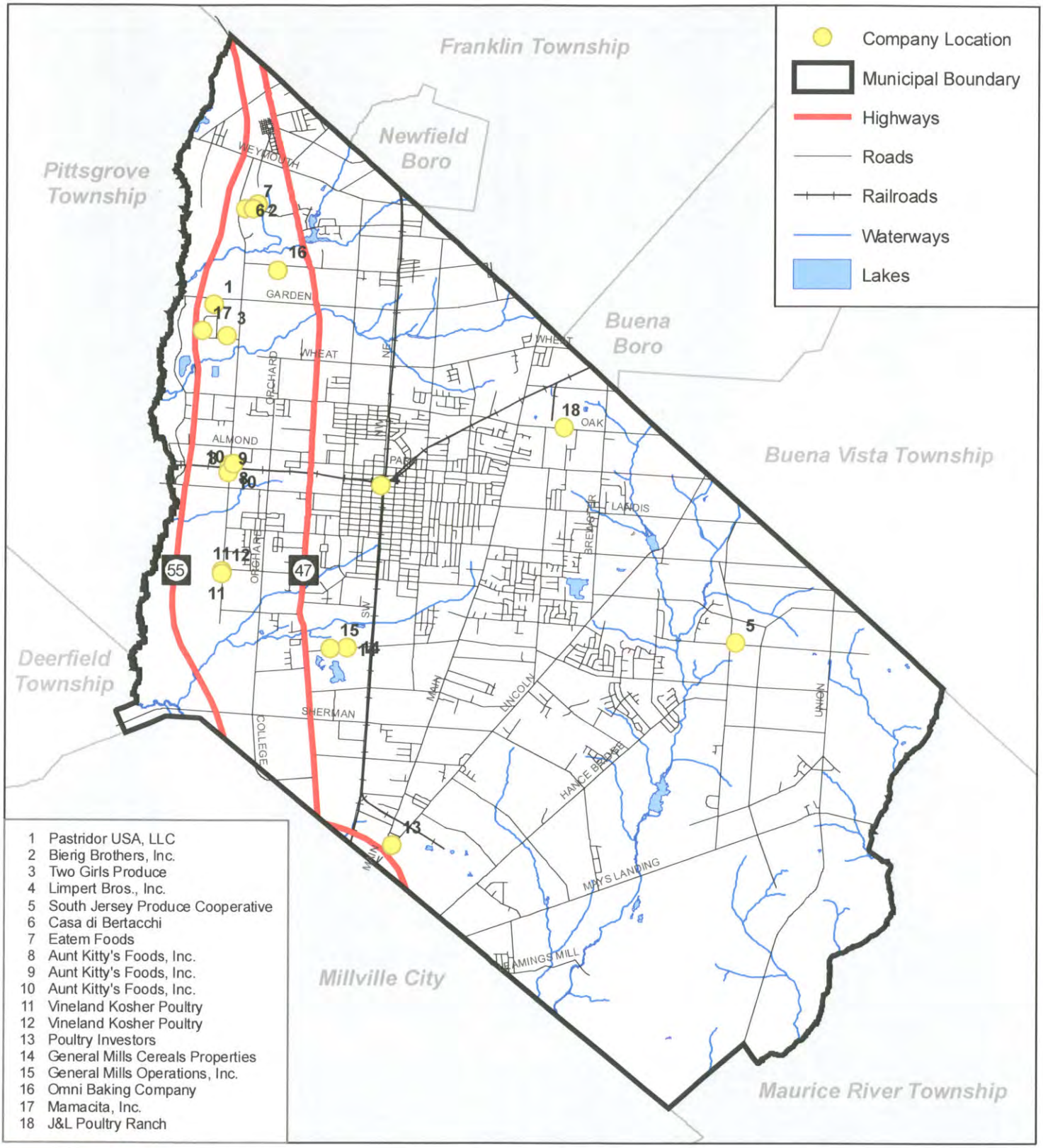
0 4,250 8,500 17,000 Feet

N

Prepared by: RED, April, 2008
Source: City of Vinland GIS System, NJDEP, TIGER Files
File Path: H:\VINE\00010\GIS\Projects\Final\MAP FM-2_04-08.mxd

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

MAP FM-3:
Location of Food Processing and Manufacturing Companies



T&M ASSOCIATES
11 Tindall Road
Middletown, NJ 07748-2792
Phone: 732-671-6400
Fax: 732-671-7365

Map FM-3: Location Food Processing and Manufacturing Companies City of Vineland, New Jersey

0 4,250 8,500 17,000 Feet

N

Prepared by: RED, April, 2008
Source: City of Vinland GIS System, NJDEP, TIGER Files, MOD-4
File Path: H:\VINE\00010\GIS\Projects\Final\MAP FM-3_04-08.mxd

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

TABLE F-1:
Inventory of Assessed Farmland

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
1	6	3B	4380 STANLEY TER	RUDYS AIRPORT GROUP LLC	171.3
2	5	3B	ROUTE 55	RUDYS AIRPORT GROUP LLC	18.68
2	18	3A	5014 N DELSEA DR	PETRONGLO, CARMEN	1
2	18	3B	5014 N DELSEA DR	PETRONGLO, CARMEN & ANN	23.51
2	19	3A	4940 N DELSEA DR	CESARE, A G & M & R M & A P	0.75
2	19	3B	4940 N DELSEA DR	CESARE, A G & M & R M & A P	19.41
8	1	3A	2060 W WEYMOUTH RD	PETRONGLO, CARMEN & ANN	0.5
8	1	3B	2060 W WEYMOUTH RD	PETRONGLO, CARMEN & ANN	4.15
8	18	3B	OLD LAKE RD	PETRONGLO, CARMEN & ANN	20.8
9	14	3A	1952 W WEYMOUTH RD	LACIOPPA, ANNETTE	0.5
9	14	3B	1952 W WEYMOUTH RD	LACIOPPA, ANNETTE	12.6
9	15	3B	W WEYMOUTH RD	PETRONGLO, CARMEN & ANN	1.1
10	2	3A	4820 N DELSEA DR	PETRONGLO, JOAN	0.5
10	2	3B	4820 N DELSEA DR	PETRONGLO, JOAN	4.79
10	3	3A	4800 N DELSEA DR	PETRONGLO, JOAN ANNE	0.5
10	3	3B	4800 N DELSEA DR	PETRONGLO, JOAN ANNE	2.5
10	4	3A	4762 N DELSEA DR	PETRONGLO, JOSEPH JR & TULLIA	17.52
10	4	3B	4762 N DELSEA DR	PETRONGLO, JOSEPH JR & TULLIA	17.52
10	6	3A	4666 N DELSEA DR	PERAINE FAMILY LLC	1
10	6	3B	4666 N DELSEA DR	PERAINE FAMILY LLC	18.62
10	9	3B	OLD LAKE RD	PETRONGLO, JOAN	17.05
27	3	3A	4819 N DELSEA DR	NORDBERG, INGMAN	1.51
27	3	3B	4819 N DELSEA DR	NORDBERG, INGMAN	5.7
27	4.02	3B	GRUBB RD	PETRONGLO, EDWARD J	8.48
45	2	3A	920 COLUMBIA AVE	STEWART, MARINA & LINDA	9.11
45	2	3B	920 COLUMBIA AVE	STEWART, MARINA & LINDA	5.88
45	19	3A	4485 LAKE RD	BRENNAN, NADESHDA	1
45	19	3B	4485 LAKE RD	BRENNAN, NADESHDA	12.85
46	1	3B	COLUMBIA AVE	PETRONGLO, CARMEN SR & ANN	8.41

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
47	2	3B	W WEYMOUTH RD	LJS ENTERPRISES, LLC	17.56
47	5	3A	1390 W WEYMOUTH RD	PETRONGLO, JOSEPH III	1.45
47	5	3B	1390 W WEYMOUTH RD	PETRONGLO, JOSEPH III	15
47	13	3A	4223 LAKE RD	LJS ENTERPRISES, LLC	4.27
47	13	3B	4223 LAKE RD	LJS ENTERPRISES, LLC	4.27
47	18	3B	1003 COLUMBIA AVE	LJS ENTERPRISES, LLC	22.29
48	20	3B	600 SALEM AVE	LUPO LAND MANAGEMENT LLC	29
50.01	2	3B	W WEYMOUTH RD	GALETTO REALTY	13.1
70	16	3A	1201 W WEYMOUTH RD	FOLCHER, JON D	10
82	13	3A	242 W WEYMOUTH RD	SILVIDIO, JOHN A & CHRISTINE D	2
82	13	3B	242 W WEYMOUTH RD	SILVIDIO, JOHN A & CHRISTINE D	8
82	15	3A	380 W WEYMOUTH RD	AZEGLIO, PETER & JENNIE	0.5
82	15	3B	380 W WEYMOUTH RD	AZEGLIO, PETER & JENNIE	6.73
82	47	3B	N WEST BLVD	CERRATO, MICHAEL D & MARIE E	27.56
83	10	3A	236 W ARBOR AVE	SIENCZENKO, WALTER	1.18
83	10	3B	236 W ARBOR AVE	SIENCZENKO, WALTER	5.56
83	13.01	3B	3419 N WEST AVE	SHIELDALLOY CORPORATION C/O CONTROL	19.83
83	13.02	3B	300 W ARBOR AVE	MECKEL ENTERPRISES, LLC	5.14
87	2	3B	MAURICE RIVER PKY	LAMPE, CARL H	1.02
87.01	2	3B	MAURICE RIVER PKY	LAMPE, CARL H	0.42
87.01	4	3B	W GARDEN RD	LAMPE, CARL H	5.45
89	3	3A	2808 N DELSEA DR (2964)	WEISEL, MARIE % JESSIE CASACCIO	9
89	3	3B	2808 N DELSEA DR (2964)	WEISEL, MARIE % JESSIE CASACCIO	8
89	4	3A	W FOREST GROVE RD	WEISEL, MARIE % JESSIE CASACCIO	18
89	4	3B	W FOREST GROVE RD	WEISEL, MARIE % JESSIE CASACCIO	2
89	5	3A	1350 W FOREST GROVE RD	BLIVIN, LEE & MICHELLE	39

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
89	10	3B	W FOREST GROVE RD	LAMPE, CARL H	28.66
90	2	3A	2288 W GARDEN RD	LAMPE, CARL H, RUSSELL & JACQUELINE	1.6
90	2	3B	2288 W GARDEN RD	LAMPE, CARL H, RUSSELL & JACQUELINE	98.94
90	3	3A	2288 W GARDEN RD	LAMPE, CARL H, RUSSELL & JACQUELINE	1.6
90	4	3B	1946 W GARDEN RD	B D G S, INC	16
90	11	3A	2266 W GARDEN RD	LAMPE, CARL H & CAROL L GODOWN	1
90	11	3B	2266 W GARDEN RD	LAMPE, CARL H & CAROL L GODOWN	3.64
91	1	3B	W FOREST GROVE RD	B D G S INC	24.32
91	2	3A	W FOREST GROVE RD	B D G S INC	2
91	2	3B	W FOREST GROVE RD	B D G S INC	8
91	21	3A	1414 W GARDEN RD	B D G S INC	0.5
91	21	3B	1414 W GARDEN RD	B D G S INC	7.76
91	23	3A	1528 W GARDEN RD	FERRARIE, DEANE-GLENN E-CHARLOTTE	1
91	23	3B	1528 W GARDEN RD	FERRARIE, DEANE-GLENN E-CHARLOTTE	18
91	24	3A	1590 W GARDEN RD	FERRARIE, DEAN E & MARJORIE M	1
91	24	3B	1590 W GARDEN RD	FERRARIE, DEAN E & MARJORIE M	5
91	26	3A	1674 W GARDEN RD	LJS ENTERPRISES LLC	3.27
91	26	3B	1674 W GARDEN RD	LJS ENTERPRISES LLC	10
91	29	3B	1772 W GARDEN RD	GILL, VICTOR V	7.7
94	1	3A	3048 N WEST AVE	MASTROGIOVANNI, CARMELLA R	1
94	1	3B	3048 N WEST AVE	MASTROGIOVANNI, CARMELLA R	9
95	4	3A	3259 N WEST AVE	MECKEL, R JR C/O MECKEL ENTERPRISES	5
95	4	3B	3259 N WEST AVE	MECKEL, R JR C/O MECKEL ENTERPRISES	5

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
95	5	3A	435 W ARBOR AVE	MECKEL, R JR C/O MECKEL ENTERPRISES	5.6
95	5	3B	435 W ARBOR AVE	MECKEL, R JR C/O MECKEL ENTERPRISES	4
97	1	3B	322 W FOREST GROVE RD	R & E REALTY CO	19.8
97	8	3A	3039 N WEST AVE	ZAAK, OTTO BERNARD	0.5
97	8	3B	3039 N WEST AVE	ZAAK, OTTO BERNARD	13.85
97	9	3A	327 OLD FOREST RD	HOFFMAN, HILDA J	3.5
97	9	3B	327 OLD FOREST RD	HOFFMAN, HILDA J	12.68
98	1.01	3B	OLD FOREST RD	TURF CONSTRUCTION COMPANY	6.34
98	2	3A	3120 N WEST BLVD	LOPERGOLO, MICHAEL JR & DONNA	0.5
98	2	3B	3120 N WEST BLVD	LOPERGOLO, MICHAEL JR & DONNA	9.5
98	5	3A	3054 N WEST BLVD	BURRIS, RICHARD & ROSALIE	5.9
98	5	3B	3054 N WEST BLVD	BURRIS, RICHARD & ROSALIE	5.9
98	8	3A	2984 N WEST BLVD	BITTNER, BRUCE E & VICKIE L	6.66
106	2	3A	374 W GARDEN RD	KRAUSE, EMIL & MARGARET	6.66
106	2	3B	374 W GARDEN RD	KRAUSE, EMIL & MARGARET	8
106	4	3B	N WEST AVE	GIANNASCOLI, BRIAN F & MARIA A	4.9
106	5	3A	2561 N WEST AVE	GIANNASCOLI, BRIAN F & MARIA A	1
106	5	3B	2561 N WEST AVE	GIANNASCOLI, BRIAN & MARIA	4.05
111	1	3A	2572 N WEST BLVD	RUSSO, ASTRID DAHL	1.7
111	1	3B	2572 N WEST BLVD	RUSSO, ASTRID DAHL	6
113	5	3A	3319 PROSPECT AVE	ANGELO, FRANK & ROSEMARY	5.21
113	5	3B	3319 PROSPECT AVE	ANGELO, FRANK & ROSEMARY	10
121	6.01	3A	848 E FOREST GROVE RD	BATTESTELLA, GARY A	0.5
121	6.01	3B	848 E FOREST GROVE RD	BATTESTELLA, GARY A	10.29
121	27	3B	STRAWBERRY AVE	BATTESTELLA EST, MATTIE & G BATTEST	2.74
126	1	3A	311 CENTRAL AVE	HOLLISTER, ANNA MARIE	0.45

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
126	1	3B	311 CENTRAL AVE	HOLLISTER, ANNA MARIE	7.71
127	25	3A	2397 N EAST BLVD	MANCINI, GAIL REICHMAN % R CHARNY	1
127	25	3B	2397 N EAST BLVD	MANCINI, GAIL REICHMAN % R CHARNY	8
128	3	3A	803 E FOREST GROVE RD	PETERSON, RICHARD W	2.02
128	3	3B	803 E FOREST GROVE RD	PETERSON, RICHARD W	8
131	1	3A	1190 E GARDEN RD	GONZALEZ, NEFTALI & ELBA	7
131	2	3A	1126 E GARDEN RD	DONATI, MARIE	0.5
131	2	3B	1126 E GARDEN RD	DONATI, MARIE	10.09
131	3	3A	1094 E GARDEN RD	MANNOCCHI, RICHARD	0.5
131	3	3B	1094 E GARDEN RD	MANNOCCHI, RICHARD	6.5
131	4	3A	1060 E GARDEN RD	MARCACCI, JOSEPH D	7
131	5	3A	1024 E GARDEN RD	GRANATO, RUSSELL J & LORRAINE	7
143	6	3A	1803 W GARDEN RD	TIESLAU, HERTA	1
143	6	3B	1803 W GARDEN RD	TIESLAU, HERTA	10.65
143	8	3B	W GARDEN RD	CARPINO, FRANK	13.95
144	2	3B	1419 W GARDEN RD	IVY ACRES OF NEW JERSEY, LLC	38.74
147	5	3A	1955 N MILL RD	COX, THOMAS R & DIANE P	1.5
147	5	3B	1955 N MILL RD	COX, THOMAS R & DIANE P	9.12
156	3	3A	762 W WHEAT RD	GARDELLA, DOLORES R	0.916
156	11	3B	1755 N DELSEA DR	GUGLIELMI, VALLEE	7.89
156	16	3A	2025 N DELSEA DR	MUNSON, PAUL & DOLORES	1.53
156	16	3B	2025 N DELSEA DR	MUNSON, PAUL & DOLORES	5
156	16.01	3B	N DELSEA DR	TRANSFORMING TRUTH MINISTRIES	3.41
157	5	3A	1958 N WEST AVE	ASHTON, KATHERINE E	6.37
157	6	3A	1896 N WEST AVE	ASHTON, KATHERINE E	3.14
158	4	3B	315 W GARDEN RD	J&J REAL ESTATE ASSOCIATES LLC	31.35
160	27	3A	N EAST BLVD	KOERING EXCAVATING	16.6
161	11	3A	819 E GARDEN RD	MOTTER, ROBERT A & LILA C	2.38

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
161	11	3B	819 E GARDEN RD	MOTTER, ROBERT A & LILA C	8.18
161	14.01	3A	1027 E GARDEN RD	COSTANTE, JUDITH A	0.87
161	14.01	3B	1027 E GARDEN RD	COSTANTE, JUDITH A	5
162	2	3B	E GARDEN RD	SIMIONE, FLORENCE	7.1
163	5	3A	776 E WHEAT RD	LINDAUER, DOUGLAS & JEAN	1.97
163	5	3B	776 E WHEAT RD	GASKILL, CHRISTA C	5.12
164	2	3A	1338 E WHEAT RD	FAVRETTO, NICHOLAS & JERRY FAVRETTO	0.9
164	2	3B	1338 E WHEAT RD	FAVRETTO, NICHOLAS & JERRY FAVRETTO	19.68
165	1	3A	1512 E WHEAT RD	KEMENASH, KATHLEEN J	0.9757
165	1	3B	1512 E WHEAT RD	KEMENASH, KATHLEEN J	11.81
165	2	3A	1440 E WHEAT RD	GIOVANELLI, W P (L/E) & ESTER R	2.5
165	2	3B	1440 E WHEAT RD	GIOVANELLI, WILHELMINA	16.7
167	2	3A	2264 N MAIN RD (2282)	CRESCITELLI-DOUGHTY, CONNIE A	1
167	2	3B	2264 N MAIN RD (2282)	CRESCITELLI-DOUGHTY, CONNIE AT	31
171	12	3B	1766 E WHEAT RD	REDSTONE PROPERTY GROUP LIMITED	11
178	7	3A	1267 W WHEAT RD	THE R BARCLAY FOUNDATION INC	1
178	7	3B	1267 W WHEAT RD	GRABAN, PAUL, PAUL J & RONALD D	7.3
179	10.01	3B	1020 W OAK ROAD	METHUSELAH INCORPORATED	0.4477
179	11	3B	1032 W OAK RD	METHUSELAH INCORPORATED	0.4477
179	12	3B	1050 W OAK RD	METHUSELAH INCORPORATED	0.4477
179	13	3A	1148 W OAK RD	THE R BARCLAY FOUNDATION INC	2
179	13	3B	1148 W OAK RD	GRABAN, PAUL J, RONALD D & PAUL J	2
179	14	3B	W OAK RD	METHUSELAH INCORPORATED	12.18
179	15	3A	1252 W OAK RD	METHUSELAH INCORPORATED	6

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
179	15	3B	1252 W OAK RD	GRABAN, PAUL J, PAUL J & RONALD D	6
180	1	3A	1489 N DELSEA DR	ROSSI, MICHAEL M III	6.7851
188	1	3A	1487 N WEST AVE	VERTOLLI, JOHN F & MARIE	1.35
188	1	3B	1487 N WEST AVE	VERTOLLI, JOHN F & MARIE	16
188	3	3A	1619 N WEST AVE	VERTOLLI, JOHN F & MARIE C	1
188	3	3B	1619 N WEST AVE	VERTOLLI, JOHN F & MARIE C	9
189	3.01	3B	W OAK RD	ZYLBERMAN, LEON % P STERBAKOV	23.3
191	13	3A	1611 N EAST BLVD	SOUDER, JACK A	0.5
191	13	3B	1611 N EAST BLVD	SOUDER, JACK A	5.337
192	1	3A	1616 N EAST AVE	GUIDARINI, DAVID	1.23
192	1	3B	1616 N EAST AVE	GUIDARINI, DAVID	14
205	1	3A	1061 E WHEAT RD	FORMENTO, LENA	0.5
205	1	3B	1061 E WHEAT RD	FORMENTO, LENA	9.5
205	2	3A	1105 E WHEAT RD	RUIZ, JOSE A	0.5
205	2	3B	1105 E WHEAT RD	RUIZ, JOSE A	9
205	4.02	3B	1271 E WHEAT RD	PROFETTO, CHRISTINE	17.96
207	11	3B	FIOCCHI DR	SBRANA, DIANE A ET AL	9.8
209	15	3A	1882 N MAIN RD	BARRUFFI AND CENTUOLO LLC	6.9
209	21	3B	1720 N MAIN RD	FRATELLI HOLDINGS LLC	1.73
210	10	3A	1387 N VALLEY AVE (1413)	LANDMARK DEV NO 4 LLC	21.15
212	1	3B	1674 N MAIN RD	FIOCCHI, LIRIO R JR & SAMUEL L	6.44
212	9	3B	LIBERTY AVE	BARNABEI, JOHN T & RONALD A	7.92
212	10	3B	LIBERTY AVE	BARNABEI, JOHN	11.5
213	7	3B	LIBERTY AVE	BARNABEI, JOHN T & RONALD A	3
213	8	3B	LIBERTY AVE	BARNABEI, JOHN T & RONALD A	6.85
219	2	3A	1981 E WHEAT RD	ENMAN, CHARLES	1.99
219	2.02	3A	E WHEAT RD	ENMAN, CHARLES	1.53

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
220	4	3A	2137 E WHEAT RD	2079 EAST WHEAT LLC	1.5
220	4	3B	2137 E WHEAT RD	FIOCCHI, SAMUEL-LIRIO FIOCCHI	7.23
220	5	3B	2185 E WHEAT RD	CAROLLA, DENNIS ET ALS	7
220	7	3B	E WHEAT RD	POLMONARI, PF SR & PF JR	5.1
220	9	3B	E WHEAT RD	POLMONARI, VICTOR & MARY	2.9
220	10	3B	E WHEAT RD	POLMONARI, VICTOR JR & MARY	5.7
222	1	3B	N MAIN RD	CONSALO FARMS, INC	8.39
222	1.02	3B	1810 VINE RD	CONSALO FARMS, INC	1.8182
222	2	3B	N MAIN RD	CONSALO FARMS, INC	4.1
223	2	3B	VINE RD	CANNIZZARO, JANE C	2.27
223	4	3B	VINE RD	FEDERICI, PETER & KATHRYN	15.91
223	5	3B	VINE RD	MARCACCI, JOHN & THEODORE ET AL	19.8
223	5.02	3A	1910 VINE RD	MARCACCI, THEODORE	5.09
224	1	3B	VINE RD	AMADEI, WILLIAM & RUTH E	0.3
224	12	3A	2594 VINE RD	AMADEI, ANGELO A & ELIZABETH ANN	0.5
224	12	3B	2594 VINE RD	AMADEI, ANGELO A & ELIZABETH ANN	2.9
224	13	3B	2564 VINE RD	AMADEI, ANGELO & ELIZABETH	2.27
224	14	3B	VINE RD	WALSH, KEVIN K & JANET E	4.3
224	14.01	3B	VINE RD	WALSH, KEVIN K & JANET E	2.68
224	14.04	3B	VINE RD	AMADEI, WILLIAM & RUTH	3.87
224	15	3A	2430 VINE RD	AMADEI, ELIZABETH A	1
224	15	3B	2430 VINE RD	AMADEI, ELIZABETH A	7.1
224	17.01	3A	2388 VINE RD	D'OTTAVIO, MICHAEL A & ROBIN L	2
224	17.01	3B	2388 VINE RD	D'OTTAVIO, MICHAEL A & ROBIN L	9.47
224	19	3A	2298 VINE RD	OPROMOLLO, BARRY & LAURIE	2.3

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
224	19	3B	2298 VINE RD	OPROMOLLO, BARRY & LAURIE	5.2
224	20.01	3B	2270 VINE RD	CANNIZZARO, JANE C	5.78
224	22	3A	2218 VINE RD	CANNIZZARO, JANE C	0.5
224	22	3B	2218 VINE RD	CANNIZZARO, JANE C	2.46
224	23	3B	2186 VINE RD	LANGE, OSKAR % M SHUGLIASCHWILI	6
224	23	3A	2186 VINE RD	LANGE, OSKAR	1.08
225	1	3A	2814 VINE RD	CIMINO, GLENDON S & JUDIANNE	0.14
227	5	3A	1890 E OAK RD	SAFFIOTI, FRANCIS J SR	1
227	5	3B	1890 E OAK RD	SAFFIOTI, FRANCIS J SR	6.38
227	25	3B	1853 VINE RD	MARCACCI, JOHN C & THEODORE	9.34
227	27	3A	1879 VINE RD	MARCACCI, STEVEN P	2
227	27	3B	1879 VINE RD	MARCACCI, STEVEN P	13.12
227	28	3B	VINE RD	MAZZONI, JUNE	7.02
228	1.02	3B	VINE RD	MAZZONI, JUNE	10.77
228	2	3A	2171 VINE RD	VALLETTA, ANTHONY J & ROSE	15.75
228	4	3A	2249 VINE RD	CHELI, EDWARD & JOANN	11.21
228	4	3B	2249 VINE RD	CHELI, EDWARD & JOANN	11.21
228	6	3A	2375 VINE RD	RUDOLPH, ROBERT A & DEBORAH M	2
228	6	3B	2375 VINE RD	RUDOLPH, ROBERT A & DEBORAH M	38.19
228	27	3A	2102 E OAK RD	LANDMARK DEVELOPMENT NO 2 LLC	1
228	27	3B	2102 E OAK RD	GONZALEZ, IGNACIO & MARTHA	9
229	1	3B	E OAK RD	MUZZARELLI, CHARLES SR & RITA	0.28
229	5	3A	3090 E OAK RD	SIKKING, CORNELIUS J JR & MARIE	0.63
229	5	3B	3090 E OAK RD	SIKKING, CORNELIUS J JR & MARIE	10.16

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
229	6	3A	3020 E OAK RD	SANSALONE, LOUIS	5
229	8	3A	2880 E OAK RD	MILLER, GREGORY C & MARSIA L	1
229	8	3B	2880 E OAK RD	MILLER, GREGORY C & MARSIA L	20.95
229	21.01	3A	2783 VINE RD	TARQUINIO, BRIAN C	1
229	21.01	3B	2783 VINE RD	TARQUINIO, BRIAN C	5.22
229	21.02	3A	VINE RD	TARQUINIO, LOUIS & CONSTANCE	6.41
229	21.02	3B	VINE RD	TARQUINIO, LOUIS & CONSTANCE	6.41
229	22	3B	VINE RD	MAROLDA, JOSEPH SR	9.43
229	23	3B	VINE RD	MAZZONI EST, HENRY C/O A MAZZONI	1.86
246	2	3A	1509 W OAK RD	WEAVER, JARON L	0.5
246	2	3B	1509 W OAK RD	WEAVER, JARON L	5.5
374	1	3A	1791 E OAK RD	SCARPA EST, MILDRED C/O F SCARPA	0.5
374	1	3B	1791 E OAK RD	SCARPA EST, MILDRED C/O F SCARPA	9.5
374	2	3B	E OAK RD	SCARPA, VITO & DANIEL JR	10
384	2	3A	2253 E OAK RD	SCARPA, IRMA	0.5
384	2	3B	2253 E OAK RD	SCARPA, IRMA	1.74
384	3	3B	2269 E OAK RD	SCARPA, IRMA	5.012
384	5	3B	958 CHAPEL DR	SCARPA, IRMA	0.33
384	6	3B	918 CHAPEL DR	SCARPA, IRMA	0.3
384	7	3B	898 CHAPEL DR	SCARPA, IRMA	0.3
384	8	3B	860 CHAPEL DR	SCARPA, IRMA	0.3
384	9	3B	836 CHAPEL DR	SCARPA, IRMA	0.3
384	10	3B	802 CHAPEL DR	SCARPA, IRMA	0.3
384	11	3B	2308 SCARPA DR	SCARPA, IRMA	0.33
384	12	3B	2288 SCARPA DR	SCARPA, IRMA	0.3
384	13	3B	2268 SCARPA DR	SCARPA, IRMA	0.3
384	15	3A	2238 SCARPA DR	PEDERSEN, CAROL	1.8794

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
495	3	3B	2932 MAPLE AVE	BLACK, ANTHONY T & DEBRA E GARRETT	26.3
495	13	3A	733 N BREWSTER RD	HUNTER, MARY	1
495	13	3B	733 N BREWSTER RD	HUNTER, MARY	5.48
495	14	3A	811 N BREWSTER RD	LOEBENSTEIN, JOSEF ET ALS	4.54
495	14	3B	811 N BREWSTER RD	LOEBENSTEIN, JOSEF ET ALS	16.32
495	23	3B	3151 E OAK RD	GROUND COVER CUTS LLC	13
496	1	3A	N LINCOLN AVE	COVELLA, GERALD N & DEANNE L	10.38
496	9	3A	3658 MAPLE AVE	MEVOLI, CHARLES V & ERICA J	3.89
496	9	3B	3658 MAPLE AVE	MEVOLI, CHARLES V & ERICA J	18.35
496	9.03	3A	3418 MAPLE AVE	WEYMAN, NICHOLAS & TARA	0.25
496	9.03	3B	3418 MAPLE AVE	WEYMAN, NICHOLAS & TARA	9.62
496	12	3B	MAPLE AVE	DREYER, THELMA E	17.308
496	13	3B	3286 MAPLE AVE	D'OTTAVIO, RONALD & ELAINE	11
496	14	3B	3264 MAPLE AVE	D'OTTAVIO, RONALD & ELAINE	6.8
496	15	3A	3218 MAPLE AVE	D'OTTAVIO, RONALD	1
496	15	3B	3218 MAPLE AVE	D'OTTAVIO, RONALD	12.2
496	17	3B	3269 E OAK RD	FRAGAPANE, FRANK & GRACE	20
496	19	3A	3421 E OAK RD	HORTON, RICHARD L & EMILY S	0.5
496	19	3B	3421 E OAK RD	HORTON, RICHARD L & EMILY S	11.5
496	20	3B	MAPLE AVE	NEWCOMB, DENNIS & JILL	14.22
496	21	3B	E OAK RD	MELVOLI, CHARLES V SR & ERICA J	11.5
496	22	3B	E OAK RD	MUZZARELLI, CHARLES & RITA	5.9
507	1	3A	3259 MAPLE AVE	D'OTTAVIO, RONALD & ELAINE	1
507	1	3B	3259 MAPLE AVE	D'OTTAVIO, RONALD & ELAINE	38.375
507	3	3B	MAPLE AVE	D'OTTAVIO, ALBERT L & MARY	10.19
507	4	3B	MAPLE AVE	D'OTTAVIO, ALBERT L & MARY	10.19
507	5	3B	MAPLE AVE	D'OTTAVIO, ALBERT L & MARY	10
507	23	3A	3490 E LANDIS AVE	VENDRASCO EST, A % S BURKE	3

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
507	23	3B	3490 E LANDIS AVE	VENDRASCO, ANGELINA	19.24
507	25	3A	3344 E LANDIS AVE	D'OTTAVIO, ALBERT L & MARY	0.5
507	25	3B	3344 E LANDIS AVE	D'OTTAVIO, ALBERT L & MARY	8.61
507	26	3B	3258 E LANDIS AVE	D'OTTAVIO, ALBERT L & MARY	27.49
507	26.01	3A	3308 E LANDIS AVE	D'OTTAVIO, ALBERT L & MARY	7.82
507	26.01	3B	3308 E LANDIS AVE	D'OTTAVIO, ALBERT L & MARY	7.82
508	2	3A	4232 E LANDIS AVE	GUARACINI, FRANK JR & ELIZABETH	20.8
508	16	3A	MAPLE AVE	SIKKING, PETER N & JOHN N	0.5
508	16	3B	MAPLE AVE	SIKKING, PETER N & JOHN N	5
509	4	3A	4566 E LANDIS AVE	SCHIAVO, STEVEN J	5.65
509	4	3B	4566 E LANDIS AVE	SCHIAVO, STEVEN J	5.65
509	5	3B	4512 E LANDIS AVE	SCHIAVO, STEVEN J	3.92
509	7	3A	4430 E LANDIS AVE	MILLER, GREGORY C & MARSIA	1.45
509	7	3B	4430 E LANDIS AVE	MILLER, GREGORY C & MARSIA	10
512	1	3B	S MILL RD	WAWA, INC	69.6
624	1	3A	353 S SPRING RD	ASH, JAMES R SR & DONALD P ASH	2.13
624	2	3A	219 S SPRING RD	MORATELLI, LORENZO & ELLEN B	1
624	2	3B	219 S SPRING RD	MORATELLI, LORENZO & ELLEN B	8
647	4	3B	2351 E CHESTNUT AVE	GOLD, DORIS G - REVOCABLE TRUST	10.9
654	1	3B	490 S LINCOLN AVE	ELLIS POND SENIOR ASSOCIATES LLC	16.3
655	3	3B	3275 E LANDIS AVE	D'OTTAVIO, ALBERT L & MARY	1.22
655	6	3B	3359 E LANDIS AVE	D'OTTAVIO, ALBERT L & MARY	0.27
655	15	3A	86 S LINCOLN AVE	HSD DEVELOPERS LIMITED LIAB CO	0.95
655	16	3B	224 S LINCOLN AVE	HSD DEVELOPERS LIMITED LIAB CO	16.39
657	1	3A	S LINCOLN AVE	BYERS, FRANK J	7

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
657	7.01	3A	4079 E LANDIS AVE	HOLMBERG-SPENDIFF, KARIN	6.8
657	7.01	3B	4079 E LANDIS AVE	HOLMBERG, RUDOLPH	15
658	4	3B	3980 E CHESTNUT AVE	FERRARI, LAWRENCE E & MARIE C	22.1
658	7	3B	3826 E CHESTNUT AVE	EAST CUMBERLAND LLC	18.68
658	8	3B	3826 E CHESTNUT AVE	EAST CUMBERLAND LLC	18.68
658	10	3A	3740 E CHESTNUT AVE	BERGAMO, EDWIN C & SARALYN	6
658	10	3B	3740 E CHESTNUT AVE	BERGAMO, EDWIN C & SARALYN	14
658	12	3B	E CHESTNUT AVE	PINOTTI, LOUIS & ELIZABETH GALLOWAY	3.89
658	13	3B	389 S LINCOLN AVE	SHROPSHIRE, PAUL D & BEVERLY A	1.24
658	15	3B	S LINCOLN AVE	SHROPSHIRE, PAUL D & BEVERLY A	3.89
658	15.02	3B	S LINCOLN AVE	PINOTTI, JANE	9.11
659	10	3B	S BREWSTER RD	STEENLAND, HENRY C & GRACE C	6.64
659	13	3B	E CHESTNUT AVE	STEENLAND, HENRY C & GRACE C	28.03
659	13.01	3B	E CHESTNUT AVE	STEENLAND,HENRY C & GRACE	0.2102
659	15	3B	S LINCOLN AVE	STEENLAND, HENRY C & GRACE C	14.63
660	5	3B	MENANTICO RD	BERGAMO, EDWIN C & ANNE T	7.5
660	6	3A	3284 MENANTICO RD	GOFFREDI, ALBERT & MARGARET	3
660	6	3B	3284 MENANTICO RD	GOFFREDI, ALBERT & MARGARET	6
660	7	3A	3210 MENANTICO RD	PACITTI,FRANCES ET ALS	0.66
660	7	3B	3210 MENANTICO RD	PACITTI, FRANCES ET ALS	5.33
660	11	3A	3124 MENANTICO RD	PANCO, EVELYN	0.55
660	11	3B	MENANTICO RD	PANCO, EVELYN	7.5
660	23	3A	S LINCOLN AVE	BERGAMO, EDWIN C & ANNE T	30
660	23	3B	S LINCOLN AVE	BERGAMO, EDWIN C & ANNE T	30

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
660	25	3A	3305 E CHESTNUT AVE	BERGAMO, EDWIN C & ANNE T	0.5
660	25	3B	3305 E CHESTNUT AVE	BERGAMO, EDWIN C & ANNE T	8.85
664	1	3B	3575 E CHESTNUT AVE	PINOTTI, L & E GALLOWAY	5
664	2	3B	3625 E CHESTNUT AVE	PINOTTI, L & E GALLOWAY	9.5
664	2	3A	3625 E CHESTNUT AVE	PINOTTI, L & E GALLOWAY	0.5
664	3	3A	3681 E CHESTNUT AVE	BERGAMO, EDWIN & ANNE T	0.5
664	3	3B	3681 E CHESTNUT AVE	BERGAMO, EDWIN & ANNE T	9.5
664	8	3B	3981 E CHESTNUT AVE	LETIZIA, PAUL & GLADYS	10.77
664	9	3A	4035 E CHESTNUT AVE	LETIZIA, PAUL D & MARY BETH	1
664	9	3B	E CHESTNUT AVE	LETIZIA, PAUL D & MARY BETH	12.23
664	10	3A	4071 E CHESTNUT AVE	CHELI, JOHN & RITA	14
664	12	3B	3842 GENOA AVE	FIOCCHI, DONALD L & HELEN P	10.4
664	13	3B	GENOA AVE	FIOCCHI, DONALD J & JUDITH A	30.37
664	14	3A	3680 GENOA AVE	GELLWEILER, PHILIP M	0.5
664	14	3B	3680 GENOA AVE	GELLWEILER, PHILIP M	6.61
664	15	3A	GENOA AVE	PINOTTI, L & E GALLOWAY	2.69
664	15	3B	GENOA AVE	PINOTTI, L & E GALLOWAY	10
665	1	3B	E CHESTNUT AVE	DEOLA, DANIEL III & KATHLEEN	18
665	2	3A	746 PANTHER RD	SMANIOTTO ESTATE, VIOLA	7.2
665	2	3B	746 PANTHER RD	SMANIOTTO, VIOLA % LOIS CASSISI	9
665	3.01	3B	PANTHER RD	SMANIOTTO, VIOLA M % LOIS CASSISI	11.68
665	4	3A	964 PANTHER RD	FERRARI, LAWRENCE E	0.5
665	4	3B	964 PANTHER RD	FERRARI, LAWRENCE E & DENISE	5.75
665	5	3A	1118 PANTHER RD	FIOCCHI, HELEN	0.93
665	5	3B	1118 PANTHER RD	FIOCCHI, HELEN	9
666	1	3A	NEW PANTHER RD	FERRARI, A RICHARD & DOROTHY	4.72
667	1	3B	E CHESTNUT AVE	PANCO, MARK & CAROL	1.82

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
667	3	3B	E CHESTNUT AVE	MISH, CHARLES C ET AL	23.22
667	5	3B	E CHESTNUT AVE	CRESCI, GERALD R & JO ANN	14.35
667	8	3A	4788 E CHESTNUT AVE	MISH, JOSEPH J & CHARLES C	1
667	8	3B	4788 E CHESTNUT AVE	MISH, JOSEPH J & CHARLES C	18.61
667	9	3B	E CHESTNUT AVE	J CRESCI REALTY, LLC	23.91
667	23	3B	E LANDIS AVE	D'OTTAVIO, ALBERT & MARY	28.94
667	26	3B	4665 E LANDIS AVE	CRESCI, GERARD R & JOANN L	12.88
667	29	3A	4703 E LANDIS AVE	J CRESCI REALTY, LLC	1
667	29	3B	4703 E LANDIS AVE	J CRESCI REALTY, LLC	8
667	30	3B	E LANDIS AVE	FRANCESCHINI, ERNEST & THERESA	12.34
667	31	3B	E LANDIS AVE	CAPPELLUCCI, ALFRED & BARBARA	5.83
667	32	3B	E LANDIS AVE	CARLETTO, EDA	4.01
668	3	3A	5430 PIACENZIA AVE	MAGOLDA, NICHOLAS A & FRANCES A	1
668	3	3B	PIACENZIA AVE	MAGOLDA, NICHOLAS A & FRANCES A	5.43
668	4	3B	E CHESTNUT AVE	SLAVIC EVANGELICAL BAPTIST CHURCH	8.45
668	5	3A	5212 PIACENZIA AVE	CHELI, RICHARD J & ANDREA L	1
668	5	3B	5212 PIACENZIA AVE	CHELI, RICHARD J & ANDREA L	9.32
668	5.07	3B	5172 PIACENZIA AVE	CHELI, RICHARD J & ANDREA L	3.75
668	5.08	3B	5192 PIACENZIA AVE	CHELI, RICHARD J & ANDREA L	0.9183
668	6	3A	5055 E CHESTNUT AVE	NORBURY, MARIE A - LIVING TRUST	0.5
668	6	3B	5055 E CHESTNUT AVE	NORBURY, MARIE A - LIVING TRUST	34.5
668	7	3A	4901 E CHESTNUT AVE	SCRIVANI, THOMAS & DEBRA S	19.72
668	7	3B	4901 E CHESTNUT AVE	SCRIVANI, THOMAS & DEBRA S	19.72
668	8.02	3A	4786 PIACENZIA AVE	CONTE, MAURO & ANN B	1.3
668	8.02	3B	4786 PIACENZIA AVE	CONTE, MAURO & ANN B	1.85
668	8.03	3B	4766 PIACENZIA AVE	CONTE, MAURO & ANN	3.15
668	9	3A	4681 E CHESTNUT AVE	BERGAMO, EDWIN C JR & SARALYN	1

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
668	9	3B	4681 E CHESTNUT AVE	BERGAMO, EDWIN C JR & SARALYN	13.43
668	10	3B	E CHESTNUT AVE	LETIZIA, PAUL & GLADYS	6.11
668	12	3B	NEW PANTHER RD	SMANIOTTO, ARTHUR JR & D TRAMANTANO	7.4
668	13	3A	E CHESTNUT AVE	FLAIM, ROBERT A SR & LORETTA	6.7
669	1	3A	GENOA AVE	BADARACCO, WALTER G & DENNIS J	15.95
669	1	3B	GENOA AVE	BADARACCO, WALTER G & DENNIS J	15.95
669	2	3A	5460 GENOA AVE (5470)	FRANCESCHINI, CORINN	0.5
669	2	3B	5470 GENOA AVE	FRANCESCHINI, CORINN	19.38
669	3	3A	5386 GENOA AVE	BERTONAZZI, JOHN NICHOLAS	0.5
669	3	3B	5386 GENOA AVE	BERTONAZZI, JOHN NICHOLAS	4.5
669	4	3A	5324 GENOA AVE	SCRIVANI, THOMAS & DEBRA SUE	2.41
669	4	3B	5324 GENOA AVE	SCRIVANI, THOMAS & DEBRA SUE	19.75
669	4.01	3B	5260 GENOA AVE	SCRIVANI, THOMAS & DEBRA SUE	0.9183
669	4.02	3B	5226 GENOA AVE	SCRIVANI, THOMAS & DEBRA SUE	0.9183
669	4.03	3B	5194 GENOA AVE	SCRIVANI, THOMAS & DEBRA SUE	0.9183
669	5.01	3B	5152 GENOA AVE	PAGANO, JACQUELINE M ET ALS	5.79
669	5.02	3B	5090 GENOA AVE	PAGANO, JACQUELINE M ET ALS	6.591
669	5.03	3B	5042 GENOA AVE	PAGANO, JACQUELINE M ET ALS	5.827
669	9	3A	4748 GENOA AVE	PERICONI, LEROY G & MARIE E	3.84
669	10	3A	4678 GENOA AVE	MELINI, GEORGE P SR & WENDY S	1
669	10	3B	4678 GENOA AVE	MELINI, GEORGE P SR & WENDY S	6.51

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
669	10.01	3B	4530 GENOA AVE	STANEWICH, MARK & NICOLE OSSIBOFF	5
669	11	3A	4464 GENOA AVE	PERICONI EST, WILBERT J	0.5
669	11	3B	4464 GENOA AVE	PERICONI EST, WILBERT J	8.41
669	12	3A	1133 PANTHER RD	FERRARI, LAWRENCE E	1.17
669	12	3B	1133 PANTHER RD	FERRARI, LAWRENCE E	10
669	13	3B	PANTHER RD	FERRARI, LAWRENCE E	0.35
669	14	3B	PANTHER RD	DEOLA, JAMES & PAUL DEOLA	8.07
669	15	3A	4505 PIACENZIA AVE	BARSUGLIA, MAURICE A JR & KAREN L	0.5
669	15	3B	4505 PIACENZIA AVE	BARSUGLIA, MAURICE A JR & KAREN L	30.5
669	16.01	3B	PIACENZIA AVE	BERGAMO, EDWIN JR & SARALYN	13.32
669	17	3B	PIACENZIA AVE	SCRIVANI, THOMAS & DEBRA S	14.73
669	18	3B	PIACENZIA AVE	DEOLA, DANIEL III & KATHLEEN	10.45
669	19	3B	PIACENZIA AVE	DEOLA, DANIEL III & KATHLEEN	10.45
669	20	3A	4859 PIACENZIA AVE	PETROSKY, RONALD J & JOANN	4.6
669	21	3B	PIACENZIA AVE	GENOA FARM PARTNERS	5
670	3	3A	5814 GENOA AVE	MAGOLDA, KIMBERLY A	1
670	3	3B	5814 GENOA AVE	MAGOLDA, KIMBERLY A	6.04
670	4	3A	975 UNION RD	MAGOLDA, LUCILLE R	1
670	4	3B	975 UNION RD	MAGOLDA, LUCILLE R	5
670	4.01	3A	GENOA AVE	MAGOLDA, NICHOLAS A	1
670	4.01	3B	GENOA AVE	MAGOLDA, NICHOLAS A	8.13
682	5.01	3B	W CHESTNUT AVE	CALLAVINI, JOSEPH D & CHERYL	6.07
694	1	3B	W WALNUT RD	COLLA EST, ALBINA	10
696	2	3B	1266 W WALNUT RD	COLON, LETITIA % W CARL BROWN	14.2
696	3	3A	1346 W WALNUT RD	MUNYON, IDA R	0.25
696	3	3B	1346 W WALNUT RD	MUNYON, IDA R	5.58

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
697	7	3A	1106 W WALNUT RD	COLLA EST, ALBINA	0.5
697	7	3B	1106 W WALNUT RD	COLLA EST, ALBINA	5
711	13	3A	1184 S WEST AVE	SMITH, G & P F STERCHELE	0.5
711	13	3B	1184 S WEST AVE	SMITH, G & P F STERCHELE	5.5
711	17	3A	510 FOSTER AVE	ESPAMER, FOSTER & MARIE R	2.58
723	1	3A	1001 S WEST AVE	DOOLEY, JOHN & DIANE	1
723	1	3B	1001 S WEST AVE	DOOLEY, JOHN & DIANE	8.2
723	2	3A	281 W WALNUT RD	ROCHETTI, WILLIAM & GLORIA	2
723	2	3B	281 W WALNUT RD	ROCHETTI, WILLIAM & GLORIA	8
723	3	3B	211 W WALNUT RD	ROCHETTI, WILLIAM & GLORIA	10
723	17	3A	126 FOSTER AVE	STERCHELE, MARIE	2.8792
723	23	3B	FOSTER AVE	ROCHETTI, ALBERT J	8.07
723	23.01	3B	1199 S WEST AVE	ROCHETTI, ALBERT	0.5142
749	4.01	3B	622 E WALNUT RD	COLLA, MARION	4
749	5	3B	793 S EAST AVE	COLLA ENTERPRISES, INC	5
779	7	3A	1495 HARDING RD	BURGENTS, EDWARD L JR & MARY E	1.61
819	2	3A	2530 MAGNOLIA RD	BERGAMO, DAVID, EST% RICHARD CAPLIS	0.5
819	2	3B	2530 MAGNOLIA RD	BERGAMO, DAVID, EST% RICHARD CAPLIS	23.96
820	1.01	3B	1550 S LINCOLN AVE	RONE, VICTOR F & ROBERT G	6.06
822	1	3A	1099 S BREWSTER RD	FAVORETTO, ELEANOR	1.69
822	1	3B	1099 S BREWSTER RD	FAVORETTO, ELEANOR	22
824	1	3A	MENANTICO RD	LANDIS AVENUE AT VINELAND LLC	25
824	3	3A	MENANTICO RD	LANDIS AVENUE AT VINELAND LLC	15.08
824	4	3B	MENANTICO RD	STARKEY, JAMES ALBERT JR & JOHANNA	30.06
824	5	3A	MENANTICO RD	LANDIS AVENUE AT VINELAND LLC	27.33
831	7	3A	1427 S LINCOLN AVE	FAVRETTO EST, WILLIAM	1
831	7	3B	1427 S LINCOLN AVE	FAVRETTO EST, WILLIAM	17.68

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
851.04	12	3A	1880 VENEZIA AVE	SPRING HOLLOW NO 1 LLC	0.5
851.04	12	3B	1880 VENEZIA AVE	CHALOW, JOSEPH B & DELORES A	26.23
860	1.02	3B	ITALIA AVE	FRYDENBERG, SHARON G	7.93
861	4	3A	4251 GENOA AVE	PEPITONE, DAVID W	0.5
861	4	3B	4251 GENOA AVE	PEPITONE, DAVID W	10.4
861	7	3A	1356 PANTHER RD	FERRARI, A RICHARD	1
861	7	3B	1356 PANTHER RD	FERRARI, A RICHARD & DOROTHY	9
861	8	3A	1466 PANTHER RD	BARSUGLIA, ELAINE	0.5
861	8	3B	1466 PANTHER RD	BARSUGLIA, ELAINE	8.47
861	9	3B	4200 ITALIA AVE	BARSUGLIA, ELAINE	21.24
863	2	3A	DANTE AVE	CARIOTI, FRANK V & DIANE M	18.53
863	2	3B	DANTE AVE	FERRARI, LOUIS R & JOANNE	19
863	3	3A	DANTE AVE	CARIOTI, FRANK V & DIANE M	18.53
864	6	3A	4193 ITALIA AVE	54TH STREET PARTNERSHIP LLC	19.5
864	9	3A	4355 ITALIA AVE	DE MATTE, VIRGINIA	1.5
864	9	3B	4355 ITALIA AVE	DE MATTE, VIRGINIA	11.52
864	10	3B	PANTHER RD	FLAIM, ROBERT A SR & LORETTA	8.96
864	12	3A	1958 PANTHER RD	FLAIM, ROBERT A & LORETTA	0.5
864	12	3B	1958 PANTHER RD	FLAIM, ROBERT A & LORETTA	9.88
864	13	3A	4350 DANTE AVE	FLAIM, ROBERT A SR & LORETTA	19.1
864	13	3B	DANTE AVE	FLAIM, ROBERT A & LORETTA	19.1
865	1	3B	PANTHER RD	FRANCESCHINI, RALPH	8.1
865	2	3A	4505 GENOA AVE	FRANCESCHINI, RALPH	1
865	2	3B	4505 GENOA AVE	FRANCESCHINI, RALPH	9.1
865	3	3A	4799 GENOA AVE	CURLEY, HARRY & JOYCE	0.5
865	3	3B	4799 GENOA AVE	CURLEY, HARRY & JOYCE	14.79
865	4	3A	4748 ITALIA AVE	DEOLA, DANIEL III & KATHLEEN	0.5

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
865	4	3B	4748 ITALIA AVE	DEOLA, DANIEL III & KATHLEEN	11.23
865	5.01	3B	ITALIA AVE	DEOLA, DANIEL J III & KATHLEEN D	9.3
865	8	3B	PANTHER RD	FRANCESCHINI, RALPH	7.88
866	1.01	3B	PANTHER RD	FLAIM, ROBERT A SR & LORETTA	7.4
866	2	3A	4481 ITALIA AVE	FLAIM, ROBERT A SR	1.59
866	2	3B	4481 ITALIA AVE	FLAIM, ROBERT A SR	8.5
866	3	3B	ITALIA AVE	FLAIM, ROBERT A SR & LORETTA	13.59
866	5	3A	4645 ITALIA AVE	FLAIM, ROBERT A SR & LORETTA	15
866	5	3B	4645 ITALIA AVE	FLAIM, ROBERT A SR	15
866	6	3B	ITALIA AVE	FERRARI, LOUIS R JR	10.15
866	7	3B	CORNUCOPIA AVE	SMANIOTTO, R&B-G&L SMANIOTTO	7.842
866	12	3B	PANTHER RD	SMANIOTTO, VINCENT & ROBERT	10
866	13	3B	PANTHER RD	FERRARI, A RICHARD & DOROTHY	15
866	14	3A	1785 PANTHER RD	FLAIM, ROBERT A SR & LORETTA	0.25
866	14	3B	1785 PANTHER RD	FLAIM, ROBERT & LORETTA	4.75
879	1.01	3A	1936 S ORCHARD RD	AYARS, STEVEN L & DEBORAH	1
879	1.01	3B	1936 S ORCHARD RD	AYARS, STEVEN L & DEBORAH	15.08
912	20	3A	591 FOSTER AVE	CUCULINO, ANGELO A	15.78
913	1.01	3A	FOSTER AVE	CUCULINO, ANGELO A	6.17
913	3	3A	469 FOSTER AVE	GONZALEZ, JULIO	6
913	5	3A	375 FOSTER AVE	STERCHELE, PAUL F & ESTELLE M	0.5
913	5	3B	375 FOSTER AVE	STERCHELE, PAUL F & ESTELLE M	7.62
913	7	3A	279 FOSTER AVE	STERCHELE, PAUL F & ESTELLE	10.58

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
913	7	3B	279 FOSTER AVE	STERCHELE, PAUL F & ESTELLE	10.58
913	8	3A	199 FOSTER AVE	CHUPASHKO, JOHN & KAREN L	1.29
913	8	3B	199 FOSTER AVE	CHUPASHKO, JOHN & KAREN L	8
913	9	3B	FOSTER AVE	ROCHETTI, ALBERT J & WILLIAM	5
919	14	3A	390 E ELMER RD	BAGLIANI, EST ELMA	0.5
919	14	3B	390 E ELMER RD	BAGLIANI, EST ELMA	15.66
919	15	3B	E ELMER RD	BAGLIANI, ELMA	8.24
919	16	3A	288 E ELMER RD	CASTELLINI, TIM	1
919	16	3B	288 E ELMER RD	CASTELLINI, TIM	8.99
919	21	3A	1701 S EAST BLVD	CLARK, SYLVIA L	0.5
919	21	3B	1701 S EAST BLVD	CLARK, SYLVIA L	9.5
920	1	3B	1289 S EAST AVE	COLLA ENTERPRISES, INC	12.5
920	2	3B	1289 S EAST AVE	COLLA ENTERPRISES, INC	12.5
935	22	3A	824 E ELMER RD	DEBELLO, DOUGLAS	3
935	23	3B	780 E ELMER RD	CATTI, EDWARD J & DOROTHY BERTOLDI	10
935	24	3B	754 E ELMER RD	FCC, INC	3.96
935	25	3B	720 E ELMER RD	FCC, INC	17.84
939	5	3A	1528 E ELMER RD	LAGERHOLM, DONALD & CAROL ANN	6.29
942	2	3B	1879 MAGNOLIA RD	WASSERSTRUM, CLARA	5
963	8	3A	2022 S WEST BLVD	CHUPASHKO, OLGA	1
963	8	3B	2022 S WEST BLVD	CHUPASHKO, OLGA	10.354
963	10	3B	S WEST BLVD	GALETTO REALTY CO LP	14
963	11	3B	2198 S WEST BLVD	GALETTO REALTY CO LP	0.3444
963	12	3B	2230 S WEST BLVD	GALETTO REALTY CO LP	11.64
964	23	3A	601 W GRANT AVE	ELLIS, HOWARD E V	0.34
964	23	3B	601 W GRANT AVE	ELLIS, HOWARD E V	6.02
965	19	3A	268 W SHERMAN AVE	SIMONI, JAMES & PATRICIA DEJONG	0.44
965	19	3B	268 W SHERMAN AVE	SIMONI, JAMES & PATRICIA DEJONG	7.51

