

BUILD-OUT ANALYSIS

PITTSGROVE TOWNSHIP, SALEM COUNTY



AUGUST 2009



Clarke Caton Hintz

Architecture

Planning

Landscape Architecture

Build-out Analysis

Pittsgrove Township, Salem County

August 2009

100 Barrack Street
Trenton NJ 08608
clarkecatonhintz.com
Tel: 609 883 8383
Fax: 609 883 4044

Prepared for Pittsgrove Township by:

Elizabeth K. McManus, PP, AICP, LEED AP

Clarke Caton Hintz

PP License # 5915

John Clarke, FAIA
Philip Caton, FAICP
Carl Hintz, AICP, ASLA
John Hatch, AIA
George Hibbs, AIA
Brian Slaugh, AICP
Michael Sullivan, AICP



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Nancy L. Huster, Planning Board Secretary/Land Use Administrator

William L. Horner, Esq., Planning Board Attorney

Mark Brunermer, PE, Sickels & Associates, Inc., Planning Board Engineer

Sarah Birdsall, PP, Planning Board Planner



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H. Kirk Craver

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Constance S. Garton, RMC, Township Clerk

Adam Telsey, Esq., Township Attorney

Mark Brunermer, PE, Township Engineer

Sarah Birdsall, PP, Township Planner



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INTRODUCTION

Pittsgrove Township is a rural, agriculturally-based municipality occupying the eastern corner of Salem County. Spanning 46 square miles, Pittsgrove is bounded by Upper Pittsgrove Township to the west and north, Elmer Borough to the west, Franklin Township to the north, the City of Vineland to the east, Deerfield Township to the southeast and Upper Deerfield to the southwest.

Pittsgrove is accessible from major transportation routes that serve to connect the Township with Wilmington and Philadelphia to the west and New Jersey shore points to the east. The Township is traversed from east to west by New Jersey State Route 40, and Landis Avenue (State Highway 56), which serves as its commercial corridors. Additionally, the major north-south traffic artery is State Route 55, located just outside of the Township to the east, and links to I-295, which provides access to both Philadelphia and northern points in New Jersey.

On July 7, 2008 the New Jersey Department of Environmental Protection (hereinafter referred to as “DEP”) adopted revised Water Quality Management Planning rules, N.J.A.C. 7:15. These revised rules made several important changes to the regulations regarding sewer service areas, septic system areas, permitting and requirements of wastewater management plans (hereinafter referred to as “WMP”). The DEP regulations require that the municipality assign residential and commercial septic densities (the minimum area required for one septic system) on the basis of the Hydrologic Unit Code 11 (hereinafter “HUC 11”) within the municipality. A HUC 11 is defined as the following by DEP:

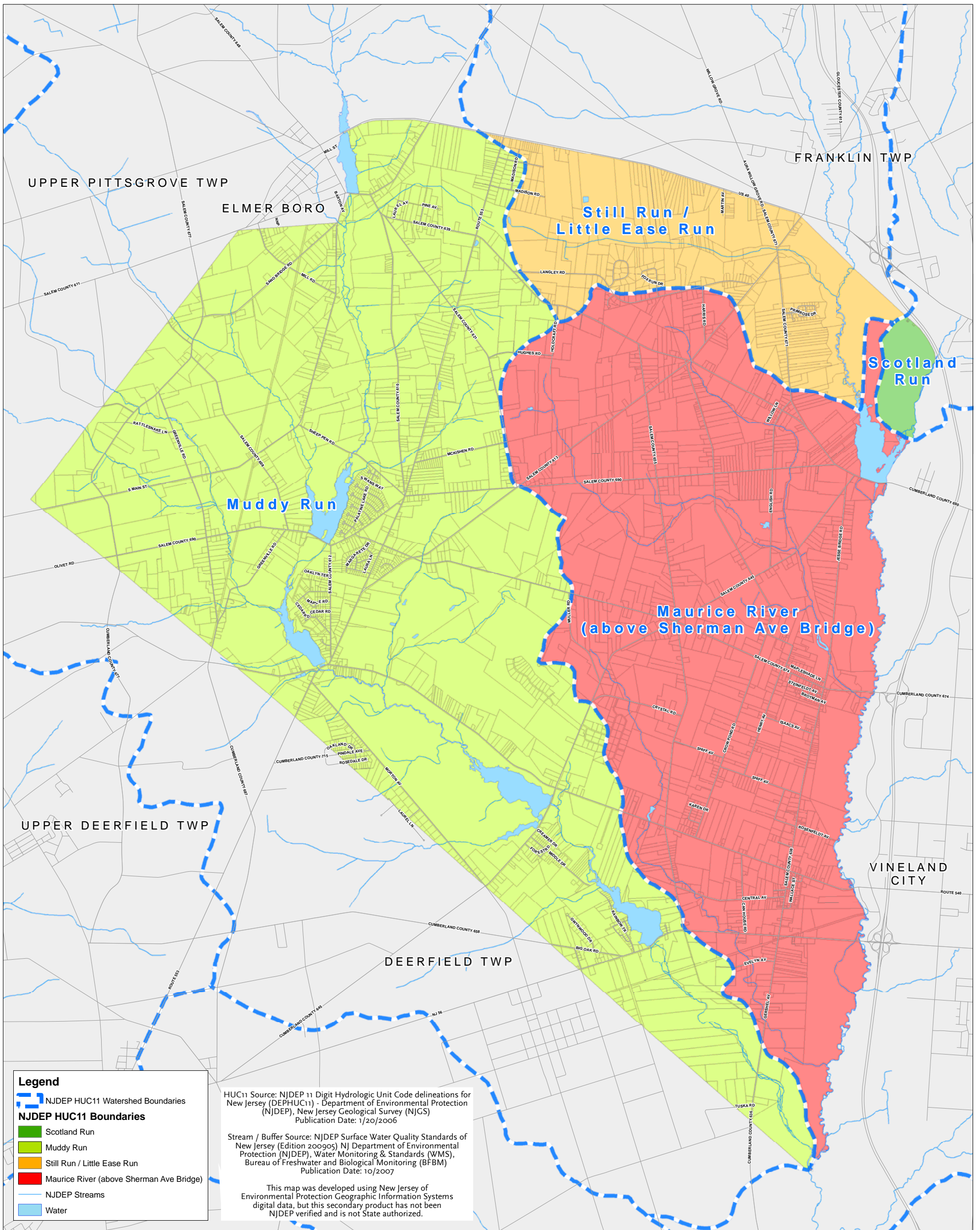
“an area within which water drains to a particular receiving surface water body, also known as a watershed, which is identified by an 11-digit hydrologic unit boundary designation, delineated within New Jersey by the United States Geologic Survey.”

These HUC 11’s are important to a municipality that is all or in part served by septic systems because the DEP regulations require that each WMP include an analysis of the remaining development capacity, pursuant to DEP septic density regulations, within each HUC 11. Specifically, the rule amendment requires that the municipality’s zoning and ultimate build-out for available lands must comply with a nitrate dilution standard of 2.0 mg/l over each HUC 11 in areas served by septic systems. This is a significant change from previous State regulations which did not require that development meet a particular nitrate dilution standard.

The required nitrate dilution standard of 2.0 mg/l represents the limit of the total nitrate effluent from septic systems within a HUC 11. Nitrate acts as a conservative surrogate for any of a number of constituents that could be discharged from a septic system (e.g. cleaners, solvents, pharmaceuticals, etc.). Nitrate was chosen by DEP because it is highly soluble in water, and because it is a stable compound that by itself could render water unsuitable for human consumption. The septic density required to meet the 2.0 mg/l standard is based on the ability of the soil types in the HUC 11 to accommodate the nitrate effluent from septic systems. DEP will require that a municipality's zoning regulations limit the development capacity to that cited in the DEP-approved WMP. As such, Pittsgrove Township will likely be required to amend the zoning regulations as necessary to ensure that the limit is not exceeded. However, it is important to note that a municipality is not required to enact a minimum lot area that meets or exceeds the 2.0 mg/l standards; instead the municipality may use clustering, lot size averaging, etc., provided the resulting development capacity does not exceed that which is included in the approved WMP for each HUC 11.

The purpose of this report is to provide an analysis of the capacity for new septic systems within each HUC 11, pursuant to the DEP Water Quality Management Planning regulations (*N.J.A.C. 7:15*). These regulations require that the municipality examine the capacity pursuant to the nitrate dilution standards as well pursuant to the zoning in place at this time. The analysis pursuant to the nitrate dilution standards was performed under two scenarios, 1) *exclusion* of permanently preserved properties and environmental constraints from the available lands and 2) *inclusion* of the permanently preserved properties and environmental constraints, with the exception of wetlands, from the available lands. The requirements for nitrate dilution capacity analysis permit municipal discretion in the decision of whether to include or exclude the permanently preserved lands and environmental constraints from the available lands subject to DEP's nitrate dilution standards. This report will provide the Township the necessary data to make an informed decision on whether it is appropriate to include these lands in the nitrate dilution development capacity analysis.

This analysis, in conjunction with the Township's decision regarding the available lands, is intended to be utilized by the Salem County Department of Planning in their preparation of the Salem County Wastewater Management Plan, which will include the Wastewater Management Plan for Pittsgrove Township as well as the County's other 14 municipalities. The analysis will also inform Township officials of the impacts of the build-out based on the amended DEP rules and the existing zoning on the Township's future population and tax expenditures and revenues.



BUILD-OUT ANALYSIS

Watershed Boundaries

Pittsgrove Township, Salem County, NJ August 2009

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EXISTING TOWNSHIP CONDITIONS

Pittsgrove Township is home to a wealth of natural resources that require protection, including its expansive agricultural lands. In fact the Township is among the top 20 New Jersey municipalities in terms of active agriculture. While the Township has experienced substantial growth rates, as compared to other Salem County municipalities, it has maintained its rural character.

Environmental Constraints

Pittsgrove Township is 46 square miles (29,239 acres). The Township contains a moderate amount of environmental constraints with 28.8% of the total land area constrained by water, wetlands, flood prone areas, stream corridor buffers and steep slopes. Including critical habitat, 58.2% of the Township is constrained. The stream corridor buffers consist of 300 feet for Category 1 waterways and 50 feet for all other waterways (there are currently no waterways that are required to have a 150 foot buffer). In addition to these environmental constraints which limit development, the Township contains a significant amount of critical habitat area, as defined by the DEP Landscape project. Table 1, indicates the environmental constraints and critical habitat present in Pittsgrove.

Table 1. Township Environmental Constraints

	Area in Acres	Percent of Total
Water	557.8	1.9%
Wetlands	5,459.3	19%
Wetland Buffers	1,633.81	5.6%
Flood Prone Areas – 100 Year	5,693.2	19.4%
Stream Corridor Buffers	1,842.26	6.3%
300 Foot Category 1 Buffers	1,108.7	3.8%
50 Stream Corridor Buffers	733.6	2.5%
Steep Slopes – 15% or greater	115.5	0.3%
Critical Habitat Area 3	9,679.3	33.1%
Critical Habitat Area 4	5,944.5	20.3%
Critical Habitat Area 5	0	0%

	Area in Acres	Percent of Total
<i>Composite Total</i>	17,030.1	58.2%

**Note that the sum of the above figures does not accurately represent the total environmentally constrained areas in the Township due to overlay of the various environmental constraints.*

There are four HUC II drainage areas present in Pittsgrove Township:

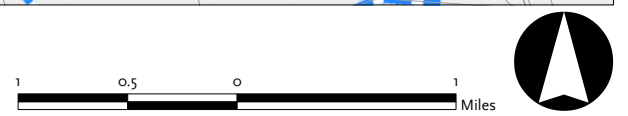
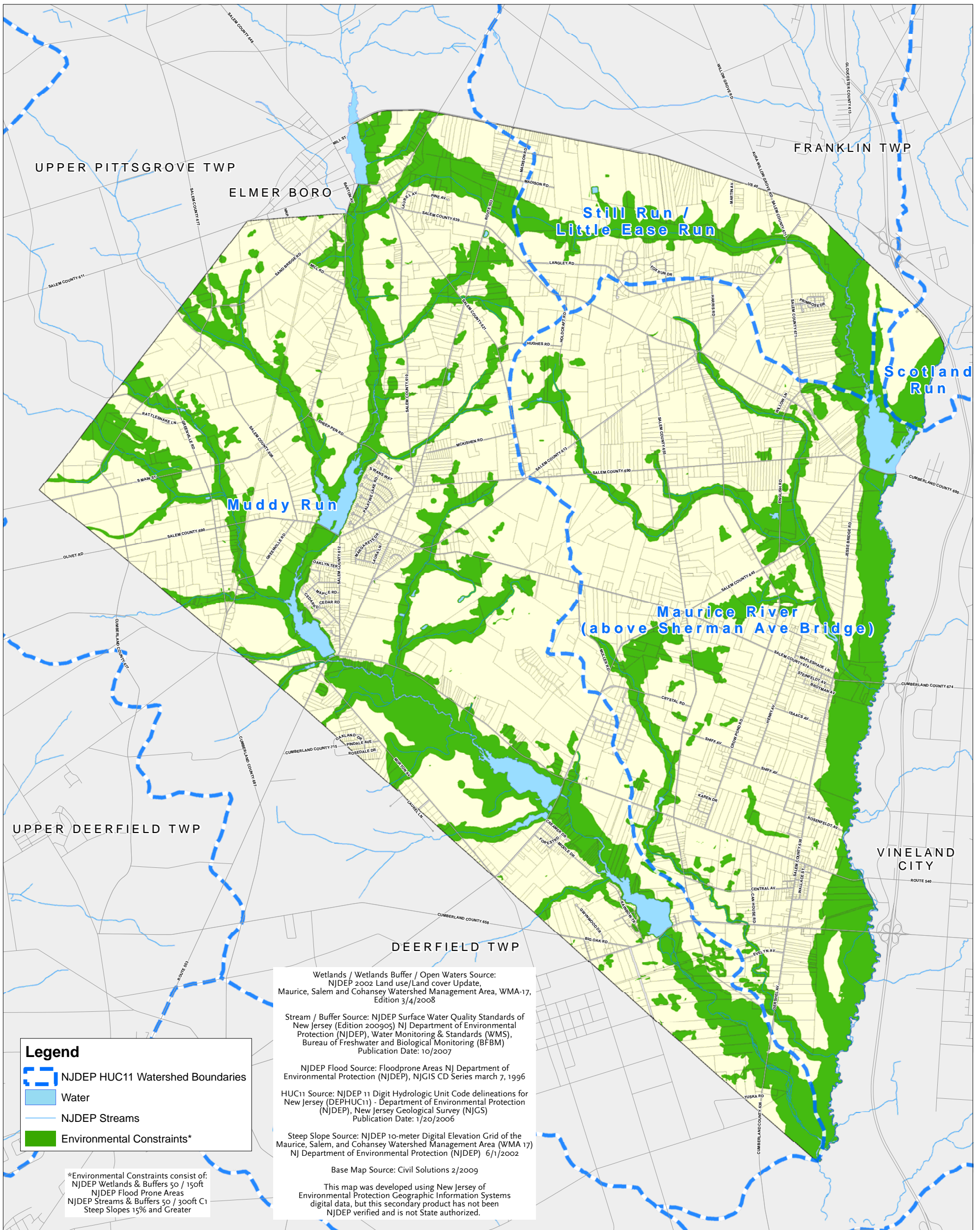
- Still Run / Little Ease Run (02040206120)
- Scotland Run (02040206130)
- Maurice River – above Sherman Ave. Bridge (02040206140)
- Muddy Run (02040206150)

The Muddy Run, at 15,360.85 acres or 52.5% of the Township generally occupies the western half of the Township. It includes the villages of Centerton and Olivet as well as five (Centerton Lake, Elmer Lake, Palatine Lake, Parvin Lake and Rainbow Lake) of the six primary surface water bodies in the Township. Associated with these water bodies are a variety of surface waterways, including Category I waterways. Additionally, this HUC II contains significant areas of wetlands, wetland buffers and flood prone areas which are associated with the surface waters.

The second largest HUC II in Pittsgrove is the Maurice River (above Sherman Ave. Bridge). This area, at 10,819.18 acres or 37% of the Township consists of the lower eastern portion of the Township and includes the villages of Norma, Brotmanville and Willow Grove. This area also includes a number of waterways and significant areas of wetlands, wetland buffers and flood prone areas along the Maurice River which delineates much of the eastern boundary of the Township.

The Still Run / Little Ease Run HUC II occupies the northeastern portion of the Township and consists of a rather small area at 2,796.98 acres or 9.6 % of the Township. It encompasses the Township’s sixth primary surface water body, Willow Grove Lake. Despite its size it includes significant wetlands, wetland buffers and flood prone areas.

The fourth HUC II, Scotland Run, is a small area of 262.3 acres or 0.9% of the Township located in the northeastern corner. A significant portion of it consists of wetlands, wetlands and wetland buffers and flood prone areas.



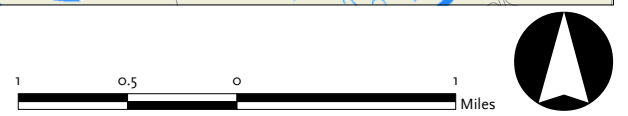
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Composite Environmental Constraints

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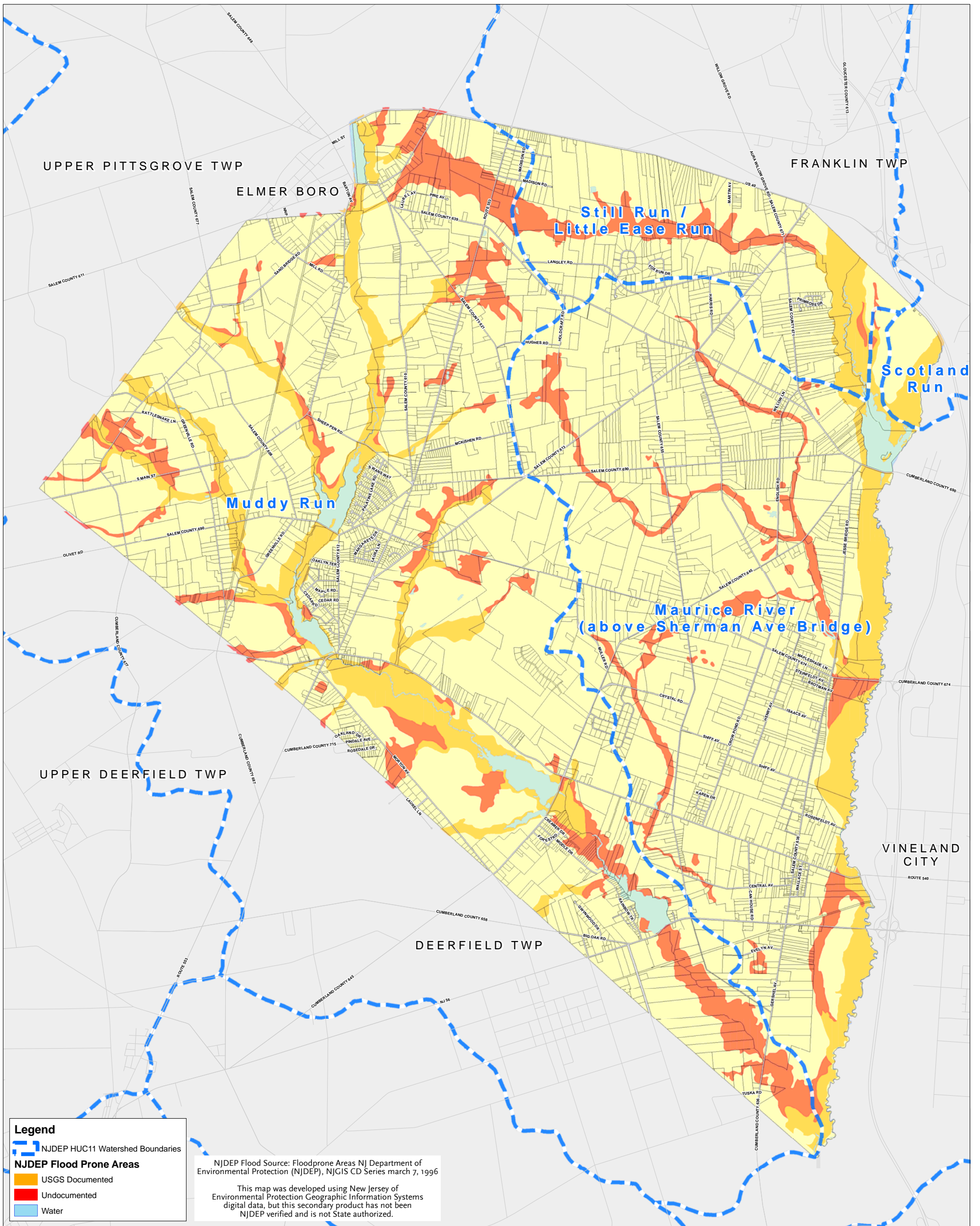




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Surface Hydrology

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Flood Prone Areas

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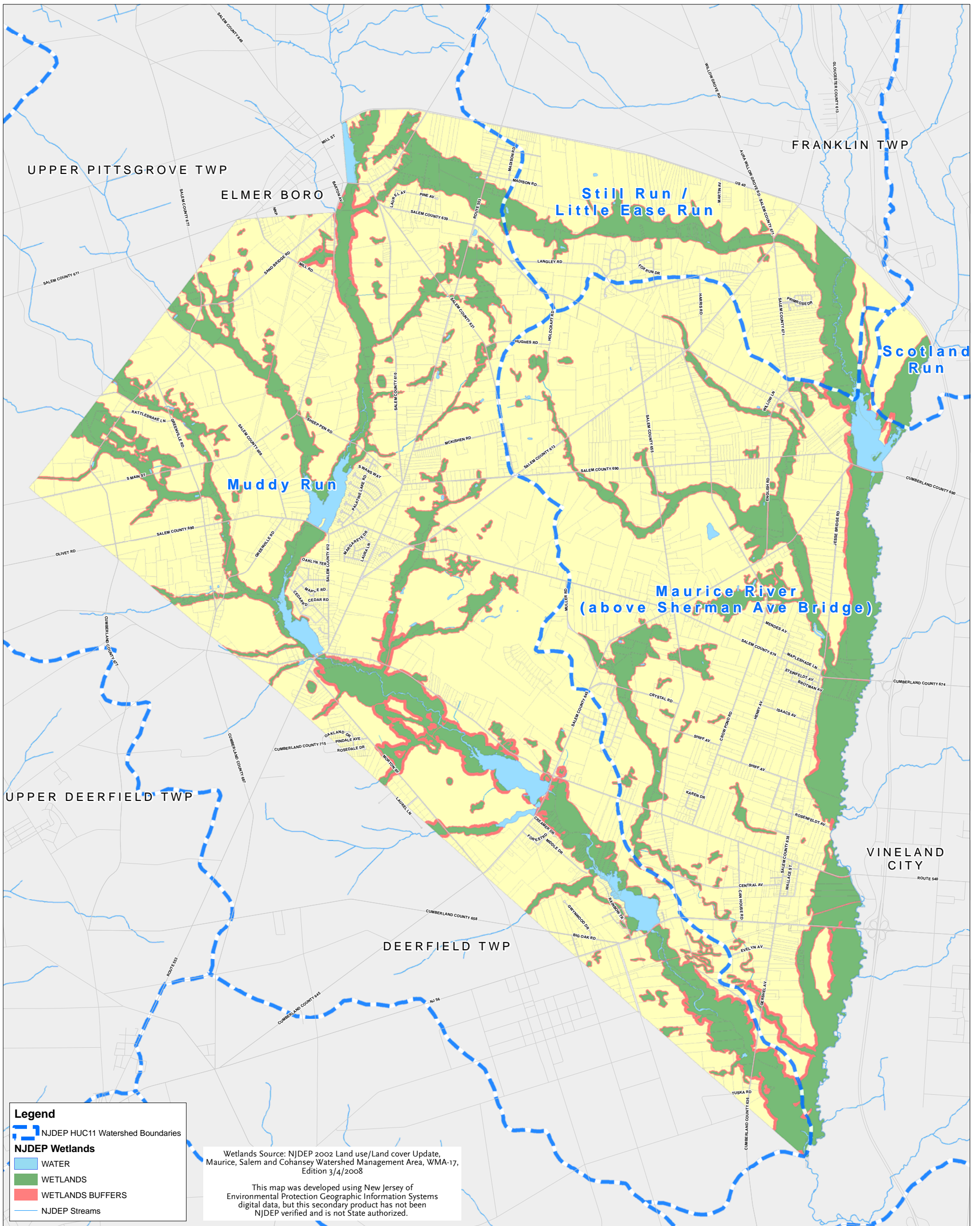
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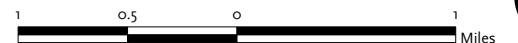


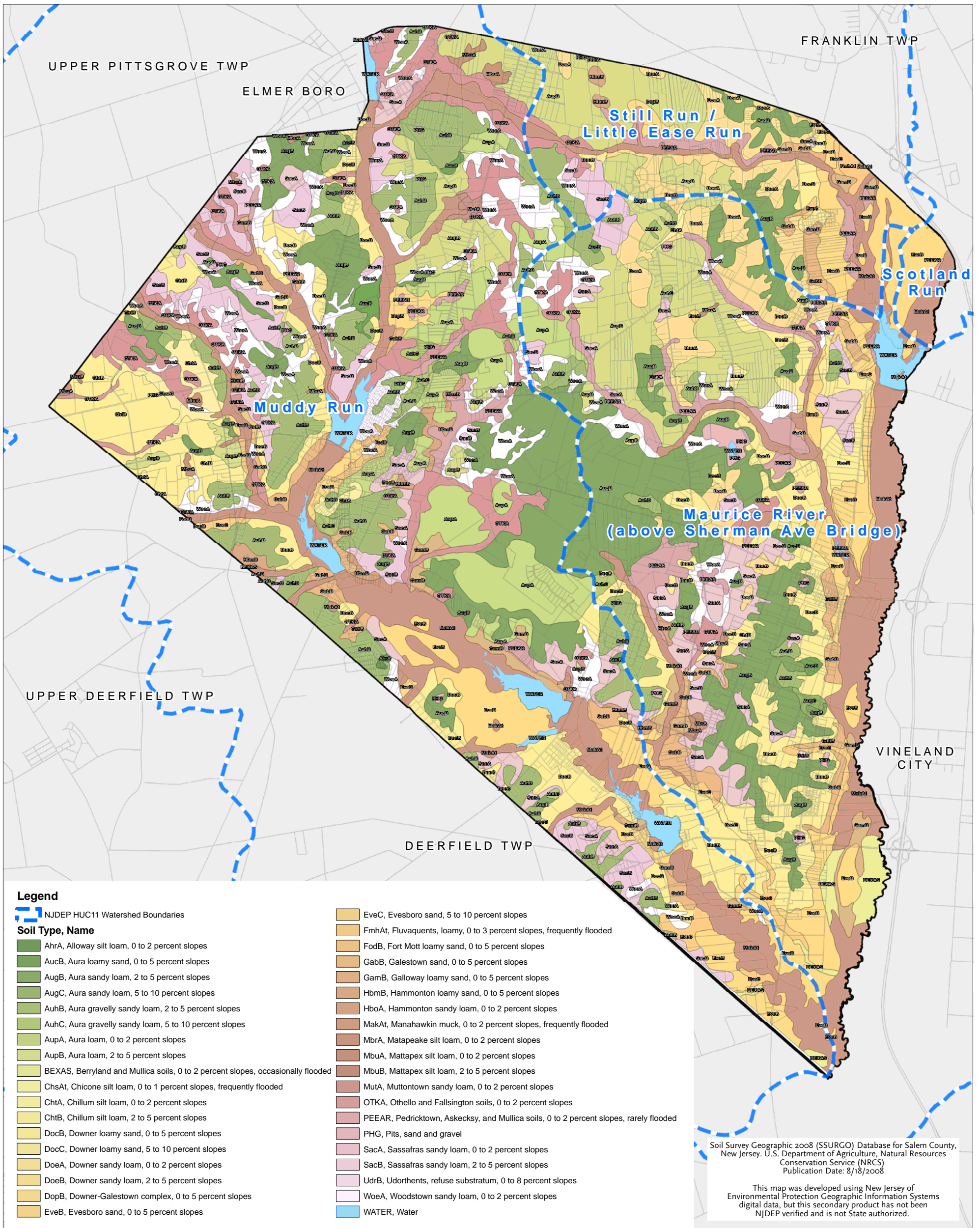
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Freshwater Wetlands

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Soils

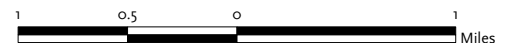
Pittsgrove Township, Salem County, NJ July 2009