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
965	20	3B	284 W SHERMAN AVE	SIMONI, JAMES	3.49
966	2.01	3B	S EAST BLVD	RUSSO, THOMAS & EVA	13.37
966	8	3A	139 E ELMER RD	BRADWAY, JILL L	2.52
966	8.01	3A	153 E ELMER RD	MILLER, ROBERT L & ROBERTA H	2.59
966	10	3B	E ELMER RD	MONTRESOR, JOSEPH D	12.18
966	11.01	3B	E ELMER RD	RUSSO, MARIO & THOMAS	10.41
966	15	3A	481 E ELMER RD	MONTRESOR, JOSEPH D	4.5
966	17	3B	1962 S EAST AVE	RUSSO, PASQUALE - SALVATORE EST	6.07
966	18	3B	2066 S EAST AVE	R F C CONTAINER COMPANY, INC	20.82
967	6	3A	336 E GRANT AVE (346)	RUSSO, MARY	16.28
967	6	3B	336 E GRANT AVE (346)	RUSSO, MARY	16.28
967	7	3A	270 E GRANT AVE	STANKER, JOSEPHINE	1.53
967	8	3A	246 E GRANT AVE	RUSSO, THOMAS P & EVA V	16.47
967	8	3B	246 E GRANT AVE	RUSSO, THOMAS P & EVA V	16.47
967	15	3B	2235 S EAST BLVD	RUSSO, THOMAS P & EVA	5
968	9	3A	709 E ELMER RD	CARPINO, FRANK	0.5
968	9	3B	709 E ELMER RD	CARPINO, FRANK	9.5
968	11	3A	783 E ELMER RD	GALLINA, DENNIS & MARY	5
968	11	3B	783 E ELMER RD	GALLINA, DENNIS & MARY	13.06
969	17	3B	732 E GRANT AVE	READDING EST, ANN % SANDRA READDING	3.24
969	18	3A	706 E GRANT AVE	READDING EST, ANN	0.582
969	18	3B	706 E GRANT AVE	READDING EST, ANN	2.66
969	20	3B	580 E GRANT AVE (586)	DUN-RITE SAND & GRAVEL COMPANY	10.06
969	22	3B	S EAST AVE	DUN-RITE SAND & GRAVEL COMPANY	4.41
980	3	3A	1400 E GRANT AVE	CASTELLINI, FREDERICK J & LILLIAN	0.5
980	3	3B	1400 E GRANT AVE	CASTELLINI, FREDERICK J & LILLIAN	6.23
981	5.01	3A	S LINCOLN AVE	SF TURN KEY PROPERTIES LLC	4.35

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
981	5.01	3B	S LINCOLN AVE	SF TURN KEY PROPERTIES LLC	18.5
981	7	3A	1594 E GRANT AVE	CLIFFORD, MELVYN C	0.2
981	7	3B	1594 E GRANT AVE	CLIFFORD, MELVYN C	5
981	8	3A	1560 E GRANT AVE	FLAIM, RICHARD F ET AL	0.26
981	8	3B	1560 E GRANT AVE	FLAIM, RICHARD F ET AL	5
981	9	3A	1532 E GRANT AVE	SPINA, CAMILLO V	6.85
983	2	3A	2444 PALERMO AVE	GRAIFF, EDWARD & JEAN	1
983	2	3B	2444 PALERMO AVE	GRAIFF, EDWARD & JEAN	6.444
983	3	3A	2340 PALERMO AVE	GRAIFF, EDWARD & JEAN	0.68
983	3	3B	2340 PALERMO AVE	GRAIFF, EDWARD & JEAN	1.617
983	13	3A	2325 DANTE AVE	BLUESTONE GROUP, LLC	0.5
983	13	3B	2325 DANTE AVE	BLUESTONE GROUP, LLC	7.14
983	15	3A	2419 DANTE AVE	NANI, CLARA	1.7
983	15	3B	2419 DANTE AVE	NANI, CLARA	8.3
983	16	3A	2575 DANTE AVE	PAGNINI, ANDREW	0.5
983	16	3B	2575 DANTE AVE	PAGNINI, ANDREW	41.5
983	20	3A	2771 DANTE AVE	TONETTA EST, A	0.5
983	20	3B	2771 DANTE AVE	TONETTA EST, A	10.35
983	21	3A	2807 DANTE AVE	MARINELLI, ALEXANDER & GLORIA	1
983	21	3B	2807 DANTE AVE	MARINELLI, ALEXANDER & GLORIA	12.54
984	1	3B	2875 DANTE AVE	TONETTA EST, PETER	9.16
984	2	3A	2935 DANTE AVE	TONETTA, ALEXANDER V JR & MARIE	0.5
984	2	3B	2935 DANTE AVE	TONETTA, ALEXANDER V JR & MARIE	5.44
991	2	3A	3074 PALERMO AVE	SARTORI, LOUIS D & ROSEMARIE	1
991	2	3B	PALERMO AVE	SARTORI, LOUIS D & ROSEMARIE	19.8
991	3	3A	3038 PALERMO AVE	RUTHERFORD, RONALD B ESTATE	10
991	7	3A	2862 PALERMO AVE	O'DONNELL, JOSEPH & PATRICIA K	5

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
991	7	3B	2862 PALERMO AVE	O'DONNELL, JOSEPH & PATRICIA K	8
1000	4	3A	3261 DANTE AVE	SOUDERS, PETER R & MARLENE	1
1000	4	3B	3261 DANTE AVE	SOUDERS, PETER R & MARLENE	8.59
1000	6	3A	3349 DANTE AVE	NEGRON, MARIA L	1
1000	6	3B	3349 DANTE AVE	NEGRON, MARIA L	9.41
1000	10	3A	VENEZIA AVE	GROTTI, MILLIO	4.71
1000	11	3B	VENEZIA AVE	SOUDERS, JOHN L	5.3
1000	13	3A	2260 VENEZIA AVE	CHALOW, JOHN L & CONSTANCE	1.5
1000	13	3B	2260 VENEZIA AVE	CHALOW, JOHN L & CONSTANCE	9.75
1005	2	3A	3624 HANCE BRIDGE RD	TAMANINI, RUDOLPH E & ARLENE R	0.46
1005	2	3B	3624 HANCE BRIDGE RD	TAMANINI, RUDOLPH E & ARLENE R	29
1006.02	14	3A	2071 VENEZIA AVE	KLEIN, MARY	0.5
1006.02	14	3B	2071 VENEZIA AVE	KLEIN, MARY	5
1006.02	15	3A	3661 DANTE AVE	GERI, MYRA	0.5
1006.02	15	3B	3661 DANTE AVE	GERI, MYRA	1.26
1006.02	15.01	3B	DANTE AVE	GERI, MYRA	8.2
1007	2	3A	4241 DANTE AVE	FERRARI, LOUIS R JR	0.5
1007	2	3B	4241 DANTE AVE	FERRARI, LOUIS R JR	12.5
1007	3	3A	2166 PANTHER RD	FERRARI, DANIEL T & BERNICE B	0.5
1007	3	3B	2166 PANTHER RD	FERRARI, DANIEL T & BERNICE B	16.5
1008	3	3B	3547 HANCE BRIDGE RD	TAMANINI, RUDOLPH E & ARLENE R	21.41
1014	1	3A	2358 PANTHER RD	PERICONI, JOHN ALFRED ET ALS	0.5
1014	1	3B	2358 PANTHER RD	PERICONI, JOHN ALFRED ET ALS	29.5

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
1014	2	3B	PANTHER RD	FRANCESCHINI, RONALD JOHN & MARIE	10
1014	3	3A	2500 PANTHER RD	FRANCESCHINE, DAVID E JR & VALERIE	2
1014	3	3B	2500 PANTHER RD	FRANCESCHINI, DAVID E JR & VALERIE	18
1014	4	3A	2500 PANTHER RD	FRANCESCHINE, DAVID E JR & VALERIE	2
1014	4	3B	2500 PANTHER RD	FRANCESCHINI, DAVID E JR & VALERIE	18
1014	5	3B	2584 PANTHER RD	FERRARI, ROBERT J JR	5
1014	6.01	3A	2620 PANTHER RD	FERRARI, DANIEL T & BERNICE	1
1014	6.01	3B	2620 PANTHER RD	FERRARI, DANIEL T & BERNICE	8.08
1014	7	3A	2710 PANTHER RD	BRAIDI, ANDREW & LOUISE AMELIA	0.5
1014	7	3B	2710 PANTHER RD	BRAIDI, ANDREW & LOUISE AMELIA	14.5
1015	1	3A	2025 PANTHER RD	REIMELS, JOHN H III & LISA A	0.98
1015	1.01	3B	4449 DANTE AVE	REIMELS, ROSE A	0.9329
1015	1.02	3B	4499 DANTE AVE	REIMELS, ROSE A	0.9329
1015	1.03	3B	4539 DANTE AVE	REIMELS, ROSE A	0.9329
1015	1.04	3B	4579 DANTE AVE	REIMELS, ROSE A	0.9329
1015	1.05	3B	PANTHER RD	REIMELS, ROSE A	8.31
1015	1.06	3B	PANTHER RD	REIMELS, ROSE A	0.9183
1015	2	3A	4705 DANTE AVE	CAMPREGHER, JULIA C	0.5
1015	2	3B	4705 DANTE AVE	CAMPREGHER, JULIA C	31.079
1015	4	3A	4624 TRENTO AVE	FRANCESCHINI, RONALD JOHN & MARIE	0.5
1015	4	3B	4624 TRENTO AVE	FRANCESCHINI, RONALD JOHN & MARIE	20.62
1015	5	3A	2401 PANTHER RD	FRANCESCHINI, DAVID JR & VALERIE	2
1015	5	3B	2401 PANTHER RD	FRANCESCHINI, DAVID JR & VALERIE	12
1015	8	3B	PANTHER RD	BRAIDI, JOHN J & DOLORES	9

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
1015	9	3A	2207 PANTHER RD	BRAIDI, JOHN J & DOLORES	0.5
1015	9	3B	2207 PANTHER RD	BRAIDI, JOHN J & DOLORES	18.36
1016	1	3A	1479 CORNUCOPIA AVE	FERRARI, LOUIS R & JOANNE	4
1016	1	3B	1479 CORNUCOPIA AVE	FERRARI, LOUIS R & JOANNE	16
1016	2	3A	1317 CORNUCOPIA AVE	PICCIONI, MAY	0.5
1016	2	3B	1317 CORNUCOPIA AVE	PICCIONI, MAY	15.5
1016	4	3A	5150 ITALIA AVE	MONTELEONE, DAVID N	31.8
1016	4	3B	5150 ITALIA AVE	MONTELEONE, DAVID N	31.8
1016	5	3B	5039 GENOA AVE	BERTI, NICHOLAS JOSEPH	30.72
1016	7	3A	5199 GENOA AVE	BERTONAZZI, PAUL J & MARLENE	1.28
1016	7	3B	5199 GENOA AVE	BERTONAZZI, PAUL J & MARLENE	6
1016	10	3A	5449 GENOA AVE	BERTONAZZI, JAMES C III & MICHAEL	0.5
1016	10	3B	5449 GENOA AVE	BERTONAZZI, JAMES C III & MICHAEL	19.89
1016	11	3B	UNION RD	BERTONAZZI, STEVEN J & JANICE S	6.32
1016	11.03	3B	5541 GENOA AVE	BERTONAZZI, STEPHEN & JANICE	1.0923
1016	12	3B	UNION RD	HOFFNER, WILLIAM & GRACE	1
1016	13	3A	1176 UNION RD	BERTONAZZI, JAMES III	0.5
1016	13	3B	1176 UNION RD	BERTONAZZI, JAMES III	8.17
1016	14	3B	GENOA AVE	GENOA FARM PARTNERS	20.6
1016	15	3A	1256 UNION RD	OGIDAN, OLABODE O & HEATHER D	3.94
1016	15	3B	1256 UNION RD	OGIDAN, OLABODE O & HEATHER D	5.5
1016	17	3A	1330 UNION RD	JAMES, RYDER K	7.28
1016	20	3A	ITALIA AVE	LOPERGOLO, FRANK J & ROSE	8.13
1016	21	3A	ITALIA AVE	LOPERGOLO, FRANK J & ROSE	9
1017	1	3A	4809 ITALIA AVE	TAMANINI, ALFRED	0.5
1017	1	3B	4809 ITALIA AVE	TAMANINI, ALFRED	14.5

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
1017	3	3B	ITALIA AVE	SMANIOTTO, A EST C/O R SMANIOTTO	20
1017	4	3B	ITALIA AVE	PICCIONI, MAY	17.88
1017	5	3A	5159 ITALIA AVE	SMANIOTTO, BEVERLY	0.5
1017	5	3B	5159 ITALIA AVE	SMANIOTTO, BEVERLY	5
1017	6	3A	ITALIA AVE	VENTURI, ROBERT J & JOHANNE	2.29
1017	6	3B	ITALIA AVE	VENTURI, ROBERT J & JOHANNE	30
1017	7	3A	ITALIA AVE	VENTURI, ROBERT J & JOHANNE	3
1017	7	3B	ITALIA AVE	VENTURI, ROBERT J & JOHANNE	12
1017	10	3A	5614 DANTE AVE	VAI, GARRY V JR	1
1017	10	3B	5614 DANTE AVE	VAI, GARRY V JR	8.09
1017	12	3A	5434 DANTE AVE	FISHER, DAVID & EILEEN	0.5
1017	12	3B	5434 DANTE AVE	FISHER, DAVID & EILEEN	23.5
1017	13	3A	5278 DANTE AVE	SMANIOTTO, DAVID B & PAULA	1.1
1017	13	3B	5278 DANTE AVE	SMANIOTTO, DAVID B & PAULA	7.5
1017	14	3B	DANTE AVE	SMANIOTTO, ROBERT & JOAN	27.9
1017	17	3B	CORNUCOPIA AVE	SMANIOTTO, ROBERT & JOAN	16.79
1017	19	3A	1849 CORNUCOPIA AVE	SIMMERMON, JUDITH M	0.5
1017	19	3B	1849 CORNUCOPIA AVE	SIMMERMON, JUDITH M	11.19
1017	19.01	3A	1819 CORNUCOPIA AVE	ROMANO, MARK & JANICE	1.31
1017	19.01	3B	1819 CORNUCOPIA AVE	ROMANO, MARK & JANICE	5
1017	20	3B	CORNUCOPIA AVE	SMANIOTTO, RICHARD ET ALS	8
1018	2	3A	5440 TRENTO AVE	MARINELLI, MARY ANN	0.5
1018	2	3B	5440 TRENTO AVE	MARINELLI, MARY ANN	19.5
1018	3	3B	TRENTO AVE	MARTINO, ROBERT L ET ALS	15
1018	4	3B	TRENTO AVE	TOLOTTI, LOUIS F & ROBERT M	20
1018	5	3B	TRENTO AVE	FRANCESCHINI, DAVID & LORRAINE	10
1018	6	3A	5084 TRENTO AVE	LOUIS TOLOTTI TRUST	1

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
1018	6	3B	5084 TRENTO AVE	LOUIS TOLOTTI TRUST	9
1018	7	3B	TRENTO AVE	LOUIS TOLOTTI TRUST	5
1018	10	3B	2455 CORNUCOPIA AVE	TOLOTTI ESTATE, LOUIS H	8.925
1018	10.01	3B	4900 TRENTO AVE	LOUIS TOLOTTI TRUST	0.92
1018	10.03	3B	4940 TRENTO AVE	LOUIS TOLOTTI TRUST	0.92
1018	11	3A	2347 CORNUCOPIA AVE	FERRARI, ROBERT J JR	15
1018	11	3B	2347 CORNUCOPIA AVE	FERRARI, ROBERT J JR	15
1018	12.01	3B	CORNUCOPIA AVE	FERRARI, ROBERT J JR	57.96
1018	13	3A	2025 CORNUCOPIA AVE	FERRARI, ROBERT J JR	0.5
1018	13	3B	2025 CORNUCOPIA AVE	FERRARI, ROBERT J JR	19.5
1018	15	3A	5095 DANTE AVE	MAURICE, WALTER J & RHONDA M	3.819
1018	19	3A	5299 DANTE AVE	CHALOW, BARRY K & MARY ANN	0.5
1018	19	3B	5299 DANTE AVE	CHALOW, BARRY K & MARY ANN	9.5
1018	20	3A	5413 DANTE AVE	NICHILO, REGINA	1
1018	20	3B	5413 DANTE AVE	NICHILO, REGINA	9
1018	21	3B	DANTE AVE	FERRARI, ROBERT J JR	20
1024	4	3B	2270 UNION RD	MARINELLI, MARY ANN & B GUILIANI	2.2792
1024	7	3B	2366 UNION RD	MARINELLI, MARY ANN	2.1719
1024	8	3A	2400 UNION RD	MARTINO, ROBERT L ET ALS	2.1719
1024	9	3B	2430 UNION RD	SPADONI, LAWRENCE	2.27
1024	10	3A	5604 TRENTO AVE	SPADONI, LAWRENCE J & LILLIAN	1
1024	10	3B	5604 TRENTO AVE	SPADONI, LAWRENCE J & LILLIAN	1.17
1024	11	3B	TRENTO AVE	SPADONI, LAWRENCE	2.36
1025	1	3B	ITALIA AVE	BERTONAZZI, STEVEN J & JANICE S	0.53
1025	2	3B	GENOA AVE	BERTONAZZI, NICHOLAS ET AL	15
1025	4	3A	1025 UNION RD	BERTONAZZI, W JR & J BERTONAZZ	0.5

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
1025	4	3B	1025 UNION RD	BERTONAZZI, W JR & J BERTONAZZ	29.69
1025	4.01	3A	5779 GENOA AVE	BERTONAZZI, WILFRED P JR	0.5
1025	4.01	3B	5779 GENOA AVE	BERTONAZZI, WILFRED P JR	2.82
1025	5	3A	5849 GENOA AVE	GENOA FARM PARTNERS	0.5
1025	5	3B	5849 GENOA AVE	GENOA FARM PARTNERSHIPS	30.8
1026	4	3A	2691 UNION RD	CHALOW, WALTER GUY JR & TERENCE T	1
1026	4	3B	2691 UNION RD	CHALOW, WALTER GUY JR & TERENCE T	14
1026	6	3B	2583 UNION RD	CHALOW, JOSEPH B & DELORES	13.75
1026	7	3B	UNION RD	FLAIM, ROBERT A & KEVIN N PARTNERS	10
1026	8	3B	UNION RD	FLAIM, ROBERT A JR & KEVIN	20
1026	9	3B	UNION RD	FERRARI, DANIEL T & BERNICE B	19.25
1026	11	3B	UNION RD	GERARDI, ENZO & FRANCES	20.63
1027	7	3A	275 E GRANT AVE	LANDMARK DEVELOPMENT #4 LLC	10
1027	12	3A	485 E GRANT AVE	GALETTO, LOUIS JR & DORIS ANN	0.72
1027	12	3B	485 E GRANT AVE	GALETTO, LOUIS JR & DORIS ANN	5
1027	13	3B	523 E GRANT AVE	GALETTO, LOUIS J & DORIS ANN	3.28
1027	14	3A	555 E GRANT AVE	GALETTO, LOUIS JR & DORIS	0.5
1027	14	3B	555 E GRANT AVE	GALETTO, LOUIS JR & DORIS	13.69
1027	18	3A	607 E GRANT AVE	GALETTO, LOUIS JR & DORIS ANN	1
1027	18	3B	607 E GRANT AVE	GALETTO, LOUIS JR & DORIS ANN	6.97
1027	19	3A	647 E GRANT AVE	GALETTO, LOUIS & DORIS ANN	1
1027	19	3B	647 E GRANT AVE	GALETTO, LOUIS & DORIS ANN	13.75
1027	31	3A	2500 S MAIN RD	GALETTO, LOUIS & DORIS ANN	1
1027	31	3B	2500 S MAIN RD	GALETTO, LOUIS & DORIS ANN	6.02

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
1027	47	3A	610 E SHERMAN AVE	ZILLER, RICHARD ET ALS	0.5
1027	47	3B	610 E SHERMAN AVE	ZILLER, RICHARD ET ALS	5.42
1027	49	3A	560 E SHERMAN AVE	CHINI, NORMAN A JR & RUTH L LANGLEY	0.6112
1027	57	3A	310 E SHERMAN AVE	MALENCH, MARK E	0.5
1027	57	3B	310 E SHERMAN AVE	MALENCH, MARK E	13.45
1027	61	3A	166 E SHERMAN AVE	MALENCH, VICTOR & CATHERINE	0.75
1027	61	3B	166 E SHERMAN AVE	MALENCH, VICTOR & CATHERINE	5.02
1027	62.01	3A	2635 S EAST BLVD	MALENCH, VICTOR B & CATHERINE D	8.15
1027	62.01	3B	2635 S EAST BLVD	MALENCH, VICTOR B & CATHERINE D	8.15
1027	62.02	3A	138 E SHERMAN AVE	MALENCH, VICTOR B & CATHERINE D	2.53
1027	62.02	3B	138 E SHERMAN AVE	MALENCH, VICTOR B & CATHERINE D	2.53
1027	62.03	3B	96 E SHERMAN AVE	MALENCH, VICTOR B & CATHERINE D	0.67
1027	62.04	3B	50 E SHERMAN AVE	MALENCH, VICTOR B & CATHERINE D	0.3673
1027	62.06	3B	2675 S EAST BLVD	MALENCH, VICTOR B & CATHERINE D	0.3891
1027	65	3B	2611 S EAST BLVD	MALENCH, VICTOR B & CATHERINE	4
1027	67	3B	2505 S EAST BLVD	TARABBIO, CARL JR	9.6124
1031	4	3A	1213 E GRANT AVE	SCHMITT, EDWARD H	1
1031	4	3B	1213 E GRANT AVE	SCHMITT, EDWARD H	4.11
1031	5.01	3B	1255 E GRANT AVE	SCHMITT, EDWARD H	8.56
1031	8	3A	1411 E GRANT AVE	CASTELLINI, FRED & LILLIAN	0.5
1031	8	3B	1411 E GRANT AVE	CASTELLINI, FRED & LILLIAN	11.19
1031	11	3B	1492 E SHERMAN AVE	MEYER, HAROLD & MARGARET	8.5
1031	12	3A	1466 E SHERMAN AVE	MEYER, HAROLD & MARGARET	1

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
1031	12	3B	1466 E SHERMAN AVE	MEYER, HAROLD & MARGARET	8.7
1031	15	3A	1390 E SHERMAN AVE	JOSEPH, JOHN	1
1031	15	3B	1390 E SHERMAN AVE	JOSEPH, JOHN	7.38
1031	16.01	3A	E SHERMAN AVE	JOSEPH, JOHN	8.67
1031	16.01	3B	E SHERMAN AVE	JOSEPH, JOHN	8.67
1033	6	3A	2216 E SHERMAN AVE	NURGE, RUTH TRUST	0.5
1033	6	3B	2216 E SHERMAN AVE	NURGE, FREDERICK A	10.03
1033	7	3A	2160 E SHERMAN AVE	NURGE, RUTH TRUST	0.53
1033	7	3B	2160 E SHERMAN AVE	NURGE, FREDERICK A	10
1033	8	3B	2108 E SHERMAN AVE	NURGE, RUTH TRUST	23.48
1033	10	3A	2030 E SHERMAN AVE	LA ROSA, DOROTHEA	4.13
1033	11	3A	1986 E SHERMAN AVE	LA ROSA, JOSEPH	10.47
1033	13	3A	1874 E SHERMAN AVE	KRAYNOCK, ANDREW B	0.5
1033	13	3B	1874 E SHERMAN AVE	KRAYNOCK, ANDREW B	14.5
1033	14.01	3B	E SHERMAN AVE	REIMELS, JOHN H JR & JOYCE A	14.09
1033	25	3A	2479 S LINCOLN AVE	RIVERA, DEIGO & TERESA	2.4
1033	25	3B	2479 S LINCOLN AVE	RIVERA, DEIGO & TERESA	6
1033	26	3A	2431 S LINCOLN AVE	PEEK, MARIE C & PETER	1
1033	26	3B	2431 S LINCOLN AVE	PEEK, MARIE C & PETER	10.29
1033	38	3B	PALERMO AVE	NURGE, RUTH TRUST	25.6
1051	24	3B	3120 S DELSEA DR (3136)	STEENLAND, HENRY C	19.7907
1053	4	3A	518 W BUTLER AVE	RORACO LLC	1.59
1053	4	3B	518 W BUTLER AVE	RORACO LLC	5.25
1054	7	3A	149 W SHERMAN AVE	NJ DEPT OF TRANSPORTATION	0.45
1054	7	3B	149 W SHERMAN AVE	VARESIO, ALBERT & PETER	8
1054	13	3A	2908 S WEST BLVD	SIMONI, JAMES C	1
1054	13	3B	2908 S WEST BLVD	SIMONI, JAMES C	7.92
1055	1.01	3B	297 HENDRICKS AVE	TARABBIO, CARL JR	3.94
1055	2	3B	277 HENDRICKS AVE	TARABBIO, CARL & LORETTA & CARL JR	3.94

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
1055	10	3B	HENDRICKS AVE	TARABBIO, CARL R & LORETTA A	1.38
1055	11	3A	3048 S WEST BLVD	TARABBIO, CARL & LORETTA	0.65
1055	11	3B	3048 S WEST BLVD	TARABBIO, CARL & LORETTA	9.35
1055	13	3A	3130 S WEST BLVD	TARABBIO, CARL & LORETTA	0.5
1055	13	3B	3130 S WEST BLVD	TARABBIO, CARL & LORETTA	8.74
1055	14	3B	3180 S WEST BLVD	TARABBIO, CARL & LORETTA	5
1056	20	3B	3219 S DELSEA DR	TARABBIO, CARL	1.53
1056	21	3A	529 W BUTLER AVE	TARABBIO, CARL & LORETTA	0.5
1056	21	3B	529 W BUTLER AVE	TARABBIO, CARL & LORETTA	17.95
1056	22	3B	405 W BUTLER AVE	TARABBIO, CARL & LORETTA	1.4504
1056	28	3B	S WEST BLVD	C & P BERTOLDI, INC	17.54
1056	29	3A	3278 S WEST BLVD	BERTOLDI, ALDINA & LENA - TRUST	0.5
1056	29	3B	3278 S WEST BLVD	BERTOLDI, ALDINA & LENA - TRUST	9.33
1060	3	3A	2913 S EAST BLVD	FRANCISCI, LOUIS & DANIEL	0.62
1060	3.02	3B	2880 DOUGLAS LN	FRANCISCI, LOUIS & DANIEL	7.53
1063	5	3A	383 E SHERMAN AVE	MALENCH, CHRISTOPHER & DENISE	2.56
1063	5	3B	383 E SHERMAN AVE	MALENCH, CHRISTOPHER & DENISE	10
1064	2	3A	218 E BUTLER AVE	GAGNON, JEFF & MAYR, ANNABELLE	1
1064	2	3B	218 E BUTLER AVE	BUONO, ROBERT JR & H MANESTRINA	5.33
1068	5	3B	3299 S EAST BLVD	OCHETTO, ADELINE	3.7
1068	11	3B	125 E BUTLER AVE	OCHETTO, ADELINE	0.8
1068	12	3B	135 E BUTLER AVE	OCHETTO, ADELINE	2
1068	13	3B	135 E BUTLER AVE	OCHETTO, ADELINE	2
1075	30	3A	1391 E SHERMAN AVE	GONZALEZ, ERNESTO & CARMEN	6.1
1075	39	3A	3008 S LINCOLN AVE	DECESERO, FRANK M & LISA M	1.57
1075	39.01	3A	1256 HOPE ST	LUCIANO, JEFFREY E	1
1075	39.01	3B	1256 HOPE ST	LUCIANO, JEFFREY E	6.52

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
1076	6	3A	1120 E BUTLER AVE	BROSH, C MICHAEL & DONNA M FERRIOLA	5.64
1076	12	3A	948 E BUTLER AVE	MAMPE, KATHLEEN E	0.5
1076	12	3B	948 E BUTLER AVE	MAMPE, KATHLEEN E	7.49
1076	13	3A	948 E BUTLER AVE	MAMPE, KATHLEEN E	0.5
1076	13	3B	948 E BUTLER AVE	MAMPE, KATHLEEN E	7.49
1078	5	3B	S MAIN RD	CASTELLINI, MAURICE JR	13.73
1079	19.01	3B	3526 S LINCOLN AVE	CALVARY CHAPEL OF VINELAND INC	10.07
1079	21	3A	3604 S LINCOLN AVE	CASTELLINI, MAURICE JR	0.5
1079	21	3B	3604 S LINCOLN AVE	CASTELLINI, MAURICE JR	9.5
1084	4	3B	S MAIN RD	ROBINSON, RONALD L	9
1084	6	3B	S LINCOLN AVE	CASTELLINI, THEODORE & R EST	8.8
1085	2	3A	1709 E SHERMAN AVE	MASTROBUONO, JOHN JR	0.5
1085	2	3B	1709 E SHERMAN AVE	MASTROBUONO, JOHN JR	9.5
1085	3	3A	1777 E SHERMAN AVE	MLYNARSKI, GLORIA	1.5
1085	3	3B	1777 E SHERMAN AVE	MLYNARSKI, GLORIA	6
1085	6	3B	1961 E SHERMAN AVE	BRYANT, BRUCE C & FRANCES D	16.05
1085	7	3B	2073 E SHERMAN AVE	BRYANT, BRUCE C & FRANCES MACALUSO	6.55
1085	8	3A	2107 E SHERMAN AVE	MORGAN, JOSEPH J	0.5
1085	8	3B	2107 E SHERMAN AVE	MORGAN, JOSEPH J	7.05
1085	22	3A	2210 HANCE BRIDGE RD	SAGER, EUGENE	12.44
1085	22	3B	2210 HANCE BRIDGE RD	SAGER, EUGENE	12.44
1085	22.01	3A	2288 HANCE BRIDGE RD	WHITE, DAVID C & DENYSE P	1
1085	22.01	3B	2288 HANCE BRIDGE RD	WHITE, DAVID C & DENYSE P	8.4
1085	24	3B	2006 PENNSYLVANIA AVE	PONTANO, THOMAS & RITA	20.16
1085	25	3A	1954 PENNSYLVANIA AVE	PLOCH, JOHN E & DIANE M	0.5
1085	25	3B	1954 PENNSYLVANIA AVE	PLOCH, JOHN E & DIANE M	18.5
1085	26	3A	1916 PENNSYLVANIA AVE	SIMMERMAN, GRANVILLE & JANET L	0.56

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
1085	26	3B	1916 PENNSYLVANIA AVE	SIMMERMAN, GRANVILLE & JANET L	23.06
1085	27	3B	PENNSYLVANIA AVE	GABORDI, LOUIS & JAMES PROCACCINO	9.09
1085	28	3A	1800 PENNSYLVANIA AVE	BARBER, STEVEN & BERNICE	0.5
1085	28	3B	1800 PENNSYLVANIA AVE	BARBER, STEVEN & BERNICE	7.96
1085	32	3A	1722 PENNSYLVANIA AVE	TAMAGNI, MADELINE	0.5
1085	32	3B	1722 PENNSYLVANIA AVE	TAMAGNI, MADELINE	9.5
1085	35	3A	1546 PENNSYLVANIA AVE	GENTILE, MICHAEL J & JOLENE L	3.8895
1085	36	3A	1398 PENNSYLVANIA AVE	CASTELLINI, GREGORY	0.5
1085	36	3B	1398 PENNSYLVANIA AVE	CASTELLINI, GREGORY	29
1085	55	3A	2903 S LINCOLN AVE	MASLANKA, BARBARA A & H MATHEWS JR	1.92
1085	55	3B	2903 S LINCOLN AVE	MASLANKA, BARBARA A & H MATHEWS JR	6.06
1086	1	3B	3255 HANCE BRIDGE RD	TRAINING SCHOOL AT VINELAND	258
1086	1.01	3B	3455 E SHERMAN AVE	STEENLAND, HENRY C & GRACE C	26.14
1086	1.02	3B	3255 HANCE BRIDGE RD	TRAINING SCHOOL AT VINELAND	173.2
1086	2.01	3A	3435 HANCE BRIDGE RD	CANCILLA, RICHARD J & SUSAN L	8
1086	2.01	3B	3435 HANCE BRIDGE RD	CANCILLA, RICHARD J & SUSAN L	18.11
1090	1.01	3A	MAYS LANDING RD	O'DONNELL, JOHN C JR & CHRISTINE	80.7
1090	1.01	3B	MAYS LANDING RD	O'DONNELL, JOHN C JR & CHRISTINE	80.7
1099	1	3B	PANTHER RD	PHELAN, PATRICIA K ET ALS	601.11
1099	16	3B	PANTHER RD	FEIGENBAUM, ABE & HENRY	36.15
1099	17	3B	MAYS LANDING RD	DUN-RITE SAND & GRAVEL CO	0.6
1100	3	3B	ASCHER RD	FEIGENBAUM, ABE & HENRY	15
1100	4	3B	ASCHER RD	FEIGENBAUM, ABE & HENRY	15
1100	5	3B	ASCHER RD	FEIGENBAUM, ABE & HENRY	15

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
1100	6	3B	ASCHER RD	FEIGENBAUM, ABE & HENRY	6.875
1100	7	3B	ASCHER RD	FEIGENBAUM, ABE & HENRY	1.18
1100	8	3B	MAYS LANDING RD	BRAIDI, JOHN D & DEBRA L	3.03
1100	9	3B	MAYS LANDING RD	BRAIDI, JOHN D & DEBRA L	5
1100	10	3B	MAYS LANDING RD	BRAIDI, JOHN D & DEBRA L	18
1101	2	3B	4519 TRENTO AVE	BRAIDI, ANDREW P & LOUISE	17.5
1101	3	3B	TRENTO AVE	TAMAGNI, JUDITH & GERALD AMARI	17.5
1101	4	3B	TRENTO AVE	LOUIS TOLOTTI TRUST	10
1101	7	3A	2840 CORNUCOPIA AVE	TAMAGNI, JUDITH & GERALD AMARI	1
1101	7	3B	2840 CORNUCOPIA AVE	TAMAGNI, JUDITH & GERALD AMARI	9.76
1101	9	3B	CORNUCOPIA AVE	MARTINO, ROBERT	9.7
1101	17	3A	3406 CORNUCOPIA AVE	GRECO, DOMARINO A & ELEANOR M	2.36
1101	17.02	3A	3440 CORNUCOPIA AVE	GRECO, DOMARINO A & ELEANOR M	1.4
1101	17.03	3A	3386 CORNUCOPIA AVE	GRECO, DOMARINO A & ELEANOR M	1.99
1101	17.04	3A	3348 CORNUCOPIA AVE	GRECO, DAMIAN	2.3
1101	17.05	3A	3306 CORNUCOPIA AVE	MARY DELLAVECCHIA LLC	2.3
1101	17.06	3A	3284 CORNUCOPIA AVE	GRECO, DAMIAN	2.3
1101	23	3B	3275 PANTHER RD	FARSIDE, ANTHONY J & LORENA	8.812
1101	24	3A	3221 PANTHER RD	FARSIDE, ANTHONY J & LORENA K	0.5
1101	24	3B	3221 PANTHER RD	FARSIDE, ANTHONY J & LORENA K	9.5
1103	15	3A	2799 CORNUCOPIA AVE	SPADONI-JOST, ANNE L	1
1103	15	3B	2799 CORNUCOPIA AVE	SPADONI-JOST, ANNE L	17.875
1104	1.03	3A	2601 CORNUCOPIA AVE	ROMANINI, DANTE & KAREN TALARICO	27.14
1104	1.03	3B	2601 CORNUCOPIA AVE	ROMANINI, DANTE & KAREN TALARICO	27.14

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
1104	4	3B	TRENTO AVE	LOUIS TOLOTTI TRUST	10
1104	5	3B	5147 TRENTO AVE	TOLOTTI, CAROLINE & LEVARI, JOSEPH	1.89
1104	6	3A	5257 TRENTO AVE	TOLOTTI, JOSEPH JOHN & SUSAN	0.5
1104	6	3B	5257 TRENTO AVE	TOLOTTI, JOSEPH JOHN & SUSAN	30.95
1104	7	3B	TRENTO AVE	MARINELLI, RAYMOND	10
1104	8	3A	5431 TRENTO AVE	MARTINO, ROBERT L ET ALS	0.5
1104	8	3B	5431 TRENTO AVE	MARTINO, ROBERT L ET ALS	14.07
1104	9	3A	5541 TRENTO AVE	MARTINO, ROBERT L	0.5
1104	9	3B	5541 TRENTO AVE	MARTINO, ROBERT L	14.93
1104	12	3A	5607 TRENTO AVE	SPADONI, ANGELO & RITA	2
1104	12	3B	5607 TRENTO AVE	SPADONI, ANGELO & RITA	31.27
1115	2	3A	3114 UNION RD	HERNANDEZ, BENITO	5.74
1115	2.01	3A	5389 ASCHER RD	BOB & ANGIE LLC	4.87
1115	6	3A	MAYS LANDING RD	GAYTAN, ENRIQUE & MARIA D	1.5
1115	6	3B	MAYS LANDING RD	GAYTAN, ENRIQUE & MARIA D	9.79
1115	7	3A	5047 ASCHER RD	CANCILLERI, ADA	38.16
1115	11	3A	4996 MAYS LANDING RD	MONACO, MARK J & DENISE A	1.03
1115	11	3B	4996 MAYS LANDING RD	MONACO, MARK J & DENISE A	5.27
1120	9	3B	4012 S MAIN RD	FCC, INC	4.6136
1120	10	3B	S MAIN RD	FCC, INC	2.5257
1120	10.01	3B	4050 S MAIN RD	STEENLAND, HENRY C	0.5051
1120	11	3B	4068 S MAIN RD	FCC, INC	0.9455
1120	13	3B	4116 S MAIN RD	FCC, INC	8.48
1120	21	3B	4254 S MAIN RD	STEENLAND, HENRY C	1.9376
1120	22	3B	4256 S MAIN RD	FCC, INC	18.18
1128	6	3A	3937 S LINCOLN AVE	PONTANO, THOMAS R	5
1128	7	3A	3865 S LINCOLN AVE	R & T CASTELLINI CO INC C/O R THIMM	2.43
1128	7	3B	3865 S LINCOLN AVE	R & T CASTELLINI CO INC C/O R THIMM	5.076

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
1128	8	3A	3865 S LINCOLN AVE	R & T CASTELLINI CO INC C/O R THIMM	2.43
1128	8	3B	3865 S LINCOLN AVE	R & T CASTELLINI CO INC C/O R THIMM	5.076
1128	10	3A	821 SHERIDAN AVE	PONTANO, THOMAS & RITA	0.5
1128	10	3B	821 SHERIDAN AVE	PONTANO, THOMAS & RITA	6.05
1128	11	3A	967 SHERIDAN AVE	PONTANO, THOMAS & RITA	0.84
1128	11	3B	967 SHERIDAN AVE	PONTANO, THOMAS & RITA	5
1128	12	3A	1101 SHERIDAN AVE	PONTANO, THOMAS & RITA	7.5
1128	12	3B	1101 SHERIDAN AVE	PONTANO, THOMAS & RITA	7.5
1128	13	3A	1185 SHERIDAN AVE	HUSIOW, VERA	3.5
1128	13	3B	1185 SHERIDAN AVE	HUSIOW, VERA	7.315
1128	15	3A	1289 SHERIDAN AVE	ROMAN, WILLIAM JR & EDITH B	5.135
1128	15	3B	SHERIDAN AVE	ROMAN, WILLIAM JR & EDITH B	5.13
1128	17	3B	SHERIDAN AVE	ROMAN, WILLIAM JR & EDITH B	1.393
1128	19	3A	1401 SHERIDAN AVE	TRIVELLINI, PAUL D & JANE F	0.9183
1128	19.02	3A	1461 SHERIDAN AVE	GROETSCH, WAYNE & VALERIE	16.399
1128	19.02	3B	1461 SHERIDAN AVE	GROETSCH, WAYNE & VALERIE	16.399
1128	20.01	3B	SHERIDAN AVE	DE MATTE EST, EDITH % JOHN BRAIDI	11.735
1128	21	3B	HANCE BRIDGE RD	DE MATTE EST, EDITH T % JOHN BRAIDI	3.79
1128	22	3A	1650 HANCE BRIDGE RD	CAREGNATO, WAYNE % ALTHEA CAREGNATO	0.46
1128	22	3B	1650 HANCE BRIDGE RD	CAREGNATO, WAYNE % ALTHEA CAREGNATO	8.75
1128	23	3A	1472 HANCE BRIDGE RD	CHOKO, JOHN M & JACQUELINE	1
1128	23	3B	1472 HANCE BRIDGE RD	CHOKO, JOHN M & JACQUELINE	41
1128	24.01	3B	1356 HANCE BRIDGE RD	STOLAR, STEVEN	16

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
1128	25	3A	1310 HANCE BRIDGE RD	PONTANO, THOMAS & RITA	0.85
1128	25	3B	1310 HANCE BRIDGE RD	PONTANO, THOMAS & RITA	20
1128	26	3B	HANCE BRIDGE RD	PONTANO, THOMAS & RITA	20.85
1128	27	3A	1212 HANCE BRIDGE RD	SERRA, THOMAS	0.5
1128	27	3B	1212 HANCE BRIDGE RD	SERRA, THOMAS	5.53
1128	28	3B	HANCE BRIDGE RD	SERRA, THOMAS	10.25
1128	29	3A	1118 HANCE BRIDGE RD	MATICHEN, NINA	3
1128	29	3B	1118 HANCE BRIDGE RD	MATICHEN, NINA	8.19
1128	30	3B	HANCE BRIDGE RD	KRUCH, HELEN	4.77
1128	34	3A	1140 HANCE BRIDGE RD	MORIE, JESSE T JR & MARGARET	9.96
1128	34	3B	1140 HANCE BRIDGE RD	MORIE, JESSE T JR & MARGARET	9.96
1128	35	3B	WHITAKER AVE	MORIE, JESSE T JR & MARGARET	28.465
1129	4	3A	3743 S LINCOLN AVE	SMITH, MICHAEL M & JANET A	2.13
1129	4	3B	3743 S LINCOLN AVE	SMITH, MICHAEL M & JANET A	7
1129	5	3A	3701 S LINCOLN AVE	CASTELLINI, M JR & JOSEPHINE	14.8
1129	5	3B	3701 S LINCOLN AVE	CASTELLINI, M JR & JOSEPHINE	14.8
1129	8	3A	3567 S LINCOLN AVE	CASTELLINI, ERNEST & R GARY	2.65
1129	8	3B	3567 S LINCOLN AVE	CASTELLINI ESTATE, DOROTHY	13.55
1129	9	3A	3541 S LINCOLN AVE	CASTELLINI, ERNEST JR & ROBERT GARY	2
1129	9	3B	3541 S LINCOLN AVE	CASTELLINI, ERNEST JR & ROBERT GARY	8
1129	12	3A	1615 PENNSYLVANIA AVE	GRAIFF, DORIS	1
1129	12	3B	1615 PENNSYLVANIA AVE	GRAIFF, DORIS	17
1129	13.01	3A	1783 PENNSYLVANIA AVE	AMBROSE, PHILIP SR & BARBARA G	0.5
1129	13.01	3B	1783 PENNSYLVANIA AVE	AMBROSE, PHILIP SR & BARBARA G	12.49

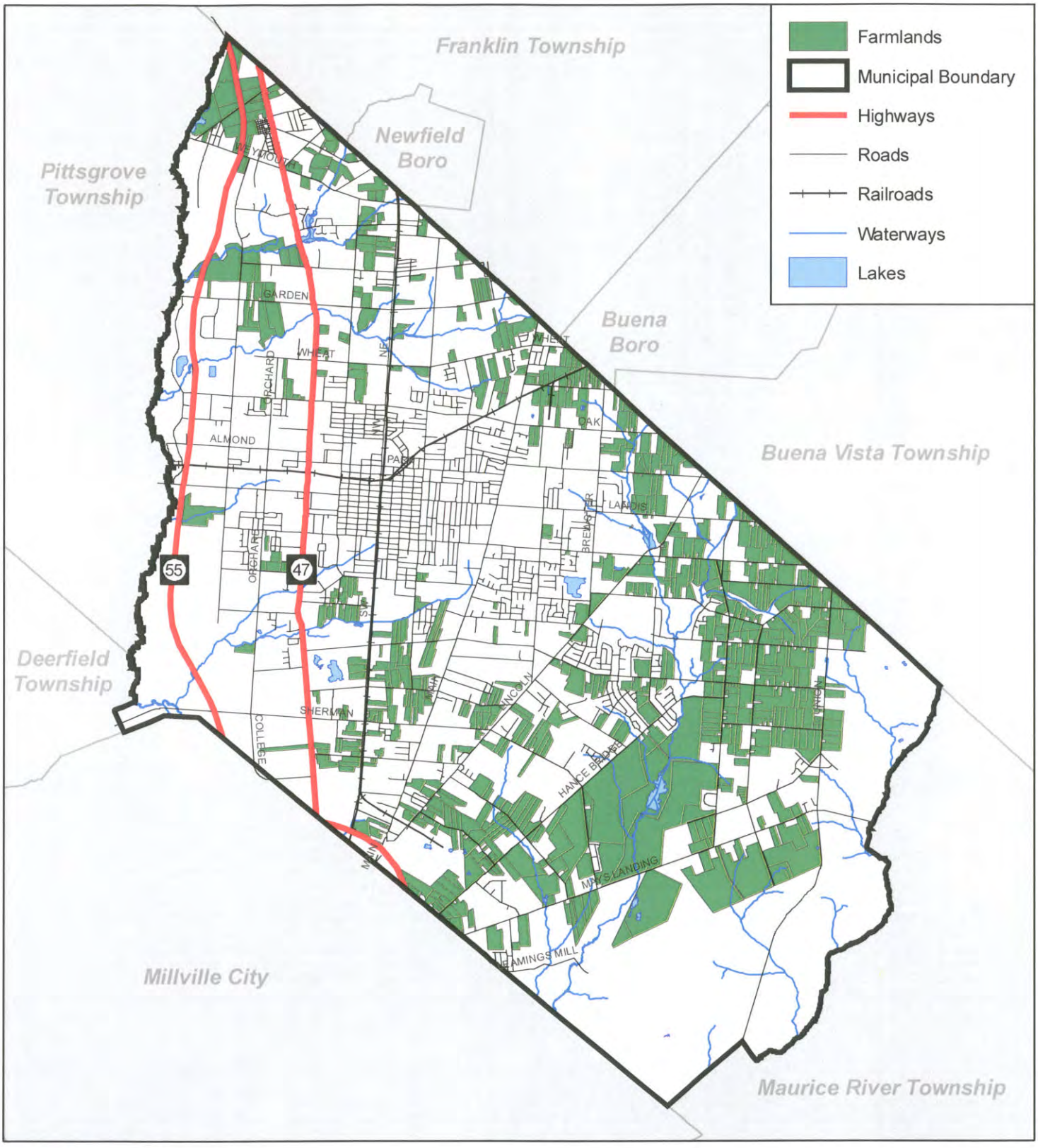
Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
1129	15	3A	1825 PENNSYLVANIA AVE	GABORDI, LOUIS & EMMA	0.5
1129	15	3B	1825 PENNSYLVANIA AVE	GABORDI, LOUIS & EMMA	9.31
1129	18	3A	PENNSYLVANIA AVE	VOLTAGGIO, JOHN & ELLEANOR	8
1129	23	3A	1780 HANCE BRIDGE RD	BRAIDI, JOHN & DOLORES	1
1129	23	3B	1780 HANCE BRIDGE RD	BRAIDI, JOHN & DOLORES	16.5
1129	24	3A	1684 SHERIDAN AVE	VAAG REALTY LLC	1.3
1129	24.02	3B	1522 SHERIDAN AVE	BRAIDI, JOHN & DOLORES	2.65
1129	24.03	3B	SHERIDAN AVE	BRAIDI, JOHN J & DOLORES	6.1
1129	24.05	3B	1562 SHERIDAN AVE	BRAIDI, JOHN & DOLORES	1.6
1129	25	3A	1420 SHERIDAN AVE	SMITH, MICHAEL M	2.27
1129	25	3B	1420 SHERIDAN AVE	SMITH, MICHAEL M	20
1129	26	3B	SHERIDAN AVE	GRAIFF, DORIS	24.18
1129	27	3B	SHERIDAN AVE	GABORDI, L & E & J & M PROCACCINO	9.51
1129	27.01	3B	SHERIDAN AVE	PONTANO, THOMAS & RITA	9.51
1129	28	3A	1100 SHERIDAN AVE	PONTANO, THOMAS & RITA	3.25
1129	28	3B	1100 SHERIDAN AVE	PONTANO, THOMAS & RITA	12
1130	1	3A	1125 HANCE BRIDGE RD	KRUCH, HELEN	0.5
1130	1	3B	1125 HANCE BRIDGE RD	KRUCH, HELEN	5.4
1130	1.01	3A	HANCE BRIDGE RD	KRUCH, STEPHEN	2.3
1130	2	3A	1181 HANCE BRIDGE RD	PERRYMAN, BILLY & SHIRLEY ANN	1
1130	2	3B	1181 HANCE BRIDGE RD	PERRYMAN, BILLY & SHIRLEY ANN	9
1130	3.02	3B	HANCE BRIDGE RD	DE FALCO, MICHAEL B	17.18
1130	6	3B	1721 HANCE BRIDGE RD	GROETSCH, WAYNE & VALERIE	21
1130	6.03	3A	1675 HANCE BRIDGE RD	VAAG REALTY LLC	3.5
1130	6.03	3B	1675 HANCE BRIDGE RD	GROETSCH, WAYNE & VALERIE	1.44
1130	6.04	3B	1693 HANCE BRIDGE RD	GROETSCH, WAYNE & VALARIE	11.1
1130	6.05	3B	1661 HANCE BRIDGE RD	GROETSCH, WAYNE & VALARIE	4.26

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
1130	7	3A	1839 HANCE BRIDGE RD	UNITED MOBILE HOMES OF VINELAND INC	57.2
1130	7	3B	1839 HANCE BRIDGE RD	UNITED MOBILE HOMES OF VINELAND INC	10
1130	18	3B	2361 PENNSYLVANIA AVE	FARNETTI, FIORE F & SOPHIA	2.26
1130	22	3A	2464 MAYS LANDING RD	SINIAVSKY, NICHOLAS & MARGARET	8.84
1130	22.01	3A	2467 PENNSYLVANIA AVE	UNITED MOBILE HOMES OF VLD, INC	64.57
1130	34	3A	1526 MAYS LANDING RD	KEOUGHAN, MARTIN	0.5
1130	34	3B	1526 MAYS LANDING RD	KEOUGHAN, MARTIN	9.8
1130	37	3B	MAYS LANDING RD	PARKER, NEAL V & BETSY JO	0.59
1130	39	3B	HANCE BRIDGE RD	PARKER, NEAL V & BETSY JO	13.94
1131	1.01	3A	4240 E SHERMAN AVE	BARBER, GEORGE & KATHLEEN	0.5
1131	1.01	3B	4240 E SHERMAN AVE	BARBER, GEORGE & KATHLEEN	31
1131	11	3A	2670 MAYS LANDING RD	DIEHL, MARSHALL & SHARON	1
1131	11	3B	2670 MAYS LANDING RD	DIEHL, MARSHALL & SHARON	12
1131	12	3A	2539 HANCE BRIDGE RD	STEENLAND, HENRY C & GRACE C	3
1131	12	3B	2539 HANCE BRIDGE RD	STEENLAND, HENRY C & GRACE C	147.82
1131	14	3A	2410 PENNSYLVANIA AVE	FARNETTI, FRANK HAROLD	0.5
1131	14	3B	2410 PENNSYLVANIA AVE	FARNETTI, FRANK HAROLD	18.5
1131	15	3A	2330 PENNSYLVANIA AVE	FARNETTI, FIORE F & SOPHIA	0.5
1131	15	3B	2330 PENNSYLVANIA AVE	FARNETTI, FIORE F & SOPHIA	47.9
1131	15.01	3B	2324 PENNSYLVANIA AVE	FARNETTI, FIORE F & SOPHIA	1.1019
1131	23	3A	PENNSYLVANIA AVE	PROVENZANO, IGNAZIO & JUDITH	11.4
1131	23	3B	PENNSYLVANIA AVE	PROVENZANO, IGNAZIO & JUDITH	11.4
1131	24	3A	2120 PENNSYLVANIA AVE	DOTSON, LEE D	1.4
1131	24	3B	2120 PENNSYLVANIA AVE	DOTSON, LEE D	5.66

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
1131	26	3B	HANCE BRIDGE RD	STEENLAND, HENRY C & GRACE C	20.87
1132	10	3A	1695 MAYS LANDING RD	VAN DYK, ADRIAN J	9.5
1132	10	3B	1695 MAYS LANDING RD	VAN DYK, ADRIAN J	23.75
1139	9	3B	2801 LEAMINGS MILL RD	ABATE, ANDREW V & ANNE C MAY	5
1140	10.01	3A	5431 SNYDER AVE	HANYI, DANIELA	6
1140	18	3A	2065 MAYS LANDING RD	CAPAZZI, ROSE	0.5
1140	18	3B	2065 MAYS LANDING RD	CAPAZZI, ROSE	32.7
1141	2.01	3A	2595 MAYS LANDING RD	WALTERS, BONNIE J	1
1141	2.01	3B	2595 MAYS LANDING RD	WALTERS, BONNIE J	8.91
1142	2	3B	2701 MAYS LANDING RD	FORD, RUSSELL & DEBORAH	16.12
1142	3	3A	2705 MAYS LANDING RD	FORD, RUSSELL & DEBORAH	0.5
1142	3	3B	2705 MAYS LANDING RD	FORD, RUSSELL & DEBORAH	N/A
1142	4	3B	2709 MAYS LANDING RD	FORD, RUSSELL & DEBORAH	34.2
1142	5	3A	2859 MAYS LANDING RD	MCHUGH, LILLIAN & JOHN % E MINKWITZ	18.9
1142	6	3A	2973 MAYS LANDING RD	MAURONE, BETTY L	17
1143	2.01	3A	3765 MAYS LANDING RD	DUN-RITE SAND & GRAVEL COMPANY	202.4
1143	2.01	3B	3765 MAYS LANDING RD	DUN-RITE SAND & GRAVEL COMPANY	659.55
1143	19	3A	MAYS LANDING RD	DUN-RITE SAND AND GRAVEL CO	25
1144	10	3A	4225 MAYS LANDING RD	FERRARI, ROBERT J JR	0.5
1144	10	3B	4225 MAYS LANDING RD	FERRARI, ROBERT J JR	19.5
1144	12	3B	MAYS LANDING RD	DIOCESE OF CAMDEN N J	162
1145	1	3B	MAYS LANDING RD	DIOCESE OF CAMDEN N J	170.5
1145	6.01	3A	4681 MAYS LANDING RD	REHM, ANTHONY W & GINA S; ARLENE M	14
1146	4	3A	5109 MAYS LANDING RD	STAAS, JONATHAN L & LORI B	5.12
1146	4	3B	5109 MAYS LANDING RD	STAAS, JONATHAN L & LORI B	7
1146	6	3B	MAYS LANDING RD	GOLDEN MEDINA CORP	46.71
1146	9	3B	MAYS LANDING RD	VISCONTI, DOMINICK JR & LINDA A	10.17

Table F-1: Inventory of Assessed Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Class**	**Location**	**Owner**	**Acreage (From Tax Records)**
1146	9.01	3A	5459 MAYS LANDING RD	VISCONTI, DOMINICK JR & LINDA	1
1146	9.01	3B	5459 MAYS LANDING RD	VISCONTI, DOMINICK JR & LINDA	8.13
1146	14	3B	UNION RD	DIOCESE OF CAMDEN N J	139
1146	15	3B	CUMBERLAND AVE	DIOCESE OF CAMDEN N J	5
1146	16	3B	CORNUCOPIA AVE	DIOCESE OF CAMDEN N J	33.1

MAP FM-4:
Location of Assessed Farmland



T&M ASSOCIATES
11 Tindall Road
Middletown, NJ 07748-2792
Phone: 732-671-6400
Fax: 732-671-7365

Map FM-4: Assessed Farmland
City of Vineland
Cumberland County, New Jersey

0 4,250 8,500 17,000 Feet

N

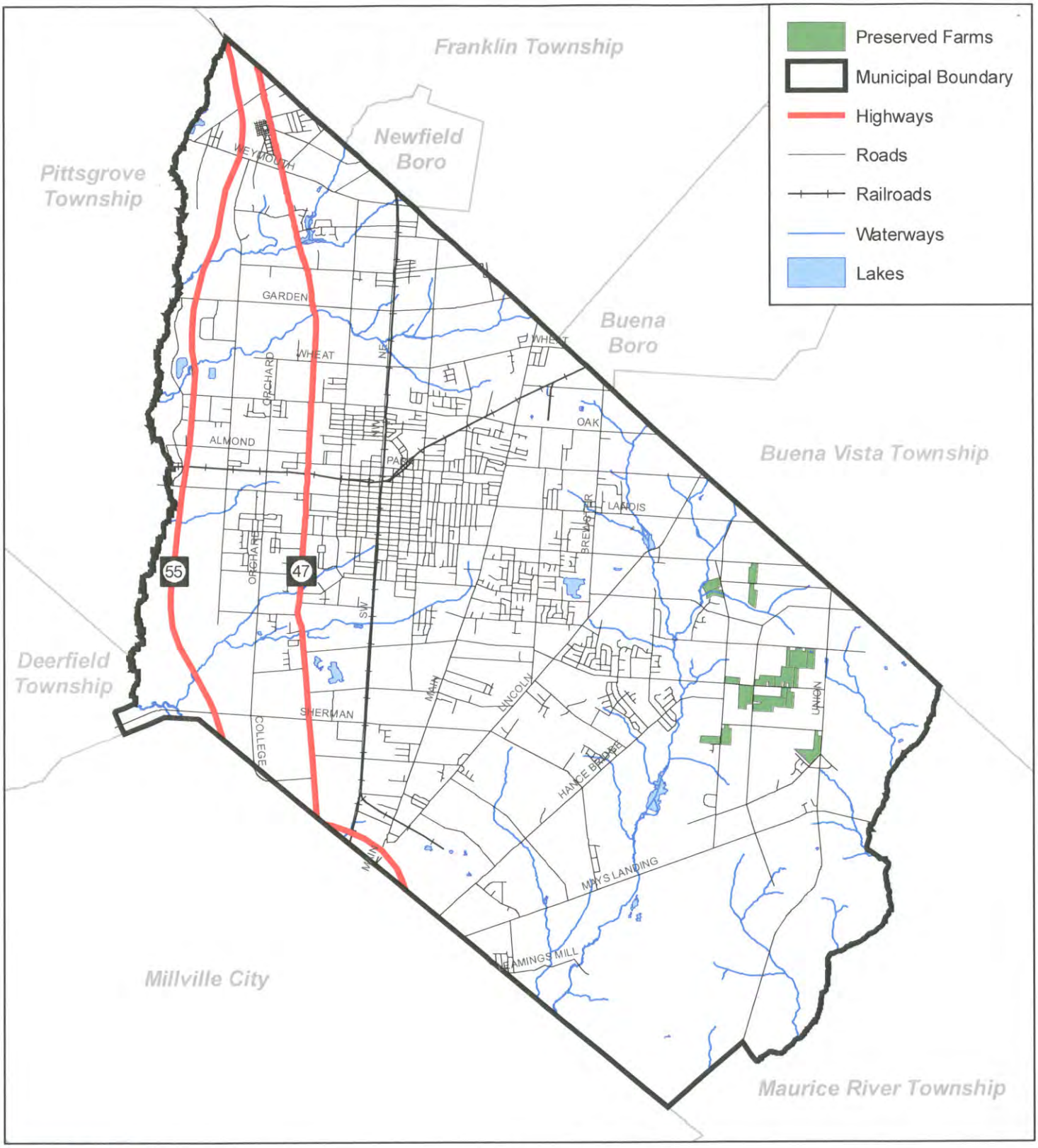
Prepared by: RED, April, 2008
Source: City of Vinland GIS System, NJDEP, TIGER Files
File Path: H:\VINE\00010\GIS\Projects\Final\MAP FM-4_04-08.mxd

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

TABLE F-4:
Inventory of Preserved Farmland

Table F-4: Inventory of Preserved Farmland City of Vineland Cumberland County, New Jersey					
Block	**Lot**	**Acres**	**Location**	**Owner**	**Land Use Code**
665	2	15.07	PANTHER ROAD	SMANIOTTO, VIOLA M	3A
665	3.01	10.97	PANTHER ROAD	SMANIOTTO, VIOLA M	3B
668	9	14.76	4681 EAST CHESTNUT	BERGAMO, E & S	3A
669	16.01	13.78	PIACENZA AVENUE	BERGAMO, E & S	3B
866	12	8.97	PANTHER ROAD	SMANIOTTO, ROBERT, JOAN, BEVER	3B
1101	2	16.49	4519 TRENTO AVENUE	BRAIDI, ANDREW P & LOUISE A	3B
1014	7	14.63	2710 PANTHER ROAD	BRAIDI, ANDREW P & LOUISE A	3A
1015	2	29.96	4705 DANTE AVENUE	CAMPREGHER, ERNEST AND JULIA C	3A
1104	P/O 12	30.11	5607 TRENTO AVENUE	SPADONI, ANGELO AND RITA	3A
1017	P/O 6	31.29	ITALIA AVENUE	VENTURI, R & J	3A
1017	7	14.62	ITALIA AVENUE	VENTURI, R & J	3A
1017	5	5.36	5191 ITALIA AVENUE	SMANIOTTO, ROBERT, JOAN, BEVER	3A
1017	14	27.26	DANTE AVENUE	SMANIOTTO, ROBERT, JOAN, BEVER	3B
1017	13	8.38	5278 DANTE AVENUE	SMANIOTTO, ROBERT, JOAN, BEVER	3A
1017	17	15.65	CORNUCOPIA AVENUE	SMANIOTTO, ROBERT, JOAN, BEVER	3B
1018	15.01	5.12	CORNUCIPIA AVENUE	VOLTAGGIO, JOHN & ELEANOR	3B
1018	16	12.98	CORNUCIPIA AVENUE	VOLTAGGIO, JOHN & ELEANOR	3B
1018	12	39.86	CORNUCIPIA AVENUE	VOLTAGGIO, JOHN & ELEANOR	3B

MAP FM-5:
Location of Preserved Farmland



T&M ASSOCIATES
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Map FM-5: Preserved Farmland
City of Vineland
Cumberland County, New Jersey

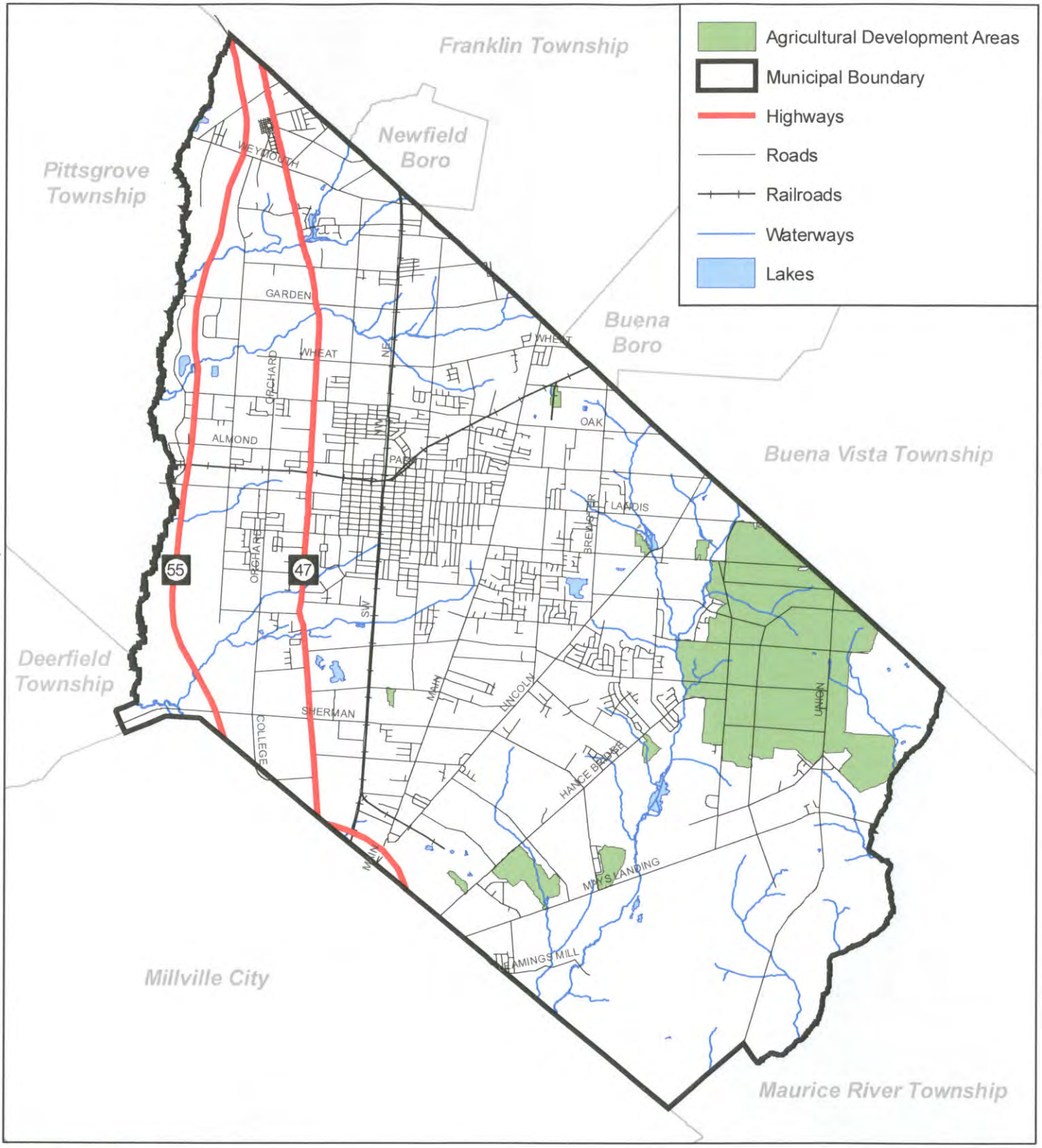
0 4,250 8,500 17,000 Feet

N

Prepared by: RED, April, 2008
Source: City of Vinland GIS System, NJDEP, TIGER Files
File Path: H:\VINE\00010\GIS\Projects\Final\MAP FM-5_04-08.mxd

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

MAP FM-6:
Location of Current ADAs



11 Tindall Road
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Map FM-6: Current ADAs
City of Vineland
Cumberland County, New Jersey

0 4,350 8,700 17,400 Feet

N

NOTE: Current ADA as of April, 2008. CCADB notes that changes in ADA may be made in late 2008 or early 2009.