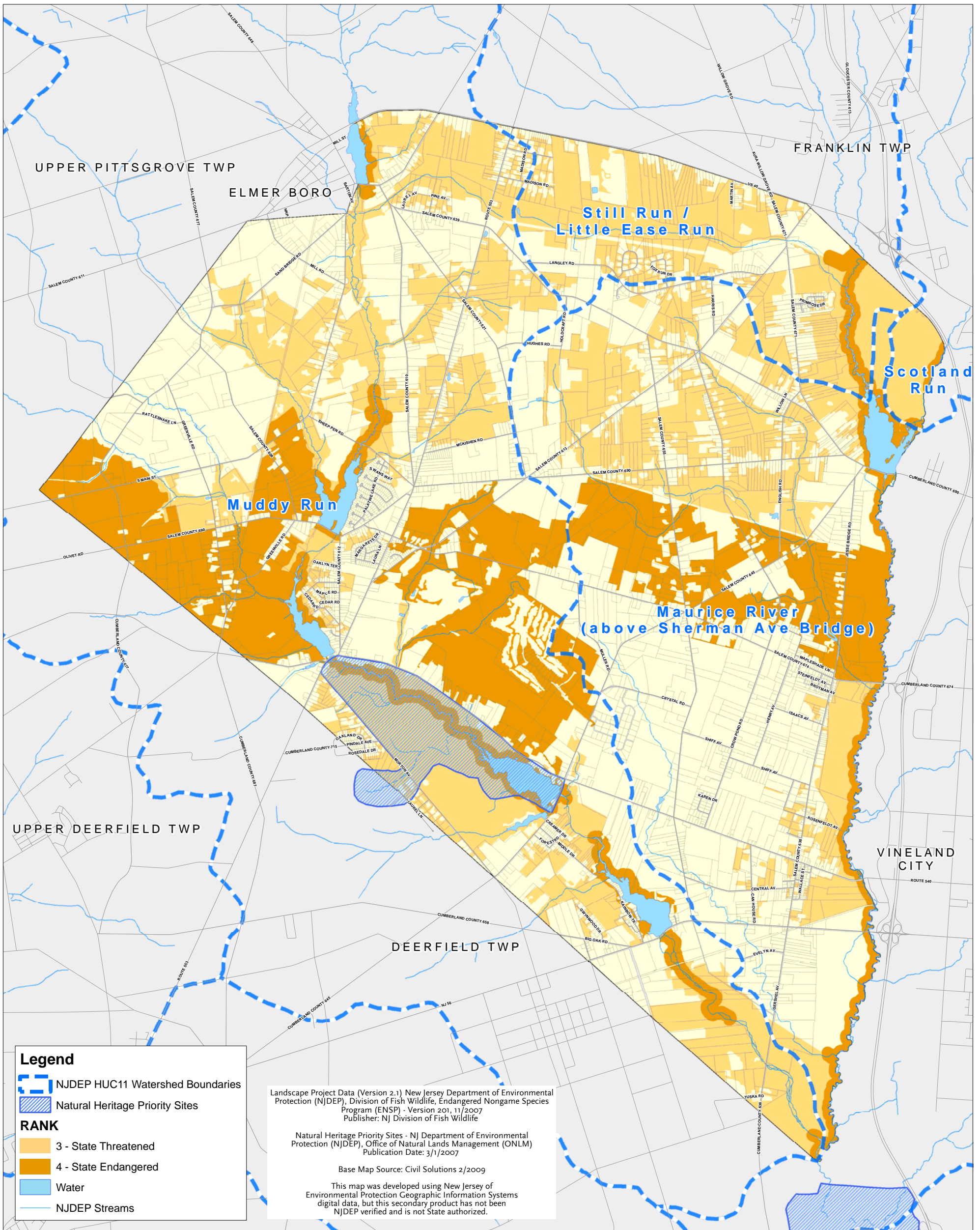
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Legend

- NJDEP HUC11 Watershed Boundaries
- Natural Heritage Priority Sites

RANK

- 3 - State Threatened
- 4 - State Endangered
- Water
- NJDEP Streams

Landscape Project Data (Version 2.1) New Jersey Department of Environmental Protection (NJDEP), Division of Fish Wildlife, Endangered Nongame Species Program (ENSP) - Version 201, 11/2007
 Publisher: NJ Division of Fish Wildlife

Natural Heritage Priority Sites - NJ Department of Environmental Protection (NJDEP), Office of Natural Lands Management (ONLM)
 Publication Date: 3/1/2007

Base Map Source: Civil Solutions 2/2009

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



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Critical Habitat & Natural Heritage Priority Sites

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Table 2, provides additional information on each HUC 11 and the environmental constraints contained within.

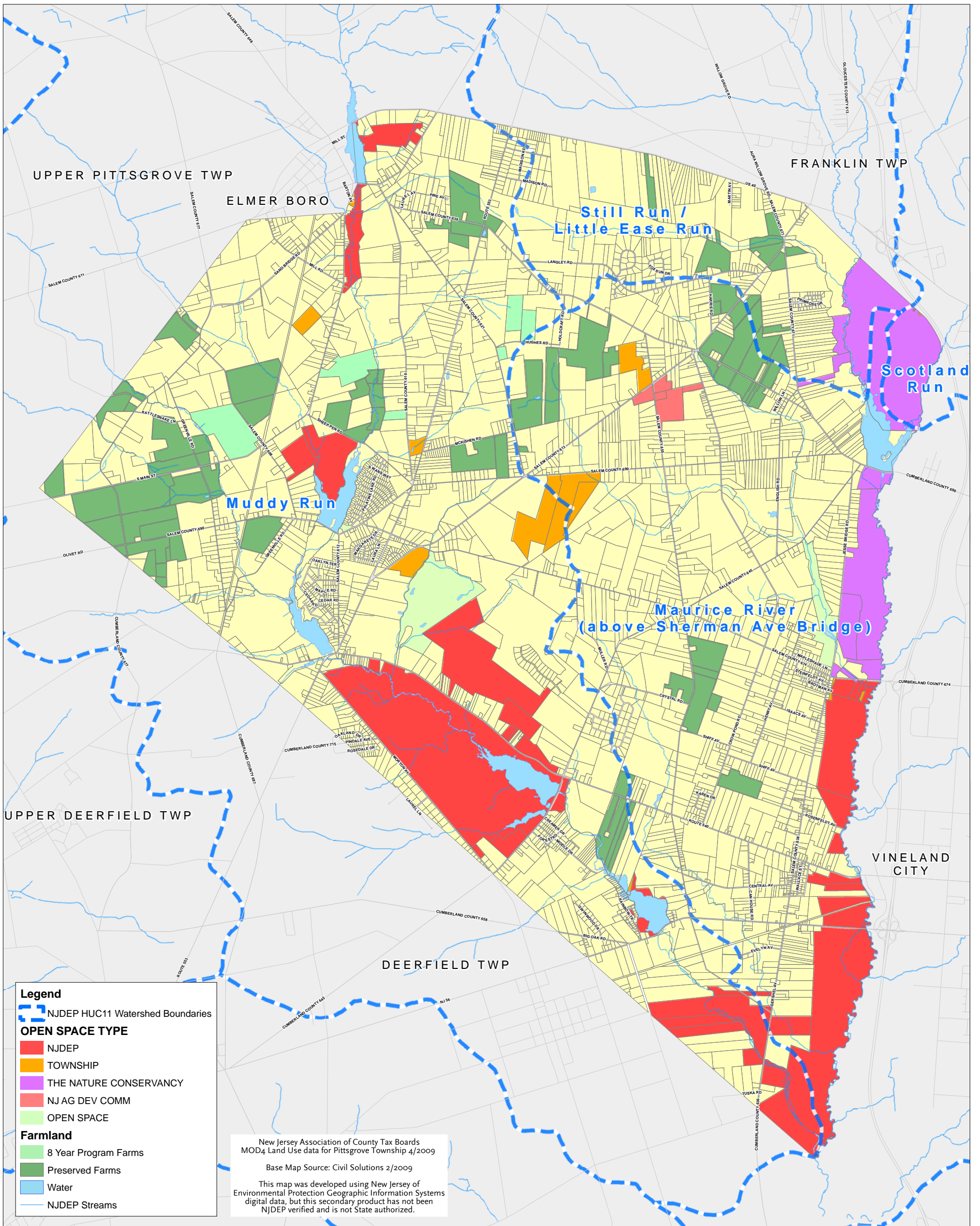
Table 2. HUC 11 Environmental Constraints

	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run
Water	393.83	149.1	14.1	0.7
Wetlands	2,800.7	1971.3	585.6	101.6
Wetland Buffers	1,029.0	507.9	85.54	11.37
Flood Prone Areas	3,320.7	1643.6	622.8	106.1
Stream Corridor Buffers	1,173.1	579.3	76.0	13.9
300 Foot Category 1	739.5	354.1	8.8	6.2
50 Stream Corridor	433.6	225.2	67.2	7.7
Steep Slopes	75.5	39.2	0.8	0
15 to 25%	72.3	39.1	0.8	0
25% +	3.2	0.1	0	0
Critical Habitat Area 3	4943.9	2,684.6	1,790.8	259.9
Critical Habitat Area 4	3,872.4	1,890.7	151.7	29.8
Critical Habitat Area 5	0	0	0	0
<i>Composite Total</i>	<i>9,437.6</i>	<i>5,396.2</i>	<i>1,937.57</i>	<i>262.3</i>

**Note that the sum of the above figures does not accurately represent the total environmentally constrained areas in the Township due to overlay of the various environmental constraints.*

Land Preservation

The Township has a successful history of preserving farmland and open space. In fact, to date 2,390 acres or 8.2% of the Township has been preserved through the various farmland preservation programs. Table 3. provides information on all preserved land in Pittsgrove Township, which includes lands such as farmland, parks and open space.



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Preserved Farmland & Open Space

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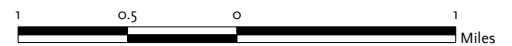


Table 3. Preserved Property

	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run	Total Pittsgrove Township
Preserved Acres	4169.3	2391.3	467.76	262.3	7,290.9
Preserved Lots	-	-	-	-	160

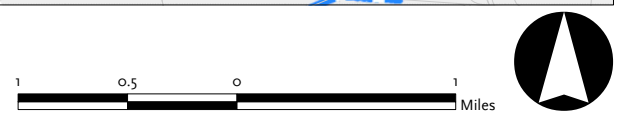
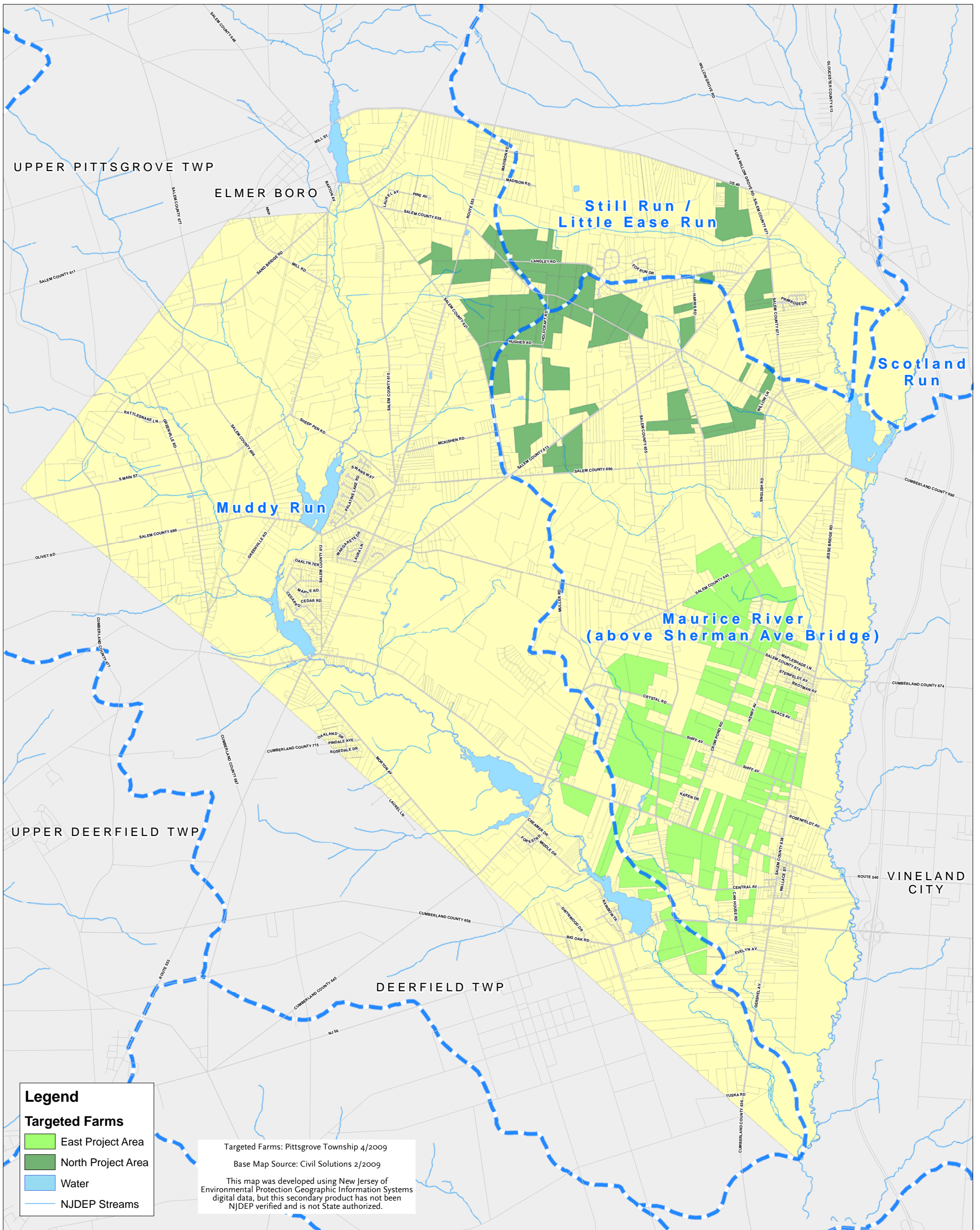
The number of preserved lots per HUC 11 is not given since many of the preserved lots span across multiple HUC 11 areas.

As described in more detail in the 2008 Farmland Preservation Plan, Pittsgrove Township is targeting 3,180 acres across the Township for farmland preservation. The Farmland Preservation Plan identified two project areas – the North Project Area and the East Project Area. The North Project Area is located primarily in the Maurice River (above Sherman Ave. Bridge) HUC 11. The East Project Area is located in the Maurice River (above Sherman Ave. Bridge), Muddy Run and a small portion is in the Still Run / Little Ease Run HUC 11. The Plan targets 29 farms consisting of 58 properties and 1,269 acres in the North Project Area and 64 farms consisting of 170 lots and 1,911 acres in the East Project Area. Table 4. provides additional information on the targeted farms.