NOTE: This map was developed using NJDEP Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

Prepared by: RED, April, 2008
Source: City of Vinland GIS System, NJDEP, TIGER Files, CCADB
File Path: H:\VINE\00010\GIS\Projects\Final\MAP FM-6_04-08.mxd

STATEMENT OF PLAN RELATIONSHIPS

INTRODUCTION

The New Jersey Municipal Land Use Law (MLUL) requires that the City state the relationship of its Master Plan to the plans of adjacent communities, the Cumberland County plan, the State Development and Redevelopment Plan (SDRP), the Pinelands Comprehensive Management Plan and the District Solid Waste Management Plan.

The policy of the City of Vineland is to work with neighboring municipalities, the County, the State, and the Pinelands Commission to advance sound planning and develop compatible plans.

This section of the City Master Plan analyzes the relationship of the City plan to the plans of the State, the County, adjoining municipalities, and the Pinelands.

ANALYSIS OF SURROUNDING COMMUNITIES

The City of Vineland is bordered by Franklin Township, Newfield Borough, Buena Borough and Buena Vista Township to the North, Maurice River Township to the east, Millville City to the south and Deerfield and Pittsgrove Township's to the west.

Franklin Township

Directly abutting Vineland to the northwest is Franklin Township. The portion of Franklin bordering Vineland consists of lands planned for Interchange Commercial, Neighborhood Commercial, Malaga Village and Residential Agriculture. Vineland plans primarily for agricultural and low density single-family housing.

Millville City

Vineland and Millville share a regional center designation. Both communities plan commercial and industrial areas adjacent to the Route 55 interchanges. Low and medium density residential uses are planned adjacent to the commercial and industrial districts that transition to open space and conservation areas.

Buena Borough

Abutting Vineland to the north is Buena Borough. The portion of Buena Borough bordering Vineland is identified within the Borough's 2005 Future Land Use Plan as low density single-family residential (1-acre) and farmland (6-acre). A commercial overlay district extends 500 feet on each side of Wheat Road adjacent to the Vineland border.

Pittsgrove Township

Pittsgrove Township borders Vineland to the west. The entire border with Vineland located along the Maurice River is planned for low intensity residential and conservation uses. The majority of the Vineland border is planned as a low intensity woodland conservation district. Along the southern border with Pittsgrove is an industrial zone in Vineland that extends to the Maurice River.

Deerfield Township

At the southwestern border of Vineland adjacent to the Maurice River exists a common boundary with Deerfield Township. The 2002 Deerfield Township Master Plan identifies the entire common boundary with Vineland to be planned for public use. A stream and wetlands conservation area is identified in the Deerfield Township Open Space and Conservation Plan adjacent to the Maurice River.

Newfield Borough

At the northwestern border of Vineland adjacent to the freight rail line is Newfield Borough. Newfield prepared a Master Plan in 1977 and a reexamination report in 1995. According to the Master Land Use Plan map identified in the 1995 reexamination report, Newfield Borough plans low to medium density residential uses along the western portion of the common boundary and neighborhood commercial uses and heavy manufacturing uses adjacent to the freight rail line.

Maurice River Township

At the eastern border of Vineland adjacent to the Manumuskin River exists a common boundary with Maurice River Township. The border with Vineland is almost entirely state owned open space and is apart of a Wild and Scenic Corridor Overlay. Located within the Pinelands National Reserve, areas adjacent to Vineland are planned as public and private open space.

Buena Vista Township

Vineland shares a 5.4 mile long common boundary with Buena Vista Township. Areas located outside of the Pinelands National Reserve are planned for Residence Agriculture (RA) and for an Office Campus District (Overlay Zone). Vineland plans agricultural land use. The Pineland's areas of both communities, both communities are planned for low density agricultural production (AP) and forest areas (FA).

THE STATE DEVELOPMENT AND REDEVELOPMENT PLAN (SDRP)

The State Planning Commission adopted the State Development and Redevelopment Plan (SDRP) in June of 1992 and adopted a revised SDRP on March 1, 2001. A new SDRP was released for cross acceptance in 2004. The SDRP contains goals, objectives, and policies regarding the future development and redevelopment of New Jersey. The primary objective of the SDRP is to guide development to areas where infrastructure is available or can be readily extended such as along existing transportation corridors, in developed or developing suburbs, and in urban areas. New growth and development should be located in "centers," which are "compact" forms of development, rather than in "sprawl" development. The overall

goal of the SDRP is to promote development and redevelopment that will consume less land, deplete fewer natural resources and use the State's infrastructure more efficiently. Among these is the redevelopment and revitalization of New Jersey's cities and urban areas. As set forth in the 2001 SDRP:

The SDRP places Vineland within the Metropolitan (PA1), Suburban (PA2), Rural (4), Rural Environmentally Sensitive (4B), Environmentally Sensitive (PA5) State Park and Pinelands planning areas as designated by the State Plan.

State Plan Designations		
State Plan Designation	**Area (acres)**	**Percent of Area**
Metropolitan	12,957	29.3%
Suburban	10,580	24.0%
Rural	7,664	17.4%
Rural/Environmentally Sensitive	5,945	13.5%
Environmentally Sensitive	3,239	7.3%
Pinelands	2,316	5.2%
State Park	1,450	3.3%
Total	**44,151**	**100.0%**

The State is currently revising the State Plan. Vineland has issues with the State Plan and its mapping, which the City hopes to work out through the State Plan cross acceptance process and through the plan endorsement process. The conflict is over the area the City has invested in to expand and develop the City's economic base. This area includes the historic City center, its suburbs, schools, residential areas, the City industrial park, sewer and water infrastructure, and the transportation corridor between Delsea Drive and Route 55. This area is part of the Vineland-Millville Regional Center designated by the State Plan. A regional center functions as a magnet to attract employment and development along or near major transportation corridors. For Vineland to function as a regional center, the State needs to support the City's efforts to attract and direct future development and redevelopment into this area of Vineland. The State, however, has proceeded to designate much of this area of the City as a special water resource protection area. The designation results in regulatory restrictions that conflict with the City's and the State's growth and development objectives, as well as the substantial public investment that has been made to provide the sewer, water, and transportation infrastructure to support the development and redevelopment of Vineland.

PINELANDS COMPREHENSIVE MANAGEMENT PLAN

The Pinelands in Vineland are subject to the Pinelands Comprehensive Management Plan (CMP) which is administered by the New Jersey Pinelands Commission in cooperation with units of local, state and federal government. Municipalities within the Pinelands jurisdiction must conform their master plan and land use ordinances to the minimum standards set forth in the CMP.

Approximately seven (7) percent of the City is located in the Pinelands Preserve comprising 3,237 acres or five (5) square miles. The majority, or 2,344 acres of the Pinelands within Vineland, are located in the Forest management area; 607 acres are located in the Rural Development management area; and 286 acres are located within the Agricultural Production Management Area. The following table identifies a breakdown of the Pinelands management areas by acreage and indicates preserved areas owned by NJDEP and the Nature Conservancy and acreage owned by the City.

Pinelands Management Area in the City of Vineland				
Management Area	**Total Acreage**	**Acreage Owned by NJDEP and the Nature Conservancy**	**Acreage Owned by the City**	**Remaining Acreage**
Agricultural Production Area	286	149	0	137
Forest Area	2,344	1,887	213	244
Rural Development Area	607	271	25	311
Total	**3,237**	**2,307**	**268**	**692**

Following are descriptions of Pinelands Management Areas found in Vineland[1].

Agricultural Production Area

The Agricultural Production Area consists of active agricultural lands, generally upland field agriculture and row crops, including adjacent areas with soils suitable for expansion of agricultural operations. Farm-related housing on 10 acres and non-farm housing on 40 acres are allowed. Permitted non-residential uses are agricultural commercial and roadside retail within 300 feet of preexisting commercial uses.

Forest Areas

Many of the same critical environmental features which characterized the Preservation Area were found here in abundance -- unpolluted streams, rare plants and animals, and pristine environments such as cedar swamps. It became evident that much of the Protection Area could be classified as possessing the essential character of the Pinelands. Land that met the Commission's criteria for essential character was placed in Forest Area. These areas generally adjoin the Preservation Area, but also extend far to the south, linked to the northern forest by a narrow undeveloped stretch between Hammonton and Egg Harbor City.

The same land uses that are permitted in the Preservation Area District are permitted in Forest Areas. Municipalities are also given the option of including certain other new uses, such as limited commercial establishments. Each municipality is also assigned a number of new housing units, which may be built in its Forest Area. The Plan allows one new house for each 15.8 acres of privately owned, undeveloped upland. Municipalities are also allowed to cluster development on 3.2 acre lots in Forest Areas to minimize environmental damage.

[1] Descriptions of each management area was provided by the New Jersey Pinelands Coalition via http://www.state.nj.us/pinelands/cmp.htm/forest

Rural Development Areas

The Plan's remaining land use classification takes in areas, which meet neither the stringent environmental criteria for Forest Areas nor lie squarely in the path of development like Regional Growth Areas. These transition zones are classified as Rural Development Areas and account for 132,000 acres within the National Reserve. The Plan attempts to protect the characteristic Pinelands features that can be found there while allowing modest development to proceed and giving municipalities as much leeway as possible to determine land uses. New housing is allowed at an overall density of 200 units per square mile of privately owned, undeveloped upland. In essence, the Rural Development Areas will function as safety valves, siphoning off development pressures which Regional Growth Areas can't absorb. Local governments may plan for that spillover in advance by designating "municipal reserve areas" in their Rural Development Areas. These municipal reserves can be developed at the same densities as Regional Growth Areas once the adjacent growth areas are saturated and a need for additional housing still exists.

The existing City zoning designations within each district in the Pinelands are consistent with the Pinelands Comprehensive Management Plan.

CUMBERLAND COUNTY PLAN

In 2002 Cumberland County prepared a strategic plan entitled “Planning for the Future: A Summary of Cumberland County Planning Initiatives.” This strategic imitative created an action plan for many policies that were developed as part of past planning efforts.

Many of the documents were prepared by, or with the active involvement of, the Cumberland County Department of Planning and Development. They are as follows:

INFRASTRUCTURE

- *Cumberland County Traffic and Transportation Plan: Update 2001*
- *Cumberland County Bike Trail Study (2000)*
- *Cumberland County Wastewater Management Planning*

ENVIRONMENT

- *Cumberland County Delaware Estuary Study (1993)*
- *Recommendations for Managing Land Use Along the Lower Cohansey River (1998)*
- *Comprehensive Management Plan and Environmental Impact Statement for the Maurice National Scenic and Recreational River (2001)*
- *Cumberland County Farmland Preservation, Open Space, Parks and Recreation Trust Fund Plan (1996)*

ECONOMIC DEVELOPMENT

- *Cumberland County Economic Development Strategy for Action (2000-2001)*
- *Cumberland County Intermunicipal Empowerment Zone (1998)*
- *Cumberland County Ecotourism Plan (1996)*

The report entitled an "Introduction to Cumberland County's Planning Strategy" explains the interaction of each planning study and how they collectively comprise a planning vision for Cumberland County.

SOLID WASTE MANAGEMENT PLAN

The New Jersey Solid Waste Management Act (N.J.S.A. 13:1E-1 et seq.) established a comprehensive system for the management of solid waste in New Jersey. The act designated all of the state's counties and the Hackensack Meadowlands District, as solid waste management districts. On May 13, 1980, the Department of Environmental Protection (DEP) approved with modifications the Cumberland County District Solid Waste Management Plan. DEP passed the most recent amendment to this Plan on March 10, 2005.

The City will continue to work with the County to achieve the planning goals enumerated in the Solid Waste Management Plan.

D R A F T

MASTER PLAN REEXAMINATION REPORT

CITY OF VINELAND
CUMBERLAND COUNTY, NEW JERSEY

April 2008

CITY OF VINELAND
PLANNING BOARD

Prepared by:

T&M ASSOCIATES

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_____

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The original of this document has been signed and sealed in ccordance with New Jersey law.

Adopted by the City of Vineland Planning Board on _____

INTRODUCTION

The New Jersey Municipal Land Use Law (MLUL) requires that the City of Vineland Planning Board periodically review and reexamine the City Master Plan and development regulations. The purpose of the reexamination is to determine the need for updating and revising the City plan and zoning ordinances in order to maintain a current City plan. This report is the City's Master Plan Reexamination Report as required pursuant to N.J.S.A. 40:55D-89.

REQUIREMENTS OF THE PERIODIC REEXAMINATION REPORT

The MLUL requires that the Master Plan Reexamination Report address the following:

- The major problems and objectives relating to land development in Vineland at the time of the adoption of the last reexamination report.

- The extent to which such problems and objectives have been reduced or have increased subsequent to such date.

- The extent to which there have been significant changes in assumptions, policies and objectives forming the basis for the City Master Plan or development regulations as last revised, with particular regard to the density and distribution of population and land uses, housing conditions, circulation, conservation of natural resources, energy conservation, collection, disposition, and recycling of designated recyclable materials, and changes in State, county and municipal policies and objectives.

- The specific changes recommended for the Master Plan or development regulations, if any, including underlying objectives, policies and standards, or whether a new plan or regulations should be prepared.

- The recommendations of the Planning Board concerning the incorporation of redevelopment plans adopted pursuant to the "Local Redevelopment and Housing Law," P.L.1992, c. 79 (C.40A:12A-1 et seq.) into the land use plan element of the City Master Plan, and recommended changes, if any, in the local development regulations necessary to effectuate the redevelopment plans of the municipality (N.J.S.A. 40:55D-89).

The City of Vineland's planning documents consist of the following:

- 1992 Master Plan
- 1998 Master Plan Reexamination Report
- 2000 Master Plan Reexamination Report
- 2000 Housing Plan
- 2004 Center City Redevelopment Plan
- 2005 Stormwater Management Plan Element.
- 2006 Housing Plan Element and Fair Share Plan
- 2006 Land Use Plan Amendment ~ Institutional Campus Area (IC)

THE MAJOR PROBLEMS AND OBJECTIVES AT THE TIME OF THE 2000 REEXAMINATION

The City Reexamination Report prepared and approved on January 12, 2000 identified the following problems related to land development and the status of the measures taken by the City to address the City's problems and objectives.

A. Unplanned growth at the Route 55 interchanges at the expense of the downtown.

A new zoning ordinance, adopted in 1996, rezoned the five (5) Route 55 interchanges in Vineland to advance the proposed land uses of the Vineland Master Plan. To maximize the benefit to be derived from the enhanced access provided by these interchanges, commercial and industrial uses were promoted. While the allowance for commercial uses at these interchanges may have seemed counter-productive to efforts to revitalize the downtown, the intent was to establish Vineland as a regional destination, as the hub of South Jersey, because of its central location. The experience from 1996 to 2000 revealed that the businesses locating in the vicinity of the interchanges were at a scale and character which would make them less suitable for the downtown. One example was the siting of a new regional hospital on College Drive. The reexamination concluded, nevertheless, that potential land development problem as to impacts on the downtown would need continued monitoring.

This Reexamination Report recommends further refinement to the range of permitted uses and design guidelines in areas of the City that are adjacent to the Route 55 interchanges. Particular attention should be given to the area adjacent to the Route 55 and Landis Avenue interchange to Delsea Drive, to evaluate development and redevelopment opportunities to encourage an attractive gateway into the City.

B. Extension of water service to unsewered areas of the City without parallel sewer.

The Water-Sewer Utility and Landis Sewerage Authority developed plans which were roughly consistent with the Vineland Master Plan. While the sewer service continued to lag behind water service, the Landis Sewerage Authority made an effort to extend lines to problem neighborhoods by establishing a $1 million fund to contribute toward sewer assessment projects. The Landis Sewerage Authority also paid for the facility planning necessary to undertake sewer assessment projects. The reexamination concluded that this was a potential land development problem upon which the City, Water-Sewer Utility, and Landis Sewerage Authority must continue to work.

C. Explosion of a hopscotch pattern of sewered development linked by force mains to the sewer plan, leaving intervening areas without sewer service.

Sewer extensions continued to be predominantly developer driven. The Landis Sewerage Authority became more planning oriented by endeavoring to size systems to accommodate anticipated development in an area. Because of the relatively flat terrain, and because of the unpredictability of where development will occur, the City continued to be plagued with a maze of force mains. The reexamination concluded that this is a potential land development problem upon which the City and Landis Sewerage Authority must continue to work.

D. Sporadic conversion of farms in East Vineland to residential developments resulting in a fragmentary street network, proliferation of on-site septic systems, and continued loss of valuable farmland.

The zoning ordinance, adopted in 1996, rezoned most of East Vineland to require larger lot sizes. While already approved projects continued to move through the pipeline because of the Permit Extension Act, there were no new major subdivisions approved. The resultant fragmentary street network, proliferation of on-site septic systems, and continued loss of valuable farmland did not occur. There were some minor subdivisions. However, the large lot zoning appeared to be effective in maintaining the agricultural area. As development pressures increased, however, the reexamination cautioned that continued monitoring would be required.

E. Residential intrusion in East Vineland bringing nuisance complaints, vandalism, and environmental restrictions that reduce the long-term viability of operating farms.

The reexamination concluded that the amount of new residential development in East Vineland had been minimal from 1996 to 2000. While conditions had not worsened, there were still problems because of the existing mix of operating farms and residential properties. Nuisance complaints (e.g., South Jersey Co-op), vandalism, and environmental restrictions (e.g., aerial spraying) continued to be problems. The reexamination recommended that the City continue to monitor the situation.

F. Decline of the quality of the living environment, including Vineland's amenities and the integrity of existing neighborhoods.

The reexamination expressed concern regarding the adequacy of recreational facilities within the City. Utilizing a grant from the Association of New Jersey Environmental Commissions, the City contracted to study recreational and open space opportunities. As a result of that study, the Land Use Ordinance was amended in 1996 to require developers of residential subdivisions to provide recreational facilities or to make a payment-in-lieu of such facilities to the City. While some money had been collected, as of 2000 there had been no appreciable effect. The reexamination concluded that this was a potential land development problem on which the City needed to continue to work.

Another concern was the quality of the living environment in the Old Borough, the area bounded by East, West, Park, and Chestnut Avenues. Problems with dilapidated housing, overcrowded living conditions, lack of property maintenance, abandoned vehicles, drugs and prostitution have caused deterioration of these neighborhoods. This area was targeted by the State for both the Strategic Neighborhood Assistance Program and the Urban Coordinating Council. The City created a Community Pride Task Force to work with these neighborhoods. This area was also designated a Federal Empowerment Zone. The reexamination concluded that there was a land development problem upon which the City must continue to work.

G. An ever-weaker town center relative to other commercial locations in the City and adjacent counties.

The City had experienced a decline in its historic downtown. The City had a number of studies prepared and, in 1990, established a special improvement district. Through the promotional efforts of the district and the targeting of investment by the City (i.e., capital improvement projects and low-interest loans packages), there was some positive movement, as evidenced by new construction

activity (e.g., Sun Bank, Rite-Aid, Comfort Inn, proposed new retail post office and municipal court). The reexamination concluded that the condition of the town center was a land development problem upon which the City must continue to work.

H. A scarcity of planned industrial sites for new or growing industries.

The zoning ordinance adopted in 1996 zoned more land for industrial use to advance the proposed land uses of the Vineland Master Plan. As a consequence, additional industrial development located along the Boulevards and along the Garden Road corridor (i.e., new industrial park). While the 2000 Reexamination concluded that the scarcity of industrial sites was no longer a problem, this is no longer the case in 2008. The City's industrial park has almost been built to capacity and there is a need to maintain industrial sites and create further opportunities for industrial and economic development in the City.

I. Loss of Vineland's competitive position to attract new industrial, commercial and residential development of high quality.

Subsequent to the adoption of the Vineland Master Plan in 1992, the City attracted new industrial, commercial and residential development. A major element in attracting industrial and commercial development was the City's Urban Enterprise Zone. With the demise of the Zone in 2008, the City will have to reassess its competitive position. The reexamination concluded that this was a land development problem upon which the City must continue to work.

J. Allocation of the remaining reserve capacity of the new sewer plant before capacity can be increased, and with no clear resolution of how sewer system extensions are to be equitably financed and rationally planned for orderly growth.

The Landis Sewerage Authority developed a plan to increase plant capacity beyond the currently available 8.2 million gallons per day. Expansion of the collection system, however, continued to be a problem. Utilizing grants from the Economic Development Administration and funding from the Urban Enterprise Zone, the City paid for some major upgrades (e.g., Petticoat Drainage Basin, South West Boulevard and Mill Road). Lines had also been installed within some existing neighborhoods via sewer assessment projects. Expansion of the collection system was nevertheless predominantly developer driven, resulting in a maze of force mains. The reexamination concluded that this was a land development problem upon which the City and Landis Sewerage Authority must continue to work.

K. Spiraling tax bills due to years of deferred maintenance and a sprawling infrastructure, further eroding the quality of life and the City's potential to attract desirable growth.

The zoning ordinance adopted in 1996 defined a growth area to advance the proposed land uses of the Vineland Master Plan. Subsequently, the Landis Sewerage Authority and the Water-Sewer Utility embraced the same growth area in the development of the Wastewater Management Plan and the Water System Master Plan. The same growth area was also used to establish the community development boundary for the regional center designated by the State Planning Commission. By carving out this more realistic growth area, the City hoped to ultimately inhibit the expansion of an already sprawling infrastructure, thereby avoiding escalating costs due to poor development patterns. Additionally, since the adoption of the Vineland Master Plan in 1992, the City passed several bond ordinances to fund road and water system projects. The reexamination concluded that this was, nevertheless, a potential land development problem upon which the City would need to work.

L. Loss of the environmental integrity of the Maurice River, the Menantico Creek, and the Manumuskin River.

Portions of the Maurice River, the Menantico Creek, and the Manumuskin River were included as part of the federal Wild and Scenic Rivers Program. To implement the Local River Management Plan, which was developed by the National Park Service and the Cumberland County Department of Planning and Development, the City created a River Conservation Area, imposing additional restrictions, as an overlay, in a new zoning ordinance which was adopted in 1996. The City worked with the County and the City of Millville on a plan to preserve the Menantico Creek corridor. The reexamination concluded that this was a potential land development problem upon which the City would need to continue to work.

M. Continued reliance upon a poorly organized zoning ordinance that is difficult to use, lacking in standards, and not expressive of current and near-term land use needs.

The new zoning ordinance, adopted in 1996, re-zoned most of the City to advance the proposed land uses of the Vineland Master Plan. The reexamination concluded that, while the ordinance addressed many of the previous deficiencies, it was, nevertheless, a potential land development problem upon which the City would need to continue to work.

THE EXTENT TO WHICH THERE HAVE BEEN SIGNIFICANT CHANGES

Subsequent to the adoption of the 2000 Reexamination Report, the City's growth accelerated and development pressures increased. The increasing development exacerbated problems identified in the 2000 reexamination. In addition, the State of New Jersey initiated significant planning and regulatory changes that have affected local plans and planning requirements.

As of 2000, the City had 20,958 dwelling units and a population of 55,825.

Population Trends
1990 – 2006

				% Change	
	1990	**2000**	**2006**	**90 - 00**	**00 - 06**
Vineland	54,780	55,825	58,271	1.9%	4.4%
Cumberland	138,053	146,438	154,823	6.1%	5.7%
New Jersey	7,730,188	8,414,530	8,724,560	8.9%	3.7%

Source: NJ Department of Labor and Workforce Development 2007

Vineland's growth rate from 2000 to 2006 exceeded the growth rate of the prior decade. Vineland added 1,045 residents during the 1990s, but has added 2,446 residents from 2000 to 2006. From 2000 to 2006, Vineland has accounted for 29% of the population growth within Cumberland County. Vineland's highest population density is in its urban core that is in need of redevelopment. However, since 2000, most of the residential development has taken place outside the urban core in suburban and rural areas. Oversized lots in the suburban area of the City are being resubdivided for more housing. Developers are extending sewer lines and constructing pump stations to qualify for smaller lot sizes and increased density in the R-3 and R-4 zone districts even as land and buildings in the urban core and its immediate surrounding area remain underutilized.

In March 2001, the New Jersey State Planning Commission adopted a new State Development and Redevelopment Plan (SDRP). In 2004, the State issued a revised SDRP based upon smart growth principles for cross acceptance by local government. The cross acceptance process for the revised SDRP is ongoing. In 2004, the State also adopted a plan endorsement rule and plan endorsement guidelines for local plans. The plan endorsement process emphasizes local participation in a process with State agencies that is designed to achieve consistency between State and local plans, coordinate wastewater management planning, and reach agreement on the measures to be taken at the State and local level to implement endorsed plans.

Water supply and water quality are critical environmental and development issues in New Jersey and in Vineland. The Kirkwood-Cohansey formation is the source of potable water for the City. The NJDEP Water Supply Administration identifies Vineland's water source as deficit/critical water supply.

The adoption of municipal stormwater regulations by the New Jersey Department of Environmental Protection (NJDEP) required that Vineland prepare and adopt a stormwater management plan in 2005 to address the need for promoting groundwater recharge and controlling the impacts of stormwater runoff from development.

In addition, the New Jersey Department of Environmental Protection (NJDEP) adopted Flood Hazard Area Control Act Rules in 2007 as N.J.A.C. 7:13 et seq. The rules establish the methods for determining the Flood Hazard Area as outlined in N.J.A.C. 7:13-3 and place substantial restrictions on development in Flood Hazard Areas.

In order to grow and develop and redevelop as a regional center as envisioned by the City, Vineland needs additional water supply and State support and permission to fully utilize the planned capacity of the City's sewer treatment facility. The City seeks State approval for a revised wastewater management plan as well as additional sources of water supply. The State has advised the City that Vineland will need to coordinate its wastewater management planning with the City Master Plan before the State will approve a revised wastewater management plan. A revised waste water management plan for the City is being reviewed by the NJDEP.

In 2004, the New Jersey Council on Affordable Housing (COAH) adopted a new rule and regulations to require that the amount of affordable housing that Vineland would need to produce by 2014 would be based upon the actual growth the City experienced from new residential and nonresidential construction. The City obligation under the 2004 rule was to provide at least one affordable dwelling unit for every eight market-rate residential units that are newly constructed and one affordable unit for every 25 new jobs, based on square footage of new nonresidential construction. In 2006, the City adopted a new housing plan element and fair share plan and petitioned COAH to certify the City plan for affordable housing. The City proceeded to adopt ordinances to implement the City housing plan element and fair share plan for affordable housing in accordance with the 2004 rule.

In January 2007, an Appellate Court decision required that COAH revise its 2004 rule. As a result, COAH published a revised rule in January 2008 which is scheduled to be adopted by COAH in June 2008. The City obligation will be increased to provide at least one affordable dwelling unit for every four market-rate residential units that are newly constructed and one affordable unit for every 16 new jobs,

based on square footage of new nonresidential construction. If COAH adopts the revised rule, then the City will need to revise and resubmit its housing plan element and fair share plan to address the rule changes.

RECOMMENDED PLANNING AND ZONING CHANGES

Vineland should change its plan and development regulations to be more effective in directing future growth into the City's urban center and suburbs while maintaining a surrounding greenbelt of ecologically sensitive areas, farm areas, and open spaces. The City's planning needs to support the vitality of the City's urban and suburban areas that already have in place the appropriate infrastructure, regional highway access, and community facilities to support and serve the City's present and future population and provide for new job creation and housing. The City needs to utilize its existing urban and suburban footprint more efficiently through the redevelopment and rehabilitation of the City's downtown, through the adaptive reuse of existing developed sites, though the development of the Landis Avenue Corridor between Route 55 and the Delsea Drive, and by promoting the infill of areas where sewer and water lines already exist.

To address the issues and problems facing the City and achieve a more desirable future, the City Planning Board has concluded that it should change the Master Plan to include a new statement of goals and objectives, a new land use plan element, a new conservation plan element, a new farmland preservation plan element, and a new statement of plan relationships.

Consequently, the City Planning Board recommends the adoption of the City Master Plan with the new elements as prepared in 2008. This reexamination report of the City Planning Board recommends that the City zone plan and development regulations be revised to implement the 2008 Master Plan. This reexamination report further recommends that the classification and the boundaries of the City's zoning districts be changed to implement the 2008 Master Plan in accordance with the draft zoning map prepared which is appended to and made part of this reexamination report.

The City Planning Board recommends that the City undertake additional study for the future use and development of the Landis Avenue Corridor from Delsea Drive to the interchange of Route 55 with Landis Avenue. Vineland's economic development opportunities are strongly influenced by regional access from Route 55. Commercial and industrial development have located, and continue to locate, between Route 55 and Delsea Drive and along Landis Avenue in Vineland. The Landis Avenue Corridor from Delsea Drive to Route 55 is an area of special economic development opportunity for the City. The Landis Avenue corridor has the potential to develop to serve an unmet and growing market demand for regional retail uses which require larger tracts of land with good access to the Route 55 interchange.

The City Planning Board recommends that, at such time as COAH adopts a revised rule for affordable housing, that the City proceed to make appropriate revisions to the City Master Plan housing element and fair share plan to address COAH's rule changes.

Finally, the City Planning Board recommends that the City prepare new plan elements to be included in the Master Plan for circulation, utility services, community facilities, recreation, economics, historic preservation, and development transfers.

REDEVELOPMENT PLANS

Subsequent to the Master Plan reexamination report adopted in 2000, the City designated the Center City Redevelopment Area and adopted a redevelopment plan for Center City. This reexamination recommends adoption of the 2008 Master Plan to coordinate the Master Plan and development regulation with the recommendations of the Center City Redevelopment Plan, and to incorporate the redevelopment plan by reference into the City Master Plan land use element to establish consistency between the Master Plan and the Center City Redevelopment Plan.

BUSINESS AND INDUSTRIAL ZONE RECOMMENDATIONS

The Planning Board recommends updating and revising the uses permitted within the City's business zones and industrial zones. Revisions should be made to address the changed and evolving character of specific land uses and to identify the land uses that have become antiquated or whose scale and operational characters are no longer appropriate to the desired character of the zone. Such uses should be eliminated from the permitted uses of the zone district. In addition, the Planning Board recognizes that new technologies and a changing economy generate new types of land use and business opportunities that may be compatible with the City zone plan. The City should identify and add as permitted uses to the business and industrial zone plan such new categories of land use that are compatible with the desired character of the zone and that have the potential for generating beneficial growth and development within the City.

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DRAFT

CITY OF VINELAND PROPOSED ZONE MAP

ZONE	NAME
A-5	Agricultural
A-6	Agricultural
ARR	Age Restricted Residential Redevelopment District
B-1	Business
B-2	Business
B-3	Business
B-4	Business
CO	Conservation
CPO	Civic and Professional Office Redevelopment District
EG	East Gate Mixed Use Redevelopment District
I-1	Industrial
I-2	Industrial
I-3	Industrial
I-4	Industrial
I-B	Industrial – Business
IN-1	Institutional
IN-2	Institutional Campus
LC	Landis Avenue Commercial Redevelopment District
LMS	Landis Avenue Main Street Redevelopment District
MF	Multi-Family
MHP	Mobile Home Park
NC	Neighborhood Commercial Redevelopment District
P-A	Pinelands Agricultural Production
P-F	Pinelands Forest
P-R	Pinelands Rural Development
PC	Plaza Commercial Redevelopment District
P	Public District
PIG	Park/Green Space Redevelopment District
R	Residential Redevelopment District – 9,500 sq. ft.
R-1	Residential – 9,500 sq. ft.
R-2	Residential – 11,250 sq.ft.
R-3	Residential – 13,500 sq. ft.
R-4	Residential – 16,500 sq. ft.
R-5	Residential – 1 Acre
R-6	Residential – 2 Acres
R-B-1	Residential – Business
R-B-2	Residential – Business
R-P	Residential – Professional
W-5	Woodlands
W-6	Woodlands
WW	West Vineland Village Mixed-Use Redevelopment District

Franklin Township
Newfield Borough
Buena Borough
Buena Vista Township
Pittsgrove Township
Deerfield Township
Millville City
Maurice River Township
Downtown Impr. District Area
Airport Hazard Area
River Conservation Area

Legend
- Parcels
- Flood Hazard Overlay
- Proposed Zone Changes

Overlay Districts
- Airport Hazard Area
- River Conservation Area
- Downtown Improvement District

0 1,750 3,500 7,000 Feet

T&M ASSOCIATES
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Middletown, NJ 07748-2792
Phone: 732-671-6400
Fax: 732-671-7365

Notes:

Flood Hazard Area boundaries are generalized and must be interpreted in accordance with the references cited in the City development regulations.

Airport Hazard Area Boundaries are generalized and must be interpreted in accordance with the N.J.A.C. 16:62.1.1 et. seq. Air Safety and Hazardous Zoning.

Prepared by: STK/PHR, April 3, 2008
Source: City of Vineland GIS System; NJDEP; TIGER Files
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DRAFT

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Franklin Township

Newfield Borough

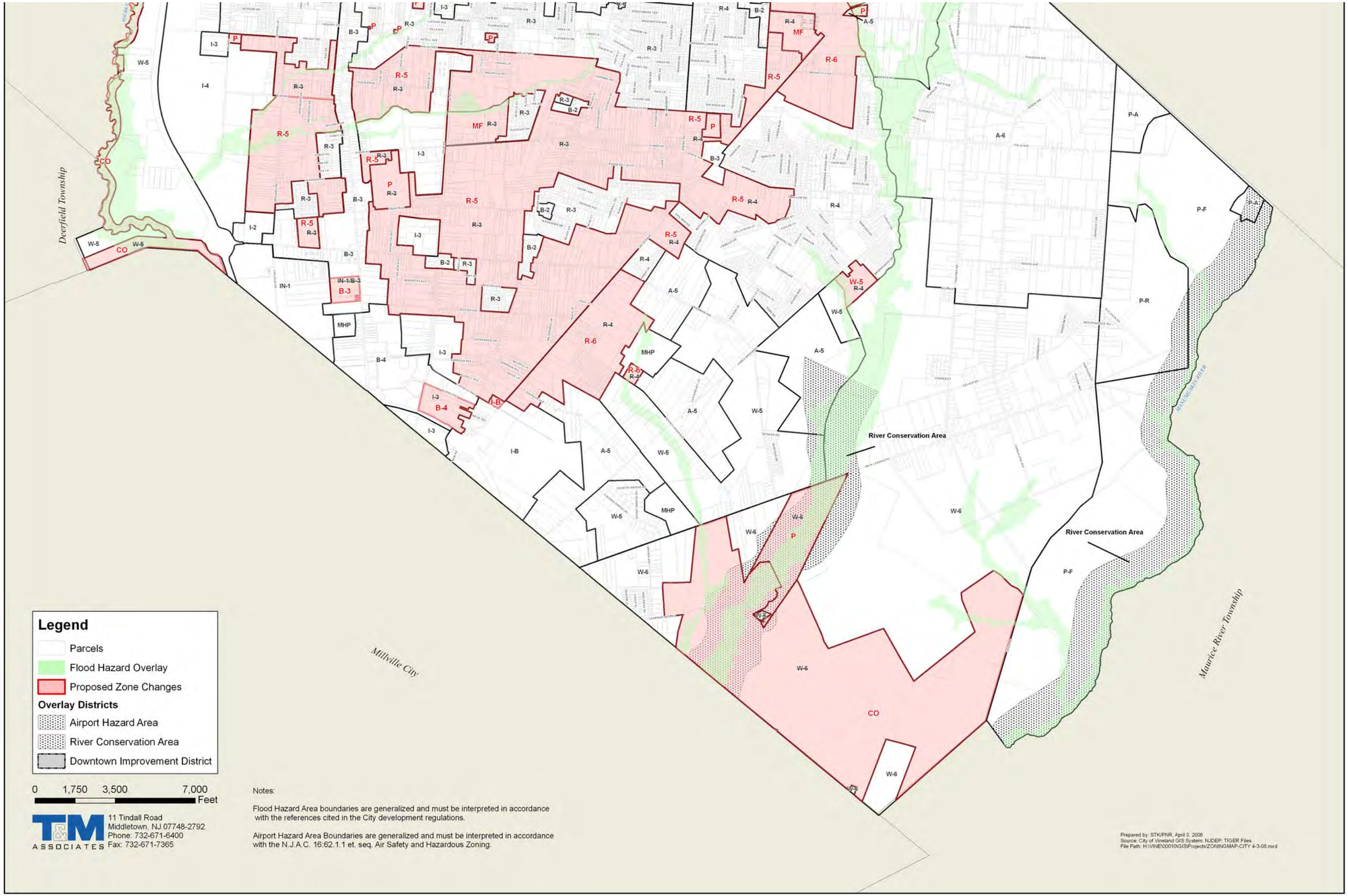
Pittsgrove Township

Buena Borough

Buena Vista Township

Airport Hazard Area

Downtown Impr. District Area



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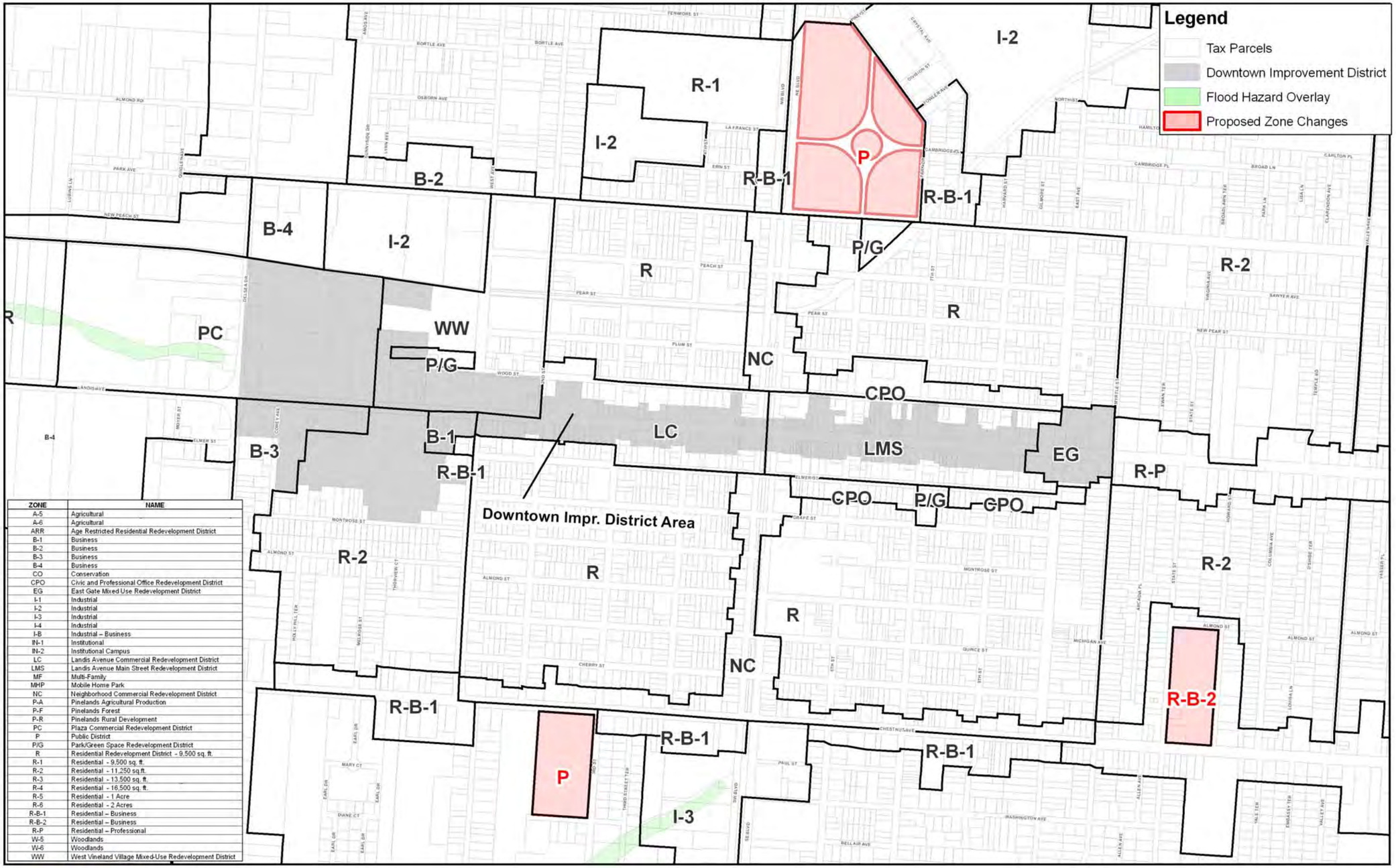

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0 600 1,200
Feet

Prepared by PNR, April 7, 2008
Source: City of Vineland GIS, NJDEP
File Path: H:\VINE\00010\GIS\Projects\ZONINGMAP-CENTERCITY2008.mxd

Draft City of Vineland Zone Map (Central Area)

N

Notes:

Flood Hazard Area boundaries are generalized and must be interpreted in accordance with the references cited in the City development regulations.

Airport Hazard Area Boundaries are generalized and must be interpreted in accordance with the N.J.A.C. 16:62.1.1 et. seq. Air Safety and Hazardous Zoning.

Existing Zoning and Proposed Zoning

Zoning District	*Zoning District Name*	*Current Zoning (Acres)*	*Proposed Zoning (Acres)*	*Change (Acres)*
A-5	Agricultural	4,930	5,171	+241
A-6	Agricultural	2,745	2,739	-6
ARR	*Age Restricted Residential District*	*30*	*30*	--
B-1	Business	3	3	--
B-2	Business	176	173	-3
B-3	Business	1,110	1,133	+23
B-4	Business	687	786	+99
CO	Conservation	*N/A*	2,764	+2,764
CPO	*Civic and Professional Office District*	*23*	*23*	--
EG	*East Gate Mixed Use District*	*11*	*11*	--
I-1	Industrial	443	443	--
I-2	Industrial	1,145	1,145	--
I-3	Industrial	686	594	-92
I-4	Industrial	843	843	--
I-B	Industrial – Business	1,467	1,460	-7
IN-1	Institutional	329	305	-24
IN-2	Institutional	346	346	--
LC	*Landis Avenue Commercial District*	*38*	*38*	--
LMS	*Landis Avenue Main Street District*	*44*	*44*	--
MF	Multi-family	N/A	213	+213
MHP	Mobile Home Park	400	400	--
NC	*Neighborhood Commercial*	*61*	*61*	--
P-A	Pinelands Agricultural Production	160	160	--
P-F	Pinelands Forest	2,455	2,455	--
P-R	Pinelands Rural Development	602	602	--
PC	*Plaza Commercial District*	*85*	*85*	--
P	*Public*	*0*	*663*	*+663*
Park/Green Space	*Park/Green Space*	*6*	*6*	--
R	*Residential District – 9,500 sq. ft.*	*408*	*408*	--
R-1	Residential – 9,500 sq. ft.	46	46	--
R-2	Residential – 11,250 sq. ft.	1,093	1,049	-44
R-3	Residential – 13,500 sq. ft.	8,825	3,849	-4976
R-4	Residential – 16,500 sq. ft.	4,538	2,833	-1,705
R-5	Residential – 1 Acre	*N/A*	4,266	+4,266
R-6	Residential – 2 Acre	*N/A*	1,191	+1,191
R-B-1	Residential - Business	79	79	--
R-B-2	Residential - Business	0	10	+10
R-P	Residential – Professional	185	158	-27
W-5	Woodlands	3,786	3,082	-704
W-6	Woodlands	6,655	4,434	-2,221
WV	*West Vineland Village Mixed-Use District*	*49*	*49*	--
Total		**44,150**	**44,150**	

Master Plan Technical Reports

EXISTING LAND USE, ZONING, DEMOGRAPHICS, AND ECONOMIC BASE

CITY OF VINELAND
CUMBERLAND COUNTY, NEW JERSEY

PREPARED FOR

CITY OF VINELAND PLANNING BOARD

August 15, 2006

PREPARED BY:

TM ASSOCIATES
ELEVEN TINDALL ROAD
MIDDLETOWN, NJ 07748

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INTRODUCTION

Understanding existing land use is essential to planning for the future of a community. With a clear picture of the existing land use pattern, the community has a sound basis for decision-making and shaping future land use to meet public goals.

Vineland is characterized by a variety of urban, suburban, and rural land uses that include a historic residential and commercial core, commercial and industrial uses, preserved conservation areas, major transportation corridors, institutional uses, low density residential areas, forests, vacant unimproved land, fertile farmland, and environmentally constrained areas. Specific land uses are describe in this report and the accompanying maps showing their respective locations throughout the City of Vineland. Figure 2 and Figure 2A show census tracts and population density of the City. Figures 5 through 8 identify the developed areas of the City by specific land use. The existing land use map (Figure 9) is based upon the property classification code of the City's Tax Assessor's database (MODIV file) and joined to the City's Geographic Information System (GIS) parcel map. Unidentified parcel information was updated utilizing New Jersey 2002 high-resolution orthoimagery and information from the City of Vineland Planning Department.

The Geographic Information System land records and Census information confirm Vineland's historic development pattern consisting of a dense core area that transitions to a medium density suburban area and eventually to a low density agricultural and rural area.

Census tract information indicates that population growth is occurring in west central Vineland near Delsea Drive (SH 47) and Route 55. Population growth is also occurring in the environs of Vineland within Tract 410, which includes almost half of the City's land area located within the southern and eastern areas of the City. Population in the City's central core has remained relatively stable over the last decade.

Approximately 15,358 or 24-square miles of land are unconstrained developable land. Over 60% of unconstrained developable land within Vineland is located within the agricultural and conservation zone districts, the majority of which is located east of South Lincoln Avenue, and the northwestern area of the City.

In accordance with the State Development and Redevelopment Plan (SDRP), Vineland is located within the State Planning Areas:

- Metropolitan Planning Area (29.3%)
- Suburban Planning Area (24.0%)
- Rural Planning Area (17.4%)
- Rural Environmentally Sensitive Planning Area (13.5%)
- Environmentally Sensitive (7.3%)
- Pinelands (5.2%)
- State Park (3.3%)

Approximately five (5) square miles of the City is located within the Pinelands, most of which is owned by NJDEP and the City.

EXISTING LAND USE

Population Distribution and Density by Census Tract

Figure 1 depicts population distribution in the City of Vineland by Census Tract from 1970 to 2000. Vineland is organized into ten census tracts. According to the 2000 Census, five out of the ten census tracts in Vineland had a population over 6,000 residents, these include tracts 402, 406, 407, 409 & 410.

Figure 1 Population Distribution by Census Tract 1970 – 2000

Census Tract	**1970**	**1980**	**1987**	**2000**	**% Change 1970 – 1980**	**% Change 1980 – 1987**	**% Change 1987 – 2000**
401	670	525	466	453	-21.64%	-11.24%	-0.2%
402	6,735	6,244	6,044	6,243	-7.29%	-3.20%	3.2%
403	3,648	3,362	3,245	3,271	-7.84%	-3.48%	0.8%
404	6,369	5,962	5,796	5,920	-6.39%	-2.78%	2.1%
405	6,226	5,332	4,967	5,666	-14.36%	-6.85%	14.0%
406	5,415	6,898	7,504	6,901	27.39%	8.79%	-8.0%
407	5,792	7,632	8,384	7,984	31.77%	9.85%	-4.7%
408	1,996	3,630	4,298	4,163	81.36%	18.40%	-3.1%
409	6,224	8,921	10,023	9,594	43.33%	12.35%	-4.2%
410	4,324	5,247	5,624	6,076	21.35%	7.19%	8.0%
Total	**47,399**	**53,753**	**56,351**	**56,271**	**13.41%**	**4.83%**	**0.79%**

Source: U.S. Census of Population 1970, 1880 1990 & 2000.

Vineland is located within ten (10) census tracts. Tract 409 is further segregated into tract 409.01 and 409.02. Census tract 410 is located in the southwestern, southern and southeastern section of the City. It is by far the largest census tract area, representing 47.4 percent of the total land area in the City. Tract 410 is sparsely populated. It contains 0.29 persons per acre or 186 persons per square mile. This area of the City consists primarily of farmland, environmentally constrained lands, lands owned by NJDEP, the Nature Conservancy and includes the five (5) square miles of the City that is located within the Pinelands.

Tract 409.01, located in the northwestern portion of the City, is also sparsely populated. Given its proximity to Route 55, there is substantial development potential in this area.

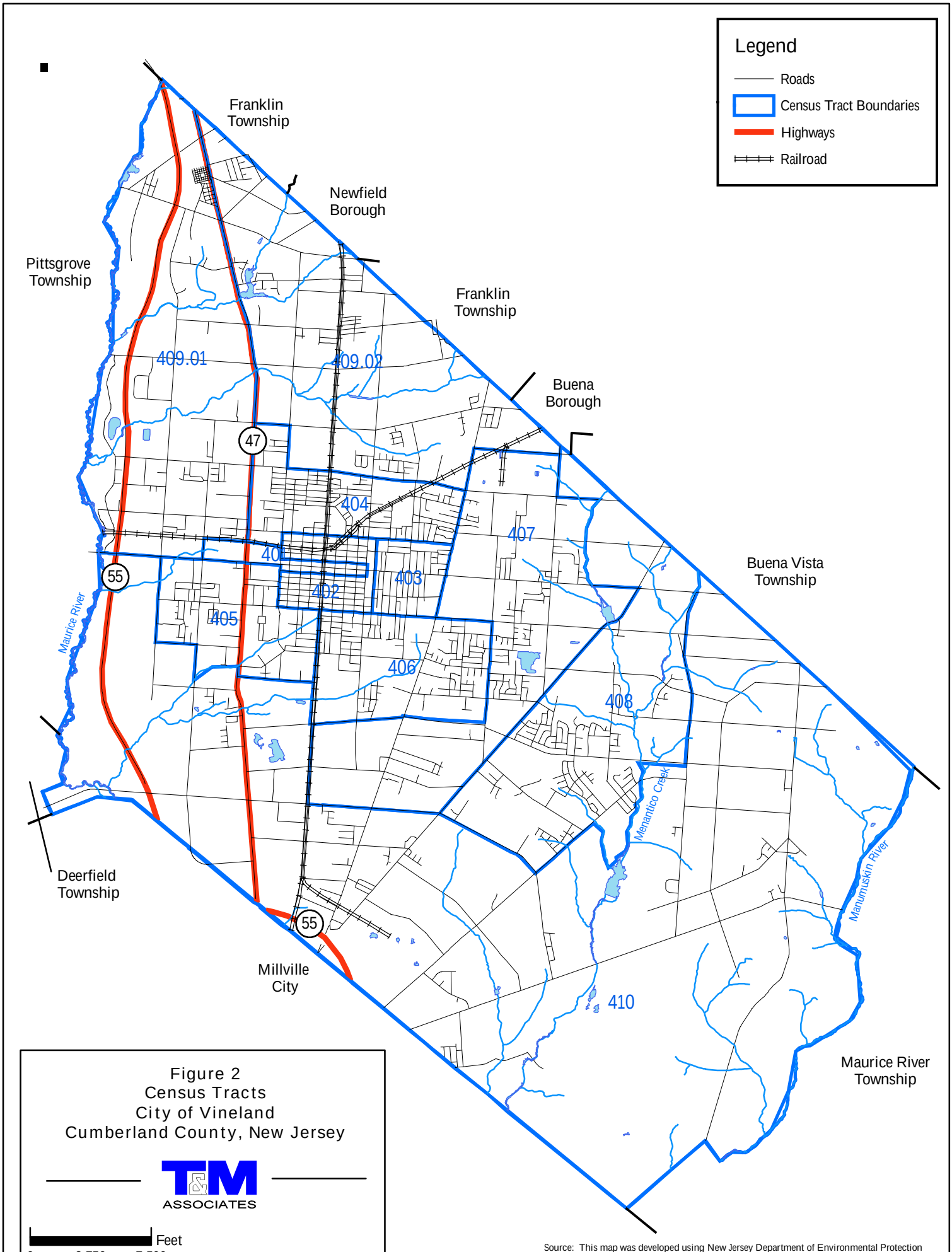

Figure 2
Census Tracts
City of Vineland
Cumberland County, New Jersey

TM ASSOCIATES

Feet
0 3,750 7,500

August 2006

Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.

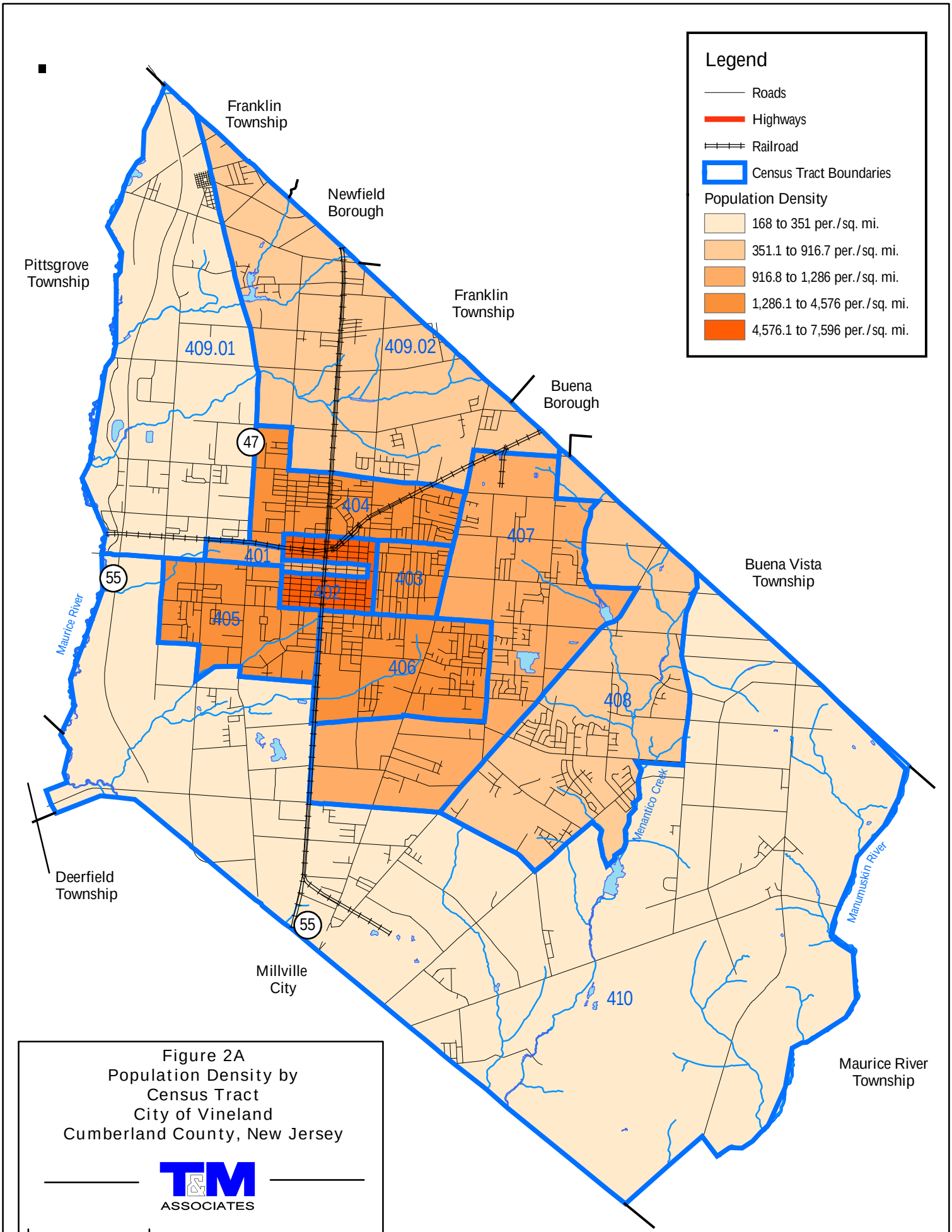

Figure 2A
Population Density by
Census Tract
City of Vineland
Cumberland County, New Jersey

TM ASSOCIATES

0 3,750 7,500 Feet

August 2006

Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.

Tracts 402 and 403 are the densest areas of the City. They represent 2.2 percent of the total land area and 16.9 percent of the total population. Tracts 402 and 403 are centrally located within Vineland, partially within and proximate to the downtown. Tracts 404, 405 and 406, located within the periphery of the downtown, but, slightly further removed represent the suburban pattern of development within Vineland.

Vineland's population distribution resembles a pattern similar to other cities on the eastern seaboard. Vineland contains a dense center, surrounded by medium density or suburban developments that transitions into a rural area. This pattern of development is considered by the Office of Smart Growth as an ideal land use pattern.

Figure 3 – Population Density by Census Tract

Tract	Population	Acres	Population Density (per sq. mi.)	Population Density (per acre)	Percentage of Total Land Area
402	6,243.0	526.0	7,596	11.87	1.2%
403	3,271.0	457.5	4,576	7.15	1.0%
404	5,920.0	1,308.0	2,897	4.53	3.0%
406	6,901.0	1,594.0	2,771	4.33	3.6%
405	5,666.0	1,336.0	2,714	4.24	3.0%
407	7,984.0	3,972.0	1,286	2.01	9.0%
401	453.0	234.2	1,238	1.93	0.5%
409.02	6,845.0	4,779.0	917	1.43	10.8%
408	4,163.0	3,998.0	666	1.04	9.1%
409.01	2,749.0	5,009.0	351	0.55	11.3%
410	6,076.0	20,920.0	186	0.29	47.4%
Total/Average	**56,271**	**44,133.7**	**2,290.7**	**3.6**	**100.0%**

Figure 4 compares population density in the City of Vineland to Cumberland County and the State of New Jersey from 1930 to 2000.

Vineland is a densely populated community in Cumberland County and is generally consistent with residential density within the State. On average, the City of Vineland is 2.73 times more dense the Cumberland County as a whole. On average, the State is 1.38 times denser than Vineland.

As indicated in Figure 4, from 1930 to 1980 the City surpassed both the County and the State in its percentage of population growth each year. The trend changes from 1980 to 2000. The County's population grew by 7.1% from 1980 to 1990 and 6.0% from 1990 to 2000. The State's population grew by 4.9% and 8.8% respectively during the same time periods. Conversely, Vineland grew by 1.9% and 2.7% during this same time period.

Figure 4 – Population Density 1940 - 2000

	CITY OF VINELAND		**CUMBERLAND COUNTY**		**NEW JERSEY**	
Year	Density (per sq. mi.)	Percent Change	Density (per sq. mi.)	Percent Change	Density (per sq. mi.)	Percent Change
1930	314.6	---	138.6	---	544.9	---
1940	355.9	13.1%	145.1	4.6%	560.9	2.9%
1950	430.7	21.0%	175.7	21.0%	651.9	16.2%
1960	548.8	27.4%	211.9	20.6%	818.0	25.4%
1970	690.2	25.7%	240.7	13.5%	966.8	18.1%
1980	782.8	13.4%	263.4	9.4%	993.0	2.7%
1990	797.7	1.9%	282.2	7.1%	1,042.2	4.9%
2000	819.2	2.7%	299.3	6.0%	1,134.0	8.8%

SOURCE: US Bureau of Census 1930 – 2000.
COMPILED BY: T&M ASSOCIATES

DEVELOPED LAND

The following summarizes developed lands by land use classification in the City.

1. Residential - There are an estimated 10,885 acres (17.0 square miles) of developed residential land in Vineland. This accounts for 37 percent of the developed land total and almost 25 percent of Vineland's total land area. Residential land is dispersed throughout the City (see Figure 5) and consists mainly of single-family residences on lots ranging from under 5000 square feet up to fifty-eight acres. The median residential lot size in the City is 32,297 square feet.

According to the 2000 US Census, detached single-family units are the predominant existing housing type comprising 13,205 units or 63.0 percent of housing units. This was followed by 1,669 mobile homes (8.0 percent), 1,608 duplex units (7.7%), 1,563 units within buildings containing a minimum of twenty units, 880 three to four unit buildings (4.2%), 767 five to nine unit buildings (3.7%), 653 10 to 19 unit buildings (3.1%) and 613 one unit attached buildings (2.9%). No boat, recreational vehicles or vans were identified as housing units.

2. Commercial - Commercial land comprises 2,753 acres or 9.4 percent of the developed land and 6.2 percent of total land in the City. Commercial uses in Vineland are primarily located along Delsea Drive (SH 47), Landis Avenue and Chestnut Avenue (See Figure 6). The majority of commercial development within these corridors continues in a linear development pattern. Concentrated areas of commercial development exist in close proximity to the Route 55 interchanges. However, the scale and style of development varies greatly throughout the City. Traditional mixed-use buildings and a pedestrian orientation are located in the center city area, while uses located on major arterial roadways outside the core area or downtown are oriented to automobile use. The major arterial roadways contain the majority of commercial uses exist throughout the City.

3. Public/Quasi-Public - Public/Quasi public lands include several types of uses and account for a total of 7,158 acres or 24.5 percent of the developed land area (See Figure 7). Public/Quasi-Public uses include the following:

a. Houses of Worship and Cemeteries – A total of 617 properties are classified as either religious uses or cemeteries in the City. Of these 617 properties, 611 are houses of worship,

accounting for 395 acres. In addition, six (6) parcels are classified as cemeteries comprising 124 acres.

b. Schools – Vineland contains twenty (20) public schools including: two pre schools, 4 kindergarten centers, seven elementary schools, four middle schools, two high schools, two alternative program sites and one adult education center. The pubic school designation comprises 383 acres or 1.9 percent of the developed land. The private school designation comprises six properties totaling 195 acres of land.

c. Vineland City – The City of Vineland is a substantial land holder. This category consists of lands owned and operated by:

- Court house, municipal building, chamber of commerce, library, senior center pistol range;
- Public housing;
- Parklands, footpaths, game preserve, historic site;
- Drainage areas, utility uses, pumping stations, landfill, pumping stations;
- Parking areas and thoroughfares; and
- Lands acquired by tax foreclosure.

These facilities comprise approximately 1,227 acres of land in Vineland. Parks are considered as developed land since they are improved and are encumbered by New Jersey Department of Environmental Protection Green Acres rules and regulations.

d. Roadway, Railroad and Utility Rights-of-Way – rights-of-way account for 2,748 acres of total land area comprising 9.4 percent of the developed land and 6.2 percent of the total land area.

e. Other Exempt – There are 162 other exempt properties accounting for 241 acres or 0.8 percent of the developed land total.

4. Farm – Preserved farmland accounts for 343 acres in Vineland.

5. Industrial - There are eighty-five (85) industrial parcels of land in Vineland, which range in size from a quarter acre to 232 acres. The largest properties consist of Energy and Minerals, Inc., which

is located on South Lincoln Avenue, General Mills on West Elmer Road, Kimble Glass on Crystal Avenue, and Santa's Best on East Boulevard. A total of nineteen parcels are larger than ten acres in size as indicated in the following table.

Block	Lot	Acres	Location	Owner
7111	78	10.74 Ac	3501 S EAST BLVD	RENNOC CORPORATION
6202	61	11.43 Ac	1969 S EAST AVE (1983)	KENNEDY CONCRETE, INC
6103	39	11.76 Ac	2565 BRUNETTA DR	P J GILLESPIE, INC
6103	40	11.91 Ac	2547 BRUNETTA DR	J F GILLESPIE, INC
1604	6	12.59 Ac	1430 N WEST BLVD	ACE GLASS, INC
1701	72	13.13 Ac	114 E OAK RD	RUDOLPH, ROBERT & DEBORAH
1604	5	13.54 Ac	1480 N WEST BLVD	ARP JERSEY INVESTMENTS LLC
2502	47	14.56 Ac	2120 MAPLE AVE	RUDOLPH FAMILY LIMITED PARTNERSHIP
302	3	14.88 Ac	3800 N MILL RD	CHEMGLASS REALTY IV, LLC
2604	14	16.10 Ac	396 N MILL RD	LEVARI BROTHERS REALTY CO, LLC
1005	5	17.26 Ac	1901 W GARDEN RD	WALLACE & TIERNAN,INC
5401	3	17.80 Ac	1100 S MILL RD	VINELAND KOSHER POULTRY PLANT INC
2302	12	18.10 Ac	1022 SPRUCE ST	KONTES GLASS LLC
2604	15	22.16 Ac	270 N MILL RD	AUNT KITTY'S FOODS INC
5701	31	28.44 Ac	1640 S WEST BLVD	RICHLAND GLASS CO, INC
7111	76	33.01 Ac	3401 S EAST BLVD	SANTA'S BEST
2326	1	44.82 Ac	537 CRYSTAL AVE	KIMBLE GLASS C/O B SHELDON
5701	38	61.32 Ac	500 W ELMER RD (536)	GENERAL MILLS OPERATIONS, INC
7503	35	232.19 Ac	4031 S LINCOLN AVE	ENERGY & MINERALS, INC

A total of 270 acres of land are utilized for industrial purposes.

6. Parks/Open Space – This includes park lands on the City of Vineland's Recreation and Open Space Inventory (ROSI), the State of New Jersey and the Nature Conservancy. They total 5,697 acres or 8.9-square miles. Of this, the City of Vineland owns approximately 530 acres, the State of New Jersey owns 3,906 acres and the Nature Conservancy owns 1,261 acres.

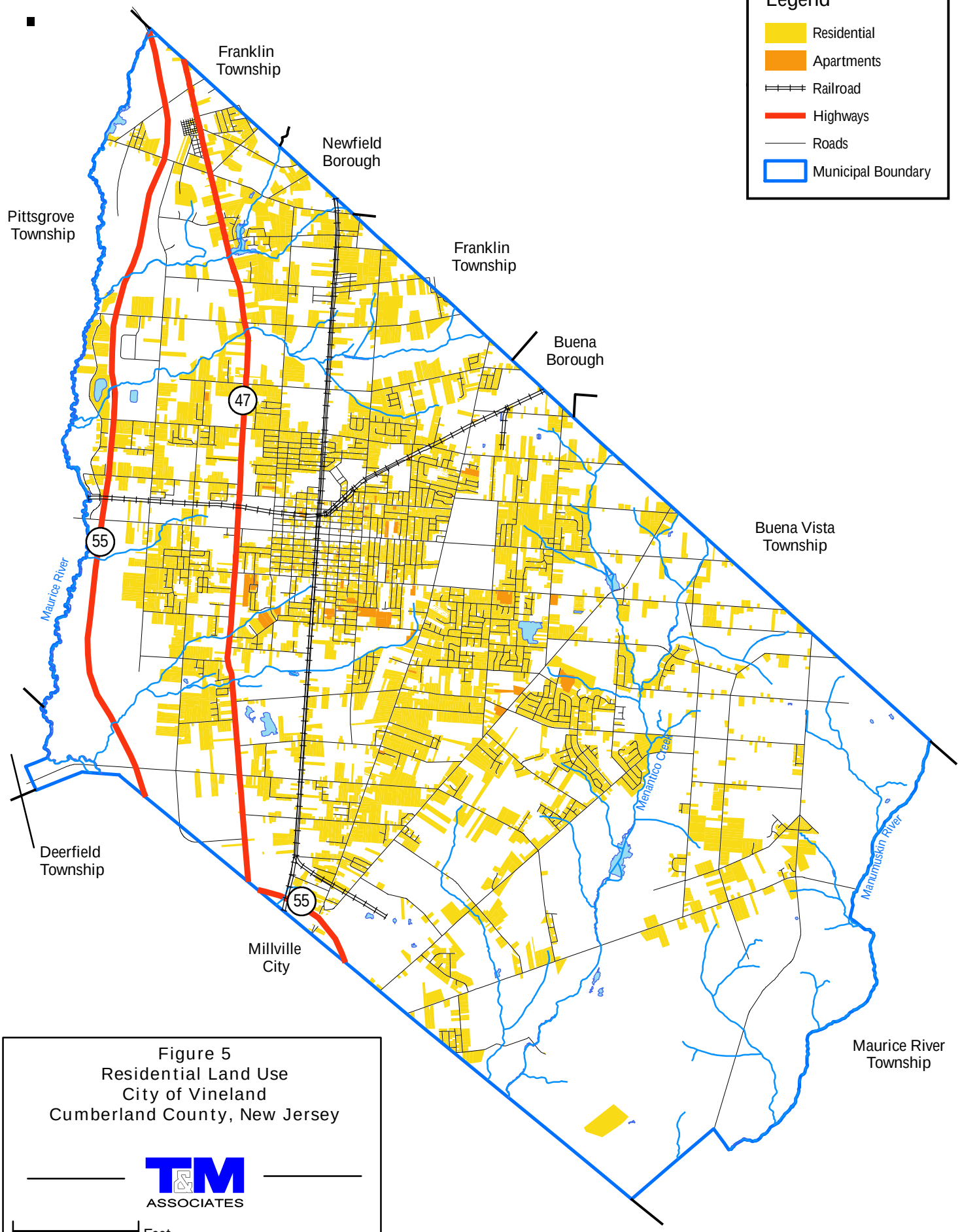

Figure 5
Residential Land Use
City of Vineland
Cumberland County, New Jersey

T&M ASSOCIATES

0 3,750 7,500 Feet

August 2006

Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.

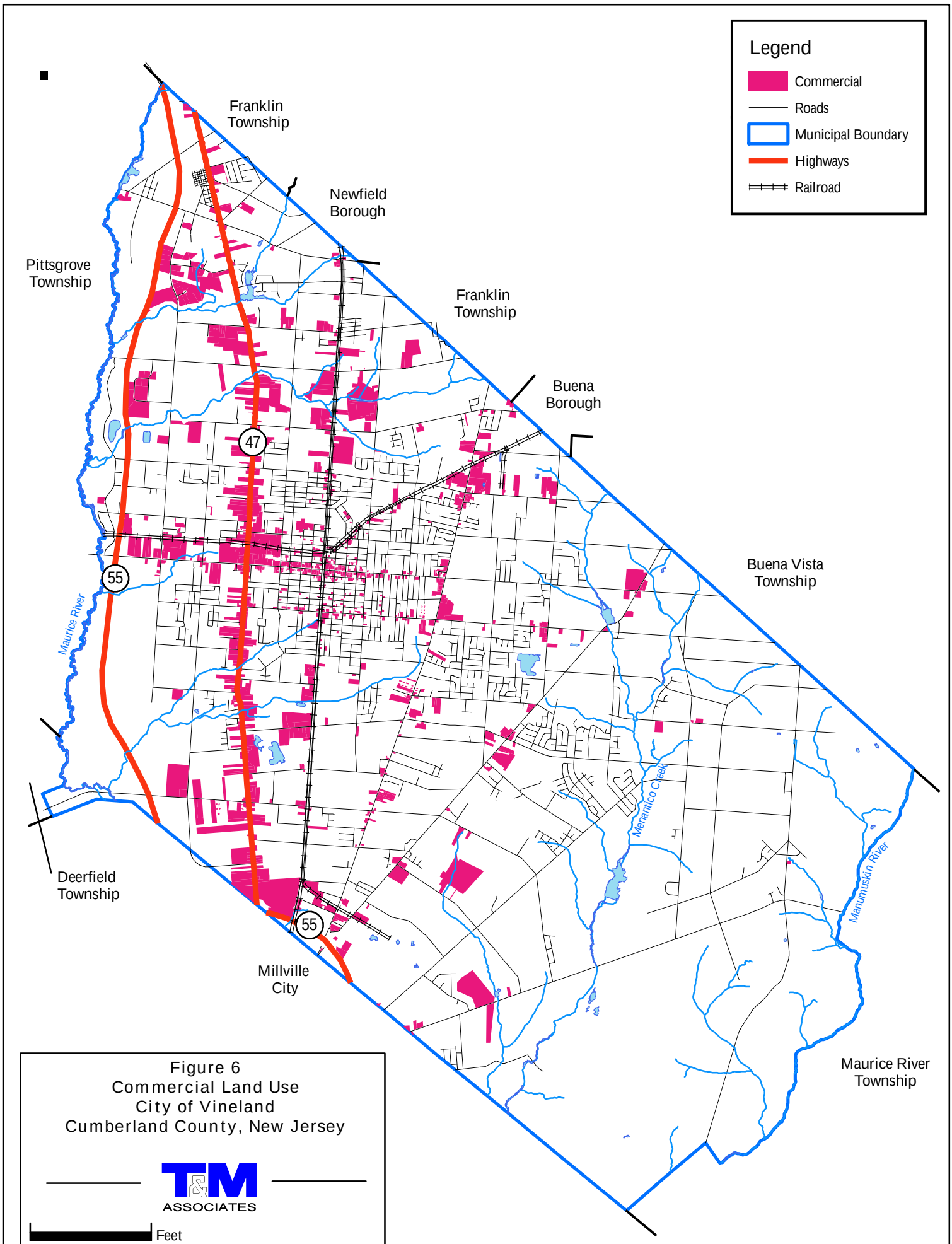

Figure 6
Commercial Land Use
City of Vineland
Cumberland County, New Jersey

T&M ASSOCIATES

Feet
0 3,750 7,500

August 2006

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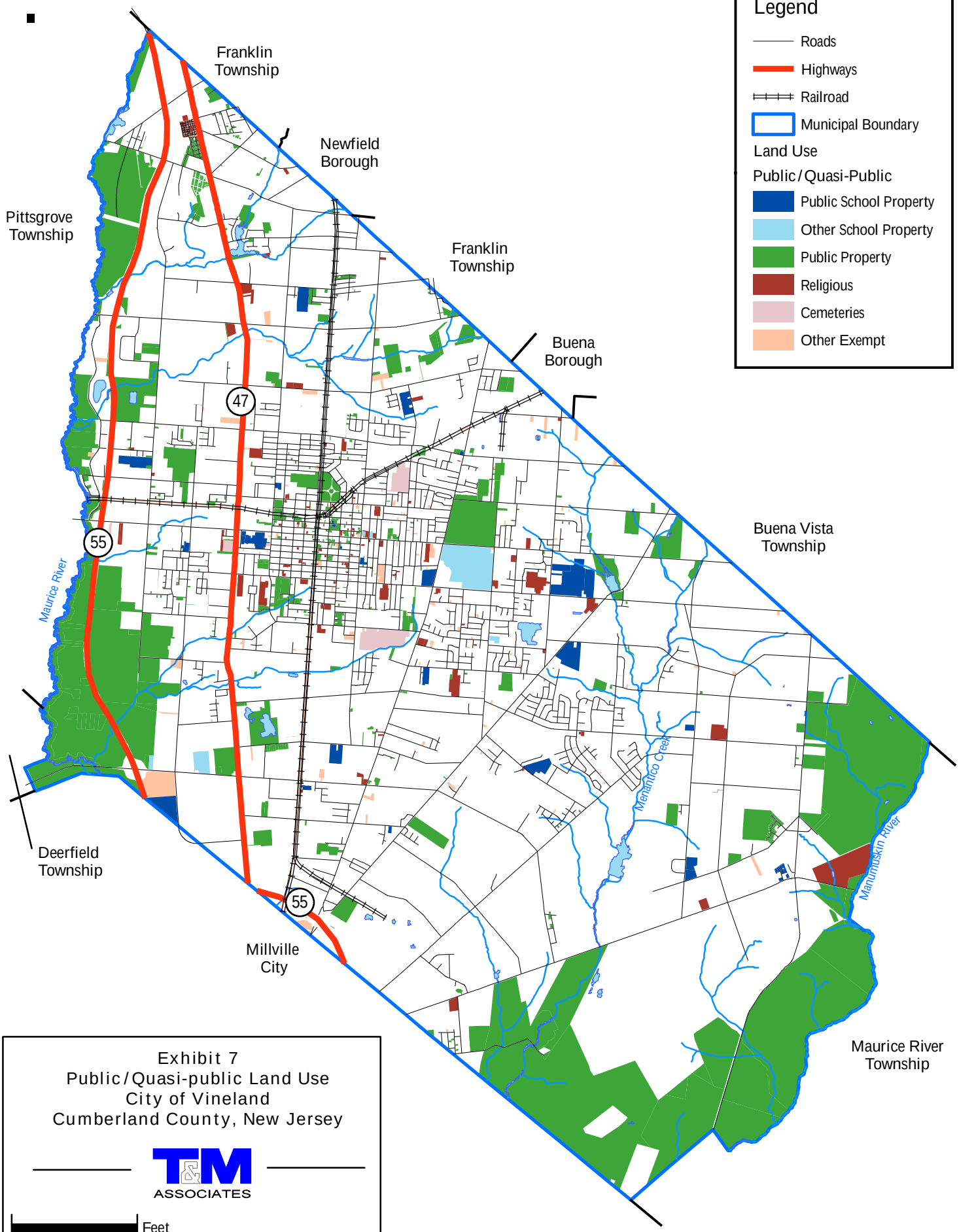

Exhibit 7
Public/Quasi-public Land Use
City of Vineland
Cumberland County, New Jersey

TM ASSOCIATES

0 3,750 7,500 Feet

August 2006

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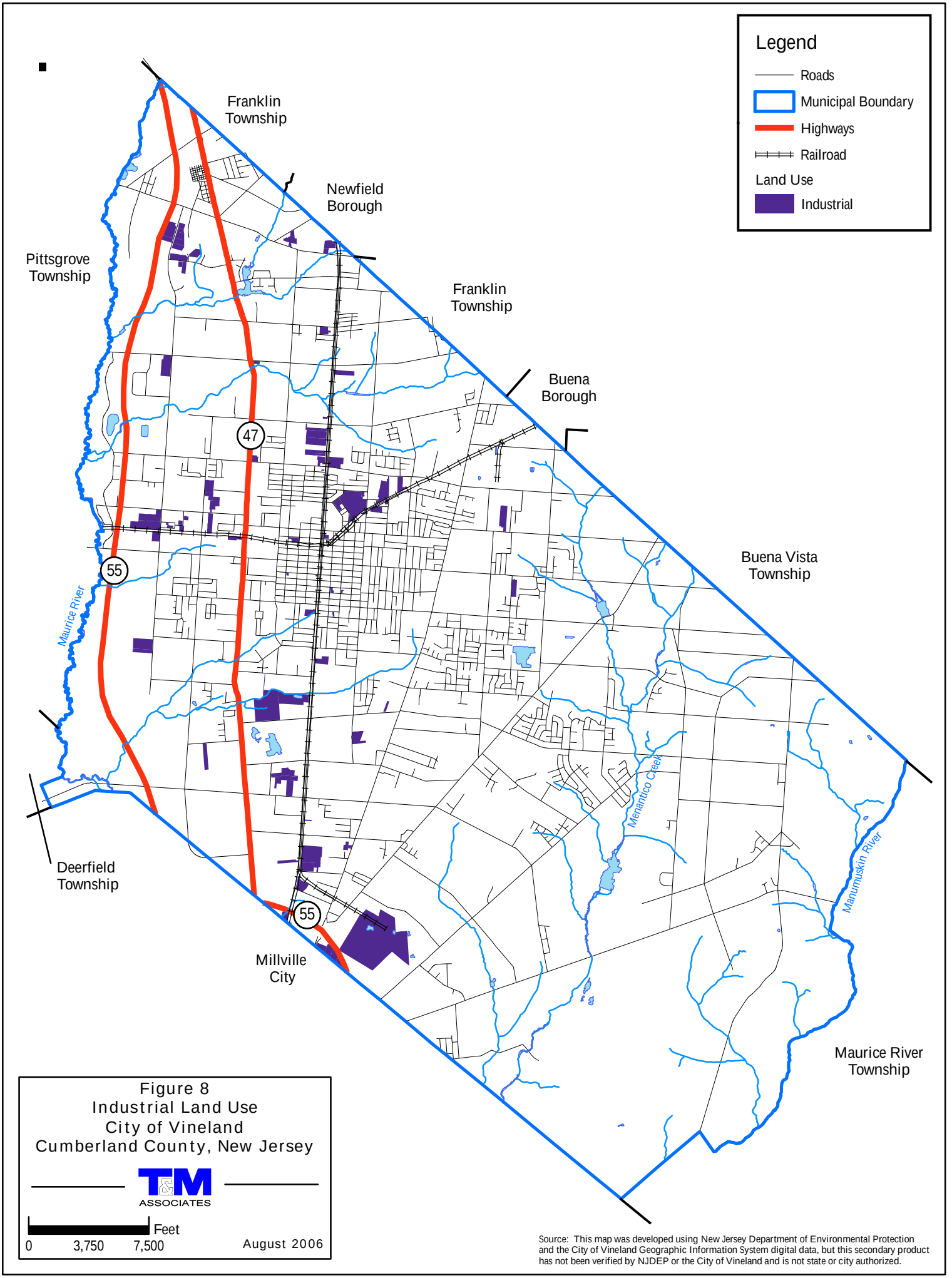

Figure 8
Industrial Land Use
City of Vineland
Cumberland County, New Jersey

T&M ASSOCIATES

0 3,750 7,500 Feet

August 2006

Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.

VACANT LAND AND FARMLAND

Vacant unimproved land and farmland account for 14,907 acres or 33.7 percent of the total land in the City as follows:

1. Vacant-Private - Vacant-private land totals 5,000 acres and account for 33.5 percent of the undeveloped land and 11.3 percent of the total land in Vineland.

2. Farm - Farmland in Vineland consists of 9,907 acres and comprises 66.5 percent of the undeveloped land. Farmland accounts for 22.4 percent of Vineland's total land area. Farmland does not include the 343 acres of preserved farmland that has been preserved by a fee simple deed or easement. However, included within the 9,907 acres are areas identified in the tax assessor's database as both farm 'regular' and farm 'qualified'. These properties contain both a farm and farmhouse. In many instances the farm house was apart of lots containing land that is tilled.

EXISTING LAND USE TABLE AND MAP

Figure 10, Existing Land Use, provides a breakdown of land uses by acreage and by percentage of developed or undeveloped land by major category and subcategory. Figure 9 is a map of the information shown on Figure 10.

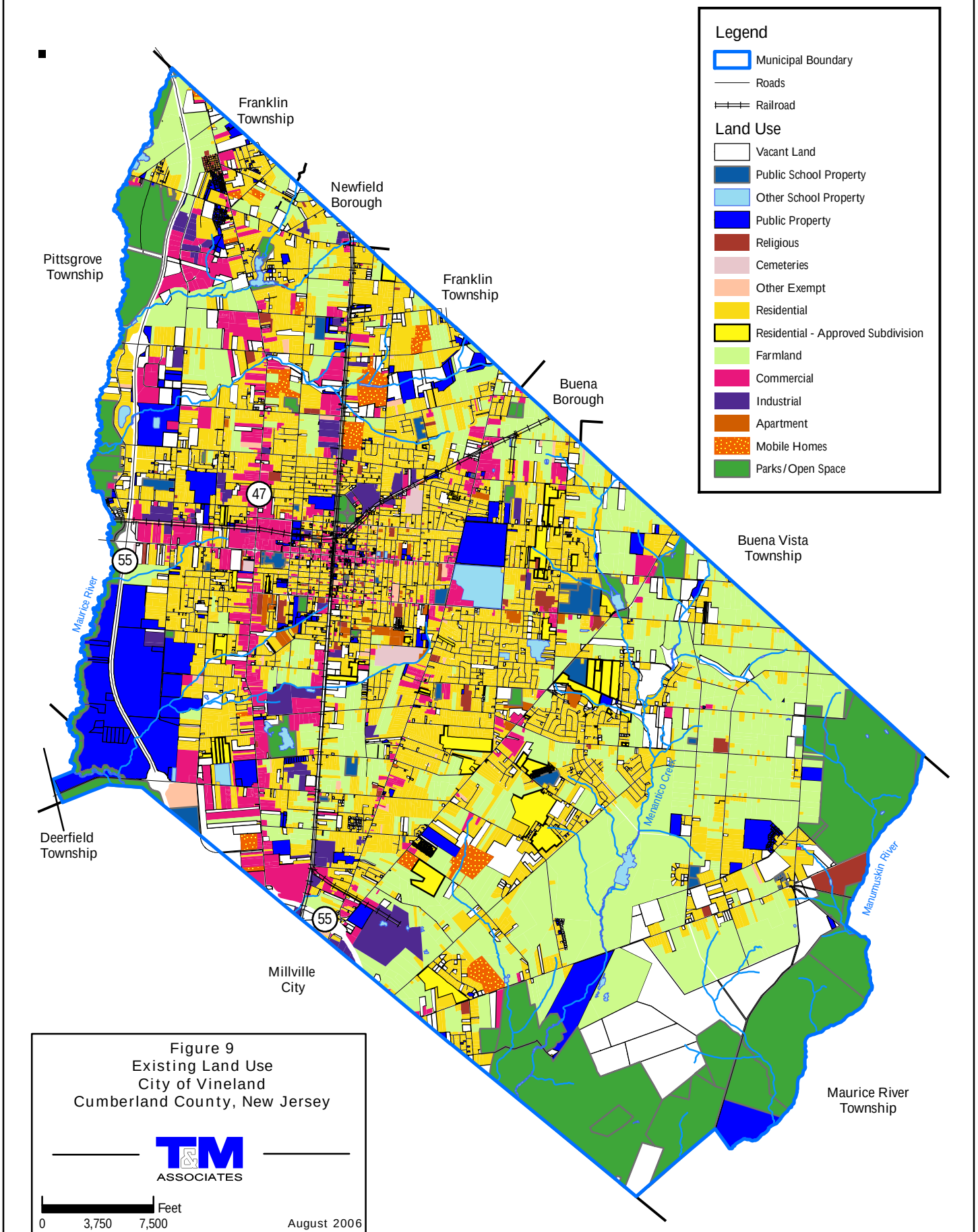

Figure 9
Existing Land Use
City of Vineland
Cumberland County, New Jersey

T&M ASSOCIATES

0 3,750 7,500 Feet

August 2006

Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.

Figure 10
Existing Land Use by Type
City of Vineland

	Acres	Percent of Developed Land	Percent of Total Land
DEVELOPED LAND			
Residential			
Residential	10,885	37.2%	24.6%
Approved Residential	885	3.0%	2.0%
Apartments	202	0.7%	0.5%
Mixed Use			
Mixed Use	451	1.5%	1.0%
Commercial			
Commercial	2,753	9.4%	6.2%
Public/Quasi-Public			
Houses of Worship	395	1.4%	0.9%
Cemetery	124	0.4%	0.3%
Schools	577	2.0%	1.3%
Public Property	3,073	10.5%	7.0%
Rights-of-Way	2,748	9.4%	6.2%
Other Exempt	241	0.8%	0.6%
Farm			
Preserved Farmland	343	1.2%	0.8%
Industrial			
Industrial	870	3.0%	2.0%
Parks/Open Space			
State Lands	3,906	13.4%	8.9%
Nature Conservancy	1,261	4.3%	2.9%
City of Vineland	530	1.8%	1.2%
TOTAL DEVELOPED	29,244	100%	66.2%

	Acres	Percent of Undeveloped Land	Percent of Total Land
UNDEVELOPED LAND			
Private			
Farmland	9,907	66.5%	22.4%
Vacant-Private	5,000	33.5%	11.3%
TOTAL UNDEVELOPED	14,907	100%	33.7%
TOTAL LAND AREA	**44,150**		

Totals and subtotals may not total due to rounding
Complied by T&M Associates
Sources: MODIV Tax Assessment Data from City of Vineland Geographic Information System (GIS)

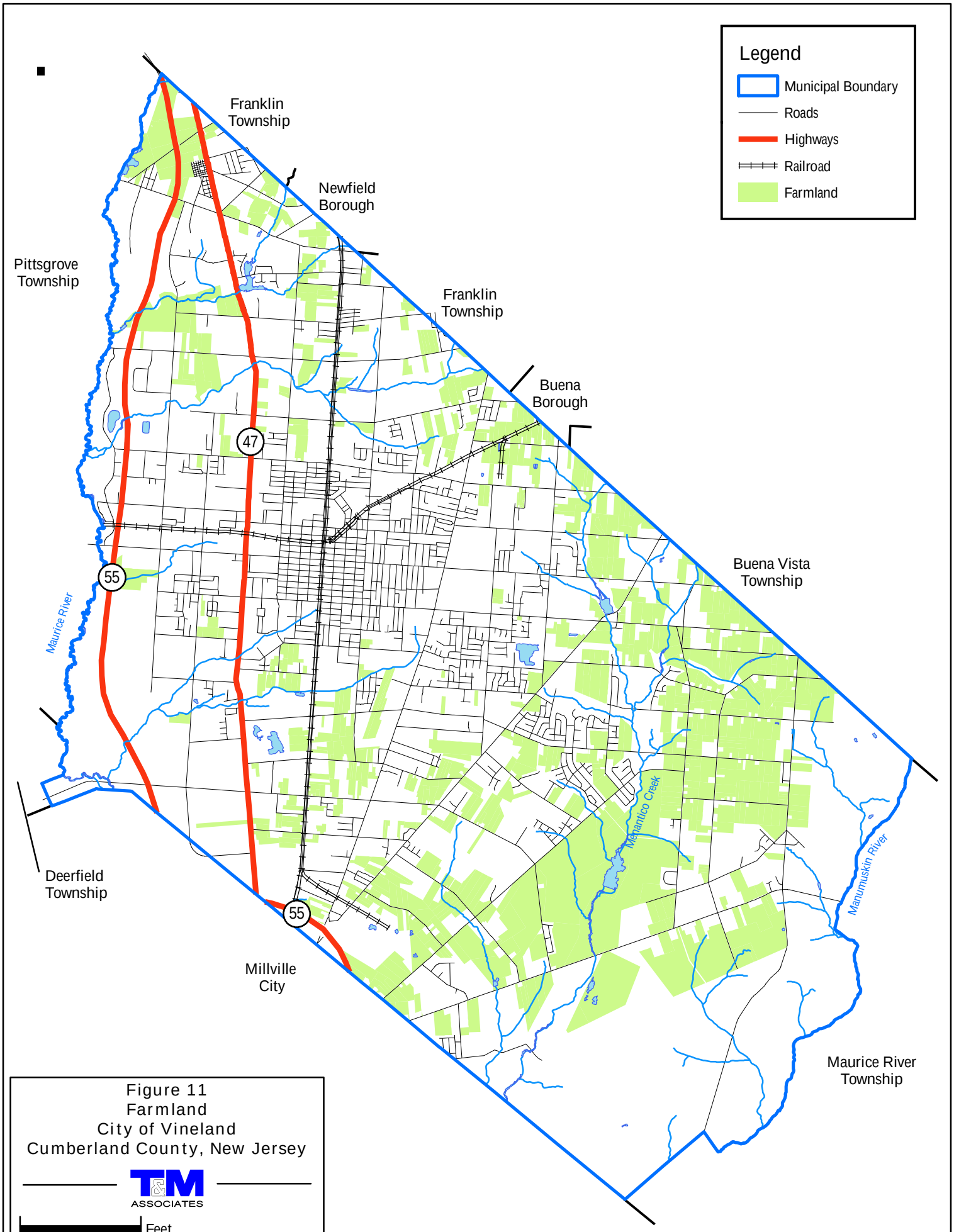

Figure 11
Farmland
City of Vineland
Cumberland County, New Jersey

T&M ASSOCIATES

0 3,750 7,500 Feet

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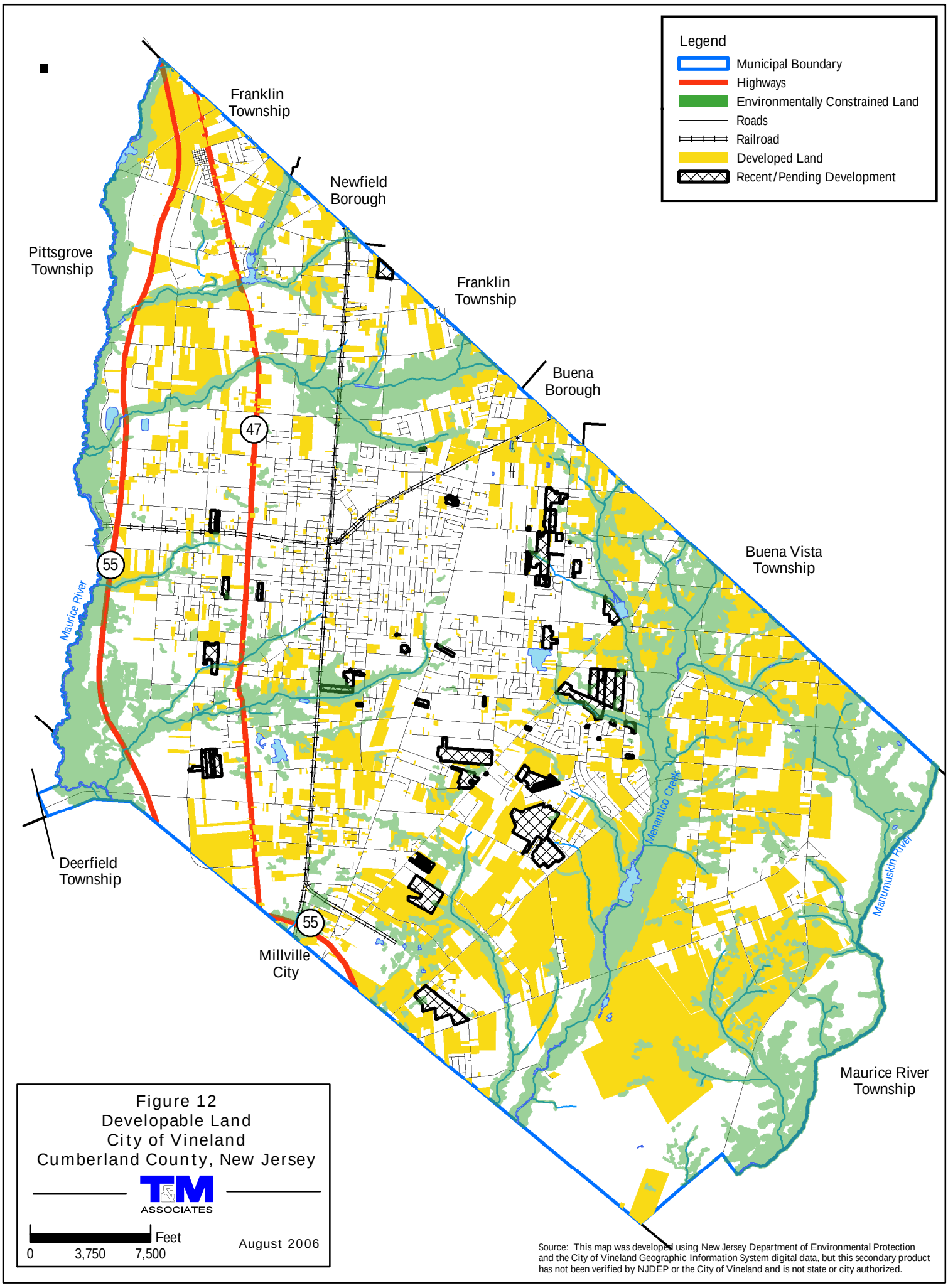

Legend
Municipal Boundary
Highways
Environmentally Constrained Land
Roads
Railroad
Developed Land
Recent/Pending Development
Franklin Township
Newfield Borough
Pittsgrove Township
Franklin Township
Buena Borough
47
55
Buena Vista Township
Maurice River
Menantico Creek
Manumuskin River
Deerfield Township
55
Millville City
Maurice River Township
Figure 12
Developable Land
City of Vineland
Cumberland County, New Jersey
T&M ASSOCIATES
Feet
0
3,750
7,500
August 2006
Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.

PINELANDS

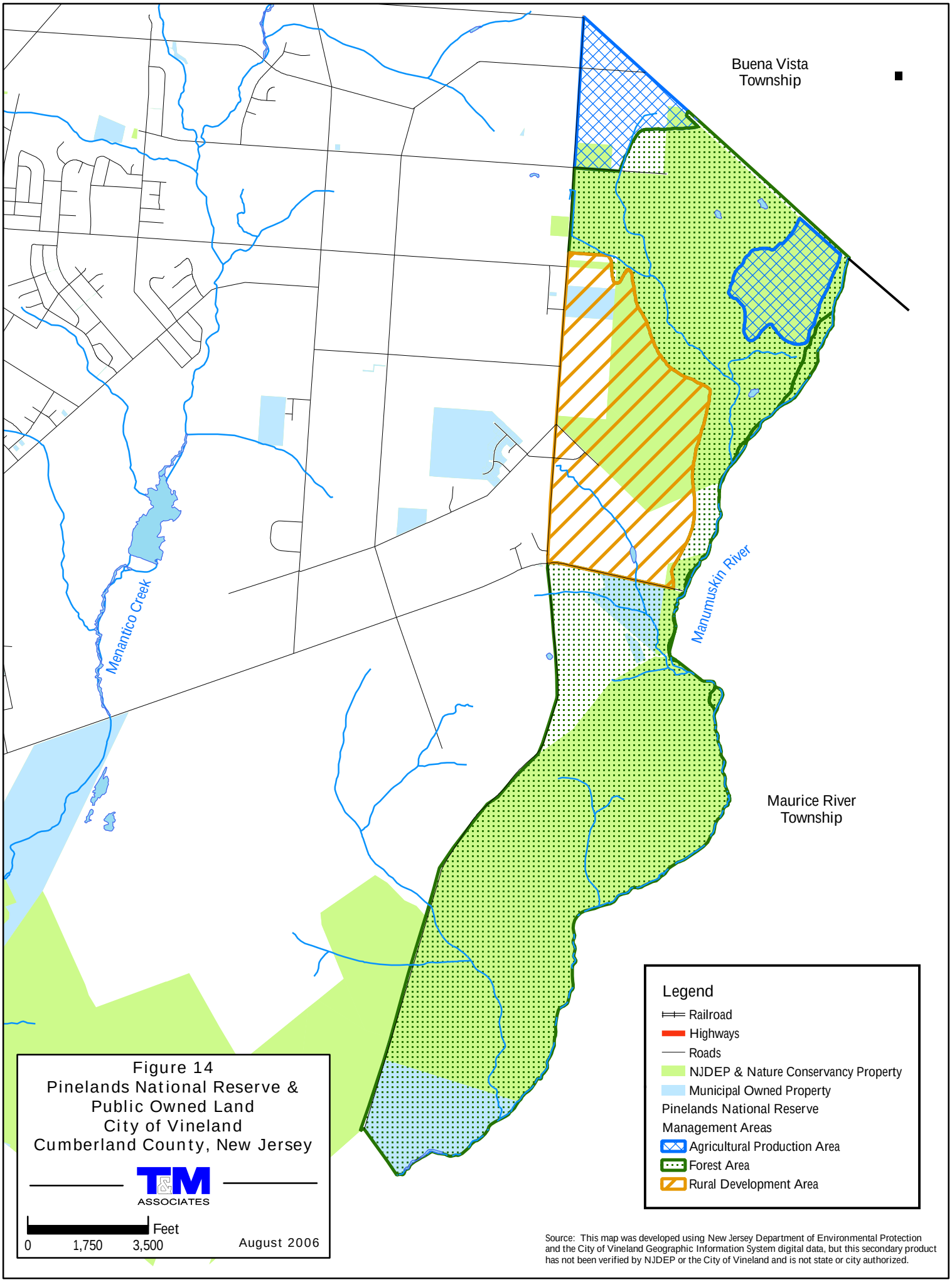
Approximately seven (7) percent of the City is located in the Pinelands Preserve comprising 3,237 acres or five (5) square miles. The majority, or 2,344 acres of the Pinelands within Vineland, are located in the Forest management area; 607 acres are located in the Rural Development management area; and 286 acres are located within the Agricultural Production Management Area. The following table identifies a breakdown of the Pinelands management areas by acreage and indicates preserved areas owned by NJDEP and the Nature Conservancy and acreage owned by the City.

Figure 13 Pinelands Management Area

Management Area	Total Acreage	Acreage Owned by NJDEP and the Nature Conservancy	Acreage Owned by the City	Remaining Acreage
Agricultural Production Area	286	149	0	137
Forest Area	2,344	1,887	213	244
Rural Development Area	607	271	25	311
Total	**3,237**	**2,307**	**268**	**692**

COMPOSITE ZONING

The City of Vineland contains thirty-four separate zoning districts. This includes the zone designations from the Center City Redevelopment Plan that was adopted on May 25, 2004. Given the number of zoning districts in the City, T&M created a composite zoning map to simplify the zoning evaluation. Figures 17 and 18 identify the composite zoning map and how each zoning district is classified on the composite map.


Buena Vista Township
Maurice River Township
Menantico Creek
Manumuskin River
Legend
Railroad
Highways
Roads
NJDEP & Nature Conservancy Property
Municipal Owned Property
Pinelands National Reserve
Management Areas
Agricultural Production Area
Forest Area
Rural Development Area
Figure 14
Pinelands National Reserve &
Public Owned Land
City of Vineland
Cumberland County, New Jersey
T&M ASSOCIATES
0
1,750
3,500
Feet
August 2006
Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.

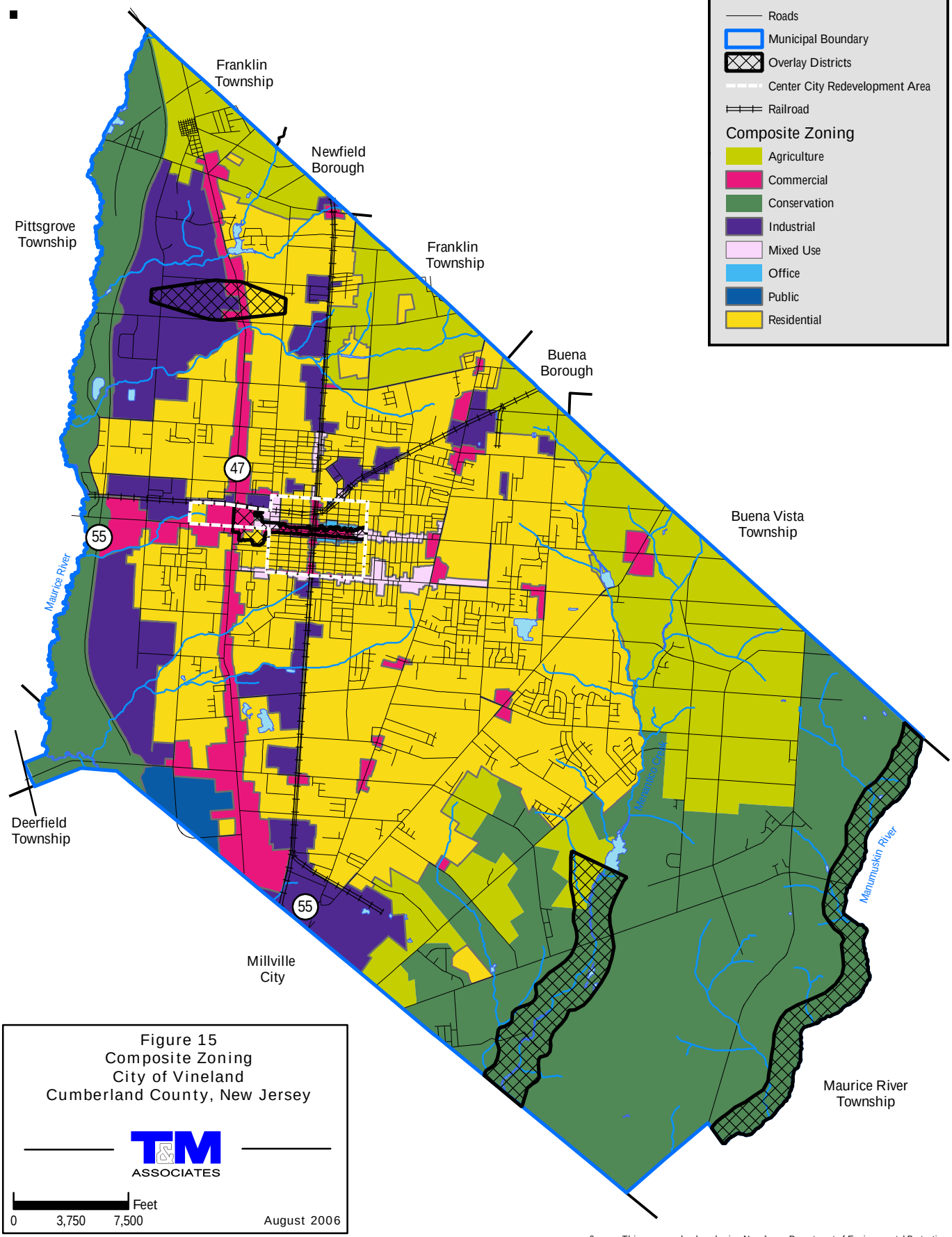


Figure 15
Composite Zoning
City of Vineland
Cumberland County, New Jersey

T&M ASSOCIATES

Feet
0 3,750 7,500

August 2006

Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.

Figure 16 – Composite Zoning District Table

Zoning District[1]	*Zoning District Name*	*Composite District*
A-5	Agricultural	Agriculture
A-6	Agricultural	Agriculture
ARR	*Age Restricted Residential District*	*Residential*
B-1	Business	Commercial
B-2	Business	Commercial
B-3	Business	Commercial
B-4	Business	Commercial
CPO	*Civic and Professional Office District*	*Office*
EG	*East Gate Mixed Use District*	*Mixed Use*
I-1	Industrial	Industrial
I-2	Industrial	Industrial
I-3	Industrial	Industrial
I-4	Industrial	Industrial
I-B	Industrial – Business	Industrial
IN-1	Institutional	Public
LC	*Landis Avenue Commercial District*	*Commercial*
LMS	*Landis Avenue Main Street District*	*Commercial*
MHP	Mobile Home Park	Residential
NC	*Neighborhood Commercial*	*Commercial*
P-A	Pinelands Agricultural Production	Agriculture
P-F	Pinelands Forest	Conservation
P-R	Pinelands Rural Development	Conservation
PC	*Plaza Commercial District*	*Commercial*
Park/Green Space	*Park/Green Space*	*Public*
R	*Residential District*	*Residential*
R-1	Residential	Residential
R-2	Residential	Residential
R-3	Residential	Residential
R-4	Residential	Residential
R-B	Residential - Business	Mixed Use
R-P	Residential – Professional	Mixed Use
W-5	Woodlands	Conservation
W-6	Woodlands	Conservation
WW	*West Vineland Village Mixed-Use District*	*Mixed Use*

[1] Districts in italics are redevelopment zone districts

QUALIFIED FARMLAND

According to the City's GIS system, a total of 9,907 acres are classified as farmland. The following table, indicates the amount of existing farmland within the composite agricultural, commercial, conservation, industrial, mixed-use, office and public zone districts.

Figure 17 - Accessed Farmland by Composite Zoning District

Composite Zone District	Total Area (acres)	Percent of Total Area	Farmland Area (acres)	Percent of Farmland Area
Agriculture	7,687	17.4%	4,116	41.5%
Commercial	2,204	5.0%	166	1.6%
Conservation	13,653	30.9%	2,926	29.5%
Industrial	4,583	10.4%	606	6.1%
Mixed-use	323	0.7%	0	0%
Office	23	0.1%	0	0%
Public	337	0.8%	18	0.2%
Residential	15,339	34.7%	2,075	20.9%
Total	**44,149**	**100.0%**	**9,907**	**100.0%**

According to Figure 19, almost 42 percent of existing farmland is zoned for agricultural purposes. Over 29 percent is zoned for conservation (low-intensity development), almost 21% is zoned residential and almost 6.1% is zoned industrial. The majority of all existing farmland is located within Prime agricultural soils as defined by the Natural Resource Conservation Service (NRCS).

STATE PLAN

The City of Vineland is located within the Metropolitan (PA1), Suburban (PA2), Rural (4), Rural Environmentally Sensitive (4B), Environmentally Sensitive (PA5) State Park and Pinelands planning areas as designated by the State Plan. The following table indicates the breakdown of each category.