Table 4. Targeted Farms

	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run	Total Pittsgrove Township*
North Project Area					
Acres	306.8	659.8	342.8	0	1309.3 acres
Lots	13	29	16	0	58
East Project Area					
Acres	295.9	1560.6	0	0	1856.4 acres
Lots	13	93	0	0	106

**Note that the 2008 Farmland Preservation Plan noted a total acreage of targeted farms in the North Project Area of 1,269 and a total acreage of targeted farms in the East Project Area of 1,911. The difference in these numbers and the table above is rooted in discrepancies between the tax data relied upon in the Farmland Preservation Plan and the Geographic Information Systems data relied upon in this report.*



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Targeted Farmland Preservation

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Population & Housing Conditions

Pittsgrove Township has experienced tremendous population growth in the last few decades as compared to other parts of Salem County and New Jersey. Notwithstanding this, the Township’s growth rates appear to be stabilizing.

Table 5. Population Growth

	1930	1940	1950	1960	1970	1980	1990	2000
Pittsgrove Twp.	2,091	2,157	2,808	3,785	4,618	6,954	8,121	8,893
Salem County	36,834	42,274	49,508	58,711	60,346	64,676	65,294	65,285
New Jersey	4,041,334	4,160,165	4,835,329	6,066,782	7,168,164	7,364,823	7,730,188	8,414,350

Source: 1930, 1940, 1950, 1960, 1970, 1980 1990, 2000 US Census

Table 6. Recent Population Growth Trends

	1980	Percent Change	1990	Percent Change	2000	Percent Change
Pittsgrove Township	6,954	33.6%	8,121	16.8%	8,893	9.5%
Salem County	64,676	7.2%	65,294	1.0%	65,285	0.0%
New Jersey	7,364,823	2.70%	7,730,188	4.96%	8,414,350	8.85%

Source: 1970, 1980, 1990, 2000 US Census

Pittsgrove Township’s population as of December 2008 is estimated to be 9,885. The population estimate was derived by multiplying the number of certificates of occupancy issued since the April 2000 by Pittsgrove Township’s median household size of 2.90, pursuant to the U.S. Census. This number was then added to Pittsgrove’s population in 2000 as was reported by the U.S. Census. This approximate growth of 992 persons between 2000 and 2008 represents a growth rate of 11.2%. This growth rate over this period combined with the current economic climate, indicates that the Township’s growth rate between 2000 and 2010 is likely to be modestly higher than the growth rate of 9.5% of the period 1990 and 2000.

Similar to population growth, the number of housing units in Pittsgrove Township has increased significantly from 2,671 units in 1990 to 3,155 housing units in 2000 – a growth rate of 18.1% and an average of 44 new units per year. Tables 7 and 8 provide information on housing unit types present in the Township in 1990 and 2000. Between 2000 and 2008, there were 391 certificates of occupancy issued for new residential

units¹ and 27 demolition permits issued for residential units – a net average of 40.4 new homes per year. As such, the total number of housing units in Pittsgrove Township as of December 2008 is 3,519 - a growth rate of 11.5% since 2000². This growth between 2000 and 2008 suggests that the Township will grow at a more modest rate between 2000 and 2010 as compared to between 1990 and 2000.

Table 7. 1990 Housing Units by Number of Units in Structure

Number of Units	Owner Occupied	Rental	Total
1, Detached	1,873	146	2,019
1, Attached	16	6	22
2	5	11	16
3 or 4	0	12	12
5 to 9	0	5	5
10 to 19	0	0	0
20 to 49	0	0	0
50 or more	0	0	0
Mobile Home	569	25	594
Other	3	0	3
<i>Total</i>	<i>2,466</i>	<i>205</i>	<i>2,671</i>

Source: 1990 US Census

Table 8. 2000 Housing Units by Number of Units in Structure

Number of Units	Owner Occupied	Rental	Vacant	Total
1, Detached	2,257	188	74	2,519
1, Attached	9	16	0	25
2	18	12	0	30
3 or 4	18	19	0	37
5 to 9	0	8	0	8

¹ Source: New Jersey Department of Community Affairs Construction Reporter

² Please note that a small overlap may exist in 2000. The US Census was taken in April of 2000, however, the certificates of occupancy cited for 2000 were issued during the entirety of the year.

Number of Units	Owner Occupied	Rental	Vacant	Total
10 to 19	0	0	0	0
20 to 49	0	0	0	0
50 or more	0	0	0	0
Mobile Home	428	47	61	536
Other	0	0	0	0
<i>Total</i>	<i>2,730</i>	<i>290</i>	<i>135</i>	<i>3,155</i>

Source: 2000 US Census

Development Patterns

The primary development pattern in Pittsgrove Township is strip frontage development (also known as ribbon development) where residential lots are developed along the frontage of existing roads. This leaves the interior lands largely undeveloped as the existing woodlands or farmland. Consistent with this type of development, there are few large residential subdivisions; the majority of subdivisions in recent years consist of five or less units. Nonresidential development has followed a similar pattern; however, there has been only modest commercial development in Pittsgrove over the last decade.

As of June 2009, there were 2,569 developed or underdeveloped (lots with a septic system that are capable of being subdivided) residential lots and 74 developed or underdeveloped nonresidential lots in the Township. The remaining 1,258 lots are not developed with a septic system. There are 1,000 lots or 13,629.6 acres which are considered undeveloped for the purposes of this build-out analysis and are not open space or farmland preserved. Note that the Wastewater Management Planning rules, N.J.A.C. 7:15, do not allow a municipality to assign development capacity to lots with unconstrained areas that do not meet the minimum lot area for the zone which they are located in.

Existing Zoning

There are 13 zoning districts in the Township, of which seven are residential districts, five are nonresidential districts and one is the Public zone district. The characteristics present in these districts vary widely depending on the predominant land uses and the environmental conditions.

Agricultural district. This principally residential district encompasses much of the Township's prime farmland. Permitted uses include but are not limited to agricultural,

single family detached dwellings, educational uses and recreation uses. Conditional uses include but are not limited to farm businesses, garden centers and planned residential cluster developments. The required minimum lot size in the district varies by the permitted and conditional uses; however, the predominant land use, single family detached dwellings, has a minimum lot area of three (3.0) acres.

B-1 Neighborhood Business district. This nonresidential district is located in and near the villages of Centerton and Norma and contains a variety of uses on moderate sized lots. Permitted uses include but are not limited to day care, professional service, professional office and retail. Conditional uses include but are not limited to planned commercial centers and restaurants. The required minimum lot size in the district varies by the permitted and conditional uses; however, the predominant required lot area is two (2.0) acres. Similarly, the maximum building cover varies by permitted and conditional uses but has no predominant standard; however, the average maximum permitted building cover for permitted uses is 5.0%.

HB-40 Highway Business district. This nonresidential district is located along Route 40 and contains a variety of uses on moderate sized lots. Permitted uses include but are not limited to low intensity retail and services, gasoline stations, professional offices and restaurants. Conditional uses include but are not limited to planned commercial centers, personal storage centers and vehicle, boat and farm equipment sales. The required minimum lot size in the district varies by the permitted and conditional uses with no predominant lot size. The average lots size of the permitted use, excluding the 15 acre lot size for nursing facilities, is 3.50 acres. Similarly, the required maximum permitted building cover in the district varies by the permitted and conditional uses; however, the average maximum permitted building cover for permitted uses, excluding nursing facilities, is 15.8%.

HB-56 Highway Business district. This nonresidential district is located along Route 56 and contains a variety of uses on moderate sized lots. Permitted uses include but are not limited to retail and services, gasoline stations, professional offices and restaurants. Conditional uses include but are not limited to planned commercial centers and personal storage centers. The required minimum lot size in the district varies by the permitted and conditional uses with no predominant lot size. The average lots size of the permitted use, excluding the 15 acre lot size for nursing facilities, is 3.13 acres. Similarly, the required maximum permitted building cover in the district varies by the permitted and conditional uses; however, the average maximum permitted building cover for permitted uses, excluding nursing facilities, is 16.1%.

C Conservation district. This principally residential district encompasses much of the Township's environmentally constrained lands and generally follows the surface waterways. Permitted uses include but are not limited to agricultural, single family detached dwellings, educational uses and recreation uses. Conditional uses include but are not limited to windmills and studios or workshops. The required minimum lot size in the district varies by the permitted and conditional uses; however, the predominant land use, single family detached dwellings, has a minimum lot area of five (5.0) acres.

MC-1 Industrial / Commercial district. This nonresidential district is located south of the village of Norma on larger sized lots. Permitted uses include but are not limited to retail and services, gasoline stations, professional offices, vehicle, farm equipment and boat sales, warehouse and distribution facilities and low intensity industrial operations. Conditional uses include but are not limited to planned commercial centers, limited to planned industrial parks and personal storage centers. The required minimum lot size in the district varies by the permitted and conditional uses with no predominant lot size. The average lots size of the permitted use is 4.08 acres. Similarly, the required maximum permitted building cover in the district varies by the permitted and conditional uses; however, the average maximum permitted building cover for permitted uses is 16.5%.

P Public district. This nonresidential district is scattered throughout the Township and consists of publicly owned lands. Permitted uses include but are not limited to municipal uses, educational uses and recreational uses. Conditional uses include but are not limited to windmills and wireless communication facilities. The required minimum lot size in the district varies by the permitted and conditional uses with no predominant lot size. The average lots size of the permitted use is three (3.0) acres. Similarly, the required maximum permitted building cover in the district varies by the permitted and conditional uses; however, the average maximum permitted building cover for permitted uses, excluding conservation uses, is 31.3%.

PHB Planned Highway Business district. This nonresidential district is located along Route 40 and contains a variety of uses on moderate sized lots. Permitted uses include but are not limited to low intensity retail and services, gasoline stations, landscape and garden centers, professional offices and restaurants. Conditional uses include but are not limited to planned commercial centers, personal storage centers and vehicle, boat and farm equipment sales. The required minimum lot size in the district varies by the permitted and conditional uses with no predominant lot size. The average lots size of the permitted use, excluding the 15 acre lot size for nursing facilities, is 3.50 acres. Similarly, the required maximum permitted building cover in the district varies by the permitted

and conditional uses; however, the average maximum permitted building cover for permitted uses, excluding nursing facilities, is 15.8%.

R-1 Residential District. This principally residential district largely consists of moderate sized residential lots south of the Route 40 frontage and along Crow Pond Road. Permitted uses include but are not limited to agricultural, single family detached dwellings and recreation uses. Conditional uses include but are not limited to daycare, planned residential cluster developments, farm businesses and churches. The required minimum lot size in the district varies by the permitted and conditional uses; however, the predominant land use, single family detached dwellings, has a minimum lot area of two (2.0) acres.

R-2 Residential District. This principally residential district largely consists of moderate sized residential lots along Buck Road, Jesse Bridge Road and near the village of Norma. Permitted uses include but are not limited to agricultural, single family detached dwellings and recreation uses. Conditional uses include but are not limited to daycare, churches and windmills. The required minimum lot size in the district varies by the permitted and conditional uses; however, the predominant land use, single family detached dwellings, has a minimum lot area of 45,000 square feet (1.0 acre).

R-3 Residential District. This principally residential district largely consists of moderate sized residential lots north of the village of Norma along Jesse Bridge Road. Permitted uses include but are not limited to agricultural, single family detached dwellings and recreation uses. Conditional uses include but are not limited to daycare, churches and windmills. The required minimum lot size in the district varies by the permitted and conditional uses; however, the predominant land use, single family detached dwellings, has a minimum lot area of 30,000 square feet (0.7 acre).

R-4 Residential District. This principally residential district largely consists of moderate sized residential lots along Buck Road, Jesse Bridge Road and near the village of Norma. Permitted uses include but are not limited to agricultural, single family detached dwellings and recreation uses. Conditional uses include but are not limited to daycare, churches and windmills. The required minimum lot size in the district varies by the permitted and conditional uses; however, the predominant land use, single family detached dwellings, has a minimum lot area of 22,000 square feet (0.5 acres).

RR Rural Residential district. This principally residential district, which is the largest in the Township, contains much of the Township's farmland and scattered single-family residential development. Permitted uses include but are not limited to agricultural,

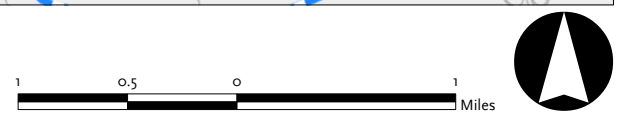
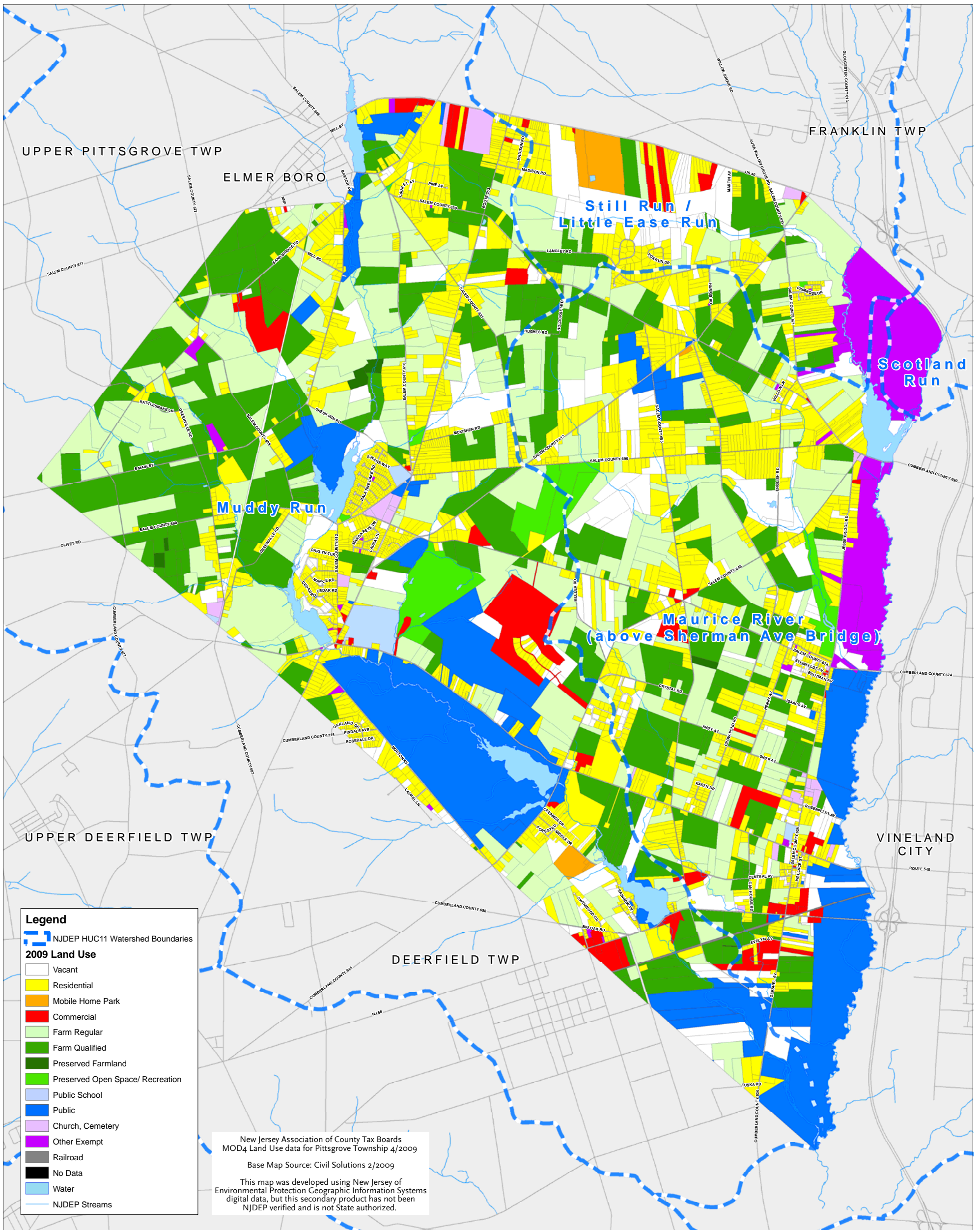
churches, single family detached dwellings, educational uses and recreation uses. Conditional uses include but are not limited to daycare, planned residential cluster developments, farm businesses and golf courses. The required minimum lot size in the district varies by the permitted and conditional uses; however, the predominant land use, single family detached dwellings, has a minimum lot area of three (3.0) acres.