Figure 18 - State Plan Designations		
State Plan Designation	**Area (acres)**	**Percent of Area**
Metropolitan	12,957	29.3%
Suburban	10,580	24.0%
Rural	7,664	17.4%
Rural/Environmentally Sensitive	5,945	13.5%
Environmentally Sensitive	3,239	7.3%
Pinelands	2,316	5.2%
State Park	1,450	3.3%
Total	**44,151**	**100.0%**

STATE PLAN DESIGNATIONS IN COMPARISON TO COMPOSITE ZONING

Agriculture Composite District

The following table indicates the amount of agricultural zoned land (composite zoning) in each State Development and Redevelopment Plan Planning Area (PA).

Metropolitan	0
Suburban	325
Rural	5,447
Rural/Environmentally Sensitive	1,108
Environmentally Sensitive	766
Pinelands	4
State Park	4
Total	**6,896**

Commercial Composite District

The following table indicates the amount of commercial zoned land (composite zoning) in each State Development and Redevelopment Plan Planning Area (PA).

Metropolitan	1,235
Suburban	961
Rural	7
Rural/Environmentally Sensitive	0
Environmentally Sensitive	0
Pinelands	0
State Park	0
Total	**2,203**

Conservation Composite District

The following table indicates the amount of land zoned for conservation (composite zoning) in each State Development and Redevelopment Plan Planning Area (PA).

Metropolitan	0
Suburban	*1,153*
Rural	1,583
Rural/Environmentally Sensitive	320
Environmentally Sensitive	5,058
Pinelands	3,216
State Park	2,293
Total	**13,623**

Industrial Composite District
The following table indicates the amount of industrially zoned land (composite zoning) in each State Development and Redevelopment Plan Planning Area (PA).

Metropolitan	1,190
Suburban	3,346
Rural	44
Rural/Environmentally Sensitive	0
Environmentally Sensitive	0
Pinelands	0
State Park	0
Total	**4,580**

Mixed-Use Composite District
The following table indicates the amount of mixed-use zoned land (composite zoning) in each State Development and Redevelopment Plan Planning Area (PA).

Metropolitan	323
Suburban	0
Rural	0
Rural/Environmentally Sensitive	0
Environmentally Sensitive	0
Pinelands	0
State Park	0
Total	**323**

Office Use Composite District
The following table indicates the amount of land zoned for office (composite zoning) in each State Development and Redevelopment Plan Planning Area (PA).

Metropolitan	23
Suburban	0
Rural	0
Rural/Environmentally Sensitive	0
Environmentally Sensitive	0
Pinelands	0
State Park	0
Total	**23**

Public Use Composite District
The following table indicates the amount of publicly zoned (composite zoning) in each State Development and Redevelopment Plan Planning Area (PA).

Metropolitan	7
Suburban	328
Rural	0
Rural/Environmentally Sensitive	0
Environmentally Sensitive	0
Pinelands	0
State Park	0
Total	**335**

Residential Use Composite District
The following table indicates the amount of residentially zoned land (composite zoning) in each State Development and Redevelopment Plan Planning Area (PA).

Metropolitan	7,803
Suburban	6,843
Rural	572
Rural/Environmentally Sensitive	21
Environmentally Sensitive	99
Pinelands	0
State Park	0
Total	**15,338**

APPENDIX A – VINELAND DEMOGRAPHICS REPORT

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Project Technical Memorandum

To: Richard Cramer, T&M Associates
From: Jeffrey Donohoe
Subject: Report - Vineland Demographics
Date: May 20, 2005

Introduction

This Technical Memorandum has been prepared as part of the Master Plan update for the City of Vineland. In preparing this Technical Memorandum, the consultants relied upon a variety of public and proprietary data sources. This market analysis is meant to be a narrative on the demographic and socioeconomic conditions of the City of Vineland as compared to the Cumberland County and the State of New Jersey. Insight and information was derived from the U.S Census Bureau, U.S. Department of Commerce Bureau of Economic Analysis, U.S. Department of Housing and Urban Development, US Department of Agriculture, The American Community Survey, New Jersey Council of Economic Advisors, Department of Labor and Workforce Development for the State of New Jersey, and municipal, county and state government websites.

Population

During the 1990s, the City of Vineland grew at a rate that was somewhat slower than the County and the State. New Jersey as a whole grew more than three times the rate of Vineland. In addition, Cumberland County grew more than twice as much as the City of Vineland. Although Vineland is the population center for the County, the more rapid growth rate of the County suggests that in-migrants are moving to smaller communities in the County.

Table 1
Population Trends
1990 – 2005

				% Change	
	1990	**2000**	**2005**	**90 - 00**	**00 - 05**
Vineland	54,780	56,271	58,372	2.7%	3.7%
Cumberland	138,053	146,438	151,111	6.1%	3.2%
New Jersey	7,730,188	8,414,530	8,739,161	8.9%	3.9%

Source: U.S. Census and Claritas

Since 2000, Vineland's growth rate has increased. In fact, the growth rate for the past five years exceeds the growth rate of the prior decade. Vineland added just over 1,500 residents during the 1990s, but is estimated to have added more than 2,100 residents since the year 2000. Since 2000, Vineland has accounted for almost 45% of the population growth within Cumberland County.

This is a stark contrast to the 1990s, when Vineland accounted for less than 18% of the County's population growth.

It is interesting to note that the 2000 population figures for Vineland are much lower than envisioned in the City's existing Master Plan, prepared in the late 1980s. Table 2.1.2 of the Master Plan anticipated a gain of 5,200 people through 2000, which would have brought the population to almost 60,000 in 2000, well above the 2000 Census, which estimated the population to be 56,271.

Despite the recent increase in Vineland's population growth rate, the City continues to lag the State in terms of population increases. As shown in Table 1, the City's population is estimated to have grown by 3.7% over the past five years, while the State has grown by an estimated 3.9%.

Sex and Age

Table 2 below provides an overview of the gender breakdown for the City, County and State. As shown in Table 2, the distribution was very similar in 19990. Women accounted for approximately 51% to 52% of the population throughout New Jersey, including the City of Vineland. However, by 2000, there was a marked shift in Cumberland County's gender breakdown, as men outnumbered women for the first time. This is assumed to be related to the opening of the Southern Woods State Prison in 1997. When the facility was opened, it was the State's largest correctional facility. In 205, the facility has a population of more than 3,300. is similar across the board in all three geographies. The uneven growth percentages from the three examples still did not change the genetic makeup as a whole.

Table 2
Population Trends
Age and Sex, 1990 – 2005

	Vineland			Cumberland County			New Jersey		
Sex	***1990***	***2000***	***2005***	***1990***	***2000***	***2005***	***1990***	***2000***	***2005***
Male	25,826	27,020	28,101	67,789	74,725	77,323	3,735,685	4,077,993	4,254,488
Female	28,954	29,251	30,271	70,264	71,713	73,788	3,994,503	4,336,357	4,484,673
Age									
Under 5	3,915	3,294	3,916	10,125	8,848	10,290	532,637	558,082	567,261
5 to 24	15,958	15,644	16,111	39,870	40,691	41,712	2,046,009	2,198,469	2,323,268
25 to 44	16,603	16,635	16,108	42,920	46,114	44,669	2,557,310	2,638,465	2,481,792
45 to 54	5,775	7,617	8,194	14,182	19,215	20,391	843,009	1,157,141	1,297,412
55 to 59	2,403	2,875	3,387	6,030	7,139	8,247	355,677	418,537	511,796
60 to 64	2,407	2,390	2,617	6,269	5,532	6,464	363,521	330,621	401,836
65 to 74	4,400	3,949	3,965	10,967	9,705	9,601	610,192	577,441	576,028
75 to 84	2,570	2,744	2,968	6,016	6,853	7,085	326,286	402,193	417,647
85 +	749	1,123	1,196	1,674	2,341	2,652	95,547	133,401	162,121
Total	54,780	56,271	58,464	138,053	146,438	151,111	7,730,188	8,414,350	8,739,161
Over 55	12,529	13,081	14,135	30,956	31,570	34,049	1,751,223	1,862,193	2,069,428
% Change		4.41%	8.06%		1.98%	7.85%		6.34%	11.13%

Source: U.S. Census Bureau and Claritas

While the gender breakdown has not shifted significantly over the past 15 years (with the exception of the new prison), there has been a significant shift in the age distribution of the population. The aging of the "baby boom" generation is having a significant impact. As these individuals continue towards retirement age, there will be increased demands for social and health services. Although the number of residents over age 55 in Vineland grew by just 4.4% during the 1990s, the City has almost doubled that growth rate during the past five years. This is similar to the experience of the State, which saw its over-55 population grow by 6.3% during the 1990s, but by more than 11.1% in the past five years. The increase in the growth rate of the 55-and-over population has been most pronounced at the County level, where the growth rate of 2% during the 1990s has almost quadrupled during the past five years.

The aging of the baby boomers has not gone unnoticed by the development community. Developers are aggressively pursuing age-restricted development throughout New Jersey, in an effort to capture this predominantly affluent segment of the market. In addition, many communities are welcoming this type of development, due to the perception that age-restricted developments have much lower fiscal impacts than traditional family developments, due to the significantly lower number of school-aged children associated with age-restricted properties.

Population by Race

The State of New Jersey, Cumberland County and the City of Vineland continue to have a majority of whites. The City and County have a more diverse population base than the State. The City and County have 65.2% and 64.2% whites respectively, while the State is 70.6% white. Interestingly, Cumberland County has a significantly higher percentage of blacks, at 230.5%, than either the City or the State, at 14.4% and 13.7% respectively. The City of Vineland had experienced a significant increase in the number of blacks since 1990, which brought it more in line with the state's diversity level.

Table 3
Racial Distribution, 2005

	Vineland		Cumberland		New Jersey	
White	38,078	65.2%	97,002	64.2%	6,168,316	70.6%
Black	8,413	14.4%	31,047	20.5%	1,198,475	13.7%
American Indian	319	0.5%	1,262	0.8%	21,805	0.2%
Asian	740	1.3%	1,519	1.0%	576,775	6.6%
Pacific Islander	46	0.1%	81	0.1%	4,324	0.0%
Some Other Race	8,867	15.2%	15,740	10.4%	521,119	6.0%
Two or more races	1,909	3.3%	4,460	3.0%	248,347	2.8%

Source: U.S. Census and Claritas

Education

Table 4 provides a summary of the most recent estimates for educational attainment in the City, County and State. As shown in the Table, the City of Vineland has a substantially higher percentage of residents that did not finaish high school. In fact, almost one-third of Vineland residents did not finish high school, as copared to just 18% across the State. The County's drop-out rate is only slightly better than the City's, with 31.6% of residents not finishing high school. While the State average is 82% with a high school diploma (or equivalent), the City and County have 67.6% and 68.4% respectively. The City of Vineland and Cumberland County are also lagging behind the State in terms of higher education percentage of the population. Almost 30%

of residents across the State have a Bachelor's degree or higher, as compared to 14.1% for Vineland and just 11.7% for the County. These poor education levels could be an influencing factor in the future business opportunities for the region.

Table 4
Educational Attainment [1]

Level	Vineland	Cumberland	New Jersey
Less than 9th grade	14.27%	11.31%	6.62%
9th – 12th w/no diploma	18.19%	20.32%	11.34%
High School Graduate	32.19%	36.35%	29.41%
Some college, no degree	15.88%	15.66%	17.67%
Associate's degree	5.32%	4.71%	5.28%
Bachelor's degree	9.46%	8.00%	18.76%
Graduate or professional degree	4.70%	3.65%	10.92%
Percent High School graduate or higher	67.55%	68.37%	82.04%
Percent Bachelor's degree or higher	14.16%	11.65%	29.68%

[1]Population 25 years and over
Source: U.S. Census Bureau, American Community Survey, Claritas

Household Occupancy Characteristics

Vineland's housing sector has seen strong growth in the past five years. While the community gained approximately 1,200 households dureing the 1990s, almost 1,000 more have been added in the past five years. This is similar to the experience of the County, which has added approximately the same number of housing units during the past five years as it did during all of the 1990s. The State, which added 270,000 households during the 1990s, has only added 130,000 households over the past five years. This indicates that more of the housing growth is occurring in the Cumberland County and Vineland areas than occurred during the 1990s. It is significant to note that while Vineland accounted for more than half of the new households in the County during the 1990s, the City has accounted for less than half of the County's new households during the past five years.

Given the region's improved infrastructure and a centralized location, growth is expected to continue and possibly accellerate. Vineland's proximity to several major arterials will most likely continue to see commuters relocating to the quality of life offered in this area. With Philadelphia a short 40 miles awayVineland is a very attractive commuter location as housing prices continue to rise throughout the country.

Housing Occupancy Types and Totals

	Vineland			Cumberland			New Jersey		
	1990	2000	2005	1990	2000	2005	1990	2000	2005
Occupied Housing Units	18,732	19,930	20,890	47,118	49,143	51,169	2,794,711	3,064,645	3,193,376
Change (%)		6.40%	4.30%		4.30%	4.1%		9.70%	4.2%
% Owner Occupied	67.00%	66.3%	66.5%	68.5%	67.9%	68.3%	64.9%	65.6%	66.0%
% Renter Occupied	33.00%	33.7%	33.5%	31.5%	32.1%	31.7%	35.1%	34.4%	34.0%

Source: U.S. Census Bureau and Claritas

Housing

Although the City of Vineland is located at the northernmost portion of Cumberland County, it is essentially the population hub. The City of Vineland accounts for approximately forty percent (40%) of Cumberland County's households. With its direct access to Route 55, housing in Vineland has become ideal for commuters. In fact, over the past five years, Vineland's growth in households and housing units has exceeded the State and the County, as shown in Table 6.

While the quality of life is the primary explanation offered for relocating to Cumberland County, the cost of home ownership can not be overlooked. With continued infrastructure development, Southern New Jersey and Vineland in particular should see continued development of family housing.

While the median household income of Vineland is only about 72% of that of the state, home ownership is almost 50% less expensive, making home ownership more affordable for families. Additionally, the City of Vineland maintains a lower vacancy rate, only 4.9% in 2005, which is far below both the county and state vacancy rates. As the cost of housing continues to rise throughout the region, potential commuters will see the value in the combination of quality of life and cost of living along the Route 55 corridor. Vineland experienced significant housing development in the first decade after the opening of Route 55. However, with the benefits of housing development can come drawbacks. This region has a proud and rich agricultural history, but local farms are coming under increasing development pressure.

Selected 1990 and 2000 Census data is summarized in Table 6, together with estimates for 2005 from Claritas, for the City of Vineland, Cumberland County and the State of New Jersey. As noted above, the housing make-up of the region is very similar to that of the rest of the state with the exceptions in the significant differences in median household income and household values. However, median values at the State level have increased faster than values in Vineland and Cumberland County over the past five years, indicating that the region actually became more affordable, and likely more attractive to commuters, over the past five years. As the household income increases and the desire for more affordable housing rises, Vineland should see an influx of developers searching for large tracts of land.

Table 6
Selected Housing Characteristics

Vineland				
	1990	**2000**	**2005**	**Change 00 - 05**
Total Housing Units	19,548	20,958	21,962	4.8%
Occupied Housing Units	18,732	19,930	20,890	4.8%
% Owner Occupied	66.7%	66.3%	66.5%	0.2%
% Renter Occupied	33.3%	33.7%	33.5%	-0.5%
% Family Households	74.6%	72.0%	70.8%	-1.7%
% Non-Family Households	25.4%	28.0%	29.2%	4.3%
% Vacant	4.20%	4.90%	4.9%	-0.4%
Median Housing Value [1]	$ 83,600	$ 97,200	$ 137,000	40.9%
Median Rent ($) [2]	511	638	N/A	N/A
Median Household Income	$30,733	$40,076	$ 45,424	13.3%
Cumberland County				
	1990	**2000**	**2005**	**Change 00 - 05**
Total Housing Units	50,294	52,863	55,025	4.1%
Occupied Housing Units	47,118	49,143	51,169	4.1%
% Owner Occupied	68.5%	67.9%	68.3%	0.6%
% Renter Occupied	31.5%	32.1%	31.7%	-1.2%
% Family Households	74.2%	71.6%	71.1%	-0.6%
% Non-Family Households	25.8%	28.4%	28.9%	1.6%
% Vacant	6.30%	7.00%	7.0%	0.1%
Median Housing Value [1]	$ 73,900	$ 91,200	$ 131,333	44.0%
Median Rent ($) [2]	480	616	N/A	N/A
Median Household Income	$29,985	$39,150	$ 43,817	11.9%
New Jersey				
	1990	**2000**	**2005**	**Change 00 - 05**
Total Housing Units	3,075,310	3,310,275	3,449,597	4.2%
Occupied Housing Units	2,794,711	3,064,645	3,193,376	4.2%
% Owner Occupied	64.9%	65.6%	66.0%	0.6%
% Renter Occupied	35.1%	34.4%	34.0%	-1.1%
% Family Households	72.3%	70.7%	69.9%	-1.1%
% Non-Family Households	27.7%	29.3%	30.1%	2.8%
% Vacant	9.10%	7.40%	7.4%	0.4%
Median Housing Value [1]	$ 162,300	$ 170,800	$ 270,984	58.7%
Median Rent ($) [2]	$592	$751	N/A	N/A
Median Household Income	$40,927	$55,146	$ 63,243	14.7%

[1] Specified owner-occupied units
[2] Specified renter-occupied units
Source: U.S. Census Bureau

Housing Costs

As discussed earlier, as this community becomes more attractive to commuters, housing values will continue to rise. The City of Vineland and Cumberland County saw a significant increases in value during the past five years, though values increased more rapidly at the State level. Values in all three increased at a faster rate than inflation over the past five years, indicating real increases in value.

Despite recent price increases in the City of Vineland and Cumberland County, the region is still considered to be very afforadbale as compared with the rest of the State. Over the 1990 through 2005 time period, value increases ranged from 64% to 78%. Vineland experienced the lowest rate of growth, with median housing values increasing 64% over the 15 year period. Over the same period, the median for the State increased by 67%, while the median in Cumberland County increased by almost 78%.

Table 7
Housing Values

	Vineland			***Cumberland***			***New Jersey***		
	1990	*2000*	*2005*	*1990*	*2000*	*2005*	*1990*	*2000*	*2005*
Median Housing Value ($) [1]	$83,600	$97,200	$137,000	$73,900	$91,200	$131,333	$162,300	$170,800	$270,984
Change (%)		16.3%	40.9%		23.4%	44.0%		5.2%	58.7%
Median Rent ($) [2]	$511	$638	N/A	$480	$616	N/A	$592	$751	$856

[1] Specified owner-occupied units
[2] Specified renter-occupied units
Source: U.S. Census Bureau, Claritas

Income

Table 8 below provides a summary of the distribution of households by income levels in Vineland and the County. The Table compares income levels in 1999 with oncome levels in 204. As shown in the Table, there has been a significant increase in the number of households earning $75,000 or more annually. In particular, Vineland's households earning more than $100,000 increased by almost 50% over the five year period. Vineland also experienced an increase in the number of households in the middle income range of $35,000 to $49,999. The County experienced growth in all income brackets earning more than $35,000, although the strongest growth was in households earning more than $100,000, which increased by more than 50%.

Table 8						
Distribution of Households by Income 1990-2000						
City of Vineland						
	1999		**2004**		**Change 99 – 04**	
	Households	% of Total	Households	% of Total	#	%
Less than $15,000	3,378	17.0%	3,035	14.5%	(343)	-10.2%
$15,000 - $24,999	2,636	13.3%	2,491	11.9%	(145)	-5.5%
$25,000 - $34,999	2,663	13.4%	2,508	12.0%	(155)	-5.8%
$35,000 - $49,999	3,236	16.3%	3,469	16.6%	233	7.2%
$50,000 - $74,999	4,211	21.2%	4,070	19.5%	(141)	-3.3%
$75,000 - $99,999	1,812	9.1%	2,415	11.6%	603	33.3%
$100,000 - $149,999	1359	6.8%	2,036	9.7%	677	49.8%
Greater than $150,000	581	2.9%	866	4.1%	285	49.1%
Total	**19,876**	**100.0%**	**20,890**	**100.0%**	**1,014**	**5.1%**
Cumberland County						
	1999		**2004**		**Change 99 – 04**	
	Households	% of Total	#	#	#	%
Less than $15,000	8,853	18.0%	8,109	15.8%	(744)	-8.4%
$15,000 - $24,999	6,721	13.7%	6,315	12.3%	(406)	-6.0%
$25,000 - $34,999	6,532	13.3%	6,231	12.2%	(301)	-4.6%
$35,000 - $49,999	8,279	16.9%	8,386	16.4%	107	1.3%
$50,000 - $74,999	9,947	20.3%	10,025	19.6%	78	0.8%
$75,000 - $99,999	4,716	9.6%	5,844	11.4%	1,128	23.9%
$100,000 - $149,999	2962	6.0%	4,608	9.0%	1,646	55.6%
Greater than $150,000	1086	2.2%	1,651	3.2%	565	52.0%
Total	**49,096**	**100.0%**	**51,169**	**100.0%**	**2,073**	**4.2%**
Source: U.S. Census Bureau, Claritas						

Poverty Level

Despite the progress is being made at the upper income levels, there are still a significant number of individuals living below the poverty level in the City, County and State. Table 9 summarizes poverty data from the 1990 and 2000 Census. As shown, Cumberland County has a higher poverty rate than the City of Vineland, and both the City and the County are well above the average for the State.

While updated data is not available for the City and County, the Census has updated the State data through 2003, which shows a small increase in the number of individuals living in poverty. Preliminary estimates for the State indicate a slight decline in the poverty rate during the past five years.

APPENDIX B – VINELAND ECONOMIC BASE REPORT

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Project Technical Memorandum

To:	Richard Cramer, T&M Associates
From:	Jeffrey Donohoe
Subject:	Draft Report - Vineland Economic Base
Date:	May 20, 2005

Introduction
This Technical Memorandum has been prepared as part of the Master Plan update for the City of Vineland. In preparing this Technical Memorandum, the consultants relied upon a variety of public and proprietary data sources. These data sources include:

The U.S. Census;
The U.S. Bureau of Labor Statistics;
The U.S. Bureau of Economic Analysis;
The New Jersey Department of Labor; and
Claritas, a private demographic service.

The remainder of this Technical memorandum evaluates recent changes in the Vineland labor force, population base, worker class, distribution of employment by industry, educational attainment and other relevant trends. In addition, information regarding the employment and unemployment rates and trends is also included.

Location
The City of Vineland is located in the Delaware Bay Region in southern New Jersey. Vineland is significantly larger than any other city or township in Cumberland County. The State Capital, Trenton is seventy (70) miles to the North. Vineland is bounded by Gloucester County to the North, Atlantic County to the East, Maurice River Township to the Southeast, the City of Millville to the South, Deerfield Township to the Southwest and Salem County to the West.

The key infrastructure for regional access is State Route 55, which opened in 1989. Route 55 provides access to the entire Northeast Economic Region via Interstates 295, 95, and 79, the New Jersey Turnpike and the Atlantic City Expressway. Vineland's proximity to these highway systems will allow the growth of industry and housing, even attracting commuters to Philadelphia. It is less than two-and-a-half hours to Washington D.C., and only two hours to New York City. Perhaps more importantly to the economic endurance of this area is the access to the Delaware waterways and the Philadelphia International Airport (34 miles). The distribution capabilities for the agriculture industry in this region is vital to its economic stability, and Route 55 will provide that for years to come.

Distance from City of Vineland (miles)

Philadelphia	40
Wilmington, DE	44
Trenton, NJ	70
New York, NY	125
Baltimore, MD	110
Washington, D.C.	152

Source: mapquest.com

Labor Force Characteristics and Trends

The population growth in the City of Vineland was minimal between 1990 and 2000 Census. Its 2.7% growth over the decade was well below the county and state average, which experienced increases of 6.1% and 8.9% respectively. Population estimates for 2003 show that while Vineland's population has continued to increase, both the County and the State continue to grow at a faster rate. As outlined in Table 1 below, Vineland experienced an increase in its labor force during the 1990s, in contrast to the County, which experienced a reduction in its labor force. Vineland's labor force also grew more rapidly (3.2%) that the State's (2.4%) during the 1990s. However, through 2003, the New Jersey Department of Labor and Workforce Development, the Vineland workforce declined slightly through 2003, while the County and State experienced growth of 3.3% and 4.6% respectively.

Despite an essentially level workforce from 2000 through 2003, employment in Vineland has increased, Between 2000 and 2003, employment increased by more than 1,100 jobs. The net effect of this increase in employment was a sharp decline in the unemployment rate, which fell from 10.7% in 2000 to 6.5% in 2003. In 2003, Vineland's unemployment rate was below the County's, which stood at 6.7%. However, both the City and the County unemployment rates were well above the State's rate of 4.3% in 2003.

Table 1
Population and Labor Force Trends

Vineland	*1990*	*2000*	*'03*
Population	54,780	56,271	57,057
Labor Force	26,743	27,593	27,550
Employed	24,812	24,633	25,754
Unemployed	1,931	2,960	1,796
Unemployment Rate	7.2	10.7	6.5
Cumberland			
Population	138,053	146,438	149,306
Labor Force	65,830	65,614	67,801
Employed	60,937	59,129	63,250
Unemployed	4,893	6,485	4,551
Unemployment Rate	7.4	9.9	6.7
New Jersey			
Population	7,730,188	8,414,350	8,642,412
Labor Force	4,104,673	4,204,393	4,397,000
Employed	3,868,698	3,950,029	4,207,700
Unemployed	235,975	243,116	189,300
Unemployment Rate	5.7	5.8	4.3

Source: US Census 1990 & 2000, NJ Department of Labor

In the City of Vineland, private wage and salary workers actually grew during the Census period of the 1990s, while the number of self-employed fell significantly. Of note, both the City of Vineland and Cumberland County experienced an increase in the number of those employed by the government, while the state as a whole had some 14,000 government jobs eliminated, as detailed in Table 2 below.

Worker Class Trends were not updated at the municipal and county levels. However, the American Community Survey has published percentage numbers at the state level. The numbers represent a consistent pattern continuing in the worker class divisions.

Table 2

Worker Class Trends

	Vineland		***Cumberland***		**New Jersey**		
Class of Worker	*1990*	*2000*	*1990*	*2000*	*1990*	*2000*	*2003*
Private wage/salary workers	18,392	18,573	45,641	43,850	3,092,714	3,193,469	
(%)	74.1%	75.4%	74.9%	74.2%	79.9%	80.8%	80.0%
Government workers	4,717	4,825	11,729	12,112	564,788	550,441	
(%)	19.0%	19.6%	19.2%	20.5%	14.6%	13.9%	14.8%
Self-employed workers	1,573	1,211	3,265	3,031	198,651	197,664	
(%)	6.3%	4.9%	5.4%	5.1%	5.1%	5.0%	5.0%
Unpaid family workers	130	24	302	136	12,545	8,455	
(%)	0.5%	0.1%	0.5%	0.2%	0.3%	0.2%	0.2%
Total	24,812	24,633	60,937	59,129	3,868,698	3,950,029	
Change (#, %)	-179	-0.7	-1,808	-3	81,331	2.1	

Source: U.S. Census Bureau, American Community Survey 2003

During the 1990s, there was a minimal increase in jobs for the State of New Jersey and a decrease in Cumberland County and the City of Vineland, in turn there was also a noticeable shift in the industries in which workers were employed. In 1990, the largest percentage of the civilian labor force in all three geographies was employed in the manufacturing sector, which accounted for 21.4% of the employed labor force in Vineland, 22.5% in Cumberland County, and 16.9% in the entire State of New Jersey. By 2000, all three study areas had experienced a significant loss in the manufacturing sector, as shown in Table 3 below. In contrast, there was significant growth in the service sectors of education, health and social services, arts and entertainment.

Over the past three years, the New Jersey Department of Labor and Workforce Development (NJDOL) indicates that employment in Vineland has increased by approximately 10%, with notable gains manufacturing, retail trade and public administration. Despite the increase in the number of manufacturing jobs over the past three years, manufacturing declined in terms of its percentage of civilians workers, falling to just 15.8% of all jobs in Vineland. This is consistent with the experience of the State, which saw its manufacturing employment base fall to just 10% in 2003, according to NJDOL. Figures have not been released for all of Cumberland County or the State. The addition of the South Regional Hospital in Vineland is expected to increase the employment in the service sectors even further.

The trade sectors (wholesale and retail) was inconsistent across the three areas during the 1990s. Vineland and the State experienced declines in both wholesale and retail trade during the 1990s, though preliminary 2003 data for Vineland show a significant increase in the retail trade sector for 2003. Cumberland County experienced a significant increase in retail trade employment during the 1990s, and NJDOL projects that that trend has continued through 2003. There has been a spike in new retail construction throughout Cumberland County which is expected to create further employment growth to retail and construction sectors.

Table 3
Trends in Distribution of Civilian Workers by Industry [1]

	Vineland			*Cumberland*			*New Jersey*		
Industry	***1990***	***2000***	***2003****	***1990***	***2000***	***2003****	***1990***	***2000***	***2003****
Agriculture, et al	594	598	504	1,750	1,491	1,341	45,227	12,618	N/A
Construction	1,704	1,475	1,735	3,785	3,359	2,548	231,328	220,817	N/A
Manufacturing	5,328	4,239	4,405	13,725	10,819	9,634	653,436	472,684	N/A
Wholesale Trade	977	952	895	3,474	2,065	2,054	207,413	173,166	N/A
Retail Trade	3,549	2,714	4,759	2,287	6,549	8,367	587,969	447,346	N/A
Trans., Comm.., Utilities	1,280	1,029	1,325	8,585	3,193	2,085	332,879	234,801	N/A
Finance, Insurance, Real Estate	1,395	1,247	986	3,676	2,543	1,817	346,037	352,722	N/A
Education, Health & Social Svcs.	4,596	6,367	5,106	10,702	14,239	9,315	620,428	783,137	N/A
Arts, Entertainment, et al	633	1,887	1,870	1,366	4,136	3,412	66,807	271,864	N/A
Public Administration	1,178	1,344	4,012	3,896	4,400	N/A	180,469	179,481	N/A
Other Services	3,578	2,781	2,333	7,691	6,335	4,551	596,705	801,393	N/A
Total	24,812	24,633	27,930	60,937	59,129	incomp.	3,868,698	3,950,029	N/A
Agriculture, et al	2.4%	2.4%	1.8%	2.9%	2.5%	N/A	1.2%	0.3%	0.20%
Construction	6.9%	6.0%	6.2%	6.2%	5.7%	N/A	6.0%	5.6%	6.80%
Manufacturing	21.5%	17.2%	15.8%	22.5%	18.3%	N/A	16.9%	12.0%	10.80%
Wholesale Trade	3.9%	3.9%	3.2%	5.7%	3.5%	N/A	5.4%	4.4%	4.50%
Retail Trade	14.3%	11.0%	17.0%	3.8%	11.1%	N/A	15.2%	11.3%	11.00%
Trans., Comm., Utilities	5.2%	4.2%	4.7%	14.1%	5.4%	N/A	8.6%	5.9%	5.90%
Finance, Insurance, Real Estate	5.6%	5.1%	3.5%	6.0%	4.3%	N/A	8.9%	8.9%	8.90%
Education, Health & Social Svcs.	18.5%	25.8%	18.3%	17.6%	24.1%	N/A	16.0%	19.8%	20.80%
Arts, Entertainment, et al	2.6%	7.7%	6.7%	2.2%	7.0%	N/A	1.7%	6.9%	6.90%
Public Administration	4.7%	5.5%	14.4%	6.4%	7.4%	N/A	4.7%	4.5%	4.80%
Other Services	14.4%	11.3%	8.4%	12.6%	10.7%	N/A	15.4%	20.3%	19.50%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

[1] Employed civilian population 16 years and over
* Some data was published incomplete and are estimates
Source: U.S. Census Bureau, NJ Department of Labor and Workforce Development

In addition, the three study areas experienced a reduction in construction employment. Of note, while the City of Vineland increased nominally in the agricultural sector, the State as a whole experienced a decline in employment in the agricultural sector of more than 70% during the 1990s. NJDOL estimates that despite maintaining its agricultural employment during the 1990s, Vineland is beginning to fall victim to the decline in agriculture, losing almost 20% of its

agricultural employment through 2003. While the City of Vineland continues to struggle to maintain its historic agricultural base, much of the remainder of the State's agricultural employment base has succumbed to development pressures and the continued movement towards a service-based economy.

Overall, the services sectors of the economy expanded significantly during the 1990s. These sectors include:

- Finance, insurance and real estate;
- Education, health and social services;
- Arts and entertainment;
- Public administration; and
- Other Services.

These sectors experienced more than 10% growth during the 1990s, in terms of the concentration of civilian employment. Services sector employment in Vineland grew from 65.3% in 1990 to 70.5% in 2000, and is estimated to be 73.5% in 2003. The County increased from 62.7% to 70%, while the State increased from 70.6% in 1990 to more than 77% in 2000.

Continued Growth in the Labor Force

The civilian labor force for Cumberland County decreased by 216 during the 1990s, from 65,830 in 1990 to 65,614 in 2000. The New Jersey Department of Labor released preliminary 2005 estimates which show the labor force in Cumberland County growing at almost 1% per annum since 2000. This was even after the estimates for 2002 showing the labor force decreasing further. Therefore, the labor force has really grown over 4% in Cumberland County in the past two and a years. The current figures show Cumberland County already exceeding the projections laid out by the NJDL in 2002.

The City of Vineland saw a drop off in their labor force after a large increase in the late 1990s. While the city's labor force has actually lost numbers in its workforce we outlined earlier their 4% growth in employment in the past three years.

The civilian labor force in the State of New Jersey is actually estimated to drop off by more than 100,000 workers. As their labor force dropped, their available jobs rose to bring the statewide unemployment to one of the lowest in the country. With the improving economy and lower unemployment the New Jersey Department of Labor and Workforce Development is projecting a almost 10% to 20% rise in the labor force from the municipal level to the state level.

Table 4 ***Civilian Labor Force Projections***			
	Vineland	***Cumberland***	***New Jersey***
1990	26,743	65,830	4,104,673
2000	27,593	65,614	4,193,145
2004	27,550	68,000	4,207,700
2007	n/a	69,100	4,597,300
2012	n/a	71,400	4,827,100
2015	n/a	72,800	4,936,000
2020	n/a	73,800	5,065,800
2025	n/a	75,000	5,191,200
Source: NJDOL			

Employment Growth, Projections & Training

The transition from a large manufacturing state to a leading service sector economy will continue to affect employment trends. While the State of New Jersey has been drifting away from the manufacturing sector, it is still vitally important to the economy in Cumberland County and the City of Vineland. The retail trade sector in Cumberland County outpaces the state 21% to 9% respectively, while the wholesale trade industry garners a much larger portion of the statewide economy than at the County level. Altogether, the manufacturing, services, and retail sectors make up 79% of the industry in Cumberland County. In contrast, these same sectors account for just 61% pf statewide employment.

Table 5 ***Composition of Industry*** ***(by SIC groupings)***		
Industry	***Cumberland***	***New Jersey***
Manufacturing	33%	23%
Services	25%	29%
Retail Trade	21%	9%
Wholesale Trade	7%	20%
FIRE	7%	7%
Construction	6%	5%
Transportation	1%	7%
Source: Cumberland County Website		

Agencies such as the New Jersey State Employment and Training Commission are playing an essential role in helping prepare the state's workers for the employment transition across industry lines. The commission has created such facilities and services as One Stop Career Center and Work Force Investment Boards across the state to assist all displaced or need-based members of the labor force. With initiatives such as these, the state is maintaining low unemployment (a preliminary figure for March 2005 shows New Jersey's unemployment has dropped to 4.3%, well below the national average). Cumberland County has dropped to 6.7% from 9.9% unemployment, while the City of Vineland has dropped more than 4% to 6.5%.

Employment trends are projected to continue to stay on the same course. The manufacturing sector is expected to continue to decline in the State of New Jersey, losing another 13.5% of its jobs in the ten year period between 2002 and 2012. The service sector is expected to make up more than its share of jobs in the economy, gaining another 14.7% in this same time period. Sub

sectors of the service industry such as professional and business services, educational services, heath and social assistances, and arts and entertainment are all expected to increase more than 20% in this 10 year projection period. Table 6 provides a tabular break down of the employment projections by NAICS Industry for the State of New Jersey.

Table 6
State of New Jersey
Employment Projections By Major Industry Division, 2002 - 2012

	2002		2012		Change: 2002-2012		
NAICS Industry Title	**Number**	**Pct.**	**Number**	**Pct.**	**Number**	**Total**	**Annual**
Total All Industries	**3,983,900**	**100.0**	**4,465,000**	**100.0**	**478,100**	**12.0**	**1.1**
Goods-Producing	**531,600**	**13.3**	**506,100**	**11.3**	**(25,500)**	**-4.8**	**-0.5**
Mining	1,600	0.0	1,500	0.0	-	0.0	-0.6
Construction	162,600	4.1	186,700	4.2	24,100	14.8	1.4
Manufacturing	367,500	9.2	317,900	7.1	(49,600)	-13.5	-1.5
Service-producing	**3,452,300**	**86.7**	**3,959,100**	**88.7**	**506,800**	**14.7**	**1.4**
Trade	701,000	17.6	781,300	17.5	80,300	11.5	1.1
Wholesale trade	236,500	5.9	260,400	5.8	23,900	10.1	1.0
Retail trade	464,500	11.7	520,900	11.7	56,400	12.1	1.1
Utilities	15,800	0.4	14,500	0.3	(1,300)	-8.2	-0.9
Transportation and warehousing	164,600	4.1	181,300	4.1	16,700	10.1	1.0
Information	113,200	2.8	116,300	2.6	3,100	2.7	0.3
Financial activities	276,700	6.9	302,000	6.8	25,300	9.1	0.9
Professional and business services	581,200	14.6	725,100	16.2	143,900	24.8	2.2
Educational services	82,300	2.1	101,500	2.3	19,200	23.4	2.1
Health care and social assistance	444,900	11.2	574,300	12.9	129,400	29.1	2.5
Arts, entertainment, and recreation	46,100	1.2	56,600	1.3	10,500	22.7	2.0
Accommodation and food services	264,900	6.6	293,200	6.6	28,300	10.7	1.0
Other Services (except government)	148,300	3.7	175,100	3.9	26,800	18.1	1.6
Government	613,500	15.4	637,900	14.3	24,400	4.0	0.4

Source: NJDOL

Manufacturing continues to hold on to 18% of the employment in Cumberland County in this NAICS breakdown. However, the New Jersey Department of Labor is projecting a hefty 20.7% decline in the manufacturing employment force between 2002 and 2012. The service producing sector is expected to grow by 14.7%, in which there is an 83.1% jump in arts and entertainment employment during the projection period. Of note, there is a large correctional facility in Bridgeton (Cumberland County) that accounts for about 2,500 of the government related jobs.

Table 7
Estimated and Projected Employment by Major Industry Group, 2002-2012
Cumberland County*

NAICS Industry Title	2002		2012		Change: 2002-2012		
Industry Title	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Total**	**Annual**
Total Nonfarm Payroll Employment	**59,900**	**100.0**	**64,900**	**100.0**	**5,050**	**8.4**	**0.8**
Goods-Producing	**13,150**	**22.0**	**11,300**	**17.4**	**-1,850**	**-14.1**	**-1.5**
Mining	**	**	**	**	**	**	**
Construction	2,250	3.8	2,650	4.1	400	17.1	1.6
Manufacturing	10,750	18.0	8,500	13.1	-2,250	-20.7	-2.4
Service-producing	**46,700**	**78.0**	**53,600**	**82.6**	**6,900**	**14.7**	**1.4**
Wholesale trade	2,150	3.6	2,450	3.8	300	13.1	1.2
Retail Trade	7,950	13.3	9,400	14.5	1,450	17.9	1.6
Utilities	**	**	**	**	**	**	**
Transportation and warehousing	2,150	3.6	2,450	3.8	350	15.5	1.4
Information	1,050	1.8	1,000	1.5	-50	-2.9	-0.3
Finance and insurance	1,850	3.1	2,000	3.1	150	8.1	0.8
Real estate and rental and leasing	500	0.8	550	0.8	50	12.6	1.2
Professional and technical services	1,200	2.0	1,450	2.2	250	22.8	2.0
Management of companies and enterprises	400	0.7	400	0.6	0	2.8	0.3
Administrative and waste services	1,450	2.4	1,750	2.7	300	21.8	1.9
Educational services	900	1.5	1,050	1.6	150	16.6	1.5
Health care and social assistance	7,750	12.9	9,650	14.9	1,900	24.2	2.1
Arts, entertainment, and recreation	450	0.8	800	1.2	350	83.1	5.9
Accommodation and food services	2,650	4.4	3,050	4.7	400	15.5	1.4
Other Services (except government)	1,900	3.2	2,350	3.6	450	22.4	2.0
Government	14,300	23.9	15,150	23.3	850	5.8	0.6
Federal Government	750	1.3	700	1.1	-100	-11.0	-1.2
State Government	5,000	8.4	5,350	8.2	350	7.2	0.7
Local Government	8,550	14.3	9,100	14.0	550	6.5	0.6

Source: NJDOL

As it becomes more and more apparent that the vast majority of the future jobs will be in the service sectors, it is important that public and private groups continue with training and repositioning the workforce. Factors such as higher education and age of the labor force will play a major roll throughout the City of Vineland, Cumberland County and the State of New Jersey. The quality of the workforce is extremely important in attracting new business.

The age of the workforce is very important when it is necessary to train or further educate workers. Data for the study areas indicate that all three geographies show about 22% of the workforce is over the age of 55 and another 13% between 45 and 54 years of age. This means that more than one-third of the population in all three regions is over the age of 45. These workers could have difficulty completing necessary training to change jobs at the later stages of their life/career.

Table 8 ***Population Distribution by Age***						
Age	***Vineland***		***Cumberland***		***New Jersey***	
15 to 24	6,933	12.3%	18,678	12.8%	997,534	11.9%
25 to 34	7,751	13.8%	21,809	14.9%	1,175,113	14.0%
35 to 44	8,884	15.8%	24,305	16.6%	1,463,352	17.4%
45 to 54	7,617	13.5%	19,215	13.1%	1,157,141	13.8%
55 or older	13,081	23.2%	31,570	21.6%	1,862,193	22.1%
Source: U.S. Census Bureau						

Having the skills, or at a minimum the ability, to change jobs is vitally important not only to the individual, but to the community. An educated workforce can enhance economic development opportunities for the area, and help to bolster individual incomes. The United State average for persons over the age of 25 with a high school diploma (or equivalency) or above is 80.4%. Nationally, 24.4% of persons 25 or older have attained a bachelor's degree or higher. The State of New Jersey actually has an even better percentage in both categories, 82.1% and 29.8% respectively. However, the City of Vineland and Cumberland County are well below the state and national averages. Of those over the age of 25 in the City of Vineland, only 67.8% have received a high school diploma, and only 14.3% had received a bachelor's degree or higher. Cumberland County has only 68.5% high school graduation rate, and only 11.7% of the population has received a bachelor's degree or higher.

Table 9 ***Educational Attainment*** [1]			
Level	***Vineland***	***Cumberland***	***New Jersey***
Less than 9th grade	5,312	10,903	373,429
9th – 12th w/no diploma	6,725	19,610	641,048
High School Graduate	11,984	35,189	1,661,493
Some college, no degree	5,955	15,212	998,872
Associate's degree	2,008	4,600	298,096
Bachelor's degree	3,575	7,820	1,063,665
Graduate or professional degree	1,774	3,565	621,196
Percent High School graduate or higher	67.8%	68.5%	82.1%
Percent Bachelor's degree or higher	14.3%	11.7%	29.8%
[1] Population 25 years and over Source: US Census 2000			

A workforce with a lower than average level of education could limit the possibilities of certain businesses relocating to the area. Working with organizations like the New Jersey State Employment and Training Commission will help train not only the unemployed, but the future workforce of the region. For many occupations, workforce training can be just as valuable as or more so than a broad higher education. In addition, the City could consider offering industry-specific training as an incentive to attract key employers to the community.

Role of Agriculture

The rich history and pride of the agriculture industry not only shines throughout the communities, but it has played a vital role in the economic stability of the City of Vineland and Cumberland County through the years. There are currently 616 farms in Cumberland County, compared to 610 in 1978 and 609 in 1992. Of the counties' 313,152 acres, almost 23% of it remained farmland in 2002.

Cumberland County had 83,544 acres of farmland in 1978, which decreased by almost 18% by 1992 (68,627 acres). However, since that time, farming land has actually increased by 7.5%, increasing to a total of 73,781 acres in Cumberland County. The average size of the County's farms also increased to an average size of 115 acres. The average value of these farms (land and buildings) has more than tripled in the past twenty-five years, from $1,496 per acre in 1978 to $4,714 per acre in 2002. It appears that many of these historic farms have been able to fend off developers looking for new opportunities in the Southern Region, particularly for redevelopment as housing.

Government support appears to be abundant in the region, helping on average with more than $5,400 per farm in 2002,an increase of 12%. The farms products appear to continue to have a strong market value in the local community. The 2002 market value of the annual crop production was $119,958,672, up more than 28% from 1997.

The agricultural industry in Vineland is also strong. The community has numerous farms and produce marketing companies, which help get products from local and regional entities to the marketplace. Among the community's farms and related enterprises are:

- Flaim Farms;
- Tarabbio Farms;
- Ivy Acres;
- Great Northern Plant Company;
- Sikking Nurseries;
- Old Mill Florist and Garden Center;
- Consalo & Sons Farms;
- Two Girls Produce;
- South Jersey Produce Cooperative; and
- Vineland Produce Auction.

In addition, the concentration of agricultural activity has resulted in the creation of an industry cluster, which includes food transportation as well as other types of food processing. For example, companies such as Mamacita, J&L Poultry, B. Manischewitz, Casa Di Bertacchi, Vineland Kosher Poultry, Eatem Foods, Progresso Quality Foods and Venice Maid Foods all have operations in Vineland. These operations benefit from the concentration of experienced employees, as well as transportation, logistics and packaging companies which support the food distribution industry. These companies represent more than 1,200 jobs in the community, or approximately 5% of the jobs in the community.

In terms of wages and employment stability, the agricultural industry has not been as significant to the community. The agriculture sector is among low to moderate income streams for the region and among the highest in turnover rate. This is partly due to the seasonal nature of the workforce in the agricultural industry, which tends to be more permanent than temporary, in order

to meet work surges during planting and harvesting periods. Table 10 below is a selected summary comparison wages in key economic sectors.

Table 10
Cumberland County
Wage and Employment Summary

		Monthly Income	Net Jobs (2004 Q1)	Turnover
11	Agriculture, et al			
	Out of Season	$1,357	-5	13.1%
	In-season	$2,993		
21	Mining	$4,029	1	1.7%
22	Utilities	$4,916	16	2.8%
23	Construction	$3,395	-60	12.3%
31-33	Manufacturing	$3,292	224	6.4%
42	Wholesale Trade	$3,345	118	7.5%
44-45	Retail Trade	$2,104	-174	11.5%
48-49	Transportation, et al	$4,838	-16	7.6%
51	Information	$3,392	60	8.1%
52	Finance and Insurance	$3,722	12	6.5%
53	Real Estate	$2,042	-29	14.7%
54	Professional, et al	$3,179	30	10.4%
55	Management	$3,465	53	6.1%
56	Administrative and Support	$2,246	39	13.9%
61	Educational Services	$2,991	275	5.7%
62	Health Care and Social Svcs.	$3,006	27	6.6%
71	Arts, Entertainment, et al	$1,204	5	9.1%
72	Accommodation, Food Svcs.	$1,028	68	15.4%
81	Other Svcs (not Public Admin)	$1,869	86	7.9%
92	Public Administration	$3,413	22	3.1%

Source: US Census Bureau, NJDOL

Table 9 ***Individuals Below the Poverty Level***			
	1990	2000	2003
Vineland	5,739	7,560	N/A
% Living in Poverty	10.5%	13.4%	
Cumberland	17,086	20,367	N/A
% Living in Poverty	12.4%	13.9%	
New Jersey	573,152	699,668	703,841
% Living in Poverty	7.4%	8.3%	8.1%

Source: U.S. Census Bureau, American Community Survey

Summary

Overall, the City of Vineland has seen accelerating growth over the past five years. Growth rates in population have exceeded the growth during all of the 1990s, and growth in the number of households has almost matched the growth of the 1990s.

As is the case in most areas, Vineland's population is aging. The movement of the baby boom generation into retirement age cohorts has resulted in significant increases in the number of persons over age 55. In fact, the growth rate for the oover-55 age cohort over the past five years has been almost double the growth rate for all of the 1990s.

Vineland does have a somewhat lower average education level than the State. Statewide, more than 82% of residents graduated high school, as compared to less than 68% in Vineland. This could be an issue for the community in trying to attract new employers. However, the possibility of a customized worker training program could also be used as an incentive for business attraction purposes.

Despite significant increases in housing values over the past five years, Vineland continues to be an affordable housing market. With a median household income estimated to be $45,424 and a median housing value of $137,000, the median home is well within affordability guidelines for households earning the median income.

Summary

With the opening of State Route 55 in 1989, the City of Vineland gained crucial access to the Northeast Economic Region. Route 55 has also spurred the concept of Vineland being a bedroom community for those seeking a better quality of life and much more affordable housing. This is evidenced by the percentage of new housing construction through the 1990s compared to the rest of Cumberland County.

While its population had a modest increase between 1990 and 2000, since 2000, growth in Vineland has accelerated, both in terms of population and employment. Although the labor force is estimated to have been stagnant since 2000, employment began to rise significantly since 2000, bringing the unemployment rate down below the County level,.

Growth has begun in the retail and housing construction throughout Cumberland County. In the 1990's the manufacturing sector had taken an enormous downturn and the local, regional and state levels all saw a shift to jobs in the service sector. The State of New Jersey Labor Department is projecting an even larger jump in the labor force and with it will come continued opportunity and pressure for new or realigned business and residential growth for the City of Vineland and Cumberland County. The service producing sector is projected to grow upwards of 15% by 2012, while the manufacturing industry continues to slide with another 20% loss of jobs in the same period for Cumberland County.

A skilled workforce will be the region's best opportunity to control unemployment, attract the necessary business growth to accompany the population and workforce expansion and attracting residential development may be the best scenario to accomplish all its needs and goals.

Master Plan Technical Reports

NATURAL RESOURCES AND ENVIRONMENTAL CONDITIONS

CITY OF VINELAND
CUMBERLAND COUNTY, NEW JERSEY

PREPARED FOR

CITY OF VINELAND PLANNING BOARD

August 15, 2006

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INTRODUCTION

The City of Vineland, Cumberland County has a rich natural resource heritage. Planned as an agricultural community by Charles K. Landis in 1861, Vineland has served as a center for vegetable and poultry farming. The successful farming heritage is part of the character of Vineland and is the result of its natural resources. The City embodies the State Motto the "Garden State" and has the ideal conditions for vegetable production with its sandy soils, level topography, optimum climate, and ample rainfall along with available fresh well water for irrigation. The City contains over thirteen prime soils. Vineland is also distinct in the variety of ecological communities and wildlife species that are present. The forest cover and emergent and forested wetlands ecology provide critical foraging habitat for Bald eagles.

Vineland today is a regional center for economic and redevelopment opportunities while areas in the eastern part of the City continue to be dominated by agricultural use and important natural features.

Vineland is nationally recognized by the Wild & Scenic Rivers System for the Maurice River system, comprised of the Menantico Creek and Manumuskin segments which are both classified as scenic. The Maurice River drains the southwest portion of the Pinelands National Reserve, providing a critical link between the Pinelands National Reserve and the Delaware Estuary. The New Jersey Pinelands Commission considers the entire Manumuskin watershed an ecologically critical area, with the vast, unspoiled Kirkwood-Cohansey aquifer underlying most of the region. The Maurice River designation provides benefits and enjoyment of present and future generations of residents.

The purpose of this Technical Report on Natural Resources and Environmental Conditions is to identify the natural resources and environmental features within Vineland that need to be considered in planning for the City's future development and conservation efforts.

CRITICAL ENVIRONMENTAL AREAS

Critical areas include environmentally sensitive areas such as wetlands, wellhead protection areas, streams, floodplains, and steep slope areas. These areas are important for protecting groundwater, habitat areas needed to support biodiversity, and irreplaceable resources such as prime farmland. Figure 1 delineates the extent of critical environmental areas in Vineland.

The City of Vineland is located in the United States Environmental Protection Agency (USEPA) Maurice River System priority wetland, which includes all the tributary wetlands of the Maurice River.

The Maurice River supports major wintering population of the federally endangered Bald eagle and provides historically suitable nesting habitat for this species and habitat for other state listed species which include Ospreys, Red-shouldered hawks, Southern gray and Pine Barrens tree frogs, and Barred owls.

In Vineland, the Maurice River System has been designated a scenic river for both the Menantico Creek and the Manumuskin River in the City.[1] The Maurice River corridor is an unusually pristine Atlantic Coastal river and it is a critical link between the Pinelands National Reserve and the Delaware Estuary. The rivers and associated wetlands serve as nurseries for ocean-going wildlife, offering food and habitat for resident and migrating species, many of which are considered endangered. Each year, huge flocks of birds alight within the watershed to enjoy the area's natural bounty. The Maurice River corridor is rich in natural, cultural and historical significance. The tributaries, and the bay beyond, not only shaped the lifestyle and livelihood of the regions past inhabitants, but they continue to support the areas' economy and the lifestyle of many residents today. Early industries relied on the river water channeled swiftly into flowing mill races. Some residents built dikes so they could farm the often boggy land close to the river. Others worked in maritime occupations. Local ship builders provided vessels for fishing and for carrying local products to distant markets. The region's entire glass making industry emerged because of, and still depends on the sandy deposits found throughout the watershed. Cumberland County's heritage is steeped in the history of the Lenni-Lenape people, a nation that numbers some 6,000 inhabitants at the time of the earliest colonial explorations of the Delaware Bay region.

The City wetland areas also serve as a vital resource for the variety of wildlife and vegetative species and economic development. One of the wetlands, Willow Grove Lake, is a mitigation bank for Watershed Management Areas that drain into the Delaware River Drainage Basin.

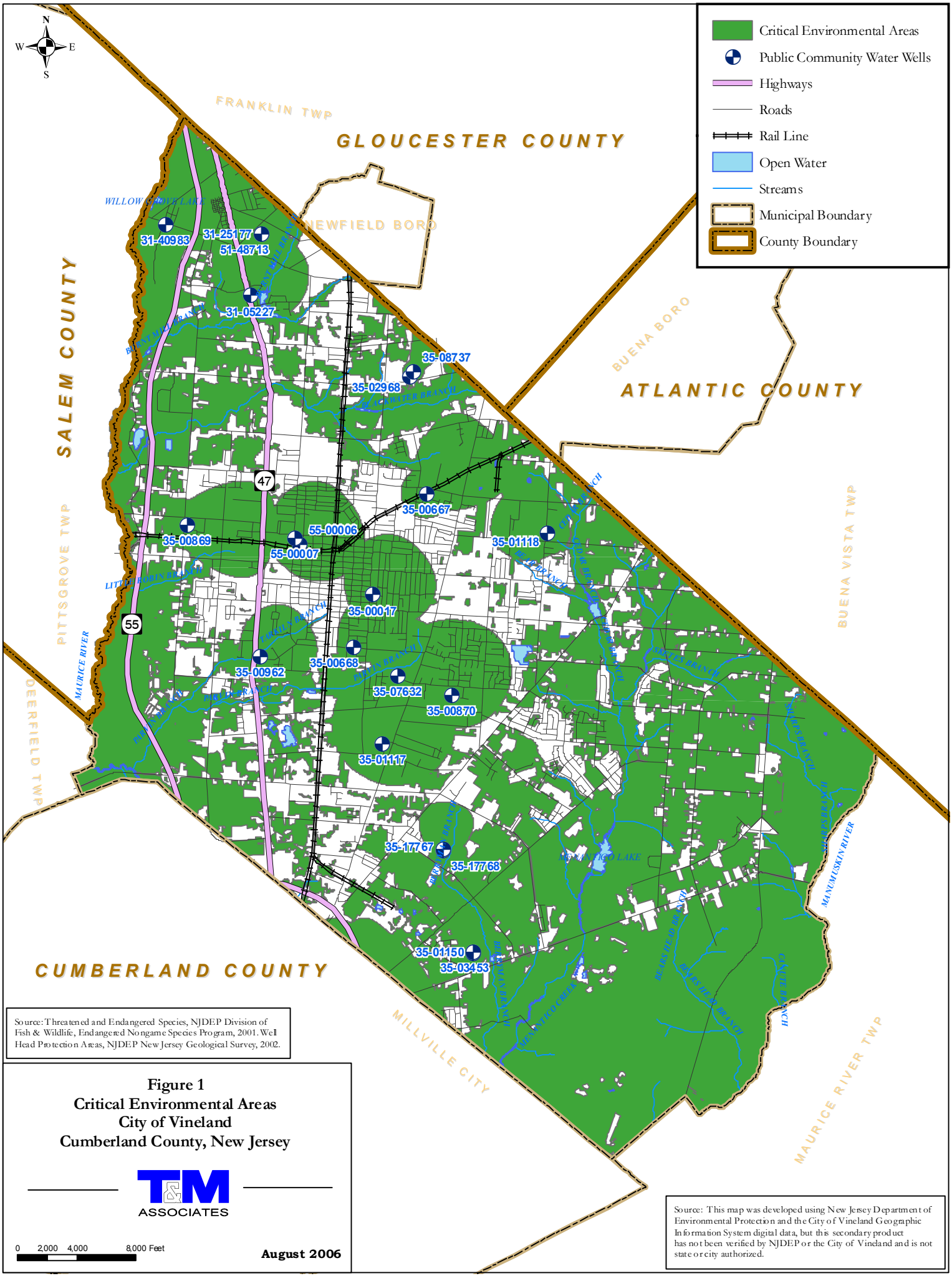
The New Jersey Department of Environmental Protection (NJDEP) has designated the Maurice River Main Stem and its tributaries that border the Union Lake Wildlife Management Area (City of Millville) as Category One. Portion of the Menantico Creek also is subject to special water resource

[1]Pursuant to the Wild and Scenic Rivers Act, the Menantico Creek, Upper Segment is classified as the area from the Route 55 Bridge to the base of the impoundment of the Menantico Lake, approximately 6.5 miles to be administrated by the Secretary of Interior as a scenic river (16 U.S.C. 1274(a)(150)). The Manumuskin River, Lower Segment is classified from the point 2.0 miles upstream from its confluence with the Maurice River to its headwaters near Route 557, approximately 12.3 miles to be administrated by the Secretary of Interior as a scenic river (16 U.S.C. 1274(a)(152)).
The Wild and Scenic Rivers Act defines scenic river areas as follows: those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads (16 U.S.C. 1273(b)(2)).

protections as well. This special level of protection serves to not only protect wildlife and vegetative species, it protects the City's potable water supplies.