Table 9. below provides information on the total area of each district (including roadways) and the area within each HUC II.

Table 9. Zone District Areas and Developed/Undeveloped/Underdeveloped Land Area

	Total Area*	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run
A District	5,206.9	4,000.3	943.8	262.8	0
B-1 District	321.7	82.9	238.8	0	0
HB-40 District	144.1	63.3	0	80.8	0
HB-56 District	161.1	49.0	112.1	0	0
C District	6,261.5	3,000.4	2,185.7	813.1	262.3
MC-1 District	412.6	202.2	210.4	0	0
P District	1,423.8	1,354.8	69.1	0	0
PHB District	282.6	74.9	42.6	165.2	0
R-1 District	2,282.7	5,66.9	1,280.5	435.3	0
R-2 District	1,383.8	826.0	400.2	157.6	0
R-3 District	296.6	0	296.6	0	0
R-4 District	369.2	305.2	64.1	0	0
RR District	9,979.1	4,466.4	4,675.2	837.5	0

* Excludes water



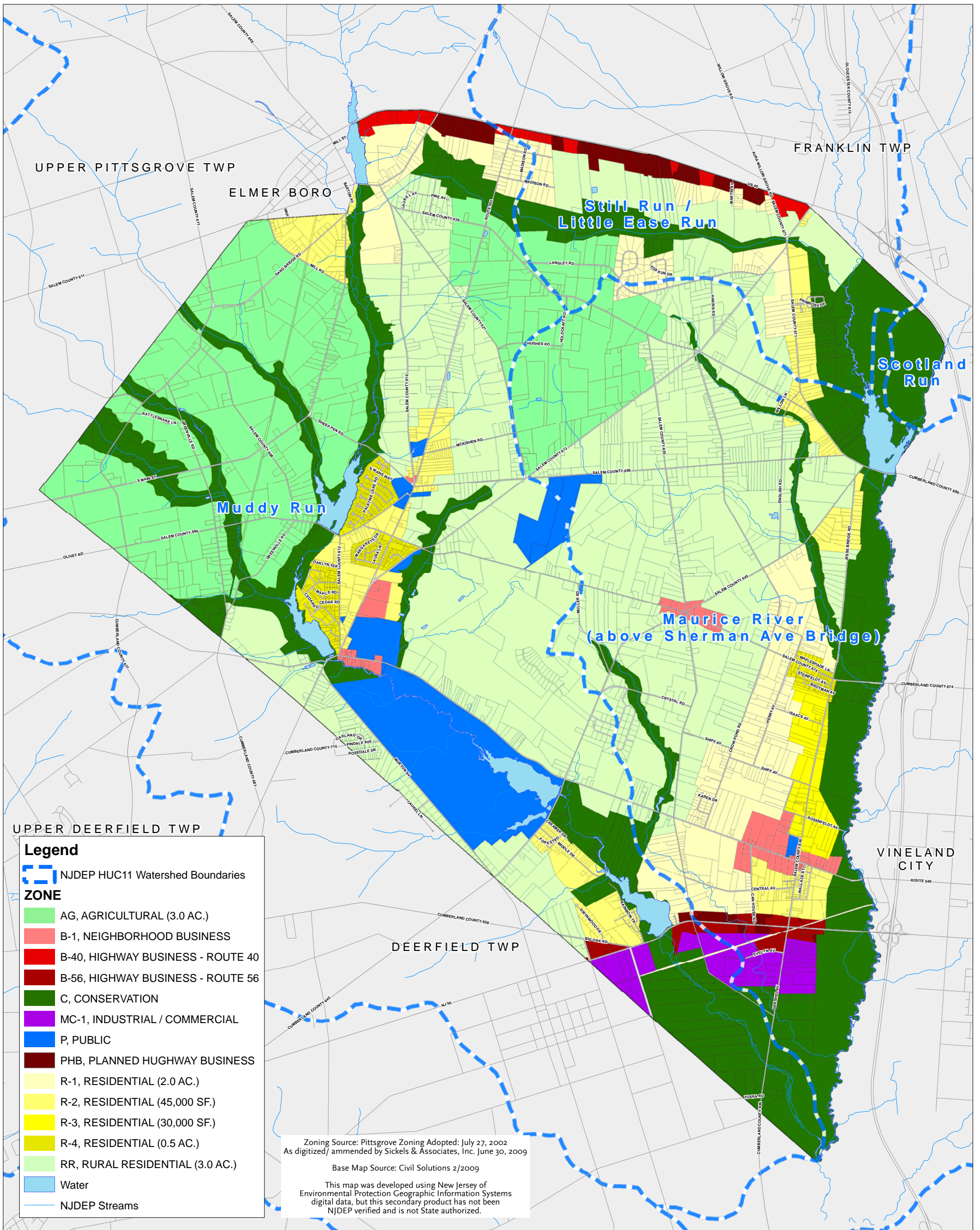
BUILD-OUT ANALYSIS

Existing Land Use

Pittsgrove Township, Salem County, NJ August 2009

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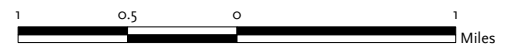


BUILD-OUT ANALYSIS

Zoning

Pittsgrove Township, Salem County, NJ August 2009

Clarke Caton Hintz
 Architecture
 Planning
 Landscape Architecture



New Jersey State Development and Redevelopment Plan

The adopted 2001 and draft 2009 New Jersey State Development and Redevelopment Plan (“State Plan”) has designated Pittsgrove Township lands as one of three planning areas: the Rural Planning Area (PA4), the Rural Environmentally Sensitive Planning Area (PA 4B) and the Environmentally Sensitive Planning Area (PA 5). The Township also has significant lands designated as Parks and Recreation Areas. The below table provides additional information on the Township’s Planning Areas.

Table 10. State Plan Planning Areas

Planning Area	2001 Adopted State Plan		2009 Draft State Plan	
	Acres	% of Total	Acres	% of Total
Rural	640.4	2.2%	591.7	2.0%
Rural Environmentally Sensitive	16,759.0	57.3%	16,269.6	55.6%
Environmentally Sensitive	9,299.6	31.8%	8,411.7	28.7%
Parks and Recreation	2,570.7	8.8%	3,677.6	12.0%

The Rural Environmentally Sensitive Planning Area is described as the following in the State Plan:

“Some lands in the Rural Planning Area (PA4) have one or more environmentally sensitive features qualifying for delineation as Rural/Environmentally Sensitive (PA4B). This subarea contains valuable ecosystems or wildlife habitats. Rural/Environmentally Sensitive Planning Areas are supportive of agriculture and other related economic development efforts that ensure diversity within New Jersey. Any development or redevelopment planned in the Rural/Environmentally Sensitive Area should respect the natural resources and environmentally sensitive features of the area.”

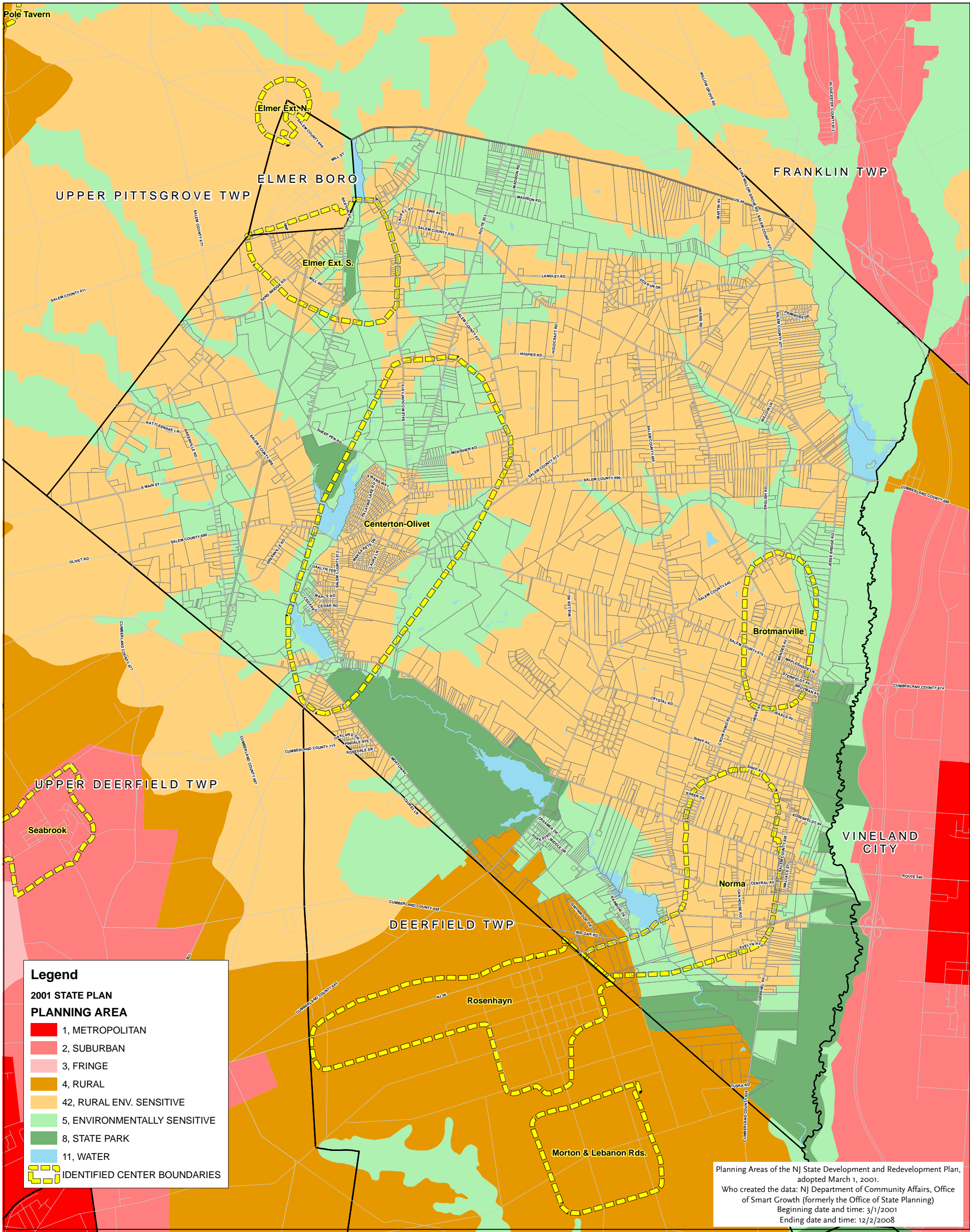
The Environmentally Sensitive Planning Area is described as the following in the State Plan:

“The Environmentally Sensitive Planning Area contains large contiguous land areas with valuable ecosystems, geological features and wildlife habitats particularly in the Delaware Bay and other estuary areas, the Highlands Region, and coastal area. The future environmental and economic integrity of

the state rests in the protection of these irreplaceable resources. Some of these lands have remained somewhat undeveloped or rural in character. Other areas, particularly New Jersey's coastal barrier islands, have experienced advanced levels of development, but remain highly vulnerable to natural forces. Environmentally Sensitive Planning Areas are characterized by watersheds of pristine waters, trout streams and drinking water supply reservoirs; recharge areas for potable water aquifers; habitats of endangered and threatened plant and animal species; coastal and freshwater wetlands; prime forested areas; scenic vistas; and other significant topographical, geological or ecological features, particularly coastal barrier spits and islands. These resources are critically important not only for the residents of these areas, but for all New Jersey citizens."

In addition to these planning areas, the Township also has several areas of Critical Environmental Constraints. These areas, are described as the following the in State Plan.

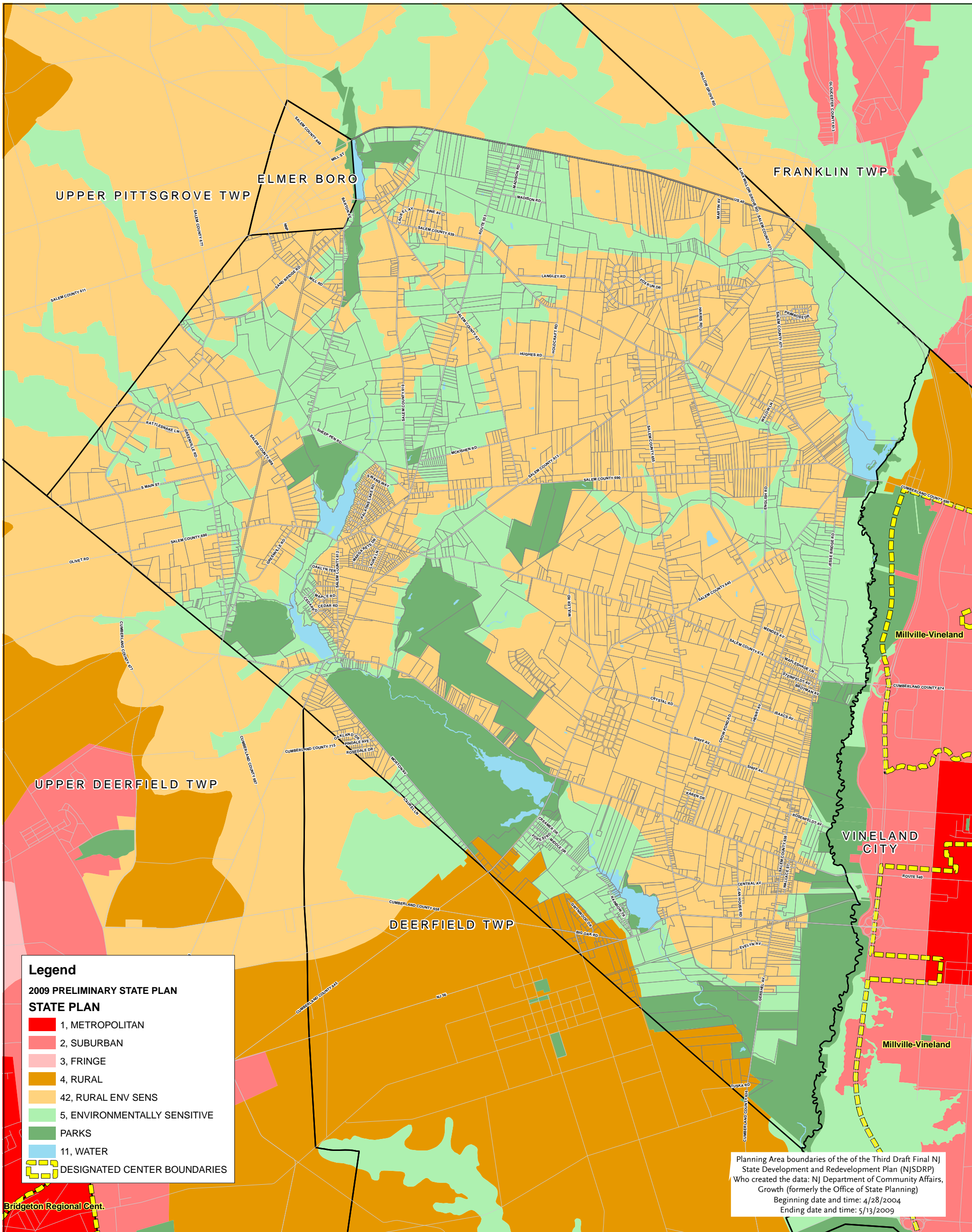
"The Critical Environmental Sites (CES) and Historic and Cultural Sites (HCS) designations are used to help organize planning for new development or redevelopment by singling out the elements of natural systems, small areas of habitat, historic sites, and other features that should continue to be expressed in the future landscape through protection and restoration. Riparian corridors are excellent examples of eligible features for mapping, as are remnants of forest and small wetlands. The presence of CES and HCS gives land owners and developers important advance information on how to shape their proposals for development of the land around them, focusing on including them within the design and function of the development whenever possible, while at the same time protecting them from adverse impacts."



BUILD-OUT ANALYSIS
2001 NJ Adopted SDRP
 Pittsgrove Township, Salem County, NJ August 2009



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 Architecture
 Planning
 Landscape Architecture



Legend

2009 PRELIMINARY STATE PLAN

STATE PLAN

- 1, METROPOLITAN
- 2, SUBURBAN
- 3, FRINGE
- 4, RURAL
- 42, RURAL ENV SENS
- 5, ENVIRONMENTALLY SENSITIVE
- PARKS
- 11, WATER
- DESIGNATED CENTER BOUNDARIES

Planning Area boundaries of the of the Third Draft Final NJ State Development and Redevelopment Plan (NJSDRP) Who created the data: NJ Department of Community Affairs, Growth (formerly the Office of State Planning) Beginning date and time: 4/28/2004 Ending date and time: 5/13/2009

BUILD-OUT ANALYSIS

2009 NJ Draft SDRP

Pittsgrove Township, Salem County, NJ August 2009



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BUILD-OUT ANALYSIS METHODOLOGY

This report provides an analysis of the development capacity in areas served by septic systems under three scenarios:

- Existing Zoning;
- Gross Nitrate Dilution: DEP nitrate dilution standards applied to available lands which *include* permanently preserved properties and environmentally constrained lands, with the exception of wetlands; and
- Net Nitrate Dilution: DEP nitrate dilution standards applied to available lands which *exclude* permanently preserved properties and environmentally constrained lands.

Note that the Township’s few sites with a NJPDES discharge permit are not served by septic systems and are therefore excluded from the build-out analysis. These sites are listed below in Table 11.

Table 11. NJPDES Discharge Permits

NJPDES No.	Facility Name	Facility Address
NJ0061841 / NJ10103039	B & B Poultry Co. Inc.	Almond Road
NJ0090221	Arthur Schalick High School	Route 553
NJ0099678	Harding Woods Inc.	187 Harding Highway
NJ0157716	Daytop of NJ	4 Harding Highway
NJG0084883	The Villages I	388 Porchtown Road
NJG0108405	Holly Tree Acres Mobile Home Park	109 Middle Drive
NJG0112305	Lee Transport Inc.	Garden Road
NJG0129577	Centerton Country Club	1022 Almond Road
NJG0133167	Parvin State Park	701 Almond Road
NJG0154512	Pittsgrove Township	989 Centerton Road
NJG0160652	Region South Drainage	Route 40
NJG0165042	NJDOT Rt 40.	Route 40 4, Elmer
NJG0169129	NJDOT Rt. 56 Rainbow Lake Dam Replacement	Route 56 Rainbow Lake

The DEP provided the septic densities to be approved by each HUC 11 in the build-out analyses. The septic densities have been converted to nonresidential floor area ratio in

order to provide a development intensity equivalent for nonresidential districts. There are four HUC 11 areas in Pittsgrove. The below table lists each HUC 11 and the associated septic density.

Table 12. HUC 11 Area Septic Densities

HUC 11 Drainage Area	Residential Septic Density	Nonresidential Floor Area Ratio
Still Run / Little Ease Run (02040206120)	6.6 acres	.0139
Scotland Run (02040206130)	6.4 acres	.0140
Maurice River – above Sherman Ave. Bridge (02040206140)	6.8 acres	.0133
Muddy Run (02040206150)	6.9 acres	.0135

Existing Zoning Build-out Analysis

The existing zoning analysis was conducted pursuant to the Water Quality Management Planning regulations, *N.J.A.C. 7:15*. As such, an analysis of the development capacity for areas served by septic systems was conducted for each zone district and broken down by each HUC 11 area.

The first step in the analysis was to determine the “available” lands. Available lands include lots that either do not contain a septic system or contain one septic system and the unconstrained lands area is capable of being subdivided pursuant to the minimum lot area required by the zoning standards. Environmental constraints and lots which are permanently preserved via a deed restriction permitting only conservation, recreation or agriculture are excluded from the available lands in this scenario. The land use information is largely based on a land use survey completed for the Township; a land use survey is advantageous over the DEP Land Use Land Cover data since the Land Use Land Cover, which is current as of 2002, is out dated and a land use survey provides more detailed information. Environmental constraints, for this purpose, are defined as areas of water, wetlands, wetlands buffers, stream corridor buffers, 100 year flood plain and steep slopes. It is important to note that the Water Quality Management Planning Rules do not permit the analysis to assign a unit, or septic system, to existing lots whose available area (excludes environmental constraints) is undersized pursuant to the zoning regulations. Instead, the undersized lots must be excluded from the available land area.

Once the available lands within each district have been determined, the permitted residential density or nonresidential floor area, as applicable, is applied to the lands in each zone in order to yield the residential and nonresidential development capacities. Chapter 60 of the Township's Code, Land Use and Development, limits development in the nonresidential districts via building cover. While the Township permits multi-story buildings in the nonresidential zones, nearly every nonresidential building in the Township is a single story. As such, this analysis assumes the construction of single story buildings in the nonresidential districts and the floor area is limited by the building cover standard.

This application yields the number of new septic systems – or new homes – and the nonresidential floor area permitted under the existing zoning.

The permitted density of each residential zone is applied to the available lands in the residential zone districts. The available lands include underdeveloped lots that contain a septic system and are capable of being subdivided; however, the GIS model does not recognize that existing units are present on a portion of the land. The build-out must be adjusted to account for the existing septic systems/units, so that the existing units are not double counted and included in the model. Accordingly, the number of existing housing units on the underdeveloped lots is subtracted from the development capacity. The result is the existing zoning residential build-out – the number of new septic systems (i.e. new homes) that are permitted in each residential district.

The permitted building cover of each nonresidential zone is applied to the available lands in the nonresidential districts. This results in the building cover (floor area of a single story building) permitted in each nonresidential district. Data to account for existing floor area on the nonresidential underdeveloped lots is not available; as a result this build-out analysis accounts for the existing buildings in the underdeveloped lots by reducing the unconstrained underdeveloped land area by half. This reduction provides an estimate of the land area devoted to the existing commercial use and accommodates the fact that the best lands in terms of access and suitability are generally developed first, leaving the less desirable lands to be developed at a future point in time. However, these resulting nonresidential floor areas must be converted to equivalent dwelling units, as defined in *N.J.A.C. 7:15*. An equivalent dwelling unit represents one septic system accommodating the maximum permitted nonresidential construction. More specifically, the definition states it is the nonresidential floor area that is the equivalent to a three-bedroom, three-person single family detached home from the perspective of release of nitrate into the environment; this standard is 500 gallons per day. As such, to determine the equivalent dwelling unit, the permitted floor area is multiplied by .1 – the standard

for wastewater generation per square foot of nonresidential development; every 500 gallons that results from this calculation requires one septic system. The nonresidential building cover and nonresidential equivalent dwelling units is the existing zoning nonresidential build-out.

Gross Nitrate Dilution

The Nitrate Dilution Build-outs differ significantly from the Existing Zoning Build-out in that the Township's permitted residential densities and nonresidential building cover are not utilized; instead the Nitrate Dilution Build-outs rely upon septic densities and associated floor area ratios provided by DEP for each HUC 11.

The Gross Nitrate Dilution analysis was conducted pursuant to the Water Quality Management Planning regulations, N.J.A.C. 7:15. As such, an analysis of the development capacity for areas served by septic systems in each HUC 11 was conducted.

The first step in the analysis was to determine the "available" lands. Available lands include lots that either do not contain a septic system or contain one septic system and the unconstrained lands area is capable of being subdivided pursuant to the minimum lot area required by the zoning standards. Environmental constraints and lots which are permanently preserved are *not* excluded from the available lands in this scenario. The land use information is largely based on a land use survey completed for the Township; a land use survey is advantageous over the DEP Land Use Land Cover data since the Land Use Land Cover, which is current as of 2002, is out dated and a land use survey provides more detailed information. It is important to note that the Water Quality Management Planning Rules do not permit the analysis to assign a unit, or septic system, to existing lots whose available area (excludes environmental constraints) is undersized pursuant to the zoning regulations. Instead, the undersized lots must be excluded from the available land area.

Once the available lands within each district have been determined, the residential septic density or nonresidential floor area ratio, as applicable, is applied.

The residential septic density, per the DEP, is applied to the available lands in the residential zone districts. The available lands include underdeveloped lots that contain a septic system and are capable of being subdivided; however, the GIS model does not recognize that existing units are present on a portion of the land. The build-out must be adjusted to account for the existing septic systems/units, so that the existing units are not double counted and included in the model. Accordingly, the number of existing

housing units on the underdeveloped lots is subtracted from the development capacity. The result is the existing zoning residential build-out – the number of new septic systems (i.e. new homes) that are permitted in each residential district.

The nonresidential floor area, per the DEP, is applied to the available lands in the nonresidential districts. This results in floor area permitted in the nonresidential districts within each HUC 11 area. Data to account for existing floor area on the nonresidential underdeveloped lots is not available; as a result this build-out analysis accounts for the existing buildings in the underdeveloped lots by reducing the unconstrained underdeveloped land area by half. This reduction provides an estimate of the land area devoted to the existing commercial use and accommodates the fact that the best lands in terms of access and suitability are generally developed first, leaving the less desirable lands to be developed at a future point in time. However, these resulting nonresidential floor areas must be converted to equivalent dwelling units, as defined in *N.J.A.C. 7:15*. An equivalent dwelling unit represents one septic system accommodating the maximum permitted nonresidential construction. More specifically, it is the nonresidential floor area that is the equivalent to a three-bedroom, three-person single family detached home from the perspective of release of nitrate into the environment; this standard is 300 gallons per day. As such, to determine the equivalent dwelling unit, the permitted floor area is multiplied by .1 – the standard for wastewater generation per square foot of nonresidential development; every 500 gallons that results from this calculation requires one septic system. The nonresidential building cover and nonresidential equivalent dwelling units is the gross nitrate dilution nonresidential build-out.

Net Nitrate Dilution

The net nitrate dilution analysis is nearly identical to the gross nitrate dilution analysis. Unlike the gross nitrate dilution analysis, the net nitrate dilution analysis excludes environmental constraints and permanently preserved properties from the available lands.

The first step in the analysis was to determine the “available” lands. Available lands include lots that either do not contain a septic system or contain one septic system and the unconstrained lands area capable of being subdivided pursuant to the minimum lot area required by the zoning standards. This information is largely based on a land use survey completed for the Township; a land use survey is advantageous over the DEP Land Use Land Cover data since the Land Use Land Cover, which is current as of 2002, is out dated and a land use survey provides more detailed information. Environmental

constraints and lots which are permanently preserved via a deed restriction permitting only conservation, recreation or agriculture are excluded from the available lands in this scenario. Environmental constraints, for this purpose, are defined as areas of water, wetlands, wetlands buffers, stream corridor buffers, 100 year flood plain and steep slopes. It is important to note that the Water Quality Management Planning Rules do not permit the analysis to assign a unit, or septic system, to existing lots whose available area (excludes environmental constraints) is undersized pursuant to the zoning regulations. Instead, the undersized lots must be excluded from the available land area.

Once the available lands within each district have been determined, the residential septic density or nonresidential floor area ratio, as applicable, is applied.

The residential septic density, per the DEP, is applied to the available lands in the residential zone districts. The available lands include underdeveloped lots that contain a septic system and are capable of being subdivided; however, the GIS model does not recognize that existing units are present on a portion of the land. The build-out must be adjusted to account for the existing septic systems/units, so that the existing units are not double counted and included in the model. Accordingly, the number of existing housing units on the underdeveloped lots is subtracted from the development capacity. The result is the existing zoning residential build-out – the number of new septic systems (i.e. new homes) that are permitted in each residential district.