The City of Vineland lowland areas such as areas adjacent to the Maurice River, the Cedar Branch, Blackwater Branch and the Manumuskin River are all subject to flooding. There are also several impaired waterways within the City.

Residents in Vineland are dependent on groundwater supply. Groundwater supplies can be vulnerable to pollution and over-pumping of aquifers and need to be conserved and protected.



Source: Threatened and Endangered Species, NJDEP Division of Fish & Wildlife, Endangered Nongame Species Program, 2001. Well Head Protection Areas, NJDEP New Jersey Geological Survey, 2002.

Figure 1
Critical Environmental Areas
City of Vineland
Cumberland County, New Jersey

T&M ASSOCIATES

0 2,000 4,000 8,000 Feet

August 2006

Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.

ENVIRONMENTAL COMPONENTS

The City of Vineland is located within the Atlantic Outer Coastal Plain physiographic, the Pine Barrens climatic zone, the Delaware River Basin, Watershed Management Area 17, the Kirkwood-Cohansey aquifer and the Delaware Bay Region.

The Outer Plain contains sandy soils which is an ideal condition for aquifers and the groundwater for Vineland residents. Soils contained in Vineland are from the Cohansey formation, which are mostly medium to coarse grained sands, although some thin clay soil layers are present. Sandy soil conditions create ideal conditions for cultivated crops and unique habitat for wildlife and vegetative species. In Vineland there are sixteen soil series each with a corresponding component totaling thirty-six in the City of Vineland.

According to the Office of the NJ State Climatologist, the City of Vineland is located within the Pine Barrens climatic zone which is characterized by a wider range of daily maximum and minimum temperatures and drier conditions which is ideal for the dominate fire-prone species ecology.

As discussed above, water resources in Vineland are significant. The City contains a priority wetland, Wild & Scenic River status and Category One waterways. The City of Vineland groundwater is comprised in the Kirkwood-Cohansey aquifer.

The Delaware Bay Region encompasses all or parts of Cape May, Atlantic and Cumberland counties. This area features a stable population of Bald eagles, Tiger salamanders, Southern gray tree frogs and 30 other endangered and threatened species. The vast woodland tracts of this region are among the largest in the state and support a large portion of New Jersey's Neotropical bird populations.

What follows is an identification of natural resources found in the City which are categorized by Geology, Climate, Hydrology and Wildlife & Vegetative Species.

GEOLOGY

Physiography

The City of Vineland is located within the Atlantic Coastal Plain physiographic region and in the Outer Coastal sub-region. Altogether, the Coastal Plain of New Jersey may be viewed as a plain that

rises gradually from sea level on the east, west, and south to elevations as high as nearly 120 meters (400 feet) where the Inner and Outer Coastal Plains join at the northeast-southwest trending *cuestas*, a belt of low hills. The Outer Coastal Plains minerals are mostly marine-deposited sedimentary sands, gravels, and clays overlain with later deposits made in interglacial Pleistocene time. The Outer Plain contains sandy soils which is an ideal condition for the 17 trillion gallon aquifer located in the Pinelands. Although the Pinelands are typically viewed as being very dry, in many places the water table is quite close to the surface, giving rise to extensive wetlands. The major rivers originating mostly in the Pinelands in this relatively flat, low-lying region are slow-flowing, rich in humates that impart a brown tea color to the water, low in nutrients, and acidic; many are tidal for significant portions of their length.

The average elevation in Vineland is 100 feet above sea level with the highest point at 134 feet at Roosevelt Boulevard.

Stratigraphy

Most of the sediments of the New Jersey Coastal Plain range in age from Cretaceous to Miocene (135 to 5.3 million years old) and were deposited in deltaic and marine environments. The period of marine deposition ended in the Miocene with the Cohansey Sand. These soils are mostly medium to coarse grained sands, although some thin clay soil layers are present. The soils developed from the Cohansey formation are very porous and infertile because, for the most part, the parent material has a greater proportion of coarse sand particles than finer clay particles. The greater the proportion of coarse particles in a soil the less it is able to retain water and nutrients like calcium, magnesium, phosphorus, and potassium.

According to the United States Department of Agricultural, Natural Resource Conservation Services, Soil Data Mart (USDA—NRC), there are sixteen soil series each with a corresponding component totaling thirty-six in the City of Vineland (Figure 2). Included in separate Figures are soils considered as prime, unique, and statewide important (Figure 3) and septic suitable soils (Figure 4). A detailed description of the soil series and component is summarized in Appendix A. Not listed as a series or component are Pits, sand and gravel (PHG) which encompasses 679.97 acres or 1.55% of Vineland and Urban Land which encompasses 366.17 acres or less than 1% of Vineland. Exhibit 1 highlights the hydric rating, the seasonal water table depth, runoff potential, and the land class and suitability for different land uses and septic suitability for each soil.

The following describes each soil series and component:

I. Atsion sand (AtsAr), rarely flooding—AtsAr is a hydric soil, is a flat landform and is listed as a farmland soil of unique importance. This soil encompasses 897.64 acres or 2.04% of Vineland. Woodland species include Blackgum, Pitch pine and Red maple.

II. Aura Series—This series is not a hydric soil and is considered a farmland soil of prime importance. The Aura series woodland species include Black oak, Chestnut oak, Pitch pine, Scarlet oak and White oak.
   a. Aura loamy sand (AucB)—AucB encompasses 1,830.92 acres or 4.16% of Vineland.
   b. Aura sandy loam (AugA)—AugA encompasses 593.93 acres or 1.35% of Vineland.
   c. Aura sandy loam (AugB)—AugB encompasses 3,368.85 acres or 7.66% of Vineland.
   d. Aura gravelly sandy loam (AuhB)—AuhB encompasses 1,763.99 acres or 4.01% of Vineland.
   e. Aura-Urban land complex (AvuB)—AvuB encompasses 259.48 acres or less than 1.00% of Vineland.

III. Berryland and Mullica soils (BEXAS), occasionally flooding—BEXAS is a hydric soil, is a depression landform and listed as a farmland soil with unique importance. This soil encompasses 2,931.44 acres or 6.66% of Vineland. Woodland species include Blackgum Pitch pine and Red maple.

IV. Downer Series—This series is not a hydric soil. According to the USDA—NRC, New Jersey nominated the Downer series as the official State soil. Woodland species include Black oak, Pitch pine, Scarlet oak and White oak.
   a. Downer loamy sand (DocB)—DocB is listed as a farmland soil of statewide importance and encompasses 2,278.03 acres or 5.18% of Vineland.
   b. Downer loamy sand (DocC)—DocC is listed as a farmland soil of statewide importance and encompasses 324.85 acres or less than 1.00% of Vineland.
   c. Downer sandy loam (DoeA)—DoeA is listed as a farmland soil of prime importance and encompasses 881.56 acres or 2.00% of Vineland.
   d. Downer sandy loam (DoeB)—DoeB is listed as a farmland soil of prime importance and encompasses 2,164.68 acres or 4.92% of Vineland.
   e. Downer-Urban land complex (DouB)—DouB encompasses 1,703.97 acres or 3.87% of Vineland.

V. Evesboro Series—This soil is not a hydric soil and includes the following woodland species: Chestnut oak, Pitch pine, Scarlet oak and White oak.
   a. Evesboro sand (EveB)—EveB encompasses 3,076.47 acres or 6.99% of Vineland.
   b. Evesboro sand (EveC)—EveC encompasses 660.69 acres or 1.50% of Vineland.
   c. Evesboro sand (EveD)— EveD encompasses 186.38 acres or less than 0.5% of Vineland and includes the following woodland species: Black oak, Chestnut oak, Pitch pine, Shortleaf pine, Virginia pine and White oak.
   d. Evesboro-Urban land complex (EvuB)—EvuB encompasses 22.37 acres or less than 0.05% of Vineland.

VI. Fallsington sandy loam (FamA)—This component is a hydric soil, is a depression landform and is listed as a farmland soil with statewide importance. FamA encompasses 526.63 acres or 1.20% of Vineland. The woodland species include Blackgum, Red maple, Sweetgum and Yellow-popular.

VII. Fort Mott loamy sand (FodB)—This component is a not a hydric soil and is listed as a farmland soil with statewide importance. FodB encompasses 668.80 acres or 1.52% of Vineland. The woodland species include Black oak, Pitch pine, Shortleaf pine, Virginia pine and White oak.

VIII. Galloway loamy sand (GamB)—This component is a hydric soil, is a drainageway floodplain floodplain and is listed as a farmland soil with statewide importance. GamB encompasses 1,453.02 acres or 3.30% of Vineland. The woodland species include Pine oak, Sweetgum, Virginia pine and White oak.

IX. Hammonton Series—This series is not a hydric soil.
   a. Hammonton loamy sand (HbmB)—HbmB is listed as a farmland soil of statewide importance and encompasses 1,699.43 acres or 3.86% of Vineland. The woodland species include Black oak, Pitch pine, Red maple and White oak.
   b. Hammonton sandy loam (HboA)—HboA is considered as a farmland soil of prime importance, is a flat drainageway landform and encompasses 1,076.68 acres or 2.45% of Vineland. The woodland species include Black oak, Pitch pine, Shortleaf pine, Virginia pine and White oak.

c. Hammonton sandy loam (HboB)—HboB is considered as a farmland soil of prime importance and encompasses 302.33 acres or less than 0.5% of Vineland. The woodland species include Black oak, Loblolly pine, Pitch pine, Shortleaf pine, Virginia pine and White oak.
d. Hammonton-Urban land complex (HbrB)—HbrB encompasses 721.63 acres or 1.64% of Vineland.

X. Lakehurst sand (LakB)—This component is not a hydric soil and encompasses 1,287.28 acres or 2.93% of Vineland. Woodland species include Chestnut oak, Pitch pine, Post oak and Scarlet oak.

XI. Lakewood sand (LasB)—This component is not a hydric soil and encompasses 1,187.75 acres or 2.70% of Vineland. Woodland species include Chestnut oak, Pitch Pine, Post oak and Scarlet oak.

XII. Manahawkin muck (MakAt), frequently flooded—This component is a hydric soil, is a floodplain landform and is listed as farmland soil of unique importance. This soil encompasses 3,325.49 acres or 7.56% of Vineland. The woodland species include Atlantic white cedar and Red maple

XIII. Othello and Fallsington soils (OTKA)—This component is a hydric soil, is a depression landform and encompasses 4.35 acres or less than 0.05% of Vineland. The woodland species include Blackgum, Red maple and Sweetgum.

XIV. Sassafras series—This component is not a hydric soil. The SacA and SacB soils woodland species include Black oak, Northern red oak, Scarlet oak, White oak and Yellow-popular. The woodland species for SadA, SadB and SadC soils include Loblolly pine, Virginia pine, White oak and Yellow-poplar.
a. Sassafras sandy loam (SacA)—SacA is considered as a farmland soil of prime importance and encompasses 761.74 acres or 1.73% of Vineland.
b. Sassafras sandy loam (SacB)—The SacB is considered as a farmland soil of prime importance and encompasses 1,227.65 acres or 2.79% of Vineland.
c. Sassafras gravelly sandy loam (SadA)—The SadA is considered as a farmland soil of prime importance and encompasses 7.09 acres or less than 0.5% of Vineland.

d. Sassafras gravelly sandy loam (SadB)—The SadB is considered as a farmland soil of prime importance and encompasses 90.58 acres or less than 0.05% of Vineland.
e. Sassafras gravelly sandy loam (SadC)—The SadC is listed as a farmland soil of statewide importance and encompasses 21.01 acres and or less than 0.05% of Vineland.

XV. Udorthents (UdrB)—UdrB encompasses 3.17 acres or less 0.05% of Vineland and is considered to be a tidal flat.

XVI. Woodstown series—This series is not a hydric soil and is listed as a farmland soil of prime importance. The woodland species include Northern red oak, Sweetgum, White oak and Yellow-poplar.
a. Woodstown sandy loam (WoeA)—The WoeA soil encompasses 3,580.38 acres or 8.14% of Vineland and is a depression landform.
b. Woodstown sandy loam (WoeB)—The WoeB soil encompasses 1288.80 acres or 2.93% of Vineland.
c. Woodstown-Urban land complex (WooB)—The WooB encompasses 774.07 acres or 1.76% of Vineland.

Exhibit 1: Soil Characteristics

Soil	Hydric Rating*	Seasonal Water Table Depth	Septic Suitability⊖	Potential Runoff Class	Kw Erodibility Factor⊗	NonIrrigated Capability Class (Irrigated)•	Farmland Soils Designation ♦	Structures Permitted	Road Suitable (Hazard of Erosion)	Open Space Trails

*Hydric criteria codes:
1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
B. are poorly drained or very poorly drained and have either:
1.) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
2.) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
3.) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

⊖Septic Suitability is divided into 4 classes: 1.) Severe: Seasonal high water table within a depth of 1 foot; 2.) Moderate: Moderately well drained; drainage or filling; 3.) Slight and 4.) Unknown: Urban land or change in classification system from 1973 & 2005 data.

⊗Kw Soil erodibility factors quantify the susceptibility of soil detachment by water. These erodibility factors predict the long-term average soil loss, which results from sheet and rill erosion under various alternative combinations of crop systems and conservation techniques. Factor Kw considers the whole soil, and factor Kw factors obtained experimentally vary from 0.02 to 0.69. For the purpose of soil interpretations, the factors have been grouped into 14 classes. The classes are identified by a representative class value as follows: .02, .05, .10, .15, .17, .20, .24, .28, .32, .37, .43, .49., .55, and .64.

•Land Capability Classes include:
Class 1 soils have slight limitations that restrict their use.
Class 2 soils have moderate limitations that reduce the choice of plants or require moderate conservation practices.
Class 3 soils have severe limitations that reduce the choice of plants or require special conservation practices, or both.
Class 4 soils have very severe limitations that restrict the choice of plants or require very careful management, or both.
Class 5 soils have little or no hazard of erosion but have other limitations, impractical to remove, that limit their use mainly to pasture, range, forestland, or wildlife food and cover.
Class 6 soils have severe limitations that make them generally unsuited to cultivation and that limit their use mainly to pasture, range, forestland, or wildlife food and cover.
Class 7 soils have very severe limitations that make them unsuited to cultivation and that restrict their use mainly to grazing, forestland, or wildlife.
Class 8 soils and miscellaneous areas have limitations that preclude their use for commercial plant production and limit their use to recreation, wildlife, or water supply or for esthetic purposes.
Each land capability has a corresponding subclass that represents the dominant limitation of each Land Capability Class. They are defined as follows:
Subclass e is made up of soils for which the susceptibility to erosion is the dominant problem or hazard affecting their use. Erosion susceptibility and past erosion damage are the major soil factors that affect soils in this subclass.
Subclass w is made up of soils for which excess water is the dominant hazard or limitation affecting their use. Poor soil drainage, wetness, a high water table, and overflow are the factors that affect soils in this subclass.
Subclass s is made up of soils that have soil limitations within the rooting zone, such as shallowness of the rooting zone, stones, low moisture-holding capacity, low fertility that is difficult to correct, and salinity or sodium content.
Subclass c is made up of soils for which the climate (the temperature or lack of moisture) is the major hazard or limitation affecting their use.

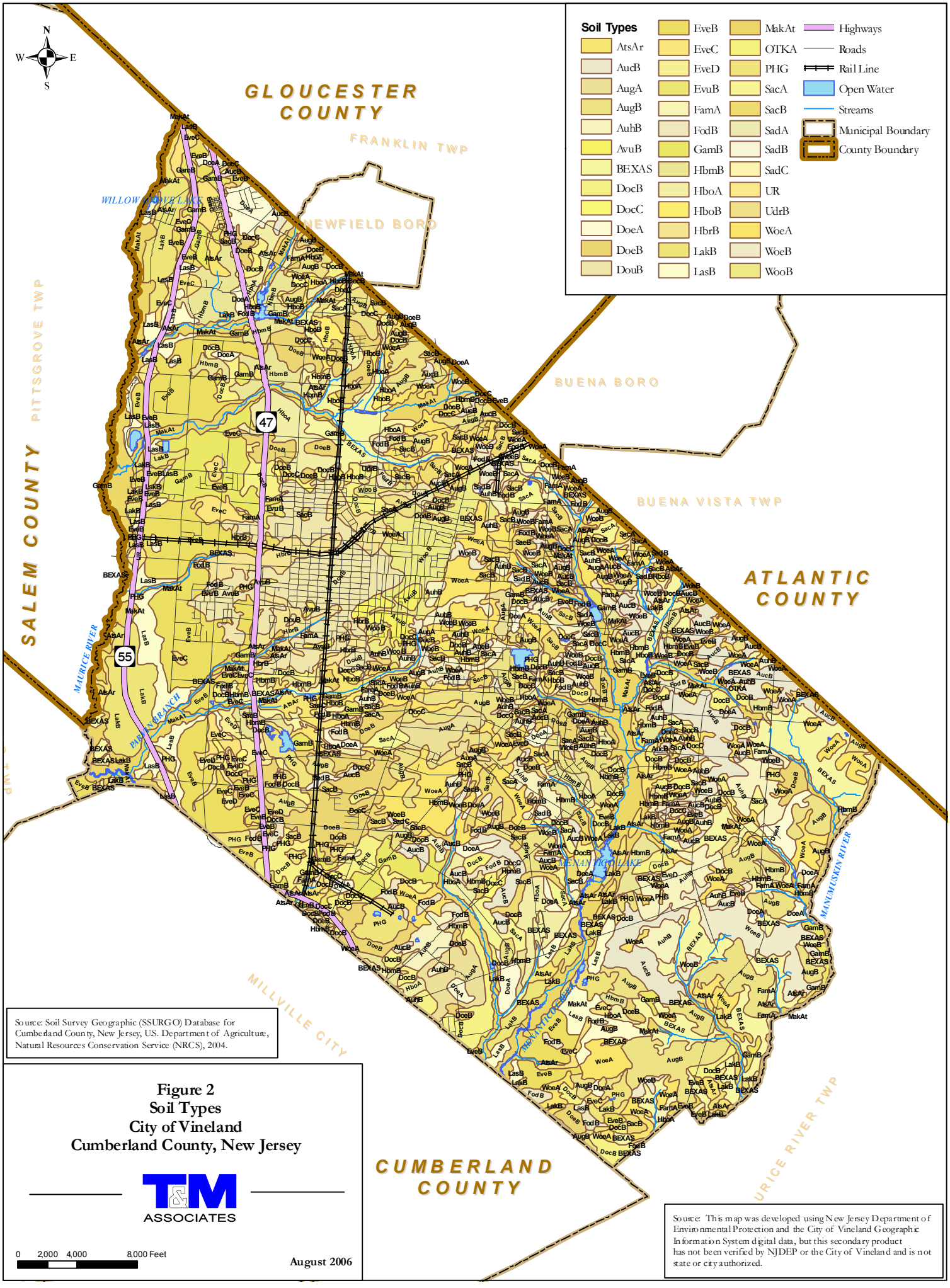
♦There are three categories for farmland designations: 1) Prime is the land that has the best combination of physical and chemical characteristics for producing food, feed, forage; 2) Unique is land other than prime farmland that is used for production of specific high-value food and fiber crops, i.e. cranberries and 3) State is land classified by a State agency that do not meet the criteria for that of prime or unique.

Soil	Hydric Rating	Seasonal Water Table Depth	Septic Suitability	Potential Runoff Class	Kw Erodibility Factor	NonIrrigated Capability Class (Irrigated)	Farmland Soils Designation	Structures Permitted	Road Suitable (Hazard of Erosion)	Open Space Trails
AtsAr	2B3	2 Inches	Severe	Negligible	.17	5w	Unique	Very Limited	Moderate (Slight)	Very Limited (too sandy)
AucB		6 feet	Moderate	Medium	.15	2s	Prime	Not Limited	Well (Slight)	Somewhat Limited (too sandy)
AugA		20 Inches	Moderate	Medium	.20	2s	Prime	Not Limited	Well (Slight)	Not Limited
AugB		20 inches	Moderate	Low	.20	2e	Prime	Not Limited	Well (Moderate)	Not Limited
AuhB		6 feet	Moderate	Medium	.15	2e	Prime	Not Limited	Well (Moderate)	Not Limited
AvuB			Unknown		.20	2e				
BEXAS (Berryland/ Mullica)	2B3, 3	0 inches	Severe	Negligible	.10/.28	5w (For BEXAS)	Unique	Very Limited	Poorly (Slight)	Very Limited (too sandy)
DocB		Greater than 6 feet.	Slight	Very Low	.15	2s	State	Not Limited	Well (Slight)	Somewhat Limited (too sandy)
DocC		Greater than 6 feet.	Slight	Low	.15	3e	State	Not Limited	Moderate (Moderate)	Somewhat Limited (too sandy)
DoeA		Greater than 6 feet	Slight	Very Low	.15	1	Prime	Not Limited	Well (Slight)	Not Limited
DoeB		Greater than 6 feet	Slight	Low	.28	2e	Prime	Not Limited	Well (Moderate)	Not Limited
DouB		Greater than 6 feet	Unknown	Low	.20	2e				
EveB		Greater than 6 feet	Slight	Negligible	.10	7s		Not Limited	Moderate (Moderate)	Very Limited (too sandy)

Soil	Hydric Rating	Seasonal Water Table Depth	Septic Suitability	Potential Runoff Class	Kw Erodibility Factor	NonIrrigated Capability Class (Irrigated)	Farmland Soils Designation	Structures Permitted	Road Suitable (Hazard of Erosion)	Open Space Trails
EveC		Greater than 6 feet	Slight	Negligible	.17	7s		Not Limited	Poorly (Moderate)	Very Limited (too sandy)
EveD		72 inches	Moderate	Negligible	.17	7s		Somewhat Limited	Moderate (Slight)	Very Limited (too sandy)
EvuB		Greater than 6 feet	Unknown	Negligible	.17	7s				
FamA	2B3	2 inches	Severe	Negligible	.28	4w	State	Very Limited	Moderate (Slight)	Very Limited
FodB		72 inches	Slight	Very Low	.20	3s(2s)	State	Not Limited	Well (Slight)	Somewhat Limited (too sandy)
GamB	2B3	21 inches	Unknown		.17	3w	State	Somewhat Limited	Well (Slight)	Somewhat Limited (too sandy)
HdmB		18 inches	Moderate	Very Low	.10	2w	State	Somewhat Limited	Well (Slight)	Somewhat Limited (too sandy)
HboA	2B3	18 inches	Moderate	Very Low	.32	2w	Prime	Somewhat Limited	Well (Slight)	Somewhat Limited
HboB		18 inches	Moderate	Very Low	.32	2w	Prime	Somewhat Limited	Well (Slight)	Somewhat Limited
HbrB		18 inches	Unknown	Very Low	.10	2w		Not Rated		
LakB	2B3	18 inches	Moderate	Negligible	.10	4w		Somewhat Limited	Moderate (Slight)	Very Limited (too sandy)
LasB		Greater than 6 feet	Slight	Negligible	.10	7s		Not Limited	Moderate (Slight)	Very Limited (too sandy)
MakAt	1, 3	0 inches	Severe	Negligible	.10	7w	Unique	Very Limited	Poor (Very Serve)	Very Limited (too sandy)
OTKA (Othello/ Fallsington)	2B3	2 inches	Severe	Negligible	.37/.05	3w	State	Very Limited	Moderate (Slight)	Very Limited

Soil	Hydric Rating	Seasonal Water Table Depth	Septic Suitability	Potential Runoff Class	Kw Erodibility Factor	NonIrrigated Capability Class (Irrigated)	Farmland Soils Designation	Structures Permitted	Road Suitable (Hazard of Erosion)	Open Space Trails
SacA		Greater than 6 feet	Slight	Low	.28	1	Prime	Not Limited	Well (Slight)	Not Limited
SacB		Greater than 6 feet	Slight	Medium	.28	2e	Prime	Not Limited	Well (Moderate)	Not Limited
SadA		72 inches	Moderate		.37	2e	Prime	Not Limited	Well (Slight)	Not Limited
SadB		72 inches	Moderate		.17	2e	Prime	Not Limited	Well (Slight)	Not Limited
SadC		72 inches	Moderate		.37	3e	State	Not Limited	Moderate (Moderate)	Not Limited
UdrB	2B3, 3	Greater than 6 feet	Unknown		.37			Somewhat Limited	Moderate (Moderate)	Somewhat Limited
WoeA	2B3	18 inches	Moderate	Negligible	.15	2w	Prime	Somewhat Limited	Well (Moderate)	Somewhat Limited
WoeB		18 inches	Moderate	Very Low	.20	2w	Prime	Somewhat Limited	Well (Moderate)	Somewhat Limited
WooB		18 inches	Unknown	Very Low	.24	2w		Not Rated		

Source: United States Department of Agriculture, Natural Resources Conservation Services. Soil Data Mart, NJ011 Cumberland County, New Jersey. Web search May 13, 2005. & United States Department of Agriculture, Soil Conservation Service. Soil Survey of Cumberland County, New Jersey (1973).



Source: Soil Survey Geographic (SSURGO) Database for Cumberland County, New Jersey, US. Department of Agriculture, Natural Resources Conservation Service (NRCS), 2004.

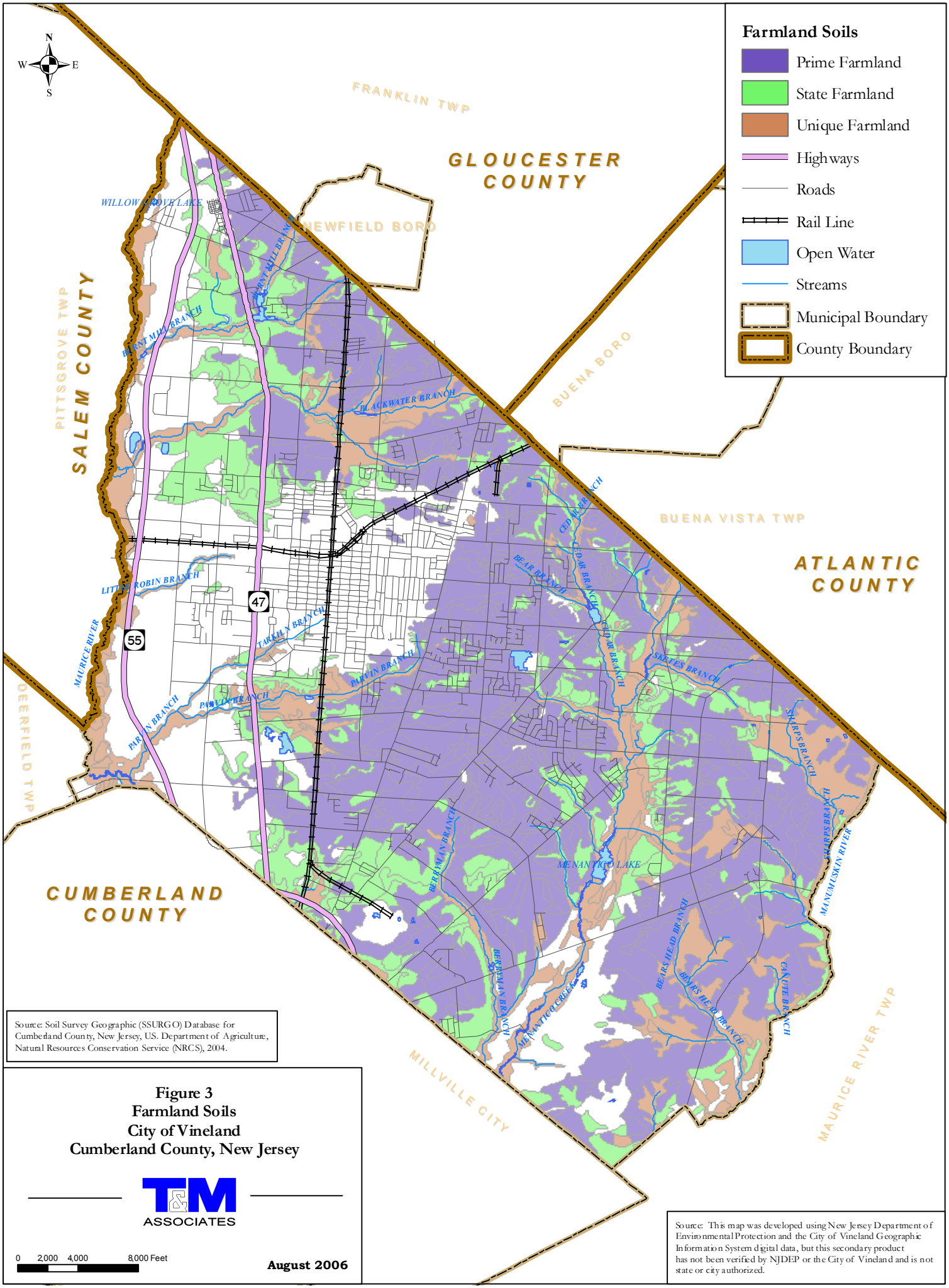
Figure 2
Soil Types
City of Vineland
Cumberland County, New Jersey

TM ASSOCIATES

0 2,000 4,000 8,000 Feet

August 2006

Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.



Source: Soil Survey Geographic (SSURGO) Database for Cumberland County, New Jersey, US. Department of Agriculture, Natural Resources Conservation Service (NRCS), 2004.

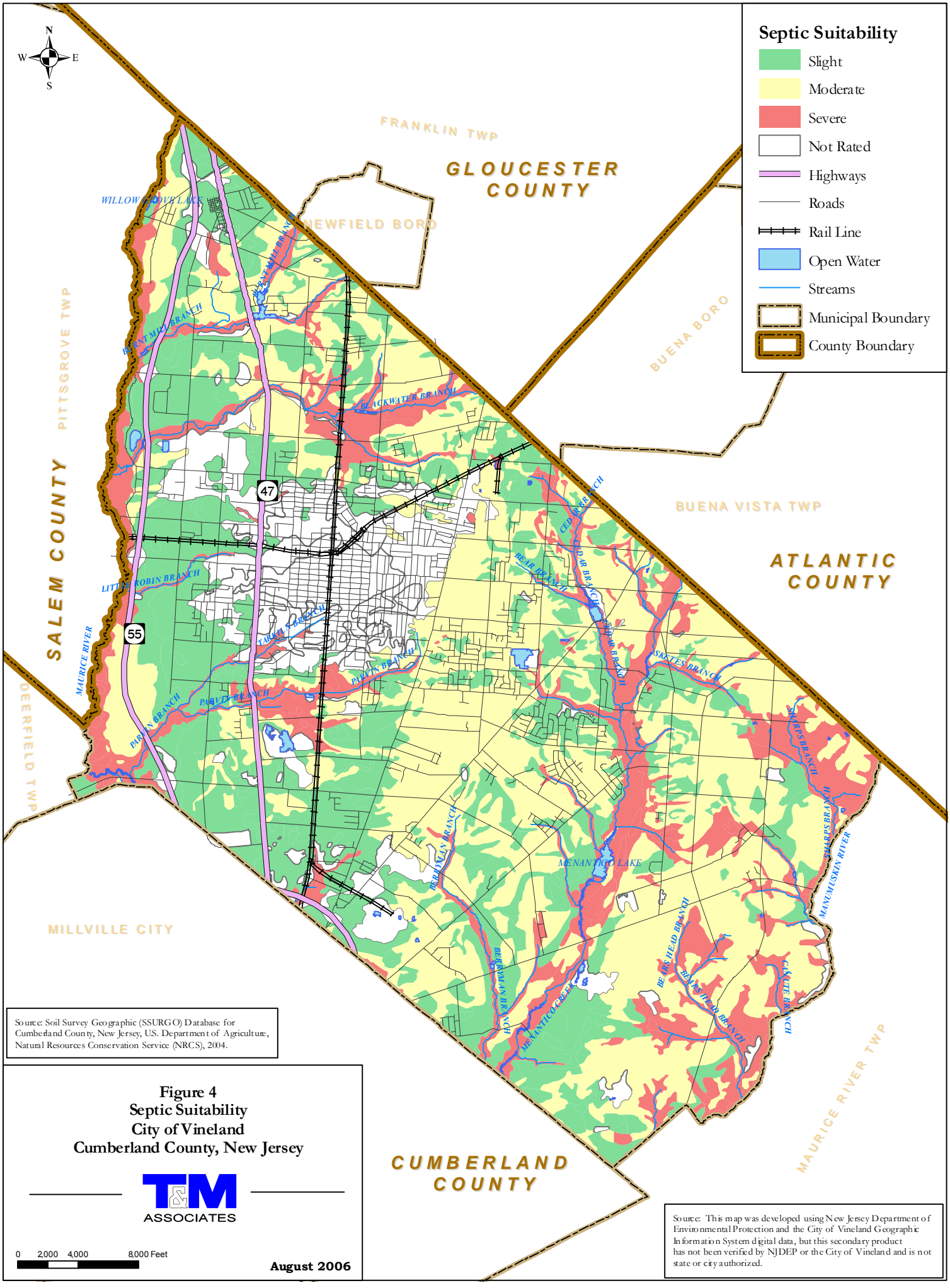
Figure 3
Farmland Soils
City of Vineland
Cumberland County, New Jersey

TM ASSOCIATES

0 2,000 4,000 8,000 Feet

August 2006

Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.



Source: Soil Survey Geographic (SSURGO) Database for Cumberland County, New Jersey, US. Department of Agriculture, Natural Resources Conservation Service (NRCS), 2004.

Figure 4
Septic Suitability
City of Vineland
Cumberland County, New Jersey

TM ASSOCIATES

0 2,000 4,000 8,000 Feet

August 2006

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CLIMATE

According to the Office of the NJ State Climatologist, the City of Vineland is located within the Pine Barrens climatic zone. The Pine Barrens Zone is one of five sub-regions in New Jersey each with their own distinct geology, atmospheric flow patterns, and variations of daily weather. Typical to the Zone are sandy porous soils that quickly absorb any precipitation leaving the surface quite dry. Hence, drier conditions allow for a wider range between the daily maximum and minimum temperatures, and makes the area vulnerable to forest fires which is ideal for the Scrub pine and Oak forest ecology. On clear nights, solar radiation absorbed during the day is quickly radiated back into space, resulting in surprisingly low minimum temperatures.

The closest monitoring station for Vineland is at the Millville FAA Airport. The Office of the NJ State Climatologist provides average annual temperatures and precipitation normals from 1971-2000 at this station. The annual mean temperature reported is 54.4°F; the lowest mean temperature is 32.7°F in January and the highest mean temperature is 76.3°F in July. The National Weather Service Forecast records significant events for the Atlantic City area: the highest temperature is set at 104°F on July 3, 1966 and the lowest temperature is set at -11°F on February 2, 1979.

Annual precipitation totals 43.20 inches; precipitation on average does not exceed more than 3.0 inches per month, although the wettest month is August at 4.35 inches. The National Weather Service Forecast records average snowfall amounts for the Atlantic City area from 1979-2004. The Atlantic City area average snowfall totals about 20 inches. The highest recorded year for snowfall yielded 42.3 inches in 2002-2003 and no snowfall in 1997-1998. This area of New Jersey has been affected severally by the El Niño effects with several dry periods recorded for the years 1991-1992 and 1997-1998.

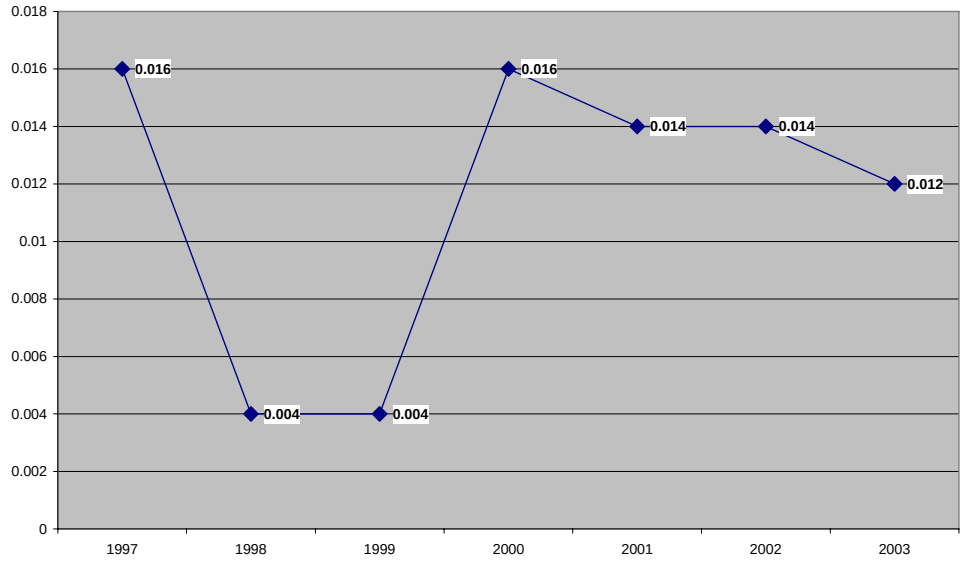
The Office of the NJ State Climatologist also records data on average heating and cooling degree days, where the temperatures are below 65°F and above 65°F respectively. For the monitoring station, the average heating degree days total 4,835; where the highest heating degree month is January. The average cooling degree days total 1,009; the highest cooling degree month is July. These figures can be used to target conservation measures for energy consumption high usage time periods.

Air

The entire state is listed in a non-attainment area pursuant to the National Ambient Air Quality Standards for the six criteria pollutants: Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone, Particulate Matter and Sulfur Dioxide (Clean Air Act of 1970 42 U.S.C. s/s 7401 et seq.). NJDEP maintains a continuous air monitoring network throughout the State. The local air monitoring station site is located in Millville at 31 Lincoln Avenue/Route 55 and measures oxides of nitrogen (NOx), ozone (O3), sulfur dioxide (SO2) only.

The National Ambient Air Quality Standards (NAAQS) for nitrogen oxides are set based on a calendar year average concentration of 0.053 parts per million (ppm). Chart 1 illustrates that this standard has not been exceeded at the local air monitoring station in Millville.

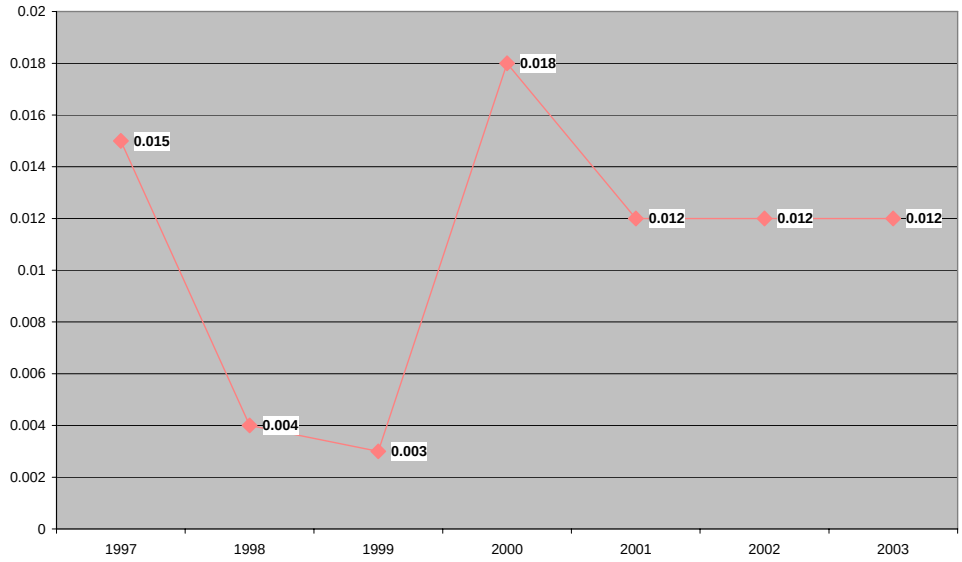
Chart 1: 1997-2003 Nitrogen Dioxide 12-Month (ppm) Average Calendar at Millville Mointoring Station



Source: New Jersey Department of Environmental Protection, Bureau of Air Monitoring. Web search May 19, 2005.

National health standards have not been established for Nitric Oxide (NO), but it is considered to be a pollutant that contributes to the formation of ozone, fine particles and acid rain. The maximum annual average concentration of NO recorded in 2003 was 0.050 ppm at the Exit 13 monitoring site in 2003. Chart 2 illustrates the annual average NO at the Millville Monitoring Station.

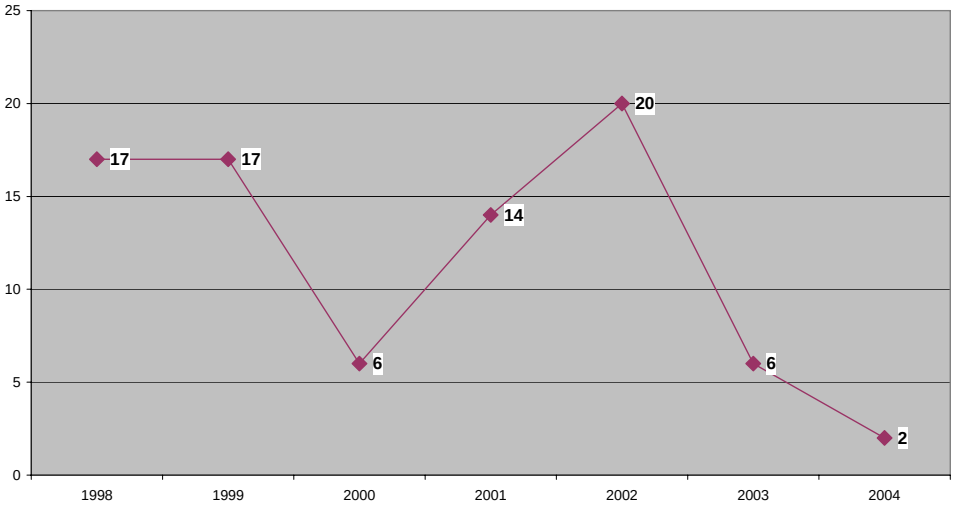
Chart 2: 1997-2004 Nitric Oxides Annual Average (ppm)
at Millville Mointoring Station



Source: New Jersey Department of Environmental Protection, Bureau of Air Monitoring. Web search May 19, 2005.

The Millville Station records level of ozone concentrations that exceed the 8-hour-average health standard for ground-level ozone since 1998. The 8-hour ozone standard is 0.08 parts per million (ppm). For concentrations to be considered exceedances, they must be 0.085ppm or above. Chart 3 illustrates the number of days the 8-hour health standard was exceeded for the 1998-2004 time period.

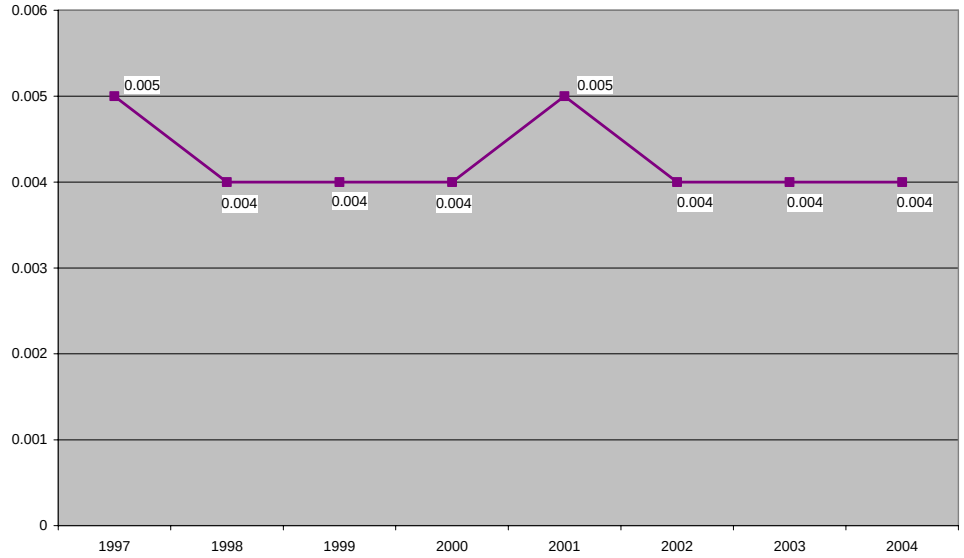
Chart 3: 1998-2004 Total Ozone Exceedances Days
at Millville Mointoring Station



Source: New Jersey Department of Environmental Protection, Bureau of Air Monitoring. Web search May 19, 2005.

The NAAQS for SO2 can be measured an annual average health standard of 0.030 parts per million (ppm). Chart 4 illustrates that the calendar year averages for Millville Station which are negligible.

Chart 4: 1997-2004 Sulfur Dioxide Annual Average (ppm)
at Millville Monitoring Station



Source: New Jersey Department of Environmental Protection, Bureau of Air Mointoring. Web search May 19, 2005.

HYDROLOGY

According to the United States Geological Survey, National Water-Quality Assessment (NAWQA) Program, the City of Vineland is located within the Delaware River Basin. The Delaware River Basin encompasses more than 12,700 square miles and includes parts of Pennsylvania (6,465 square), New Jersey (2,969 square miles), New York (2,363 square miles), and Delaware (968 square miles). The headwaters of the Delaware River are in the Catskill Mountains in the northern part of the basin. Upstream from Trenton, the river drains an area of 6,780 square miles and has an average yearly flow of 11,700 cubic feet per second. Downstream from Trenton, the river is tidally influenced, but is not saline until south of Philadelphia.

On a finer scale, the City of Vineland is in Watershed Management Area 17, Maurice, Salem, Cohansey. This Watershed Management Area includes portions of Atlantic, Cumberland, Gloucester, and Salem counties, over 39 municipalities and encompasses 885 square miles. A watershed is defined as the area of land that drains into a body of water such as a river, lake, stream or bay. The watershed is separated from other systems by high points in the area such as hills or slopes and includes not only the waterway itself but also the entire land area that drains to it.

Watershed Management Area 17 includes the Cohansey, Maurice, Salem and Alloway Rivers and the Menantico, Manusmuskin, Miles, Mill, Stow and Whooping Creeks. A description of each river is as follows:

Cohansey River—The river is nearly 30 miles long, draining 105 square miles of eastern Salem County to the Delaware Bay. This is an area of very low relief, which results in numerous small tributaries. Sunset Lake and Mary Elmer Lake are among 20 major impoundments in this drainage basin. The main land use of this watershed is agriculture, but much of this land is forested.

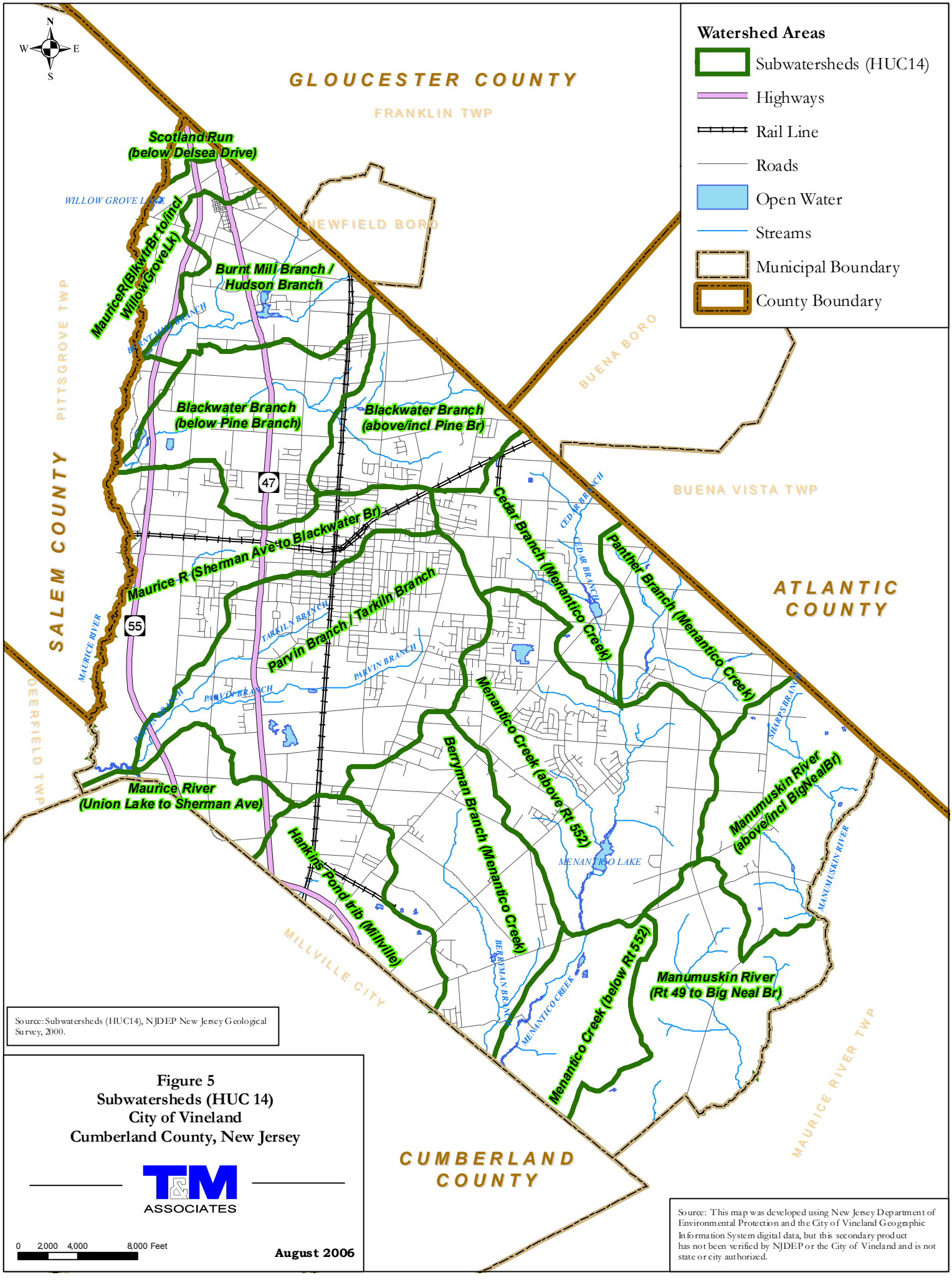
Maurice River—The river drainage area is 386 square miles and meanders south for 50 miles through Cumberland County to the Delaware Bay. The major tributaries of this river are Scotland Run, Menantico Creek, Muskee Creek, Muddy Run, and the Manumuskin River. There are about 20 major lakes in this area of which Union Lake is the largest. The principal land use in this watershed is also agriculture. Pursuant to National Wild and Scenic Rivers Act of 1968 (16 U.S.C. 1271-1287), on December 1, 1993 the Maurice River and several of its tributaries were designated as part of the national Wild & Scenic River system. The designation totals over 35.4 miles (28.9 miles are scenic and 6.5 miles are recreational) encompassing the segment from the Route 670 Bridge at Mauricetown to the south side of the Millville sewage treatment plant. The tributaries designated include: Menantico Creek from its confluence with the Maurice River to the base of the impoundment at Menantico Lake; and the Manumuskin River from its confluence with the Maurice River to the Pennsylvania Reading Seashore Line Railroad bridge. In Vineland, scenic classifications include the approximately 6.5 miles of the Menantico Creek from the base of the Route 55 Bridge to the impoundment at Menantico Lake and the approximately 12.3 miles of the Manumuskin River from the confluence with the Maurice River to its headwaters near Route 557.

Salem River—The river drains an area of 114 square miles and flows 32 miles from Upper Pittsgrove Township west to Deepwater, then south to the Delaware River. The area lies within Salem County, the major population center being Salem City. Much of the lower portions of the river are tidal. Major tributaries of the Salem River include Mannington Creek, Game Creek, Majors Run, and Fenwick Creek. Land use in this watershed is about 40% cropland, with the rest of woodland, tidal/freshwater marsh, urban and pasture.

On the local community scale there are sixteen subwatersheds delineated by the NJDEP with a minimum basin area of 3,0000 acres in Vineland (Figure 5):

I. Berryman Branch (Menantico Creek)
II. Blackwater Branch (below Pine Branch)
III. Blackwater Branch (above including Pine Branch)
IV. Burnt Hill Branch/Hudson Branch
V. Cedar Branch (Menantico Creek)
VI. Hankins Pong tributary (Millville)
VII. Maurice River (Blackwater Bridge to including Willow Lake)
VIII. Maurice River(Sherman River to Blackwater Bridge)
IX. Maurice River (Union Lake to Sherman Avenue)
X. Menantico Creek (above Route 552)
XI. Menantico Creek (below Route 552)
XII. Manumuskin River (above including Big Neal Bridge)
XIII. Manumuskin River (Route 49 to Big Neal Bridge)
XIV. Muddy River (below Landis Avenue)
XV. Panther Branch (Menantico Creek)
XVI. Parish Branch/Tarklin Branch
XVII. Scotland Run (below Delsea Drive)

These subwatersheds divide the Maurice River and separate each confluence into more manageable areas for planning review.



Source: Subwatersheds (HUC14), NJDEP New Jersey Geological Survey, 2000.

Figure 5
Subwatersheds (HUC 14)
City of Vineland
Cumberland County, New Jersey

T&M ASSOCIATES

August 2006

Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.

Groundwater

Groundwater exists below the surface in pores between sedimentary particles and in the fissures of more solid rocks. Most groundwater lies at shallower depths in aquifers and accounts for about 20 times more than the total of surface waters on continents and islands. In the United States, 40 percent of groundwater supplies the public water supply. In New Jersey, more than one-half of New Jersey's drinking-water is supplied by over 300,000 wells that serve more than 4 million people (United States Geological Survey).

An important component of groundwater protection is the quality of the aquifer. An aquifer is a body of geologic material that can supply useful quantities of ground water to natural springs and water wells. An aquifer relies on precipitation seepage, hydric soils and wetlands to continuingly supply an underlying aquifer. It is through the hydrologic cycle that aquifers recharge and discharge into the environment. In terms of human health, safe water drinking legislation and regulations have been enacted to ensure a supply of clean drinking water.

The City of Vineland aquifers are contained in the Kirkwood-Cohansey geological formation of Miocene age. Since the 1920s, the United States Geological Survey (USGS) records groundwater levels in 196 wells in New Jersey. Contained in the USGS Water Resources Data New Jersey Water Year 2004 report, one well is monitored since 1972 at Latitude 39°29'20" and Longitude 74°56'59", in the Willow Oak Natural Area, about 600 ft east of the intersection of Maple Ave. and Lincoln Ave in Vineland. The well is 82 feet deep with a diameter of 4 inches; well measures are screened at 76 to 81 feet. The land surface is 88.00 feet above NGVD (1929); the highest recording is 6.88 feet below land surface on June 21, 2003 and the lowest recording is 12.06 feet below land surface on August 22, 2002. The Water Resources Data New Jersey reports that in the year 2004, that all of the record low water levels were in wells located in the Coastal Plain. These record low levels are the result of increasing withdrawals from wells that tap two confined aquifers— the Atlantic City 800-foot sand of the Kirkwood Formation and the Piney Point aquifer in the southern part of the State.

Figure 6 depicts the groundwater recharge areas in Vineland based on a NJDEP ranking system of each county and watershed management conditions landuse cover, soil suitability and wetland areas. In addition to the ranks, the cover includes hyrdric soils (L), wetlands (W), and no recharge areas (X). The ranking system depicts the annual infiltration rate which expresses the rate of entry into a soil as a depth of water per case year. The following are the individual ranks delineated in Figure 6 and Exhibit 2:

Exhibit 2: Groundwater Recharge Areas in Vineland

Rank	Range inches/year	Acres	Percent of Vineland
A	16 to 23	0.0	0.0
B	11 to 15	17,454.01	39.5
C	8 to 10	13,037.58	29.5
D	1 to 7	4,260.98	9.6
E	0	241.94	0.5
L	NA	2,095.09	4.7
W	NA	7,064.08	0.16
X	NA	0.06	0.0
Total		44,153.797	99.8

Source: New Jersey Department of Environmental Protection, Geographic Information System Information.

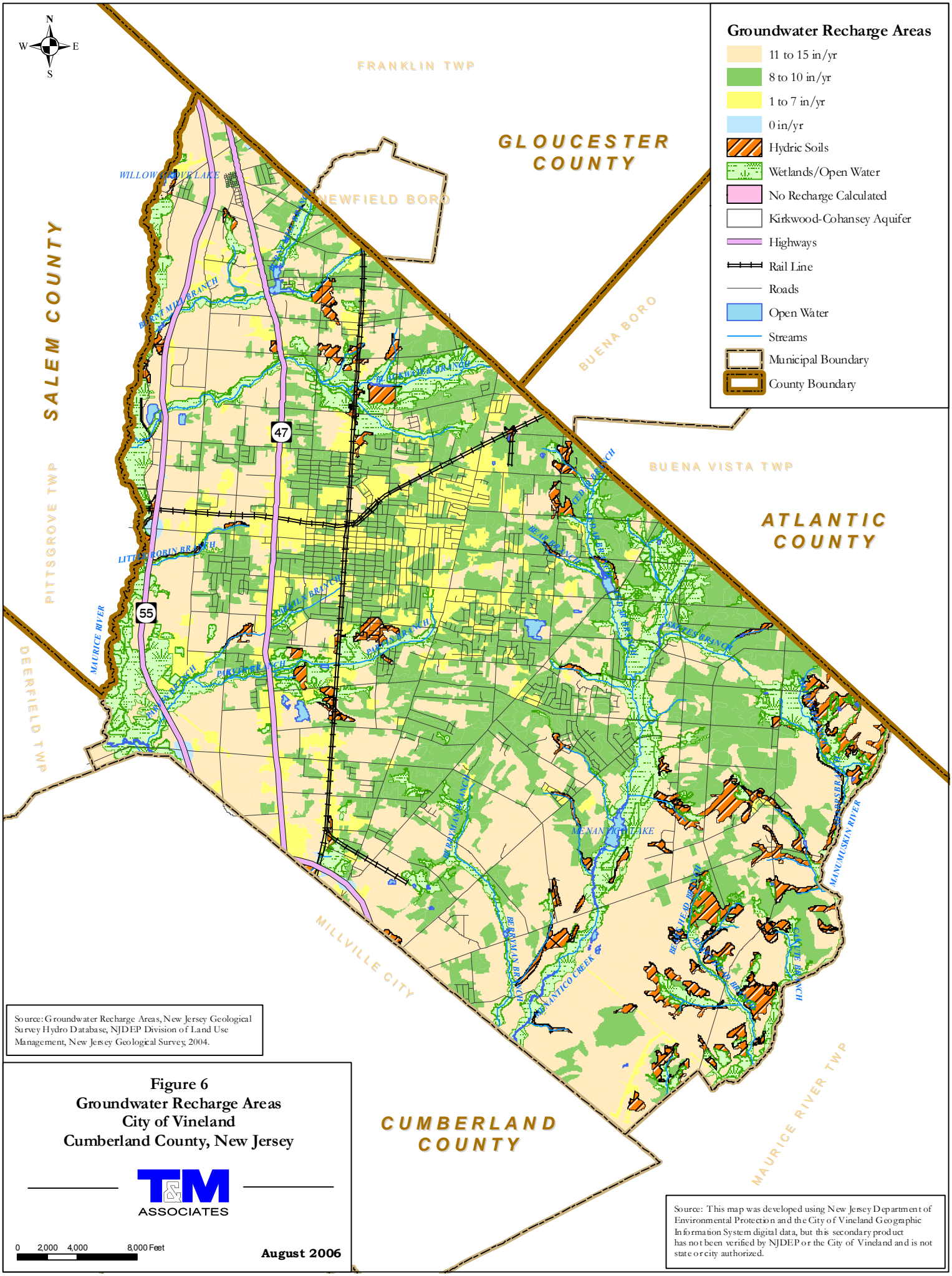
Areas that are ranked "A" or "B" are most likely to have high recharge ranks because there is less impervious coverage and are most likely to contain land uses that are either open space or agricultural areas. Areas that are ranked "C" or "D" are most likely to have low recharge ranks because the dominate land use is urban and there is more likely to be greater impervious cover.

In the Kirkwood-Cohansey formation there are 433 public wells with an average depth of 120 feet. Acknowledging that these wells are essential in providing public water and that these wells can be over-pumped and contaminated, the Federal Safe Drinking Water Act of 1986 Amendments (42, USC 300 et. seq.) directed States to develop a wellhead protection program plan for both public community and non-community water-supply wells. The New Jersey wellhead protection plan delineates areas based on the time of travel, rate of pumping and aquifer characteristics (thickness, transmissivity, porosity, and hydraulic gradient). Time of travel is directly related to the distance the water has to travel to arrive at a well once its starts pumping. The time is divided into three tiers based on travel time to wells:

- Tier 1: 2 years (730 days)—This boundary is devised to account for the time travel to the outer boundary and presence of bacteria and viruses.
- Tier 2: 5 years (1,826 days)—This boundary is devised to account for the discharge of known pollution contamination and the ability of the NJDEP to locate responsible parties. Although not an exact science, this boundary accounts for the "smearing effect" observed in pollution plumes and the acceleration of groundwater near a pumping well. The NJDEP is in the process of revising the procedures for pollution case management.
- Tier 3: 12 years (4,383 days)—This boundary is devised to demonstrate the complete zone of contribution and to ensure on-going monitoring of wellhead areas.

Each corresponding year delineation is comprised of pumping rates and related aquifer characteristics that determine the extent of the time of travel which are dependent on the individual aquifer bedrock geology and drainage direction.

In Figure 7, there are twenty-one wellhead protection areas in Vineland and five in Millville. Less than half of the wellhead protection areas are centered in the Planning Area 1 and Regional Center boundaries and the rest of the areas are in Planning Area 4. Planning Area and Regional Center boundaries are defined by the State Planning Commission's State Development and Redevelopment Plan planning policies for the State Plan Policy Map. An element that is critical to ensuring the wellhead protection areas do not become degraded is to locate all known contaminated sites. These sites include those that are on the Superfund list, the NJDEP known contaminated list and the Industrial Site Recovery sites. Appendix B contains a detailed description of the programs and the sites that make up contaminated sites in Vineland. Wellhead protection area 31-05227 in the northwest section of Vineland is severally impacted with groundwater pollution and the presence of a known contaminated site.



Source: Groundwater Recharge Areas, New Jersey Geological Survey Hydro Database, NJDEP Division of Land Use Management, New Jersey Geological Survey, 2004.

Figure 6
Groundwater Recharge Areas
City of Vineland
Cumberland County, New Jersey

T&M ASSOCIATES

0 2,000 4,000 8,000 Feet

August 2006

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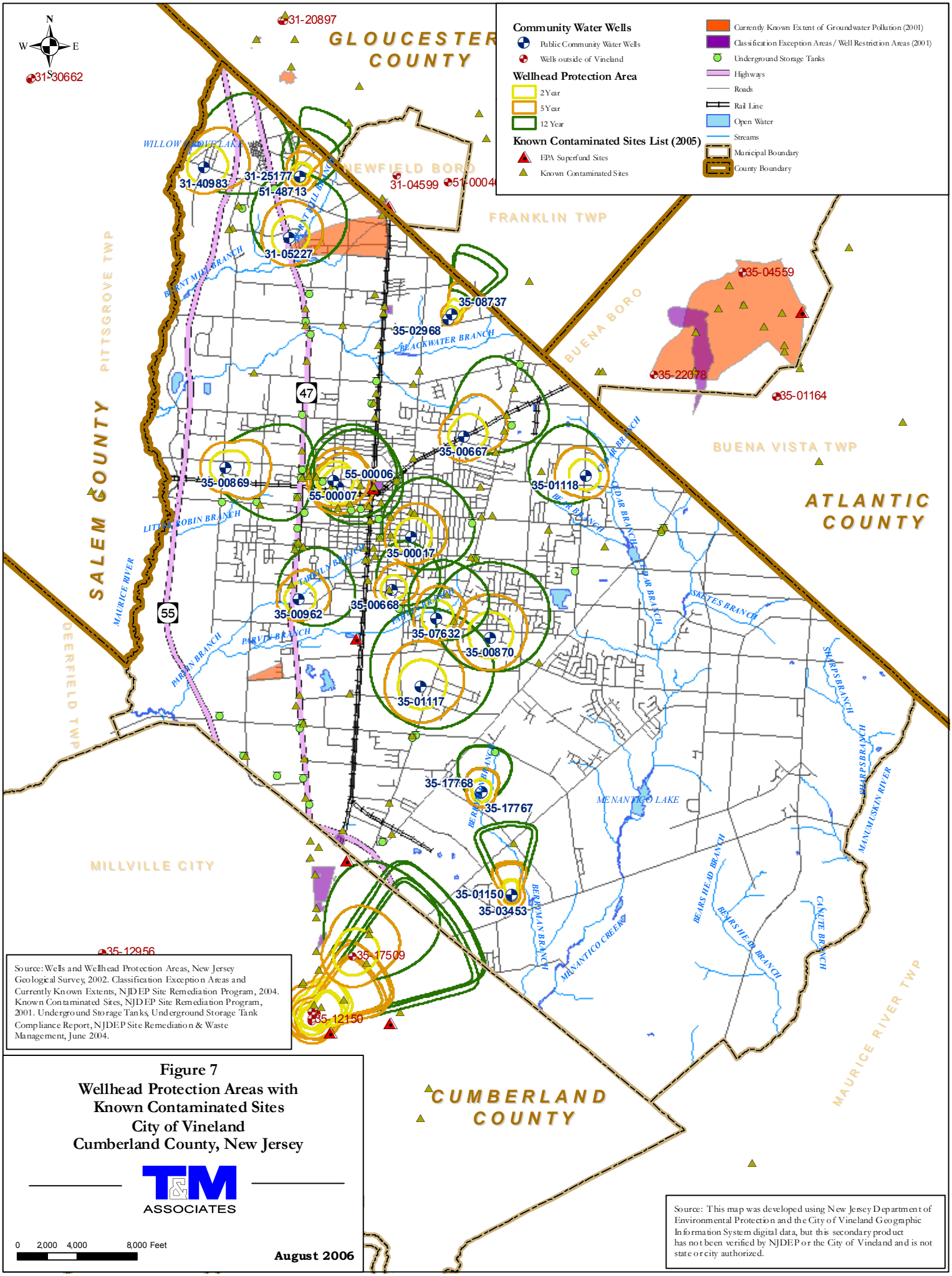


Source: Wells and Wellhead Protection Areas, New Jersey Geological Survey, 2002. Classification Exception Areas and Currently Known Extents, NJDEP Site Remediation Program, 2004. Known Contaminated Sites, NJDEP Site Remediation Program, 2001. Underground Storage Tanks, Underground Storage Tank Compliance Report, NJDEP Site Remediation & Waste Management, June 2004.

Figure 7
Wellhead Protection Areas with Known Contaminated Sites
City of Vineland
Cumberland County, New Jersey

T&M ASSOCIATES

0 2,000 4,000 8,000 Feet

August 2006

Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.

Surface Water

Figure 8 shows the rivers and lakes, special designations and the floodplain areas contained in Vineland which all flow to the Delaware Bay. Both the Manumuskin River and Maurice River provide a natural border along the City and the Menantico Creek drains the eastern portion of the City. The Manumuskin River lies on the Northeast section of Vineland and the river's tributaries, Bears Head Branch, Big Neal Branch, Canute Branch and Sharps are designated by the Pinelands Commission with waters of outstanding national water resource. The Maurice River lies to the Northwest and has been designated part of the Wild & Scenic River system as discussed previously. Vineland also contains two lakes: Menantico Lake and Willow Grove Lake. There are also several tributaries: Bear Branch, Big Neal Branch, Blackwater Branch, Burnt Mill Branch, Canute Branch, Cedar Branch, Cossa Boones Branch, Hudson Branch, Little Robin Branch, Parvin Branch, Scotland Run, Sharp Branch, Sketes Branch, West Branch Panther, White Oak Branch, and Womans Branch. The Cedar Branch feeds the Menantico Lake which is in the Southwest portion of the municipality.

Figure 8 also delineates flood prone areas; lowland areas adjacent to a river, lake or ocean. Floodplains are designated by the frequency of the flood that is large enough to cover them. The Federal Emergency Management Agency determines the 100-year floodplain and the 500-year floodplain based on analysis of records of river flow, storm tides, and rainfall; information obtained through consultation with the communities: floodplain topographic surveys; and hydrologic and hydraulic analysis. Typically, only drainage areas that are greater than one square mile are studied.

Floodplain areas run along the Maurice River in the Northwest and Southwest section of Vineland, along the Cedar Branch in the Northeast section, along the Berryman Brach in the Northwest section and the Manumuskin River along the border of Vineland and Maurice River Township in the Pinelands.

Pursuant to the Surface Water Quality Standards (N. J. A. C. 7:9B et. al.), all waterways above expect for the Cedar Branch (source of the Manumuskin River) are listed as FW2-NT. FW2 designations are a general surface water classification applied to waterways that are not of exceptional quality, significance or resource. NT is the designation for non-trout waters. The Cedar Branch designation is FW1, which means that not only are these waters to be maintained in their natural state of quality because they provide exceptional ecological and recreational significance and no discharge or runoff is permitted in these waterways. NJDEP has designated portions of the Maurice River Main Stem

and the confluence of the Parvin Branch that border the Union Lake Wildlife Management Area (City of Millville) as Category One (C-1).

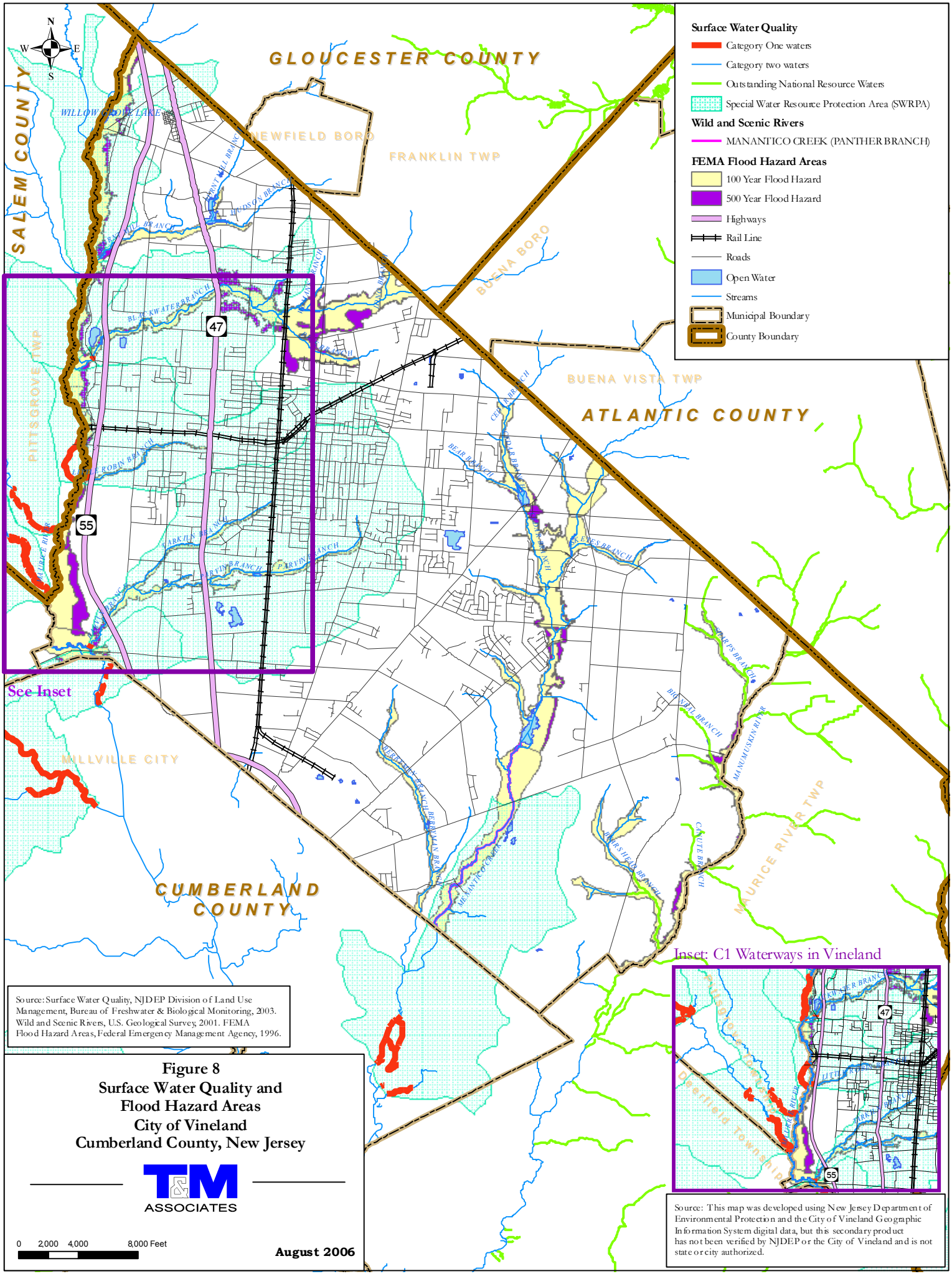
The protection afforded to C-1 waterways is due to the waters clarity, color, scenic setting or other characteristics of aesthetic value, exceptional ecological significance, exceptional recreational significance, exceptional water supply significance or exceptional fisheries resource(s). To ensure protection of these waterways, the delineation of "special water resource protection areas" were promulgated in the Stormwater Management Rules. These special water resource protection areas are those areas within 300 feet of a designated C-1 and are ". . . perennial or intermittent streams that drain into or upstream of the Category One as shown on the USGS Quadrangle Maps or in the County Soil Surveys, . . ." within the limits of the associated sub-watershed (HUC-14) (N.J.A.C. 7:8-5.5(h)). The special water resource protection area is intended as a buffer between development and these special waters in order to protect both water quality and the attributes for which the waters have been designated. In Vineland, the extent of this area protection includes the entire length of the Maurice River, encompassing Willow Grove Lake, a significant portion of the Blackwater Branch and the entire length of the Little Robin Branch and Parvin Branches. Due to a C-1 designation of the Menantico Creek in Millville, a portion of the Menantico Creek, below the Menantico Lake in Vineland, is also included as part of the special water resource protection areas.

The Clean Water Act requires the State to report to the USEPA a list of impaired waters and protection measures. In Vineland the following waterbodies are impaired:

Exhibit 3: Impaired Waterways

Site ID	Location	Parameters
AN0739	Blackwater Branch at Maurice River Pkwy	Benthic Macroinvertebrates
AN0735	Burnt Mill Branch at Route 55	Benthic Macroinvertebrates
AN0757	Cedar Branch at Italia Ave	Benthic Macroinvertebrates
17-HUD-1	Hudson Branch	Arsenic, Chromium, Cadmium, Copper, Mercury, Nickel, Selenium, Silver, Thallium, Zinc
AN0759	Menantico Creek at Hance Bridge Rd	Benthic Macroinvertebrates
AN0762	Manumuskin River at Old Mays Landing Rd	Benthic Macroinvertebrates
AN0733	Maurice River (Scotland Run) at Willow Grove Rd	Benthic Macroinvertebrates
AN0740	Maurice River at Almond Ave	Benthic Macroinvertebrates
AN0751	Maurice River at Sherman Ave	Benthic Macroinvertebrates
Menantico Pond	Menantico Lake-17	Fish Community
Menantico Pond	Menantico Pond	Phosphorus
AN0758	Panther Branch (Menantico Creek) at Italia Ave	Benthic Macroinvertebrates
AN0750	Parvin Branch at Route 55	Benthic Macroinvertebrates
Vineland YMCA	Vineland YMCA	Fecal Coliform

Source: New Jersey Department of Environmental Protection, Water Monitoring and Standards. New Jersey 2004 Integrated Water Quality Monitoring and Assessment Report. Web search May 18, 2005.


N
W
E
S
GLOUCESTER COUNTY
SALEM COUNTY
ATLANTIC COUNTY
CUMBERLAND COUNTY
FRANKLIN TWP
NEWFIELD BORO
BUENA BORO
BUENA VISTA TWP
PITTSGROVE TWP
MAURICE RIVER TWP
MILLVILLE CITY
WILLOW POND LAKE
47
55
See Inset
Surface Water Quality
Category One waters
Category two waters
Outstanding National Resource Waters
Special Water Resource Protection Area (SWRPA)
Wild and Scenic Rivers
MANANTICO CREEK (PANTHER BRANCH)
FEMA Flood Hazard Areas
100 Year Flood Hazard
500 Year Flood Hazard
Highways
Rail Line
Roads
Open Water
Streams
Municipal Boundary
County Boundary
Inset: C1 Waterways in Vineland
Source: Surface Water Quality, NJDEP Division of Land Use Management, Bureau of Freshwater & Biological Monitoring, 2003. Wild and Scenic Rivers, U.S. Geological Survey, 2001. FEMA Flood Hazard Areas, Federal Emergency Management Agency, 1996.
Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.
Figure 8
Surface Water Quality and
Flood Hazard Areas
City of Vineland
Cumberland County, New Jersey
T&M ASSOCIATES
0 2,000 4,000 8,000 Feet
August 2006

Wetlands

The USEPA defines wetlands as areas where water covers the soil, or is present either at or near the surface of the soil all year or for varying periods of time during the year, including during the growing season. These conditions lead to the development of unique aquatic and terrestrial species and soils that support types of plant and animal communities living in and on the soil.

In the City of Vineland, there are several hydric soils that support ecological conditions for wetlands. The USDA-NRC, Soil Data Mart listed the following soils as hydric soils and those that have hydric components:

Exhibit 4: Hydric Soils

Hydric Soil	Hydric Rating Components
Atison Sand (AtsAr)	Galloway loamy sand (GamB)
Berryland and Mullica Soils (BEXAS)	Hammonton sandy loam (HboA)
Fallsington sandy loam (FamA)	Lakehurst sand (LakB)
Manahawkin much (MakAt)	Woodstown sandy loam (WoeA)
Othello and Fallsington (OTKA)	

Source: United States Department of Agriculture, Natural Resources Conservation Services. Soil Data Mart, NJ011 Cumberland County, New Jersey. Web search May 13, 2005

Further on-site investigation is needed to delineate wetlands vegetation and the presence of water sufficient to support wetlands vegetation in the City of Vineland. The USDA-NRC, The PLANTS Database, Version 3.5 (2004) lists several hundred hydrophytes species for the State. This database could be utilized as a start pointing for this analysis.

In terms of types, there are several different categories of freshwater wetlands recorded by NJDEP. There are two vernal ponds located within the City at "Main Avenue Station" and along the Big Neal Branch (Manumuskin tributary). Vernal ponds are temporary pools of water created by snow melt or spring rains and are essential for spawning areas for salamanders.[2] According to the United States Fish and Wildlife Services, Wetlands and Deepwater Habitats Classification National Wetlands Inventory Mapping Code the following characteristics of freshwater can be found in Vineland (Figure 9):

I. Palustrine System—This system includes areas that are grouped as vegetated wetlands (marsh, swamp, bog, fen, and prairie) and are small, shallow, permanent or intermittent water bodies often called ponds. All water regimes except subtidal are included.

[2]The location of the Main Street Avenue Station vernal pond requires further on-site investigation. The vernal pond is located in the Cedar Branch (Menantico Creek) subwatershed in an agriculture area of Vineland. The NJDEP GIS data layer identifies the area on the Cedar Branch and the Quadrangle mapping (Moore) identifies it in the general location of the rail line.

Wetlands are delineated based on the dominate type of vegetation, a total land area less than 20 acres, low water depth and relative salinity.

Atlantic White Cedar Wetland—This wetland accounts for 191.81 acres or 2.56% of Vineland. Woody vegetation in this wetland is 6 m (20 feet) tall or taller. In areas where the woody vegetation is dominated by shrubs, the vegetation is less than 6 m (20 feet) tall. The dominate vegetation is the Atlantic white cedar (*Chamaecyparis thyoides*).

Coniferous scrub/shrub wetland—This wetland encompasses 15.71 acres or less than 0.5% of Vineland. Woody vegetation in this wetland is less than 6 m (20 feet) tall. These species include both broad-leafed and needle-leafed evergreens, true shrubs, young trees (saplings), and trees or shrubs that are small or stunted because of environmental conditions. The substrate is saturated to surface for extended periods during the growing season.

Coniferous wooded wetland—This wetland encompasses 420.76 acres or 5.82% of Vineland. Woody vegetation in this wetland is 6 m (20 feet) tall or taller. The dominate woody vegetation includes needle-leaved evergreen. There are two saturation scenarios present in this wetland, either the substrate is saturated to surface for extended periods during the growing season or surface water is present for extended periods especially early in the growing season.

Deciduous scrub/shrub wetland—This wetland encompasses 321.67 acres or 4.45% of Vineland. This wetland can also be characterized as emergent, defined as an area that is flooded either seasonally or permanently. Woody vegetation in this wetland is less than 6 m (20 feet) tall. These species include broad-leaved deciduous trees, true shrubs, young trees (saplings), and trees or shrubs that are small or stunted because of environmental conditions. The substrate is saturated to surface for extended periods during the growing season.

Deciduous wooded wetland—This wetland encompasses 3910.74 acres or 54.07% of Vineland. This wetland can also be characterized as emergent, defined as an area that is flooded either seasonally or permanently. Woody vegetation in this wetland is 6 m (20 feet) tall or taller. These species include broad-leaved deciduous trees, true shrubs, young trees (saplings), and trees or shrubs that are small or stunted because of environmental

conditions. There are two saturation scenarios present in this wetland, either the substrate is saturated to surface for extended periods during the growing season or surface water is present for extended periods especially early in the growing season.

Herbaceous Wetlands—This wetland encompasses 208.63 acres or 2.88% of Vineland. This wetland can also be characterized as emergent, defined as an area that is flooded either seasonally or permanently. Emergent vegetative species are perennial plants and are characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. In some instances herbaceous wetlands may have broad-leaved deciduous trees. There are two saturation scenarios present in this wetland, either the substrate is saturated to surface for extended periods during the growing season or surface water is present for extended periods especially early in the growing season.

Mixed Forested Wetlands (Coniferous Dominated)—This wetland encompasses 543.33 acres or 7.39% of Vineland. Woody vegetation in this wetland is 6 m (20 feet) tall or taller and includes both needle-leaved evergreen and broad-leaved deciduous. As the name implies, there are relatively more needle-leaved evergreens (>50% and <75%) than broad-leaved deciduous vegetative species. These areas exhibit three relative saturation scenarios either the substrate is saturated to surface for extended periods during the growing season, surface water is present for extended periods especially early in the growing season or their is seasonal flooding.

Mixed Forested Wetlands (Deciduous dominated)—This wetland encompasses 779.72 acres or 10.78% of Vineland. Woody vegetation in this wetland is 6 m (20 feet) tall or taller and includes both needle-leaved evergreen and broad-leaved deciduous. As the name implies, there are relatively more broad-leaved deciduous (>50% and <75%) than needle-leaved evergreens vegetative species. These areas exhibit three relative saturation scenarios either the substrate is saturated to surface for extended periods during the growing season, surface water is present for extended periods especially early in the growing season or their is seasonal flooding.

Mixed Scrub/Shrub Wetlands (Coniferous Dominated)—This wetland encompasses 43.57 acres or less than 1% of Vineland. Woody vegetation in this wetland is less than 6m (20 feet), includes true shrubs, young trees (saplings), and trees or shrubs that are small or stunted because of environmental conditions, needle-leaved evergreen that are

young or stunted trees and broad-leaved deciduous. These areas exhibit three relative saturation scenarios either the substrate is saturated to surface for extended periods during the growing season, surface water is present for extended periods especially early in the growing season or their is seasonal flooding.

Mixed Scrub/Shrub Wetlands (Deciduous dominated)—This wetland encompasses 74.63 acres or 1.03% of Vineland. Woody vegetation in this wetland is less than 6 m (20 feet), includes true shrubs, young trees (saplings), and trees or shrubs that are small or stunted because of environmental conditions, broad-leaved deciduous, needle-leaved evergreen that are young or stunted trees. These areas exhibit three relative saturation scenarios either the substrate is saturated to surface for extended periods during the growing season, surface water is present for extended periods especially early in the growing season or their is seasonal flooding. The substrate is saturated to surface for extended periods during the growing season, but surface water is seldom present.

II. Disturbed/Modified Wetland—These areas are former wetlands that have been converted to agricultural, landfills and other land uses. All the soils in these areas retain their hydric properties.

Agricultural Wetlands—These areas encompass 466.9 acres or 6.46% of Vineland. The dominate land use in these areas is crop production.

Disturbed Wetlands—These areas encompass 145.87 acres or 2.02% of Vineland. Areas described as disturbed refer to wetlands that have been cleared, filled or excavated.

Managed Wetlands—These areas encompass 75.08 acres or 1.04% of Vineland. Areas described as managed refer to wetlands that are managed for miscellaneous types of agriculture, such as orchards, nurseries, sod and seed farms, cranberry and blueberry farms, live stock feed lots, poultry farms horse farms and other specialty farms.

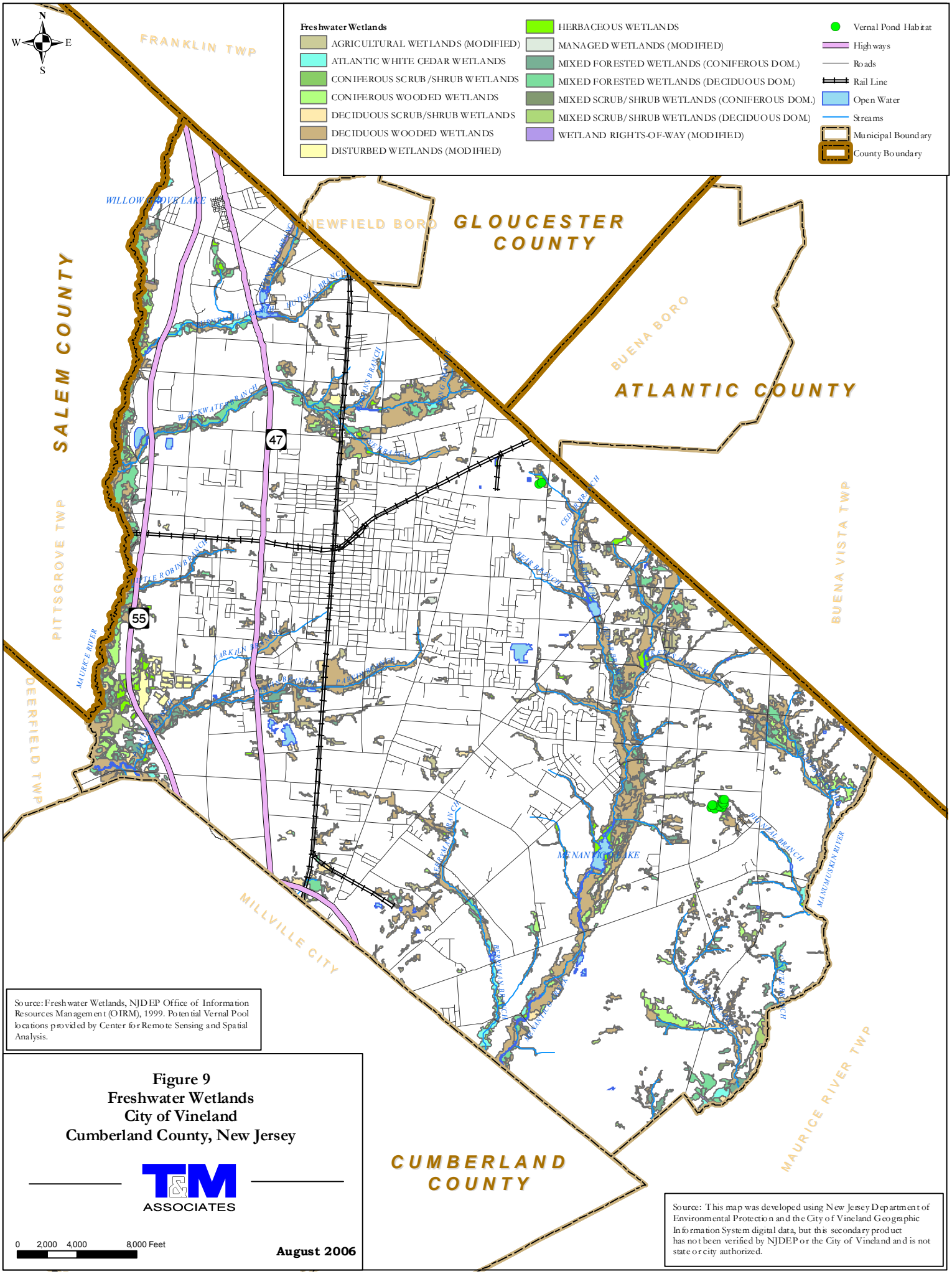
Wetland Rights-of-Way—These areas encompass 43.67 acres or less than 1% of Vineland.

The Nature Conservancy manages the Willow Grove Lake Wetlands Mitigation Bank which is located on two separate parcels of land totaling 1,073 acres in the City of Vineland, Cumberland

County, and Pittsgrove Township, Salem County. One parcel totals 734 acres with 355 acres of it wetlands and 379 acres of it uplands. The second parcel totals 339 acres with 245 acre of it wetlands and 94 acres of it uplands. The bank received a total of 40 mitigation credits for freshwater wetland/upland preservation activities. This bank is able to sell their mitigation credits to areas contained in the Delaware River Drainage Basin (Watershed Management Areas: 1, 11, 17, 18, 19 and 20).

The USEPA—Region 2, Marine and Wetlands Protection Branch (1994) lists the Maurice River system as a priority wetland. The Maurice River System priority wetland includes the following waterbodies: Maurice River, Manumuskin Creek, Menantico Creek, and Muskee Creek (Atlantic, Cumberland, Gloucester, and Salem Counties; various municipalities; USGS Quadranqle(s): Bridgeton, Buena, Cedarville, Dividing Creek, Elmer, Five Points, Heislerville, Milleville, Newfield, Pitman East, Pitman West, Port Elizabeth,. Port Norris). The list recognizes those areas identified by various federal, state and private contributors to determine appropriate policy for any proposed dredged or fill material discharges into waters.

> Maurice River System—All Tributary wetlands of the Maurice River system are considered part of this priority listing and are located in their entirety in the City of Vineland. Much of the Maurice River and its tributaries have been federally designated as part of the National Wild and Scenic Rivers system. Specifically, the Pole Tavern geographic area, located in Pittsgrove Township, Salem County is contained within the boundaries of the Maurice River priority wetland. Pole Tavern is 0.200 acres of palustrine forest and provides habitat for passerines, raptors, American woodcock, deer, squirrels, opossum, raccoon, and smaller mammals.
>
> The Maurice River System resource values are as follows:
>
> - Wetlands of this drainage are amongst the most pristine natural areas in New Jersey.
> - Supports major wintering population of the federally endangered Bald eagle and provides historically suitable nesting habitat for the eagle, which is hoped will once again provide habitat for additional nesting pairs.
> - Other state listed species present include Ospreys, Red-shouldered hawks, Southern gray and Pine Barrens tree frogs, and Barred owls.



Source: Freshwater Wetlands, NJDEP Office of Information Resources Management (OIRM), 1999. Potential Vernal Pool locations provided by Center for Remote Sensing and Spatial Analysis.

Figure 9
Freshwater Wetlands
City of Vineland
Cumberland County, New Jersey

T&M ASSOCIATES

0 2,000 4,000 8,000 Feet

August 2006

Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.

WILDLIFE & VEGETATION

The NJDEP, Division of Fish and Wildlife, Endangered and Nongame Species Program—*New Jersey's Landscape Project, Version 2.0* defines the area that Vineland is located in as the Delaware Bay Region. The Delaware Bay Region encompasses all or parts of Cape May, Atlantic and Cumberland counties. This area features a stable population of Bald eagles, Tiger salamanders, Southern gray tree frogs and 30 other endangered and threatened species. The vast woodland tracts of this region are among the largest in the state and support a large portion of New Jersey's Neotropical bird populations. The extensive saltwater marsh and sandy overwash beaches support a shorebird migration that has worldwide ecological significance. Despite the heavy loss of habitat, the Cape May Peninsula remains one of the country's most important migratory "stopovers" for hundreds of bird and insect species.

The Landscape Project lists federal and state endangered, threatened and priority species by habitat type which is based on the Natural Heritage Program's Biological Conservation Database. NJDEP Habitat types are categorized as emergent, forested wetland, forest, grassland and beach in the Landscape Project Habitat type is categorized as emergent wetland, forested wetland, forest and grassland. Emergent wetlands are marshes which are usually dominated by grass-like plants rooted in bottom sediments, but "emerge" above the surface of the water. These wetlands also tend to develop in zones progressing from terrestrial habitat to open water. Forest wetlands are swamps that contain saturated soils during the growing season, and standing water during certain times of the year. The highly organic soils of swamps form a thick, black, nutrient-rich environment for the growth of water-tolerant trees such as the Atlantic white cedar (*Chamaecyparis thyoides*). Swamps are dominated by woody plants and play vital roles in flood protection and nutrient removal. Habitats are ranked on a scale of 1 to 5, as follows:

Rank	Indication
1	Suitable habitat, no special concern, threatened or endangered species sighted
2	Habitat patch with species of special concern present
3	Habitat patch with State threatened species present
4	Habitat patch with State endangered species present
5	Habitat patch with containing one or more occurrences of at least one wildlife species listed as endangered or threatened on the Federal list of endangered and threatened species.

Vineland is located within the Delaware Bay Region which is exhibits a forest, grassland and forested and emergent ecology (Figure 10). In Vineland 46.04% (20,328.66 acres) is forest cover, 12.95% (5,719.64 acres) forested wetland, 1.54% (679.12 acres) emergent wetland and 11.10% (4,899.76

acres) grassland. Bald eagle forging habitat totals less than 1% or 421.85 acres. These figures are meant to serve as a guide as there is some doubling counting for forest and forested wetland covers and the Bald eagle forging habitat.

Exhibit 5 lists endangered and threatened wildlife species contained in Vineland based on the species habitat preferences. Of the state threatened species three are Neotropical and prefer Interior Forest; both the Acadian Flycatcher and Black-and-White warbler are vulnerable to fragmentation, while the Baltimore oriole is not. Species that are on the State priority list and prefer Interior Forest are overwhelming Neotropical and are susceptible to habitat fragmentation. The two "resident" species, the Carolina Chickadee and the Hairy Woodpecker, are also vulnerable to habitat fragmentation. Of the species that prefer grassland habitat, most are short distance species and have an area sensitivity. The "resident" species, the Northern Bobwhite does not. Species that prefer shrub-scrub/barrens ecology are Neotropical and much is not known of their vulnerability to fragmentation.

Exhibit 5: City of Vineland Endangered, Threatened and Priority Species by Habitat Type

Delaware Bay	Emergent Wetland	Forested Wetland	Forest	Grassland
Birds				
Federal T or E				
Bald Eagle Foraging Area (NB: Non-breeding population only *Haliaeetus leucocephalus*				
Priority Species				
Acadian Flycatcher *Empidonax virescens*		X	X	
Baltimore Oriole *Icterus galbula*			X	
Black-and-White Warbler *Mniotilta varia*		X	X	
Blue-Winged Warbler *Vermivora pinus*		X		
Brown Thrasher *Toxostoma rufum*		X	X	
Carolina Chickadee *Parus carolinensis*		X	X	
Eastern Kingbird *Tyrannus tyrannus*				X
Eastern Towhee *Pipilo erythrophthalmus*		X	X	
Gray Catbird *Dumetella carolinensis*		X	X	
Hairy Woodpecker *Picoides villosus*			X	
Northern Bobwhite *Colinus virginianus*				X

Herptiles					
Priority Species					
Carpenter Frog *Rana virgatipes*	X	X			
Eastern Box Turtle *Terrapene carolina carolina*					X
Eastern Kingsnake *Lampropelitis getula getula*		X	X		
Fowler's Toad *Bufo fowleri*	X	X			

Source: New Jersey Department of Environmental Protection, Division of Fish and Wildlife, Endangered and Nongame Species Program—*New Jersey's Landscape Project, Version 2.0*. Web Search May 12, 2005.

The NJDEP also documents rare species and ecological community habitat in the Natural Heritage Database administered through the Office of Natural Lands Management (Figure 11). The database is based on the presences of a rare plant species/ecological community in a Geographic Information System grid. There are 100 grid cells totaling 358 and 372 acres in size. Recording of a plant species is based on an occurrence in a grid cell, meaning that the whole grid will be codes as containing said species. The vegetative species located in Vineland include:

Exhibit 6: Rare and Ecological Community Habitat Vegetative Species

State Endangered	
Chickasaw plum *Prunus angustifolia*	Coast Flatsedge *Cyperus polystachyos*
Pine Barren Boneset *Eupatorium resinosum*	Small-yellow Pond Lily *Nuphar microphylla*
Virginia False Gromwell *Onosmodium virginianum*	

Rare	
Aster-like Boltunia *Boltonia asteroids var asteroids*	Barratt's Sedge *Carex barrattii*
Clasping Leaf St. John's Wort *Hypericum gymnanthum*	Curly Grass Fern *Schizaea pusilla*
Floating Heart *Nymphoides cordata*	Hyssop-leaf Hedge-Nettle *Stachys hyssopifolia*
Mudbank Crown Grass *Paspalum dissectum*	Narrow Leaf Bluecurls *Trichostema setaceum*
Oaks Pondweed *Potamogeton oakesianus*	Racemed Milkwort *Polygala polygama*
Red milkweed *Asclepias rubra*	Rose-color coreopsis *Coreopsis rosea*
Pencil-flower *Stylosanthes biflora*	Pine Barren Smoke Grass *Muhlenbergia torreyana*
Purple Bladderwort *Utricularia purpurea*	Slender nut-rush *Scleria minor*
Twisted spike-rush *Eleocharis tortilis*	Velvety tick-Treefoil *Desmodium viridiflorum*

Source: New Jersey Department of Environmental Protection, Office of Natural Lands Management. Natural Heritage Database. Web search May 16, 2005.

Not all the vegetative species contained in Vineland are threatened or endangered species. The USDA-NRC, Soil Data Mart lists the following woodland species that be found in Vineland:

Atlantic white cedar *Chamaecyparis thyoides*
Blackgum *Nyssa sylvatica*
Chestnut oak *Quercus prinus*
American sycamore *Platanus occidentalis*
Black oak *Quercus velutina*
Eastern white pine *Pinus strobes*

Flowering crabapple *Malus floribunda*
Loblolly pine *Pinus taeda*
Pin oak *Quercus palustris*
Post oak *Quercus stellata*
Sugar maple *Acer saccharum*
Sweetgum *Liquidambar styraciflua*
Virginia pine *Pinus virginiana*
Willow oak *Quercus phellos*
Flowering dogwood *Cornus florida*
Northern red oak *Quercus rubra*
Pitch Pine *Pinus rigida*
Scarlet oak *Quercus coccinea*
Shortleaf pine *Pinus echinata*
Red Maple *Acer rubrum*
White oak *Quercus alba*
Yellow-poplar *Liriodendron tulipifera*

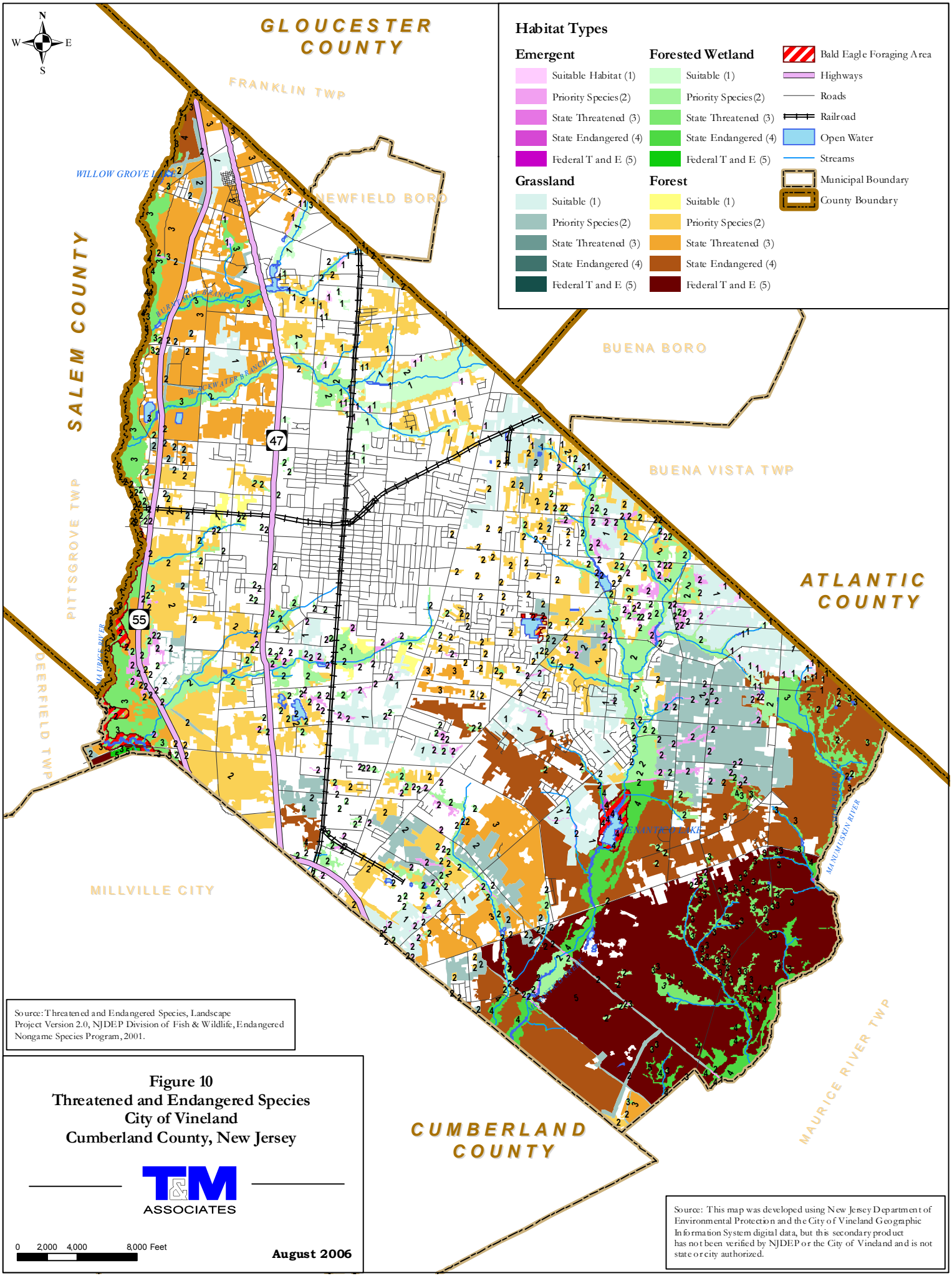
Further on-site investigation is needed to determine overall ecology in the City of Vineland. For example, the Nature Conservancy notes the presences of the following federal or state threatened and endangered species for the Willow Grove Lake Preserve.

Exhibit 7: Willow Grove Preserve Rare and Ecological Community Habitat Vegetative Species

Plants	**Odonates (Dragonflies/Damselflies)**
Floating Heart *Nymphoides cordata)*	Scarlet Bluet *Enallagma pictum*
Purple Bladderwort *Utricularia purpurea*	Banner Clubtail *Gomphus apomyius*
Blue Boneset *Eupatorium coelestinum L.*	Treetop Emerald *Somatochlora provocans*
Pale Beaked Rush *Rhynchospora pallida*	Robust Baskettail *Tetragoneuria spinosa*
Mitchell's Sedge *Carex mitchelliana*	Bar-Winged Skimmer *Libellula axilena*
Beaked Sedge *Carex rostrata*	Mocha Emerald *Somatochlora linearis*
Cranefly Orchid *Tipularia discolor*	

Herptiles (Reptiles/Amphibians)	**Birds**
Northern Pine Snake *Pituophis m. melanoleucus*	Bald Eagle *Haliaeetus leucocephalus*
Pine Barrens Tree frog *Hyla andersonii*	Cooper's Hawk *Accipiter cooperii*

Source: The Nature Conservancy, Herpetological Associates, Inc (1994-1995). Email Correspondence, May 17, 2005.



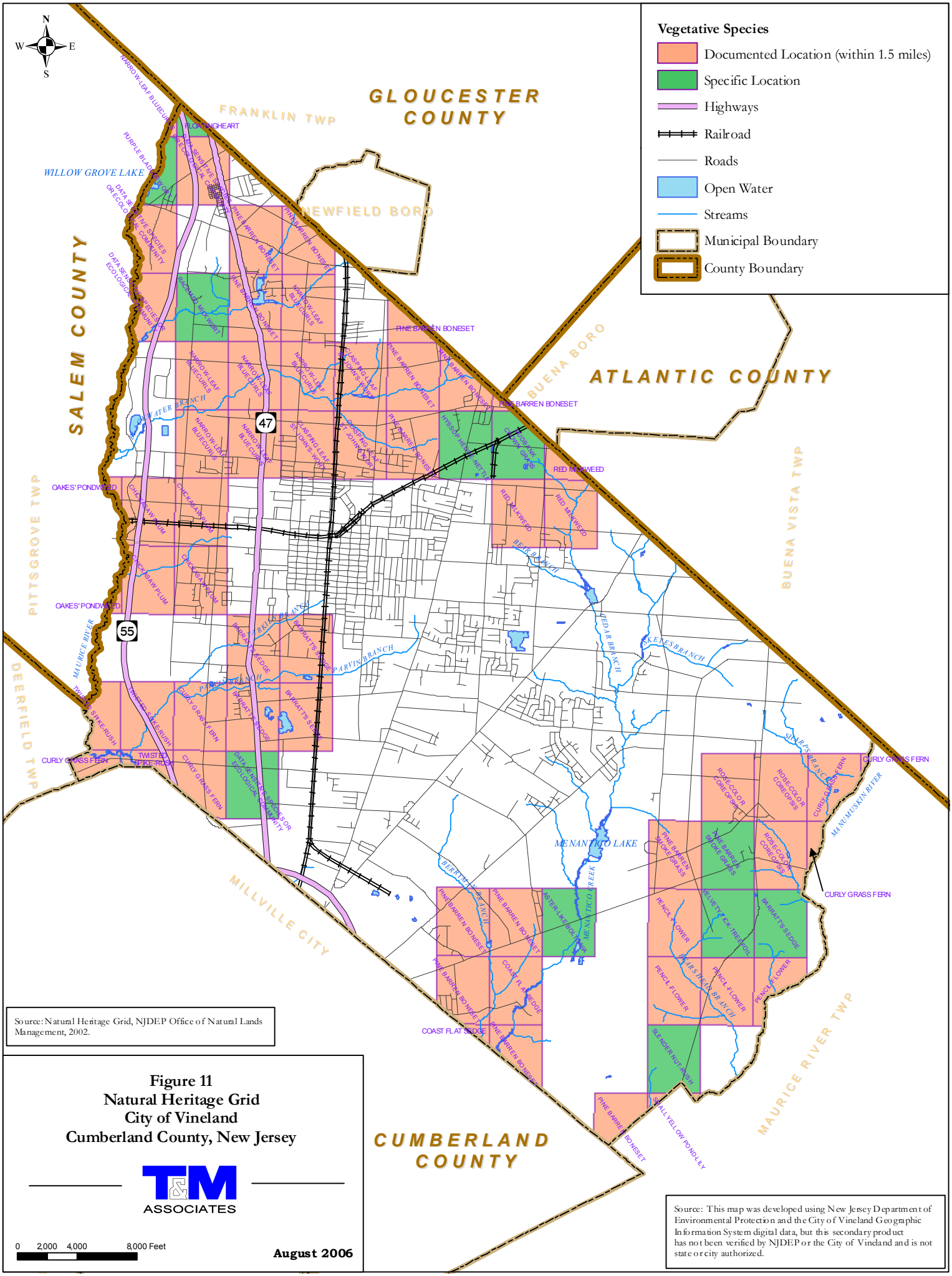
Source: Threatened and Endangered Species, Landscape Project Version 2.0, NJDEP Division of Fish & Wildlife, Endangered Nongame Species Program, 2001.

Figure 10
Threatened and Endangered Species
City of Vineland
Cumberland County, New Jersey

T&M ASSOCIATES

August 2006

Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.



Source: Natural Heritage Grid, NJDEP Office of Natural Lands Management, 2002.

Figure 11
Natural Heritage Grid
City of Vineland
Cumberland County, New Jersey

T&M ASSOCIATES

0 2,000 4,000 8,000 Feet

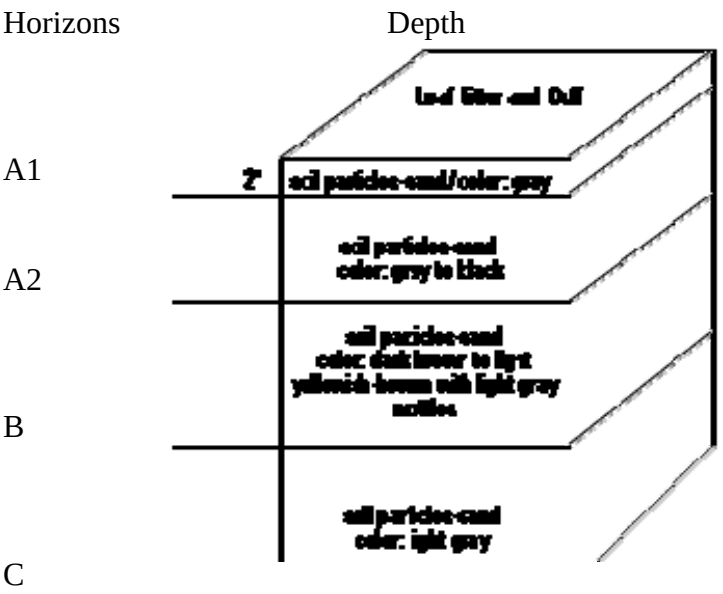
August 2006

Source: This map was developed using New Jersey Department of Environmental Protection and the City of Vineland Geographic Information System digital data, but this secondary product has not been verified by NJDEP or the City of Vineland and is not state or city authorized.

Appendix A

Soil Classification

The United States Department of Agricultural, Natural Resources Conservation Services Soil Data Mart provides technical data on each soil series described below. The following is a description of each soil formation, the soils suitability for cultivated crops and woodland species.



Descriptions of Horizons
A1—Surface layer; color varies from very dark gray to black because organic matter is incorporated into the soil
A2—Subsurface; zone of removal of nutrients, iron, and/or clay by downward moving water to lower depths of profile. Usually lighter colored then surface layer
B—Subsoil; acts as a filter accumulating or catching downward moving components removed from subsurface layer. Usually dark iron colored and may contain clay particles
C—Substratum; transition area between soil and parent material; clay layers and mineral particles may be found in this horizon; color is usually lighter than subsoil

Source: New Jersey Pinelands Commission. On-line Curriculum Project, Pinelands Soils Unit Lesson Plans, Grades 7-8. Web Search May 13, 2005.

I. Atsion sand (AtsAr), rarely flooding

Atsion sand (AtsAr) formed in the coastal plain sediments. AtsAr series consists of deep, poorly drained soils on uplands with a slope range from 0 to 2 percent. Typically these soils have a dark gray sand surface layer over 10 inches of light gray sand. The subsoil from 18 to 24 inches is very dark brown sand and from 24 to 36 inches is very dark gray sand. The substratum from 36 to 60 inches is brown loose sand. The depth to a restrictive feature is 16 to 40 inches to an ortstein. The slowest soil permeability within a depth of 60 inches is rapid. Available water capacity to a depth of 60 inches is low, and shrink swell potential is low. Annual flooding is rare, and annual ponding is none.

AtsAr is not suitable for cultivated crops.

II. Aura Series

The Aura series formed in moderately fine textured coastal plain sediments. This series consists of very deep well drained soils on uplands with a slope range from 0 to 15 percent. Typically, these soils have a dark grayish brown sandy loam surface layer 8 inches thick. The upper subsoil from 8 to 22 inches is strong brown sandy loam and gravelly sandy clay loam. The subsoil from 22 to 59 inches is massive very firm yellowish red and red gravelly sandy loam and gravelly sandy clay loam. The substratum ranges from 59 to 72 inches is very firm yellowish red gravelly loamy coarse sand. The depth to a restrictive feature is 15 to 40 inches to a fragipan. The slowest soil permeability within a depth of 60 inches is moderately slow. Available water capacity to a depth of 60 inches is moderate, and shrink swell potential is low. Annual flooding is none, and annual ponding is none.

Aura loamy sand (AucB)—The AucB slope is 0 to 5 percent and has very low potential productivity for cultivated crops.

Aura sandy loam (AugA)—The AugA slope ranges from 0 to 2 percent and has medium potential productivity for cultivated crops.

Aura sandy loam (AugB)—The AugB slope ranges from 2 to 5 percent and has medium potential productivity for cultivated crops.

Aura gravelly sandy loam (AuhB)—The AuhB slope ranges from 2 to 5 percent and has medium potential productivity for cultivated crops.

Aura-Urban land complex (AvuB)—The AvuB slope ranges from 0 to 5 percent and is not suitable for cultivated crops.

III. Berryland and Mullica soils (BEXAS), occasionally flooding

BEXAS formed in the coastal plain sediments and is comprised of two soil series: the Berryland and Mullica and is not suitable for cultivated crops.

The Berryland series consists of deep, very poorly drained soils on uplands with a slope range from 0 to 2 percent. Typically these soils have a black sand surface layer 10 inches thick over 2 inches of gray sand. The subsoil from 12 to 20 inches is firm and weakly cemented dark reddish brown loamy sand. From 20 to 30 inches the subsoil is dark gray loose sand. The substratum from 30 to 72 inches is grayish brown stratified loose sand. The depth to a restrictive feature is 10 to 16 inches to a ortstein. The slowest soil permeability within a depth of 60 inches is moderately rapid. Available water capacity to a depth of 60 inches is low, and shrink swell potential is low. Annual flooding is occasional, and annual ponding is occasional.

The Mullica series consists of very deep, very poorly drained soils on flats and in depressions with a slope of 0 to 2 percent. Typically, these soils have a black sandy loam surface layer 10 inches thick. The subsurface layer from 10 to 18 inches is gray sandy loam. The subsoil from 18 to 28 inches is mottles gray sandy loam. The substratum from 28 to 60 inches is gray or grayish brown gravelly sand or sand. The depth to a restrictive feature is greater than 60 inches.