The nonresidential floor area, per the DEP, is applied to the available lands in the nonresidential districts. This results in floor area permitted in the nonresidential districts within each HUC 11 area. Data to account for existing floor area on the nonresidential underdeveloped lots is not available; as a result this build-out analysis accounts for the existing buildings in the underdeveloped lots by reducing the unconstrained underdeveloped land area by half. This reduction provides an estimate of the land area devoted to the existing commercial use and accommodates the fact that the best lands in terms of access and suitability are generally developed first, leaving the less desirable lands to be developed at a future point in time. However, these resulting nonresidential floor areas must be converted to equivalent dwelling units, as defined in *N.J.A.C. 7:15*. An equivalent dwelling unit represents one septic system accommodating the maximum permitted nonresidential construction. More specifically, it is the nonresidential floor area that is the equivalent to a three-bedroom, three-person single family detached home from the perspective of release of nitrate into the environment; this standard is 300 gallons per day. As such, to determine the equivalent dwelling unit, the permitted floor area is multiplied by .1 – the standard for wastewater generation per square foot of nonresidential development; every 500 gallons that results from this

calculation requires one septic system. The nonresidential building cover and nonresidential equivalent dwelling units is the net nitrate dilution nonresidential build-out.

Population Projection

Once the residential development capacity calculations were completed, the anticipated population increase was determined. The anticipated people per household is best determined using demographic multipliers for New Jersey. The most recent document which addresses this data is one which was developed in November 2006 by the Center for Urban Policy Research and is titled “*Who Lives in New Jersey Housing? A Quick Guide to New Jersey Residential Demographic Multipliers*”³. The multipliers for a four bedroom single family detached home, all values, was used in the population projection. The Tax Assessor reported in June 2009 reported that the majority of new homes built in the Township contain four bedrooms. Furthermore, this housing type is appropriate since, excluding mobile home units, approximately 96% of the Township’s housing stock consists of single family detached units⁴.

³ Listokin, David. *Who Lives in New Jersey Housing? A Quick Guide to New Jersey Residential Demographic Multipliers*. Center for Urban Policy Research, Edward J. Bloustein School of Planning and Public Policy, Rutgers, The State University of New Jersey. November 2006.

⁴ 2000 US Census

EXISTING ZONING BUILD-OUT ANALYSIS

This office has constructed a development capacity analysis of the Township based on the existing zoning conditions, pursuant to the methodology described previously. Table 13. demonstrates the number of new residential units that can be constructed in the Township within each zone district, and broken down by HUC 11, based on the existing zoning. These figures indicate that the existing zoning standards would permit an additional 4,542 housing units in the Township at full build-out. This would result in an approximate total of 8,061 housing units in Pittsgrove Township.⁵

Table 13. Residential Zone Capacity Based on Existing Zoning Standards

	Zone District Subtotal	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run
A District	955.6	697.6	184.4	73.6	0
C District	104.0	56.4	22.5	25.1	0
R-1 District	587.4	108.4	375.6	103.4	0
R-2 District	727.8	410.1	214.6	103.1	0
R-3 District	342.3	0	342.3	0	0
R-4 District	143.3	107.3	36.0	0	0
RR District	1,555.2	701.9	853.3	1,28.1	0
<i>Total</i>	<i>4,416</i>	<i>2,081</i>	<i>2,028</i>	<i>433</i>	<i>0</i>

These residential capacity figures are translated into population projections using the demographic multipliers discussed in the Methodology section of this report. The population of the existing zoning build-out is 16,666 additional persons, of which 4,892 are school-aged children. Table 14 below illustrates these population projections.

⁵ This figure is derived from the 2008 estimate of housing units added to the Existing Zoning Build-out of housing units.

Table 14. Existing Zoning Population Projection

	Population Multiplier	Projected Units	Population Projection
Total Persons	3.774	4,416	16,666
School-aged Children	1.077	4,416	4,756

The Township has 6 nonresidential districts. The nonresidential development capacity determines the number of septic systems, illustrated in this report as equivalent dwelling units, which can be accommodated as well as the floor area that can be accommodated. Table 15. demonstrates the development capacity for new nonresidential buildings and floor area by zone district and HUC 11.

Table 15. Nonresidential Development Capacity Based on Existing Zoning Build-out

	Zone District Subtotal	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run
B-1 District					
Equivalent Dwelling Units	71.8	18.8	53.0	0.0	0.0
Floor Area	358,895.1	93,934.6	264,960.5	0.0	0.0
HB-40 District					
Equivalent Dwelling Units	25.8	10.6	0.0	15.2	0.0
Floor Area	128,949.5	52,777.4	0.0	76,172.1	0.0
HB-56 District					
Equivalent Dwelling Units	89.1	25.4	63.7	0.0	0.0
Floor Area	445,572.9	126,946.8	318,626.1	0.0	0.0
MC-1 District					
Equivalent Dwelling Units	325.5	185.2	140.4	0.0	0.0
Floor Area	1,627,610.8	925,829.7	701,781.1	0.0	0.0
P District					
Equivalent Dwelling Units	52.6	39.8	12.8	0.0	0.0
Floor Area	262,860.3	198,979.7	63,880.7	0.0	0.0

Build-out Analysis
Pittsgrove Township, Salem County

	Zone District Subtotal	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run
PHB District					
Equivalent Dwelling Units	163.9	39.7	45.9	78.4	0.0
Floor Area	819,614.2	198,271.3	229,477.1	391,865.8	0.0
<i>Total Equivalent Dwelling Units</i>	728.7	319.3	315.7	93.6	0.0
<i>Total Floor Area</i>	3,643,502.6	159,6739.4	157,8725.4	468,037.8	0.0

GROSS NITRATE DILUTION BUILD-OUT ANALYSIS

This office has constructed a development capacity analysis of the Township based on the existing zoning conditions, pursuant to the Gross Nitrate Dilution methodology described previously. Table 15. demonstrates the number of new residential units that can be constructed in the Township within each zone district, and broken down by HUC 11. These figures indicate that the existing zoning standards would permit an additional 1,935 housing units in the Township at full build-out. This would result in an approximate total of 5,454 housing units in Pittsgrove Township.⁶

Table 16. Residential Zone Capacity Based on Gross Nitrate Dilution Build-out Analysis

	Zone District Subtotal	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run
A District	622.9	466.4	122.9	33.6	0.0
C District	276.0	121.7	85.5	43.7	25.0
R-1 District	170.7	35.3	115.8	19.6	0.0
R-2 District	26.3	19.7	4.4	2.3	0.0
R-3 District	10.1	0.0	10.1	0.0	0.0
R-4 District	0.0	0.0	0.0	0.0	0.0
RR District	909.9	404.9	425.4	79.5	0.0
<i>Total</i>	2,016	1,048	764	178	25

These residential capacity figures are translated into population projections using the demographic multipliers discussed in the Methodology section of this report. The population of the existing zoning build-out is 7,303 additional persons, of which 2,084 are school-aged children. The below table illustrates the population projections.

⁶ This figure is derived from the 2008 estimate of housing units added to the Gross Nitrate Dilution Build-out of housing units.

Table 17. Existing Zoning Population Projection

	Population Multiplier	Projected Units	Population Projection
Total Persons	3.774	2,016	7,608
<i>School-aged Children</i>	1.077	2,016	2,171

The Township has 6 nonresidential districts. The nonresidential development capacity determines the number of septic systems, illustrated in this report as equivalent dwelling units, that can be accommodated as well as the floor area that can be accommodated. Table 18. demonstrates the development capacity for new nonresidential buildings and floor area by zone district and HUC 11.

Table 18. Nonresidential Development Capacity Based on Gross Nitrate Dilution Build-out

	Zone District Subtotal	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run
B-1 District					
Equivalent Dwelling Units	20.5	5.5	14.9	0.0	0.0
Floor Area	102,350.2	27,610.5	74,739.7	0.0	0.0
HB-40 District					
Equivalent Dwelling Units	2.4	1.0	0.0	1.3	0.0
Floor Area	11,754.0	5,052.8	0.0	6,701.2	0.0
HB-56 District					
Equivalent Dwelling Units	7.5	2.1	5.3	0.0	0.0
Floor Area	37,440.9	10,723.8	26,717.1	0.0	0.0
MC-1 District					
Equivalent Dwelling Units	31.7	17.2	14.5	0.0	0.0
Floor Area	158,283.0	86,023.6	72,259.3	0.0	0.0
P District					
Equivalent Dwelling Units	25.0	18.3	6.7	0.0	0.0
Floor Area	125,111.2	91,370.4	33,740.9	0.0	0.0

Build-out Analysis
Pittsgrove Township, Salem County

	Zone District Subtotal	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run
PHB District					
Equivalent Dwelling Units	15.4	3.3	4.6	7.4	0.0
Floor Area	76,784.3	16,690.9	22,979.5	37,113.8	0.0
<i>Total Equivalent Dwelling Units</i>	102.5	47.5	46.1	8.8	0.0
<i>Total Floor Area</i>	511,723.5	237,472.0	230,436.5	43,815.0	0.0

NET NITRATE DILUTION BUILD-OUT ANALYSIS

This office has constructed a development capacity analysis of the Township based on the existing zoning conditions, pursuant to the Net Nitrate Dilution methodology described above. Table 19. demonstrates the number of new residential units that can be constructed in the Township within each zone district, and broken down by HUC 11. These figures indicate that the existing zoning standards would permit an additional 1290 housing units in the Township at full build-out. This would result in an approximate total of 4,809 housing units in Pittsgrove Township.⁷

Table 19. Residential Zone Capacity Based on Net Nitrate Dilution Build-out Analysis

	Zone District Subtotal	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run
A District	404.6	294.8	77.5	32.4	0
C District	74.0	38.7	16.3	19.0	0
R-1 District	129.6	20.0	96.3	13.2	0
R-2 District	15.4	14.5	0.0	0.9	0
R-3 District	9.5	0.0	9.5	0.0	0
R-4 District	0.0	0.0	0.0	0.0	0
RR District	658.5	268.5	334.5	55.5	0
<i>Total</i>	<i>1,292</i>	<i>637</i>	<i>534</i>	<i>121</i>	<i>0</i>

These residential capacity figures are translated into population projections using the demographic multipliers discussed in the Methodology section of this report. The population of the existing zoning build-out is 4,868 additional persons, of which 1,389 are school-aged children. The below table illustrates the population projections.

⁷ This figure is derived from the 2008 estimate of housing units added to the Net Nitrate Dilution Build-out of housing units.

Table 20. Existing Zoning Population Projection

	Population Multiplier	Projected Units	Population Projection
Total Persons	3.774	1,292	4,876
School-aged Children	1.077	1,292	1,391

The Township has 6 nonresidential districts. The nonresidential development capacity determines the number of septic systems, illustrated in this report as equivalent dwelling units, that can be accommodated as well as the floor area that can be accommodated. Table 21. demonstrates the development capacity for new nonresidential buildings and floor area by zone district and HUC 11.

Table 21. Nonresidential Development Capacity Based on Net Nitrate Dilution Build-out

	Zone District Subtotal	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run
B-1 District					
Equivalent Dwelling Units	33.1	18.8	14.3	0.0	0
Floor Area	96,525.9	24,986.6	71,539.3	0.0	0
HB-40 District					
Equivalent Dwelling Units	11.9	10.6	0.0	1.3	0
Floor Area	11,143.9	4,442.7	0.0	6,701.2	0
HB-56 District					
Equivalent Dwelling Units	30.7	25.4	5.3	0.0	0
Floor Area	37,204.0	10,486.9	26,717.1	0.0	0
MC-1 District					
Equivalent Dwelling Units	26.4	14.9	11.5	0.0	0
Floor Area	132,045.9	74,627.5	57,418.5	0.0	0
P District					
Equivalent Dwelling Units	2.3	1.7	0.6	0.0	0
Floor Area	11,210.3	8,455.1	2,755.2	0.0	0

Build-out Analysis
Pittsgrove Township, Salem County

	Zone District Subtotal	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run
PHB District					
Equivalent Dwelling Units	14.1	3.3	3.9	6.9	0
Floor Area	70,771.4	16,689.9	19,607.2	34,474.3	0
<i>Total Equivalent Dwelling Units</i>	118.5	74.7	35.6	8.2	0
<i>Total Floor Area</i>	358,901.40	139,688.60	178,037.30	41,175.50	0

BUILD-OUT ANALYSIS CONCLUSION

The results of the three build-out scenarios indicates that the existing zoning yields radically more construction than do the both the gross and net nitrate dilution. The existing zoning yields 230% and 350% more housing units than do the gross and net nitrate dilution scenarios, respectively. The gross nitrate dilution build-out permits 150% more housing units than the net nitrate dilution build-out. The nonresidential comparison is even more striking. The existing zoning permits 710% and 1,020% more nonresidential floor area than do the gross and net nitrate dilution scenarios, respectively. The gross nitrate dilution build-out permits 140% more nonresidential floor area than the net nitrate dilution build-out.

Table 22. Comparison of Build-out Scenarios

	Housing Units	Population	School Aged Children	Nonresidential Floor Area	Nonresidential Equivalent Dwelling Units
Existing Zoning	4,542	16,666	4,756	3,643,502.6	1,214.6
Gross Nitrate Dilution	2,016	7,608	2,171	511,723.5	170.6
Net Nitrate Dilution	1,292	4,876	1,391	358,901.4	119.6

The available lands in the build-out scenarios include lands which have received approval for construction. However, as a practical matter many of these approved units and nonresidential construction will be built in the future, before revised zoning or permitting is implemented. As such, these approved units and nonresidential floor area must be accounted for in the number of units and nonresidential floor area which the Township’s zoning may accommodate.

To date, there are 79 approved residential units that have not been constructed. The below table indicates the impact of these units on the Township’s remaining residential capacity.

The results from the three build-out scenarios differ from those completed as part of the 2000 Master Plan. At this time, it was estimated that the Township could accommodate an additional 8,423 residential lots and 25,600 additional residents. Since 2000, the

Township has created 364 new residential units⁸. The build-out of the Township’s residential zones has been adjusted downward since the 2000 due to changes in the zoning and changes in New Jersey DEP regulations. However, these nitrate dilution standards will result in a significant further reduction of the 2000 projected build-out.

Table 23. Impact of Approved but Unbuilt Residential Units

	Build-out Housing Units	Approved but Unbuilt Units	Remaining Development Capacity
Existing Zoning	4,542	79	4,463
Gross Nitrate Dilution	1,935	79	1,856
Net Nitrate Dilution	1,290	79	1,211

To date, there is 21,100 square feet of approved but unbuilt nonresidential space – all of which is storage space. The below table indicates the impact of this floor area on the Township’s remaining nonresidential development capacity.