IV. Downer Series

The Downer series formed in acid moderately coarse textured coastal plain sediments. This series consists of very deep well drained soils on uplands with a slope range from 0 to 30 percent.

Typically these soils have a dark grayish brown loamy sand surface layer 18 inches thick. The subsoil from 18 to 30 inches is yellowish brown sandy loam. The substratum from 30 to 40 inches is loose loamy sand. Below 40 inches, the range includes stratified layers of gravel to sandy clay loam. The minimum depth to the top of a restrictive feature is greater than 60 inches. The slowest soil permeability within a depth of 60 inches is moderate. Available water capacity to a depth of 60 inches is moderate, and shrink swell potential is low. Annual flooding is none, and annual ponding is none.

Downer loamy sand (DocB)—The DocB slope ranges from 0 to 5 percent and has low potential productivity for cultivated crops.

Downer loamy sand (DocC)—The DocC slope ranges from 5 to 10 percent slopes and has low potential productivity for cultivated crops.

Downer sandy loam (DoeA)—The DoeA slope ranges from 0 to 2 percent slopes and has medium potential productivity for cultivated crops.

Downer sandy loam (DoeB)—The DoeB slope ranges from 2 to 5 percent and has medium potential productivity for cultivated crops.

Downer-Urban land complex (DouB)—The DouB slope ranges from 0 to 5 percent slopes and has medium potential productivity for cultivated crops.

V. Evesboro Series

The Evesboro series formed in acid sandy coastal plain sediments. The series consists of very deep excessively drained soils on uplands with a slope of 0 to 40 percent. Typically, these soils have a grayish brown sand surface layer 3 inches thick and a yellowish brown sand layer from 3 to 16 inches. The subsoil between 16 to 30 inches is yellowish brown sand. The substratum from 30 to 72 inches is loose yellowish brown sand. The depth to a restrictive feature is greater than 60 inches. The slowest soil permeability within a depth of 60 inches is moderately rapid. Available water capacity to a depth of 60 inches is low, and shrink swell potential is low. Annual flooding is none, and annual ponding is none.

This series is not suitable for cultivated crops.

Each component of the Evesboro series contains a different slope range:

Evesboro sand (EveB)—0 to 5 percent.

Evesboro sand (EveC)—5 to 10 percent.

Evesboro sand (EveD)—10 to 15 percent.

Evesboro-Urban land complex (EvuB)—0 to 5 percent.

VI. Fallsington sandy loam (FamA)

The Fallsington sandy loam formed in stratified coastal plain sediments of marine or alluvial origin. FamA consists of very deep, poorly drained soils on upland flats and in depressions and the slope ranges from 0 to 2 percent and has a very low potential productivity for cultivated crops.

Typically these soils have a dark gray sandy loam surface layer 10 inches thick. The subsoil, from 10 to 40 inches is mottled gray sandy clay loam to 32 inches and mottled light gray loamy sand to 40 inches. The substratum is stratified light gray sandy clay loam and sand. The depth to a restrictive feature is greater than 60 inches. The slowest soil permeability within a depth of 60 inches is moderately slow. Available water capacity to a depth of 60 inches is moderate, and shrink swell potential is low. Annual flooding is none, and annual ponding is none.

VII. Fort Mott loamy sand (FodB)

The Fort Mott loamy sand formed in acid moderately coarse textured coastal plain sediments. FodB consists of very deep well drained soils on uplands and the slope ranges from 0 to 5 percent. Typically, these soils have a loamy sand surface layer about 30 inches thick. The top 8 inches is dark grayish brown loose loamy sand and the lowest part form 8 to 30 inches is yellowish brown loose loamy sand. The subsoil from 30 to 49 inches is yellowish brown sandy loam. The substratum from

49 to 65 inches is strong brown loose loamy sand. The slowest soil permeability within a depth of 60 inches is moderate. Available water capacity to a depth of 60 inches is low, and shrink swell potential is low. Annual flooding is none, and annual ponding is none.

FodB has medium potential productivity for cultivated crops.

VIII. Galloway loamy sand (GamB)

The Galloway loamy sand formed in coarse-textured coastal plain sediments. GamB consists of deep, moderately well drained soil on uplands and the slope ranges from 0 to 5 percent. Typically, these soils have a loamy sand surface layer, 9 inches thick, that is grayish brown in the upper part and light brownish-gray in the lower part. The substratum from 9 to 39 inches is olive yellow loamy sand, and from 39 to 47 inches it is light brownish-gray sand. The IIC horizon from 47 to 0 inches is yellowish brown coarse sand. Slopes range from 0 to 5 percent. The depth to a restrictive feature is greater than 60 inches. The slowest soil permeability within a depth of 60 inches is rapid. Available water capacity to a depth of 60 inches is low, and shrink swell potential is low. Annual flooding is none, and annual ponding is none.

GamB has medium potential productivity for cultivated crops.

IX. Hammonton Series

The Hammonton series formed in acid moderately coarse textured coastal plain sediments. The series consists of very deep moderately well drained soils on uplands. Typically, these soils have a very dark grayish brown loamy sand surface layer 8 inches thick and a yellowish brown loamy sand subsurface layer from 8 to 18 inches. The subsoil between 18 to 36 inches is mottled yellowish brown sandy loam. The substratum from 36 to 60 inches is loose brownish yellow sand. The depth to a restrictive feature is greater than 60 inches. The slowest soil permeability within a depth of 60 inches is moderate. Available water capacity to a depth of 60 inches is moderate, and shrink swell potential is low. Annual flooding is none, and annual ponding is none.

This series is not a hydric soil.

Hammonton loamy sand (HbmB)—The HbmB slope ranges from 0 to 5 and has low potential productivity for cultivated crops.

Hammonton sandy loam (HboA)—The HboA slope ranges from 0 to 2 percent and has medium potential productivity for cultivated crops.

Hammonton sandy loam (HboB)—The HboB slope ranges from 2 to 5 percent and has medium potential productivity for cultivated crops.

Hammonton-Urban land complex (HbrB)—The HbrB slope ranges from 0 to 5 percent and has medium potential productivity for cultivated crops.

X. Lakehurst sand (LakB)

The Lakehurst sand formed in acid sandy coastal plain sediments. LakB consists of deep, moderately well or somewhat poorly drained soils on uplands with a slope of 0 to 5 percent. Typically in woodland areas these soils have a dark gray sand surface 3 inches thick and a light gray sand layer from 3 to 15 inches. The subsoil between 15 to 18 inches is dark brown loamy sand. The lower part of the subsoil from 18 to 36 inches is yellowish brown sand. The substratum from 36 to 60 inches is

pale brown loose sand. The depth to a restrictive feature is greater than 60 inches. The slowest soil permeability within a depth of 60 inches is moderately rapid. Available water capacity to a depth of 60 inches is low, and shrink swell potential is low. Annual flooding is none, and annual ponding is none.

This component is not suitable for cultivated crops.

XI. Lakewood sand (LasB)

The Lakewood sand (LasB) formed in acid sandy coastal plain sediments. LasB components consist of deep, excessively drained soils on uplands with a slope of 0 to 5 percent. Typically in woodland areas these soils have a black loose sand surface layer 1 inch thick and a light brownish gray loose sand layer from 1 to 10 inches. The subsoil between 10 and 14 inches is yellowish brown loose sand. The lower part of the subsoil is yellowish brown loose sand. The substratum from 36 to 60 inches is brownish yellow loose sand. The depth to a restrictive feature is greater than 60 inches. The slowest soil permeability within a depth of 60 inches is rapid. Available water capacity to a depth of 60 inches is low, and shrink swell potential is low. Annual flooding is none, and annual ponding is none.

This component is not suitable for cultivated crops.

XII. Manahawkin muck (MakAt), frequently flooded

The Manahawkin series consists of very deep, very poorly drained soils formed in organic deposits, over sand and gravel with a slope of 0 to 2 percent. Typically, they have a black surface and subsurface layer of highly decomposed organic material, 39 inches thick. The substratum to a depth of 60 inches is gray sand. Manahawkin soils are in low positions in back swamps, lake basins, and along fresh water channels as they open to tide water. The depth to a restrictive feature is greater than 60 inches. The slowest soil permeability within a depth of 60 inches is moderately rapid. Available water capacity to a depth of 60 inches is very high, and shrink swell potential is low. Annual flooding is frequent, and annual ponding is frequent.

XIII. Othello and Fallsington soils (OTKA)

OTKA slope ranges from 0 to 2 percent slopes and contains two components: Othello and Fallsington. The depth to a restrictive feature is greater than 60 inches. The slowest soil permeability within a depth of 60 inches is moderately slow. Available water capacity to a depth of 60 inches is high, and shrink swell potential is low. Annual flooding is none, and annual ponding is none.

The Othello series formed in silty material underlain by coarser sediment. The series consists of very deep, poorly drained soils on uplands. Typically, these soils have a dark grayish-brown silt loam surface, 9 inches thick. The subsoil between 9 and 18 inches is light olive gray silty clay loam with prominent yellowish-brown mottles and between 18 and 29 inches is light gray, silty clay loam with prominent yellowish-brown mottles. A mottled gray sandy loam substrata grades into a light gray loamy sand below 29 inches. This soil has medium potential productivity for cultivated crops.

The Fallsington series formed in stratified coastal plain sediments of marine or alluvial origin. The series consists of very deep, poorly drained soils on upland flats and in depressions. Typically these soils have a dark gray sandy loam surface layer 10 inches thick. The subsoil, from 10 to 40 inches is mottled gray sandy clay loam to 32 inches and mottled light gray loamy sand to 40 inches. The substratum is stratified light gray sandy clay loam and sand. This soil has low potential productivity for cultivated crops.

XIV. Sassafras series

The Sassafras series formed in marine or alluvial coastal plain sediments and consists of very deep, well-drained soils on uplands. Typically, these soils have a brown sandy loam surface layer, 9 inches thick. The subsoil, from 9 to 21 inches, is yellowish-brown loam, from 21 to 32 inches, is brown sandy clay loam, and, from 32 to 40 inches, is strong brown sandy loam. The substratum, from 40 to 52 inches, is strong brown gravelly sandy loam and, from 52 to 70 inches, is brownish-yellow loamy sand.

The depth to a restrictive feature is greater than 60 inches. The slowest soil permeability within a depth of 60 inches is moderately slow. Available water capacity to a depth of 60 inches is moderate, and shrink swell potential is low. Annual flooding is none, and annual ponding is none.

Sassafras sandy loam (SacA)—The SacA slope ranges from 0 to 2 percent and has high potential productivity for cultivated crops.

Sassafras sandy loam (SacB)—The SacB slope ranges from 2 to 5 percent and has high potential productivity for cultivated crops.

Sassafras gravelly sandy loam (SadA)—The SadA slope ranges from 0 to 2 percent, has high potential productivity for cultivated crops.

Sassafras gravelly sandy loam (SadB)—The SadB slope ranges from 2 to 5 percent and has a high potential productivity for cultivated crops.

Sassafras gravelly sandy loam (SadC)—The SadC slope ranges from 5 to 10 percent and has medium potential productivity for cultivated crops.

XV. Udorthents (UdrB)

Udrothents, refuse substratum, consist of areas either presently or formerly used to landfill trash. After closure of the inactive landfills, most were covered with earthen materials. The most recent closures usually have a dense fine textured cap of earth or fabric topped with a layer of soil suitable for growing plants to stablize the slopes. The UdrB slope is 0 to 8 percent and has moderately well drained soil. This component is not suitable for cultivated crops. The depth to a restrictive feature is greater than 60 inches. The slowest soil permeability within a depth of 60 inches is moderate. available water capacity to a depth of 60 inches is high, and shrink swell potential is low. Annual flooding is none, and annual ponding is none.

XVI. Woodstown series

The Woodstown series formed in marine and alluvial coastal plain sediments and consist of deep, moderately well-drained soils on uplands and terraces. Typically, these soils have a dark grayish-brown sandy loam surface layer, 7 inches thick, and a subsurface layer, from 7 to 11 inches, of light yellowish-brown sandy loam. The light olive brown sandy clay loam subsoil, from 11 to 29 inches, is mottled in the lower part. The substratum layers, from 29 to 70 inches, are sandy loam and loamy sand. The depth to a restrictive feature is greater than 60 inches. The slowest soil permeability within a depth of 60 inches is moderately slow. Available water capacity to a depth of 60 inches is low, and shrink swell potential is low. Annual flooding is none, and annual ponding is none.

Woodstown sandy loam (WoeA)—The WoeA slope ranges from 0 to 2 percent and has high potential productivity for cultivated crops.

Woodstown sandy loam (WoeB)—The WoeB slope ranges from 2 to 5 percent and has high potential productivity for cultivated crops.

Woodstown-Urban land complex (WooB)—The WooB slope ranges from 0 to 5 percent and is not suitable for cultivated crops.

Appendix B

CONTAMINATED SITES

The United States Environmental Protection Agency (USEPA) lists properties that meet the criteria set by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 (42 USC Section 9610). CERCLA provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances by defining liability of responsible parties. The law authorized both short-term and long-term remedial responses. The National Priority List (NPL) is such a response to sites that do not pose immediate threat to human health. The Act also established a trust fund, entitled Superfund, to provide for cleanup when no responsible party could be identified. The Superfund tax is levied on the chemical and petroleum industries. In New Jersey the Site Remediation Program of the Department of Environmental Protection (NJDEP) administers the Superfund program.

The NPL database identifies two sites contained in Vineland: Iceland Coin Laundry Area GW Plume (1888 South Delesa Drive) & Vineland Chemical Co., Inc. (1611 W Wheat Rd.). Both Vineland Chemical Co., Inc. and Iceland Coin Laundry Area GW Plume have been listed as a Federal-lead remedial activity. The NJDEP—Site Remediation Program database indicates that the Vineland property was authorized $47,200,000 from Superfund and $5,244,00 from the 1986 Bond Fund. The Record of Decision holds that the 20 acre property was substantially contaminated with arsenic in localized areas, and the shallow ground water was contaminated with arsenic and to a lesser degree with cadmium and trichlorethylene (TCE). USEPA also confirmed that sediments and surface water in the Blackwater Branch, Maurice River and Union Lake contained elevated levels of arsenic due to the Vineland Chemical Company site. Arsenic concentrations in the Maurice River were above the Federal Drinking Water Standard, i.e., 50 ppb, 26.5 miles downstream from the Vineland Chemical Company site. The Record of Decision holds that treated sediments from the rivers and lake be redeposited in the floodplain and that natural flushing of the river system be conducted after the source of the contamination has been removed.

Sampling conducted by the Vineland City Health Department in 1991 identified 16 private potable wells in this area that were contaminated with mercury and chlorinated volatile organic compounds at levels exceeding New Jersey Drinking Water Standards. Two sites were identified the Iceland Coin Laundry Area GW Plume and the Garrison Road Well Contamination (State lead remedial activity). The Iceland site has no federal monies dedicated as of yet; however the site investigation concluded that Iceland Coin Laundry & Dry Cleaning, was a Potentially Responsible Party. The Garrison Road Well Contamination site as a State-lead remedial activity and was authorized $71,500 from the Spill Fund and $546,000 the 1981 Bond Fund. As an interim remedy, NJDEP installed Point-of-Entry Treatment (POET) water filtration systems on the contaminated wells and Vineland City extended a public water line to these residences in 1994 using funds provided by NJDEP. A Maurice River watershed association, Citizens United, has prepared several reports documenting environmental concerns of the remediation efforts of the Garden State Cleaners Site, Buena Borough, Atlantic County.

The Site Remediation Program also provides a listing of the Known Contaminated Sites where contamination of soil or ground water is confirmed. In Vineland there are 89 sites; of which 76 have on-site source(s) of contamination, three have sites with an unknown source(s) of contamination and seven have completed remedial work that have certain engineering and/ or institutional controls and reporting measures. Although not listed on the State's known contaminated list, Citizens United has documented groundwater contamination concerns on the Casie Oil Ecology Oil Salvage, Inc. (CASIE) and Mid-Atlantic Recycling Technologies (MART) site, known as the "CASIE-MART contaminated site" (not mapped).

The Site Remediation & Waste Management, Division of Remediation Support and the Division of Remediation, Management and Response administers the Industrial Site Recovery Act of 1993 (ISRA) (N.J.S.A. 13:1K and N.J.A.C. 7:26B). ISRA is directed toward the regulation of both the owner of the real property and operator of an industrial establishment and effects the sale, transfer, or closure of said operations. An "industrial establishment" refers to the North American Industry Classification System (NAICS) code listed in N.J.A.C. 7:26 B - Appendix C with specified exceptions and limitations; the start of operations on or after December 31, 1983; and business activities that involve the generation, manufacture, refining, transportation, treatment, storage, handling, or disposal of hazardous substances or hazardous wastes. ISRA also addresses adaptive reuse of brownfield sites and the funding mechanisms for remediation of sites. The goal is to ensure that these sites are not abandoned for State cleanup.

ISRA encompasses three elements: discharge response, industrial site evaluation and responsible party cleanup. The industrial site evaluation element is the most crucial for the City of Vineland. Part of this element includes properties that are in compliance with the Underground Storage Tank requirements. NJDEP lists 44 ISRA sites in Vineland. In addition, the Brownfield Site Mart lists three properties on its inventory. Properties listed on the Site Mart have been vetted by the Department of Community Affairs, New Jersey Brownfields Redevelopment Task Force as potential redevelopment opportunities and have funding mechanisms in place from the New Jersey Redevelopment Authority.

APPENDIX C

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BUILDOUT ANALYSIS OF THE CITY ZONING PLAN

CITY OF VINELAND
CUMBERLAND COUNTY, NEW JERSEY

PREPARED FOR:

THE CITY OF VINELAND

PREPARED APRIL, 2008 BY:

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The Original of this Document was Signed and Sealed in Accordance with Law

FUNDING FOR THIS STUDY WAS PROVIDED IN PART BY THE ASSOCIATION OF NEW JERSEY ENVIRONMENTAL COMMISSIONS (ANJEC) AND BY THE LANDIS SEWERAGE AUTHORITY (LSA) OF THE CITY OF VINELAND

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INTRODUCTION

The City Planning Board has prepared a Master Plan and a Master Plan Reexamination report and recommended the adoption of a proposed zoning plan for the City of Vineland to implement the Master Plan.

T&M Associates has prepared this buildout analysis for the City of Vineland in Cumberland County, New Jersey. The analysis evaluates the total amount of growth allowed under the City zoning plan in effect as of 2008 (the current zoning plan) and compares it to the City zoning plan as recommended by the *Master Plan Reexamination Report* prepared April, 2008 by the City of Vineland Planning Board (the proposed zoning plan).

METHOD AND SCOPE OF ANALYSIS

The City of Vineland buildout analysis assumes that all of the residential and non-residential development permitted by the current zoning plan, and the proposed zoning plan, would, over time, actually be developed. Included as part of this assumption is that the remaining developable land and farmland in the City, with the exception of the existing permanently preserved open spaces and farms, will be developed for residential or non-residential and non-farm uses, as permitted by the zoning plans.

The buildout calculations for the current zoning plan and the proposed zoning plan rely upon the parcel based City of Vineland geographic information system (GIS). The GIS is utilized to identify unimproved land. Unimproved land for the purpose of this buildout analysis consists of land classified as vacant land or as farmland by City tax assessment data, as well as lands that could be further developed. The base year for the vacant land analysis is 2006. The GIS mapping is linked to the MOD IV tax assessment database for each tax parcel, to NJDEP aerial photography from 2002[1], to a City zoning district layer, and to State environmental feature overlays.[2] Environmentally constrained acreage, parcels owned by property associations as common areas, or as dedicated open space, or as drainage facilities, were identified and removed from the database of unimproved land.

[1] *With the parcels mapped in the GIS and layered onto the aerial photography and the environmentally constrained acreage, the parcels were reviewed to identify parcels that had significant potential for further subdivision that had not been identified as vacant land or as farmland by the tax assessment data.*

[2] *The buildout analysis is based upon developable acreage. The environmentally constrained acreage is not considered developable and is deducted from the gross area of vacant and farmland parcels. By utilizing GIS data and mapping published by the NJDEP, a separate GIS layer of environmental constraints was created. To eliminate multiple counting of areas that are encumbered by more that one (1) of the environmental constraints, the NJDEP data was merged into one (1) layer, and then dissolved using GIS software to eliminate multiple counting. This produces a GIS layer of the total environmentally constrained acreage. The layer of environmentally constrained acreage includes the following: freshwater wetlands with a 150-foot transition area in the Pinelands; freshwater wetlands with a fifty (50)-foot transition area in non-Pinelands areas; a 300-foot buffer of all Category 1 waterways; a determination that no steep slopes with a grade of more than fifteen (15) percent exist within the City of Vineland; and 100 year floodplains.*

This results in the developable acreage that could be further developed within each zone district.

The additional future development within each zoning district is then calculated by applying density factors for residential development or floor area factors for nonresidential land use. The additional development is calculated as the number of additional dwelling units permitted and the amount of additional nonresidential building floor area permitted. The calculations are made for each zone district and totaled for the entire City. [3]

Once the buildout is calculated, the impact on public sewer and public water demand is analyzed.

The impact on public water is an estimate of the additional gallons per day for potable water from the City public water system that would be required to support the buildout. The impact on public sewer is an estimate of the additional sewage flow into the City public sanitary sewer system.

The analysis of water and sewer demand is done by zone district. Although the entire City is currently a sewer service area, an assumption has been made that certain zone districts will continue to rely upon on-site systems for sewer and water, even at buildout.[4] On-site systems are assumed for the City zone districts that permit only very low-density development or that are located in the Pinelands and are subject to the regulations of the Pinelands Comprehensive Management Plan.

The buildout analysis was completed for the current City zoning plan and then repeated for the proposed zone plan as described below.

Buildout of Current City Zoning Plan ~ The buildout of the current zoning plan is based upon the City zoning regulations and zone district map in effect as of December 31, 2006. The spreadsheet of the current City zoning plan buildout data and impact analysis, and the current zone district map, are provided in Appendix A

Buildout of Proposed Zoning Plan ~ As a result of the reexamination of the City Master Plan and development regulations, the City Planning Board drafted a Master Plan in April, 2008 and recommended a proposed zoning plan for adoption by Vineland. The

[3] *The buildout analysis takes into account the impact of overlay zones in the City, such as the River Conservation and Air Safety overlay zones, where the overlay zoning reduces the permitted buildout. The analysis also takes into account parcels that received subdivision and/or site plan approval from 2000 through 2005. In such cases, the actual approved development of the parcel was provided by the City Planning Department and used to calculate the buildout.*

[4] *No public water demand is projected for the A-5, A-6, W-5, W-6, P-A, P-F and P-R zone districts. No public sewage flow is projected for the A-5, A-6, W-5, W-6, P-A, P-F and P-R zone districts. The Master Plan recommends removing lands in those zones from the public sewer service area.*

spreadsheet of the buildout data from the proposed City zoning plan and impact analysis, and the recommended zone district map, is provided in Appendix B.

RESULTS OF RESIDENTIAL BUILDOUT ANALYSIS

Within Vineland there are an estimated 21,699 existing residential units.[5] As shown in the table below, the current zone plan would permit about 9,450 additional residential units resulting in a buildout of approximately 31,149 dwelling units.[6] Under the proposed zoning plan, the number of additional residential units would be about 6,811 dwellings resulting in a buildout of about 28,510 dwellings.

The results of the residential buildout analysis are tabulated below.

	Buildout of Current Zoning Plan	Buildout of Proposed Zoning Plan
Existing Dwelling Units	21,699	21,699
Total Residential Buildout (Dwelling Units)	31,149	28,510

RESULTS OF NONRESIDENTIAL BUILDOUT ANALYSIS

Under the current zoning plan, the City could add approximately 6,784,359 square feet of nonresidential building floor area. Under the proposed zoning plan, the City could add approximately 6,792,471 square feet of nonresidential building floor area.

[5] *This estimate is determined by dividing the South Jersey Transportation Planning Organization's 2005 population estimate of 58,588 by the United States Census Bureau's estimate of average household size, which is 2.70 persons per household (Population of 58,588 in 2005 2.70 persons per household = 21,699 estimated households).*

[6] *To determine the residential buildout of each zone district, the density in each residential zone district is calculated as the number of dwelling units that could be constructed on an acre of developable land. The density calculation is made by dividing one (1) acre by the minimum required lot size. For instance, the density of the W-5 (Woodlands) District is 0.43 ± units per acre. This results from dividing one (1) acre (43,560 square feet) by the minimum permitted lot size of 100,000 square feet (i.e., 43,560 square feet 4 100,000 square feet = 0.43 ± dwelling units per acre). The calculated densities used for all residential zone districts are reflected in the appendices.*

With the density having been calculated, the residential buildout of each zone district is determined. Residential buildout is the product of eighty (80) percent of the developable acreage multiplied by a district's calculated density. In general, the analysis presumes that twenty (20) percent of the developable acreage will be utilized for public infrastructure improvements, such as roadways, or for drainage facilities, or will be consumed by lots that are oversized.

The results of the nonresidential buildout analysis are tabulated below.[7]

	Buildout of Current Zoning Plan	Buildout of Proposed Zoning Plan
Additional Nonresidential Space (Sq. Ft.)	6,784,359	6,792,471

IMPACT ON PUBLIC WATER DEMAND

The Kirkwood-Cohansey formation is the main source of the City's public water supply. The City of Vineland currently holds water diversion permits that allow a total withdraw of 3,430,000,000 gallons per year from the Kirkwood-Cohansey aquifer, which averages to approximately 8,769,463 gallons per day, exclusive of farm use. Actual daily demand varies significantly with the seasons of the year. For the purpose of comparison, the buildout analysis uses an average daily demand.

The buildout of the current zoning plan would result in an additional average demand of 3,234,527 gallons of water per day. [8] When this is added to the current average demand of 8,769,463 gallons per day [9, 10], the average estimated water service demand at buildout of the current zoning plan will be 12,003,990 gallons per day.

[7] *To calculate nonresidential buildout, the developable acreage is converted to square feet and a floor area ratio of 0.20 is applied to all nonresidential zones, except the City's redevelopment districts, to which a floor area ratio of 0.24 is applied.*

[8] *The buildout estimates rely upon criteria for average daily water demand contained in N.J.A.C. 7:10-12.6(b)2 and applies the criteria to the projected buildout of each zone district.*

With regard to residential use, N.J.A.C. 7:10-12.6(b)2 identifies an average daily water demand of 100 gallons per occupant. When the City's average household size of 2.7 persons per household for the year 2000 is applied, an average of 270 gallons of water per day will be demanded by each additional non-age restricted residential unit in the City of Vineland. For age restricted units, the buildout analysis uses an average household size of 1.8 persons per household which translates into 180 gallons per day per age restricted dwelling unit.

N.J.A.C. 7:10-12.6(b)2 indicates stores and offices demand an average of 0.125 gallons of water per square foot.

With regard to industrial use, N.J.A.C. 7:10-12.6(b)2 indicates that industrial facilities typically demand 25 gallons per employee per eight (8) hour shift. To use this multiplier, the industrial square footage in the buildout of each industrial zone district was converted to jobs by using a conversion factor of two (2) jobs per 1,000 square feet of industrial space, which is indicated in Appendix E of N.J.A.C. 5:94.

With regard to hospital uses, N.J.A.C. 7:10-12.6(b)2 indicates a daily average of 150 gallons of water per patient is demanded.

[9] *Currently some farms in Vineland utilize public water. This figure for average demand excludes public water used by farms, since all non-preserved farms are presumed by this buildout analysis to be developed with a residential and/or a nonfarm nonresidential use. The total gallons of public water consumed annually by farms in Vineland are 45,349,048 gallons per year.*

Under the recommended zoning plan, the total daily water demand at buildout would drop to 11,257,375 gallons per day. However, this still exceeds the current diversion permits. Under the current zoning plan and the proposed Master Plan, the buildout of the City would require an expanded supply of water for the public water system.

The impact of buildout on the average daily demand for public water is tabulated below.

	Buildout of Current Zoning Plan	**Buildout of Proposed Zoning Plan**
Current Average Daily Public Water Demand	8,769,463	8,769,463
Additional Average Daily Water Demand (Gallons)	3,234,527	2,487,912
Total Average Daily Water Public Water Demand (Gallons) at Buildout	12,003,990	11,257,375

IMPACT ON PUBLIC SEWAGE FLOW

All public sewage flow in the City is treated at the Landis Sewerage Authority (LSA) Treatment Plant. The plant has a permitted treatment capacity of 8,200,000 gallons per day. The LSA treatment plant can be expanded to capacity of 10,210,000 gallons per day. Expansion of the permitted treatment capacity to that level would require the approval of the New Jersey Department of Environmental Protection.

The buildout analysis of the current zoning plan indicates that the current zoning plan would result in an estimated additional sewer flow of 2,687,256 gallons per day within the City of Vineland.[11] When the additional flow demand is added to the current average flow of 7,561,110 gallons per day, the total sewage flow at buildout of the current zoning plan would be 10,248,366 gallons per day.

[10] *As reported by the Water Utility of the City of Vineland.*

[11] *The estimates of additional sewer flow are based on the average flow criteria contained in N.J.A.C. 7:14A-23.3(a).*

N.J.A.C. 7:14A-23.3(a) notes that retail- and office-type uses will discharge a projected flow of 0.10 gallons of water per day per square foot. This multiplier has been generally applied to the buildout of the non-residential zone districts.

N.J.A.C. 7:14A-23.3(a) indicates residential uses of all sizes will discharge a projected flow of 225 gallons per day. This multiplier has been applied to the buildout of the residential zone districts.

Where hospital uses are presumed to be the predominant land use, N.J.A.C. 7:14A-23.3(a) identifies that an average of flow of 150 gallons of per patient is demanded per day. Research has indicated that there are approximately 0.002 beds per square foot in hospitals and nursing homes. The 0.002 factor was used to estimate the potential number of patients that could be generated.

The buildout analysis of the proposed zoning plan indicates that it would result in an estimated additional sewage flow of 2,060,680 gallons per day. The total daily sewage flow under the proposed plan would be 9,621,790 gallons per day.

Under the current zoning plan as well as the proposed zoning plan, the permitted treatment capacity of the LSA plant would need to be increased.

The public sewage flows that result from the buildout are tabulated below.

	Buildout of Current Zoniug Plan	Buildout of Proposed Zoning Plau
Average Daily Public Sewage Flow (Gallons)	7,561,110	7,561,110
Additional Daily Public Sewage Flow (Gallons)	2,687,256	2,060,680
Total Daily Public Sewage Flow (Gallons) at Buildout	10,248,366	9,621,790

SUMMARY

The proposed zoning plan results in fewer additional dwelling units than the current zoning plan.

The proposed zoning plan results in slightly more nonresidential floor area than the current zoning plan.

The proposed zone plan has less demand on public water and the public sewer system. However, it would still require an increase in the permitted treatment capacity of the LSA plant and it would require additional supplies of public water.

The summary results of the buildout analysis are tabulated below.

	Buildout of Current Zoning Plan	Buildout of Proposed Zoning Plan
Total Residential Buildout Dwelling (Units)	31,149	28,510
Additional Nonresidential Space (Sq. Ft.)	6,784,359	6,792,471
Total Daily Public Water Demand (Gallons)	12,003,990	11,257,375
Total Daily Public Sewage Flow (Gallons)	10,248,366	9,621,790

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APPENDIX A:
Buildout Analysis of Current Zoning Plan

APPENDIX A

Buildout Analysis of Current City Zoning Plan

Zone	Zone Name	Permitted Residential Density (DU/AC)	Developable Acres***	Residential Development Potential (Units)	Units After Reduction for Overlays	Underutilized Developed Acreage in R-3 & R-4 Districts (Units)	Approved Subdivisions and Site Plans from 2000 to 2005 (Units)	Residential Units from Planned Redevelopment	Non-Residential Space from Planned Redevelopment	Total Residential Units	Total Nonresidential (Square Feet)**	Public Water Demand (Gallons/Day)	Public Sewer Demand (Gallons/Day)
NON-RESIDENTIAL ZONES													
I-1	Industrial	N/A	38	N/A	N/A	N/A	N/A	N/A	0	N/A	332,502	49,875	33,250
I-2	Industrial	N/A	107	N/A	N/A	N/A	N/A	N/A	0	N/A	931,565	139,735	93,157
I-3	Industrial	N/A	95	N/A	N/A	N/A	N/A	N/A	0	N/A	828,846	124,327	82,885
I-4	Industrial	N/A	26	N/A	N/A	N/A	N/A	N/A	0	N/A	222,850	33,428	22,285
B-1	Business	N/A	0	N/A	N/A	N/A	N/A	N/A	0	N/A	-	0	0
B-2	Business	N/A	15	N/A	N/A	N/A	N/A	N/A	0	N/A	127,469	15,934	12,747
B-3	Business	N/A	166	N/A	N/A	N/A	N/A	N/A	0	N/A	1,450,269	181,284	145,027
B-4	Business	N/A	165	N/A	N/A	N/A	N/A	N/A	0	N/A	1,435,654	179,457	143,565
IN-1	Institutional	N/A	156	N/A	N/A	N/A	N/A	N/A	0	N/A	1,356,579	329,820	329,820
CPO	Civic and Professional Office	N/A	0	N/A	N/A	N/A	N/A	N/A	0	N/A	1,500	188	150
EG	East Gate Mixed Use	N/A	0	N/A	N/A	N/A	N/A	N/A	0	N/A	-	0	0
LC	Landis Avenue Commercial	N/A	2	N/A	N/A	N/A	N/A	N/A	0	N/A	19,664	2,458	1,966
LMS	Landis Avenue Main Street	N/A	0	N/A	N/A	N/A	N/A	N/A	0	N/A	3,840	480	384
NC	Neighborhood Commercial	N/A	3	N/A	N/A	N/A	N/A	N/A	0	N/A	36,048	4,506	3,605
PC	Plaza Commercial	N/A	0	N/A	N/A	N/A	N/A	N/A	0	N/A	-	0	0
P/G	Park/Green Space	N/A	0	N/A	N/A	N/A	N/A	N/A	0	N/A	-	0	0
Subtotal			**774**								**6,746,786**	**1,061,490**	**868,841**
MIXED USE DISTRICTS													
I-B*	Industrial Business (Permits single-family homes)	0.17	358	50	50	N/A	N/A	0	0	50	-	13,458	11,215
IN-2	Institutional	N/A	0	N/A	N/A	N/A	N/A	454	30,000	454	30,000	129,874	109,444
WW	West Vineland Village Mixed Use	15.00	1	9	9	N/A	N/A	0	0	9	7,573	3,294	2,713
Subtotal			**358**	**59**	**59**			**454**	**30,000**	**513**	**37,573**	**146,625**	**123,372**
RESIDENTIAL ZONES													
R	Residential (Redevelopment Area)	5.80	11	52	52	N/A	0	0	N/A	52	N/A	14,056	11,713
R-1	Residential	5.80	1	3	3	N/A	0	0	N/A	3	N/A	928	773
R-2	Residential	4.46	31	112	112	N/A	41	0	N/A	153	N/A	41,232	34,360
R-3	Residential	2.30	1,419	2,611	2,611	1,674	569	0	N/A	4,854	N/A	1,310,621	1,092,184
R-4	Residential	1.50	969	1,162	1,152	338	864	0	N/A	2,354	N/A	635,567	529,639
R-B	Residential Business	5.80	3	12	12	N/A	0	0	N/A	12	N/A	3,315	2,763
R-P	Residential Professional	4.46	6	20	20	N/A	0	0	N/A	20	N/A	5,411	4,509
A-5	Agricultural	0.43	1,864	641	634	N/A	6	0	N/A	640	N/A	N/A	N/A
A-6	Agricultural	0.17	1,333	181	181	N/A	0	0	N/A	181	N/A	N/A	N/A
W-5	Woodlands	0.43	614	211	210	N/A	21	0	N/A	231	N/A	N/A	N/A
W-6	Woodlands	0.17	2,315	315	315	N/A	0	0	N/A	315	N/A	N/A	N/A
MHP	Mobile Home Park	Varies	0	0	0	N/A	0	0	N/A	0	N/A	0	0
P-A	Pinelands Agricultural Production	0.025	70	1	1	N/A	0	0	N/A	1	N/A	N/A	N/A
P-F	Pinelands Forest	0.05	96	4	4	N/A	0	0	N/A	4	N/A	N/A	N/A
P-R	Pinelands Rural	0.31	125	31	31	N/A	0	0	N/A	31	N/A	N/A	N/A
ARR	Age Restricted	10.00	11	85	85	N/A	0	0	N/A	85	N/A	15,280	19,101
Subtotal			**8,868**	**5,443**	**5,424**	**2,012**	**1,501**	**0**	**0**	**8,937**	**0**	**2,026,411**	**1,695,043**
TOTAL			**10,000**	**5,502**	**5,483**	**2,012**	**1,501**	**454**	**30,000**	**9,450**	**6,784,359**	**3,234,527**	**2,687,256**

*** Assumes all residential development**

*** * Assumes a FAR of 0.24 in Redevelopment Districts and 0.20 in Non-Residential Districts**

*** * * Developable acres includes Class 1 (vacant) lands and Class 3A/3B (regular/qualified farmland) lands that are unpreserved, not approved for major subdivision, and not environementally encumbered**

APPENDIX B:
Buildout Analysis of Proposed Zoning Plan

APPENDIX B

Buildout Analysis of Proposed City Zoning Plan

Zone	Zone Name	Permitted Residential Density (DU/AC)	Developable Acres***	Residential Development Potential (Units)	Units After Reduction for Overlays	Underutilized Developed Acreage in R-3, R-4, R-5 & R-6 Districts (Units)	Approved Subdivisions and Site Plans from 2000 to 2005 (Units)	Residential Units from Planned Redevelopment	Non-Residential Space from Planned Redevelopment	Total Residential Units	Total Nonresidential (Square Feet)**	Public Water Demand (Gallons/Day)	Public Sewer Demand (Gallons/Day)
NON-RESIDENTIAL ZONES													
I-1	Industrial	N/A	38.2	N/A	N/A	N/A	N/A	N/A	0	N/A	332,502	49,875	33,250
I-2	Industrial	N/A	106.9	N/A	N/A	N/A	N/A	N/A	0	N/A	931,572	139,736	93,157
I-3	Industrial	N/A	84.5	N/A	N/A	N/A	N/A	N/A	0	N/A	736,206	110,431	73,621
I-4	Industrial	N/A	25.6	N/A	N/A	N/A	N/A	N/A	0	N/A	222,850	33,428	22,285
B-1	Business	N/A	0.0	N/A	N/A	N/A	N/A	N/A	0	N/A	-	0	0
B-2	Business	N/A	11.7	N/A	N/A	N/A	N/A	N/A	0	N/A	102,318	12,790	10,232
B-3	Business	N/A	184.0	N/A	N/A	N/A	N/A	N/A	0	N/A	1,602,957	200,370	160,296
B-4	Business	N/A	177.9	N/A	N/A	N/A	N/A	N/A	0	N/A	1,549,657	193,707	154,966
IN-1	Institutional	N/A	139.5	N/A	N/A	N/A	N/A	N/A	0	N/A	1,215,752	295,582	295,582
CPO	Civic and Professional Office	N/A	0.2	N/A	N/A	N/A	N/A	N/A	0	N/A	1,500	188	150
EG	East Gate Mixed Use	N/A	0.0	N/A	N/A	N/A	N/A	N/A	0	N/A	-	0	0
LC	Landis Avenue Commercial	N/A	1.9	N/A	N/A	N/A	N/A	N/A	0	N/A	19,664	2,458	1,966
LMS	Landis Avenue Main Street	N/A	0.4	N/A	N/A	N/A	N/A	N/A	0	N/A	3,840	480	384
NC	Neighborhood Commercial	N/A	3.4	N/A	N/A	N/A	N/A	N/A	0	N/A	36,048	4,506	3,605
P	Public	N/A	0.0	N/A	N/A	N/A	N/A	N/A	0	N/A	33	4	3
PC	Plaza Commercial	N/A	0.0	N/A	N/A	N/A	N/A	N/A	0	N/A	-	0	0
P/G	Park/Green Space	N/A	0.3	N/A	N/A	N/A	N/A	N/A	0	N/A	-	0	0
Subtotal			**775**								**6,754,898**	**1,043,553**	**849,496**
MIXED USE DISTRICTS													
I-B*	Industrial Business (Permits single-family homes)	0.17	350.2	49	49	N/A	N/A	0	0	49	-	13,179	10,982
IN-2	Institutional	N/A	0.0	N/A	N/A	N/A	N/A	454	30,000	454	30,000	129,874	109,444
WW	West Vineland Village Mixed Use	15.00	0.7	9	9	N/A	N/A	0	0	9	7,573	3,294	2,713
Subtotal			**351**	**58**	**58**			**454**	**30,000**	**512**	**37,573**	**146,346**	**123,139**
RESIDENTIAL ZONES													
R	Residential (Redevelopment Area)	5.80	11.2	52	52	N/A	0	0	N/A	52	N/A	14,056	11,713
R-1	Residential	5.80	0.7	3	3	N/A	0	0	N/A	3	N/A	928	773
R-2	Residential	4.46	31.3	112	112	N/A	41	0	N/A	153	N/A	41,232	34,360
R-3	Residential	2.30	375.9	692	692	537	569	0	N/A	1,798	N/A	485,487	404,573
R-4	Residential	1.50	428.8	515	504	212	864	0	N/A	1,580	N/A	426,469	355,391
R-5	Residential	1.00	1,058.5	847	847	535	0	0	N/A	847	N/A	228,643	190,536
R-6	Residential	0.50	279.1	112	112	11	0	0	N/A	112	N/A	30,141	25,117
R-B-1	Residential Business	5.80	2.6	12	12	N/A	0	0	N/A	12	N/A	3,315	2,763
R-B-2	Residential Business	5.80	0.6	3	3	N/A	0	0	N/A	3	N/A	805	671
R-P	Residential Professional	4.46	5.0	18	18	N/A	0	0	N/A	18	N/A	4,793	3,994
CO	Conservation	0.00	0.0	0	0	N/A	6	0	N/A	6	N/A	N/A	N/A
A-5	Agricultural	0.43	1,981.4	682	675	N/A	6	0	N/A	681	N/A	N/A	N/A
A-6	Agricultural	0.17	1,332.7	181	181	N/A	0	0	N/A	181	N/A	N/A	N/A
W-5	Woodlands	0.43	654.6	225	224	N/A	21	0	N/A	245	N/A	N/A	N/A
W-6	Woodlands	0.17	2,315.3	315	315	N/A	0	0	N/A	315	N/A	N/A	N/A
MF	Multifamily	2.30	94.3	174	174	N/A	0	0	N/A	174	N/A	46,864	39,053
MHP	Mobile Home Park	Varies	0.2	0	0	N/A	0	0	N/A	0	N/A	0	0
P-A	Pinelands Agricultural Production	0.025	70.5	1	1	N/A	0	0	N/A	1	N/A	N/A	N/A
P-F	Pinelands Forest	0.05	96.2	4	4	N/A	0	0	N/A	4	N/A	N/A	N/A
P-R	Pinelands Rural	0.31	125.4	31	31	N/A	0	0	N/A	31	N/A	N/A	N/A
ARR	Age Restricted	10.00	10.6	85	85	N/A	0	0	N/A	85	N/A	15,280	19,101
Subtotal			**8,875**	**4,063**	**4,044**	**1,295**	**1,507**	**0**	**0**	**6,300**	**0**	**1,298,013**	**1,088,044**
TOTAL			**10,000**	**4,120**	**4,101**	**1,295**	**1,507**	**454**	**30,000**	**6,811**	**6,792,471**	**2,487,912**	**2,060,680**

*** Assumes all residential development**

*** * Assumes a FAR of 0.24 in Redevelopment Districts and 0.20 in Non-Residential Districts**

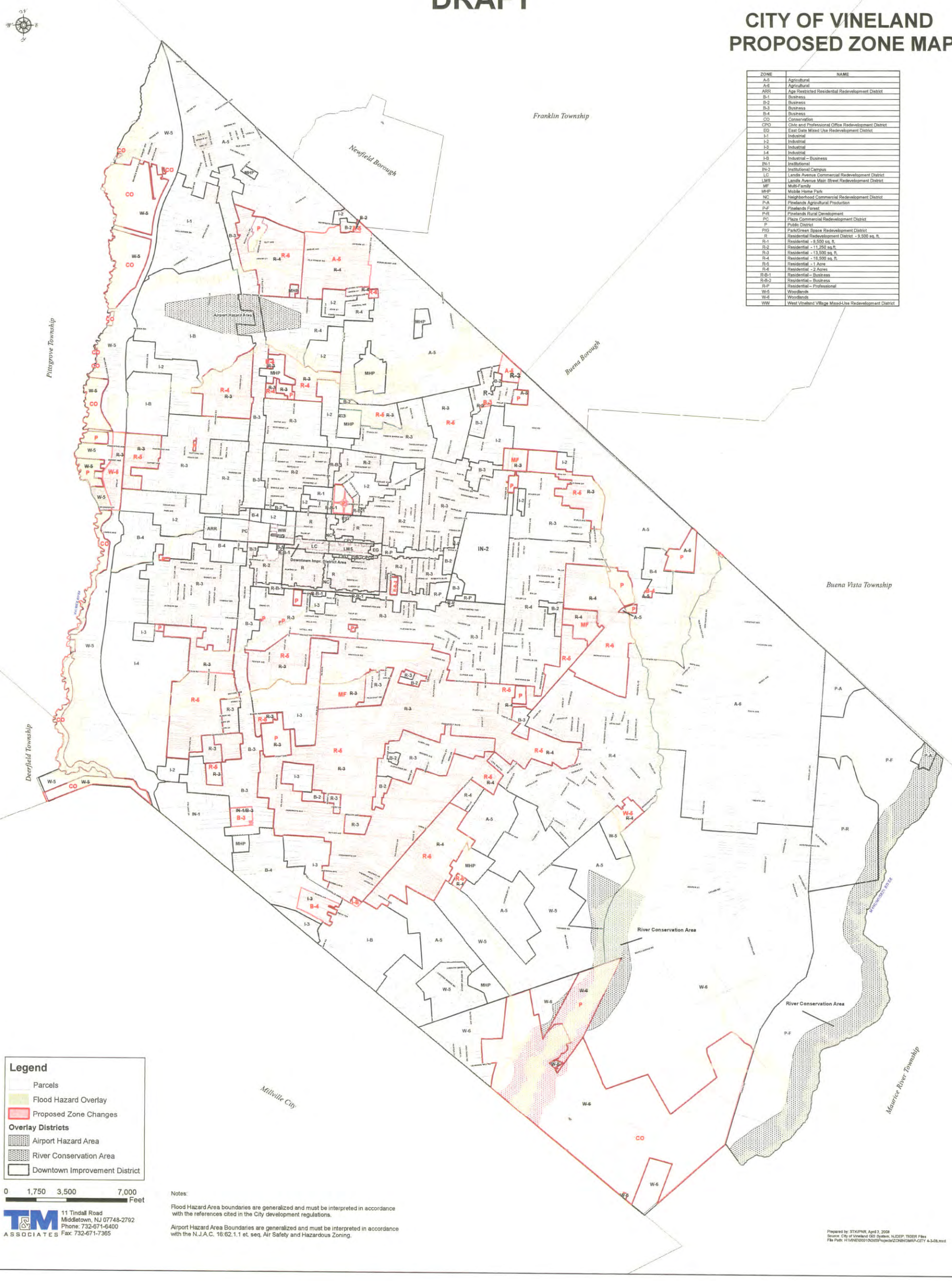
*** * * Developable acres includes Class 1 (vacant) lands and Class 3A/3B (regular/qualified farmland) lands that are unpreserved, not approved for major subdivision, and not environementally encumbered**

APPENDIX C:
City of Vineland Proposed Zone Map

DRAFT

CITY OF VINELAND
PROPOSED ZONE MAP

ZONE	NAME
A-5	Agricultural
A-6	Agricultural
ARR	Age Restricted Residential Redevelopment District
B-1	Business
B-2	Business
B-3	Business
B-4	Business
CO	Conservation
CPO	Civic and Professional Office Redevelopment District
EG	East Gate Mixed Use Redevelopment District
I-1	Industrial
I-2	Industrial
I-3	Industrial
I-4	Industrial
I-B	Industrial – Business
IN-1	Institutional
IN-2	Institutional Campus
LC	Landis Avenue Commercial Redevelopment District
LMS	Landis Avenue Main Street Redevelopment District
MF	Multi-Family
MHP	Mobile Home Park
NC	Neighborhood Commercial Redevelopment District
P-A	Pinelands Agricultural Production
P-F	Pinelands Forest
P-R	Pinelands Rural Development
PC	Plaza Commercial Redevelopment District
P	Public District
P/G	Park/Green Space Redevelopment District
R	Residential Redevelopment District - 9,500 sq. ft.
R-1	Residential - 9,500 sq. ft.
R-2	Residential - 11,250 sq.ft.
R-3	Residential - 13,500 sq. ft.
R-4	Residential - 18,500 sq. ft.
R-5	Residential - 1 Acre
R-6	Residential - 2 Acres
R-B-1	Residential – Business
R-B-2	Residential – Business
R-P	Residential – Professional
W-5	Woodlands
W-6	Woodlands
WW	West Vineland Village Mixed-Use Redevelopment District



Legend

- Parcels
- Flood Hazard Overlay
- Proposed Zone Changes

Overlay Districts

- Airport Hazard Area
- River Conservation Area
- Downtown Improvement District

0 1,750 3,500 7,000 Feet

T&M ASSOCIATES
11 Tindall Road
Middletown, NJ 07748-2792
Phone: 732-671-6400
Fax: 732-671-7365

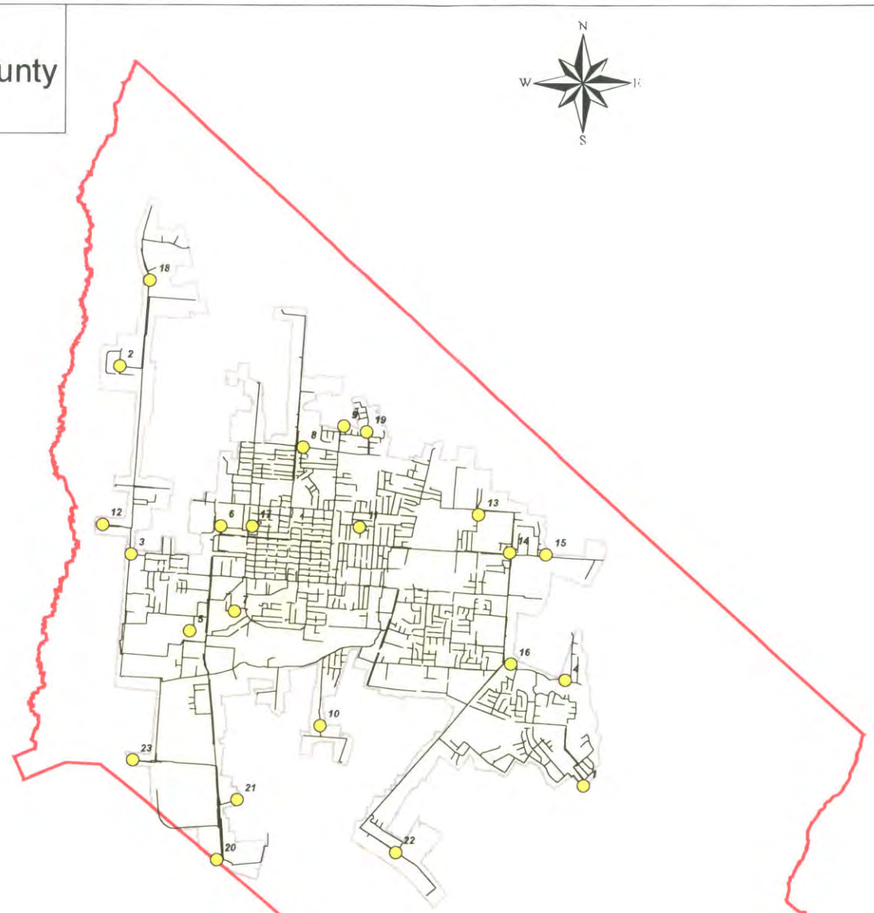
Notes:

Flood Hazard Area boundaries are generalized and must be interpreted in accordance with the references cited in the City development regulations.

Airport Hazard Area Boundaries are generalized and must be interpreted in accordance with the N.J.A.C. 16:62.1.1 et. seq. Air Safety and Hazardous Zoning.

Prepared by: STK/PNR, April 3, 2008
Source: City of Vineland GIS System, NJDEP, TIGER Files
File Path: H:\VINE\50001\Dt3\Projects\ZONING\MAP-CITY 4-3-08.mxd

Sewer Infrastructure
City of Vineland, Cumberland County
June 15, 2005



Legend

- Sewer Pipes
- Pump Stations, Sewer
- Municipal Boundary
- Existing Sewered Area

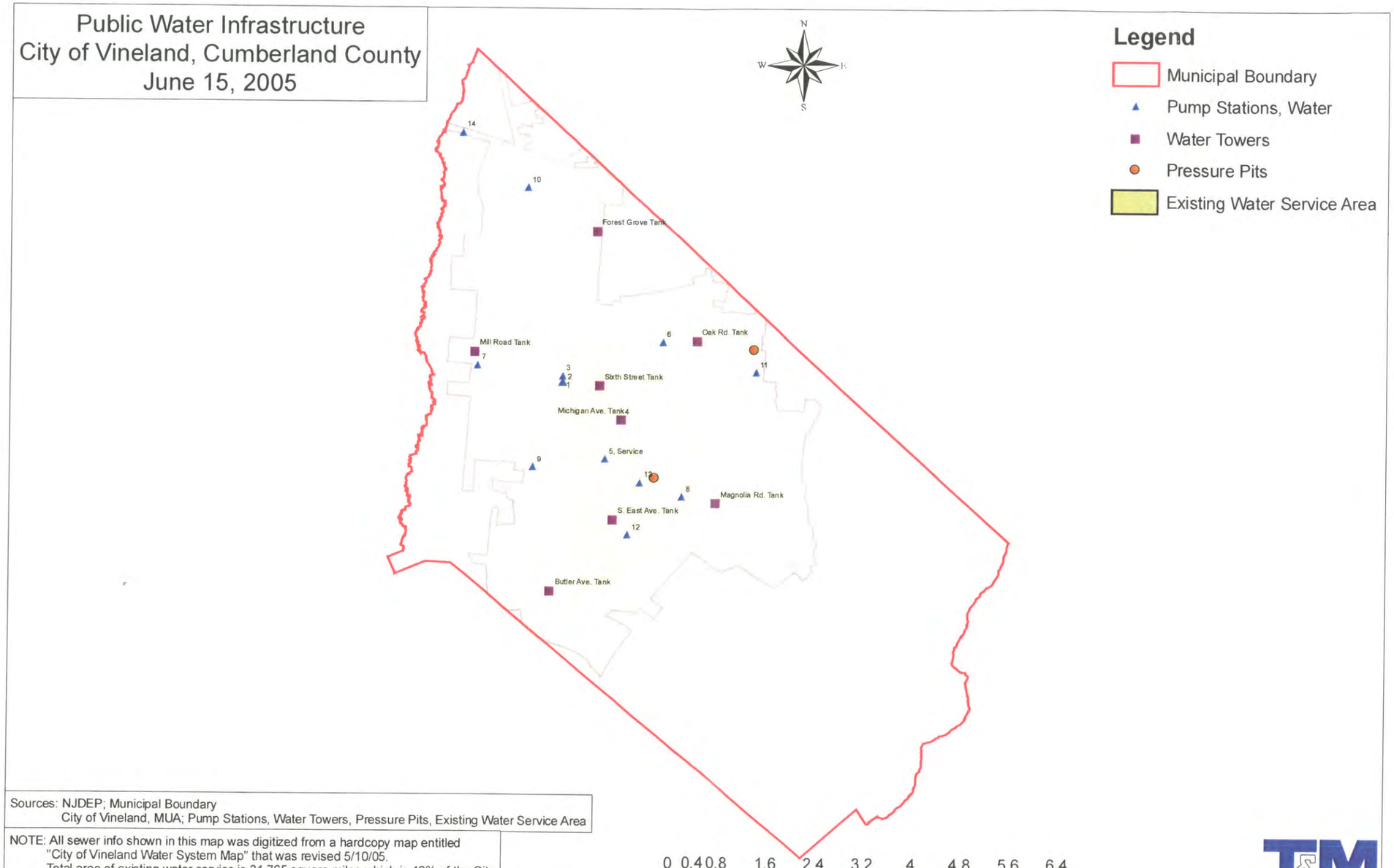
Sources: NJDEP; Municipal Boundary
City of Vineland, LSA; Sewer Pipes, Pump Stations, Sewered Areas

NOTE: All sewer info shown in this map was digitized from a hardcopy map entitled "Offical Map of the Landis Sewerage Authority" that was revised 4/7/03.
Total area of existing sewered is 20.747 square miles which is 30.1% of the City total area (68.99 square miles).

0 0.4 0.8 1.6 2.4 3.2 4 4.8 5.6 6.4 Miles

T&M ASSOCIATES

Public Water Infrastructure
City of Vineland, Cumberland County
June 15, 2005



Legend

- Municipal Boundary
- Pump Stations, Water
- Water Towers
- Pressure Pits
- Existing Water Service Area

Sources: NJDEP; Municipal Boundary
City of Vineland, MUA; Pump Stations, Water Towers, Pressure Pits, Existing Water Service Area

NOTE: All sewer info shown in this map was digitized from a hardcopy map entitled "City of Vineland Water System Map" that was revised 5/10/05.
Total area of existing water service is 31.765 square miles which is 46% of the City total area (68.99 square miles).

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