Table 24. Impact of Approved but Unbuilt Nonresidential Floor Area

	Build-out Nonresidential Space	Approved Nonresidential Space	Remaining Development Capacity
Existing Zoning	3,643,502	21,100	3,622,402
Gross Nitrate Dilution	511,724	21,100	490,624
Net Nitrate Dilution	358,901	21,100	337,801

⁸ Department of Community Affairs Construction Reporter; reported residential certificates of occupancy minus reported residential demolition permits.

FISCAL ANALYSIS METHODOLOGY

Fiscal impact analyses typically result from a comparison of the municipal and board of education budgets and their associated revenues and costs for a *specific* project. This report applies the method used to analyze a specific project to assess the impact of all possible future growth in present day dollars. A number of methods were evaluated in determining the best approach to provide a reasonable estimate of future costs and revenues attributable to the project. In this report, the Employment Anticipation approach has been used in the calculations to determine the results of the analysis.⁹ The employment anticipation model requires a number of inputs to calculate the impact of the projected development. The following section describes the assumptions utilized in calculating the fiscal impact of each build-out scenario.

Population and Household Size

For the purpose of the analysis, Pittsgrove Township's population is estimated to be 9,885 residents as of 2008. The population estimate was derived by multiplying the number of certificates of occupancy issued since the April 2000 U.S. Census by the Pittsgrove median household size of 2.90. This number was then added to Pittsgrove's population in 2000 as was reported by the U.S. Census.

Employment Calculations

This report relies on the employment to square footage ratios set forth by the New Jersey Council on Affordable Housing (COAH) in Appendix D of its revised third round rules (NJAC 5:97 et seq) to determine the number of jobs created by the projected non-residential growth in each build-out scenario. COAH's Appendix D does not provide a ratio for educational uses, as educational uses are exempt from creating a growth share obligation in COAH's revised third round rules. This report uses COAH's employment to square footage ratios from Appendix E of its original third round rules (NJAC 5:94 et seq.) to capture employment that arises from educational uses.

⁹ - *The Fiscal Impact Handbook*, and *The New Practitioner's Guide to Fiscal Impact Analysis* by Robert W. Burchell, David Listokin, et al., Center for Urban Policy Research, Piscataway, New Jersey 1978 and 1985, respectively, the standard references for analyzing fiscal impacts, have been used in the preparation of this report.

The employment to square footage ratios are based on the Uniform Construction Code (UCC) use groups. While the build-out models project non-residential growth, they do not break down the projected square footage by UCC use group. In order to calculate the total jobs associated with the projected non-residential growth, this report uses historic trends to assign the percentage of the total projected non-residential square footage to each use group. The report relies on the DCA Construction Report certificates of occupancy data for 1998 to 2008 to determine the proportion of a particular use group, such as office or retail, as a share of the total non-residential growth. Table 25, Proportion of Use Group, details the proportion of the total projected non-residential growth assigned to each use group. For example, storage made up 50.5% of the non-residential growth that occurred between 1998 and 2008. This report assumes that storage will continue to comprise 50.5% of all future non-residential growth.

Table 25. Proportion of Use Group

Use Group	Percentage of Total Projected Non-Residential Growth
B Office	1.1%
M Retail	0.4%
A2-Restaurant	4.1%
A3-Assembly	4.8%
A4-Arena	8.3%
E Education	24.4%
F Factory	1.2%
I Institutional	5.2%
S Storage	50.5%

Once the projected non-residential growth is allocated to a particular use group, COAH's non-residential employment ratios are applied to calculate the jobs created.

Municipal Allocation of Costs

The allocation of costs attributable to the municipality is a several step process. The budget for the municipal government in Pittsgrove Township has been divided into

seven municipal categories.¹⁰ This is done because studies have shown that the incremental cost of government from development is not evenly distributed across the municipal budget. The seven categories include general government, public safety, public works, health and welfare, recreation and culture, debt service, and statutory and unclassified. General government includes the administrative functions of the municipality such as the Township Clerk’s office, tax administration, planning and zoning operations, municipal court, prosecutor and public defender, governing body expenses and so forth. Public safety includes the police, fire and emergency services in Pittsgrove. Public works contains road maintenance, trash and recycling, leaf collection, public building and park maintenance, and similar functions. Health and welfare includes public assistance and vaccinations. Recreation and culture include library expenses, public events and recreation programs. Debt service is payments for past capital expenditures. Statutory and unclassified include pension and insurance payments, down payments for capital projects, utilities, budget reserve for uncollected taxes, and miscellaneous expenditures. These costs are allocated as indicated in Table 26, Per Capita Municipal Costs, 2008 Pittsgrove Budget.

Table 26. Per Capita Municipal Costs, 2008 Pittsgrove Budget.

Category	Total Cost Per Capita	Local Cost Per Capita
General Government	\$116.81	\$49.49
Public Safety	\$5.39	\$2.30
Public Works	\$56.84	\$2.28
Health & Welfare	\$3.15	\$1.33
Recreation & Culture	\$3.40	\$1.44
Debt Service	\$29.12	\$12.34
Statutory & Unclassified	\$125.99	\$53.38
<i>Municipal Total</i>	<i>\$340.35</i>	<i>\$144.20</i>

In Table 25, the column marked, “Local Cost Per Capita” is the proportional amount of the per capita cost that represents the Township’s burden for providing municipal services. This amount does not include the costs that are covered by State and other outside funds.

¹⁰ This report relies on the 2008 Township Budget, the 2007-2008 School Budget, and the 2007-2008 school enrollment, as the 2009 Township Budget and 2008-2009 School Budget were not finalized at the time of the report.

School Costs and School Children Generation

The Pittsgrove Township School District had an enrollment of 1,876 students, excluding adults, for the 2007-2008 school year. The total budget actually expended for the 2007-2008 school year was \$23,218,121, including debt service costs. Of this amount, \$10,270,606 (44.23%) is revenue raised by the local property tax levy. The per-pupil cost is \$11,076.19, with \$5,397.18 being funded by the local property tax levy.

This report relies on the *“Who Lives in New Jersey Housing? A Quick Guide to New Jersey Residential Demographic Multipliers”* to calculate the number of school aged children and additional public school attendees that are expected to be added to the Township’s school district as a result of the projected development. The residential demographic multipliers vary based on the unit type, the number of bedrooms, and the housing value. This report assumed that all new housing units were four bedroom, single detached units, and utilized the multiplier that was attributed to all housing values. The multiplier used for school aged children was 1.077 and for public school attendees was 0.872.

Property Tax Revenues

Revenue sources for municipal budgets consist of the general categories of real estate property taxes, licenses, permits and fees, gross receipts taxes, and intergovernmental transfers such as grants-in-aid or subsidized loans. This analysis is concentrated on the property tax revenues to be generated from the three build-out scenarios. This report will rely on 2008 property tax rates. Table 27, 2008 Property Tax Rates, outlines the local property tax levies. It should be noted that property tax rates in Pittsgrove vary by fire district. The Township has three different fire districts, each of which has a differing taxable rate. In order to establish a Township wide property tax rate, this report relied on the average fire district tax rate for the three districts.¹¹ Property tax revenue accounted for 33% of the municipal income stream.

¹¹ The reliance on an average may over or under estimate the municipal property tax revenue stream if growth is not uniformly distributed among the three fire districts. However, the average provides a viable alternative to estimating revenues without developing mapping layers for the fire district and accurately determining the proportion of total growth in each fire district.

Table 27. 2008 Property Tax Rates

Property Taxes	Tax Rates
Municipal Rate	0.00238
School Rate	0.01468
Municipal Open Space	0.00031
Fire District (average)	0.000996
<i>Total Property Revenues</i>	<i>0.018366</i>

The build-out models do not specify what types of housing structures or non-residential square footage will be created. For the purpose of this report, it is assumed that all residential units are four bedroom units with an assessed value of \$328,014. This assessed value was based on the assessed value of new residential units added since December 2003.¹² It is assumed that the non-residential space has an equalized assessed value of \$104 per square foot.¹³

In addition to the property tax revenues, this report also accounts for per capita revenues from a variety of funding streams in the Township, such as alcoholic beverage licenses, fees and permits, and court fines. These revenue sources are population sensitive, that is, when the population increases so does the revenue. Conversely, delinquent tax receipts, any surplus carried forward from earlier years and grants, which are other sources of revenue to municipalities, have been excluded as additional revenues that could be anticipated from the development because they are not dependent on the increase in population but from year to year fluctuations. The additional revenue generated under each build-out scenario will be identified as other revenue.

The remainder of this report analyzes the fiscal impact of each build-out scenario based on the aforementioned assumptions.

¹² The assessed values were calculated based on the residential development fees reported to COAH under the Township's 1% residential development fee ordinance.

¹³ The Tax Assessor provided this figure based on the assessed value of existing commercial properties within the Township.

FISCAL IMPACT ANALYSIS

Fiscal Impact from Existing Zoning Build-out

There are 13 zoning districts in the Township, of which seven are residential districts, five are nonresidential districts and one is the public zone district. The characteristics present in these districts vary widely depending on the predominant land uses and the environmental conditions. This scenario estimates the fiscal impact of the Existing Zoning Build-out, which permits the addition of 4,416 new housing units and 3,643,503 square feet of commercial space.

As noted above, this report utilized the demographic multipliers to calculate the projected population, school aged children and public school attendees. Table 28. shows the breakdown of the population added under the Existing Zoning Build-out.

Table 28. Additional Population Anticipated from Build-out Under Current Zoning

Housing Units	Population	School Aged Children	Public School Attendees
4,416	16,666	4,756	3,851

The additional population generated under existing zoning build-out represents a 168% increase over the current population. These numbers represent an estimate, as the population will vary based on the housing stock created and the value of the housing stock. Additionally, existing zoning build-out is expected add 4,756 new school aged children, 3,851 of whom will attend public school. Table 29. breaks down the Township costs for the added population and the cost associated with educating the additional public school attendees using the per capita and per pupil costs identified above.

Table 29. Estimated Future Municipal Costs of the Residential Existing Zoning Build-Out

	Projected Increase	Per Person Cost	Total Cost
Township Cost	16,666	\$144.20	\$2,403,155.96
School Board Costs	3,851	\$5,397.18	\$20,783,199.44

Under Existing Zoning Build-out, Pittsgrove Township is able to add 3,643,503 square feet of commercial space. This translates into 5,197 jobs when utilizing the breakdown identified in Table 25. and the COAH square footage employment ratios. Table 30. indicates the estimated additional cost of the new employment to the municipality.

Table 30. Estimated Costs for Non-Residential Existing Zoning Build-Out

Service Category	Incremental Multiplier	Number of Employees	Product of Preceding Columns
General Government	.0000026	5,197	.0135124410
Public Safety	.0000162	5,197	.0841929014
Public Works	.0000299	5,197	.1553930711
Health and Welfare	.0000104	5,197	.0540497639
Recreation and Culture	.0000403	5,197	.2094428350
Debt Service	.0000496	5,197	.2577757969
Statutory and Unclassified	.0000212	5,197	.1101783648
Per Capita Expenditure	Product	Existing Population	Additional Cost
\$116.81	1.57845168	9,949	\$15,703.38
\$5.39	.45362368	9,949	\$4,512.92
\$56.48	8.77649244	9,949	\$87,313.81
\$3.15	.17029484	9,949	\$1,694.20
\$3.40	.71287953	9,949	\$7,092.15
\$29.12	7.50557014	9,949	\$74,669.92
\$125.99	13.88188246	9,949	\$138,105.30
<i>Total Additional Cost</i>			<i>\$329,091.68</i>

The costs associated with the development from the projected residential units and the additional non-residential square footage are offset by the revenue raised from property taxes. Table 31. provides additional detail on the assessed value of the projected growth.

Table 31. Ratable from Existing Zoning Build-Out

Development Type	Quantity	Unit Value	Assessed Value
Housing Units	4,416	\$328,014	\$1,448,509,824
Commercial Space	3,643,503 sq. ft.	\$104/sq. ft.	\$378,924,312
<i>Total</i>			<i>\$1,827,434,136</i>

The figures indicated in this table may change based on the actual assessment conducted by Pittsgrove Township Tax Assessor considering other factors or means of assessment.

The assessed values from Table 31. were then multiplied by the 2008 tax rates to arrive at an estimate of property tax revenues from the development. Table 32. calculates the anticipated revenues in 2008 dollars.

Table 32. Annual Property Tax Revenues at 2008 Rates

Property Taxes	Tax Rates	Residential	Non-Residential	Total
Municipal Rate	0.00238	\$3,447,453.38	\$901,839.86	\$4,349,293
School Rate	0.01468	\$21,264,124.22	\$5,562,608.90	\$26,826,733
Municipal Open Space	0.00031	\$449,038.05	\$117,466.54	\$566,505
Fire District (average)	0.000996	\$1,442,715.78	\$377,408.61	\$1,820,124
<i>Total Property Revenues</i>	<i>0.018366</i>	<i>\$26,603,331.43</i>	<i>\$6,959,323.91</i>	<i>\$33,562,655</i>

The fiscal impact of the development is calculated by comparing the total projected costs and revenues as illustrated below in Table 33. The table indicates that the development projected in the Existing Zoning Build-out would result in a positive fiscal impact for the Township.

Table 33. Fiscal Impact for Existing Zoning Build-out

Property Tax Revenue	Pittsgrove Township	Pittsgrove School District
Municipal Taxes	\$4,349,293	
School District Taxes		\$26,826,733
Open Taxes	\$565,505	
Fire District Taxes	\$1,820,124	
Other Revenue	\$573,447	
Total Revenues	\$7,309,369	\$26,826,733
Total Costs	\$2,732,248	\$20,783,199
<i>Net Fiscal Impact</i>	<i>\$4,577,121</i>	<i>\$6,043,534</i>

Fiscal Impact for Gross Nitrate Dilution Build-out

Under the Gross Nitrate Dilution Build-out, Pittsgrove is able to add 1,876 housing units and 511,724 square feet of commercial space. Table 34. shows the breakdown of the population added under this scenario.

Table 34. Additional Population Anticipated from Gross Nitrate Dilution Build-out

Housing Units	Population	School Aged Children	Public School Attendees
1,876	7,608	2,171	1,758

The additional population generated under the Gross Nitrate Dilution Build-out represents a 76% increase over the current population. Additionally, this scenario will add 2,171 new school aged children, 81% of whom will attend public school. Table 35. breaks down the Township costs for the added population and the cost associated with educating the additional public school attendees.

Table 35. Estimated Future Municipal Costs of the Gross Nitrate Dilution Residential Build-out

	Projected Increase	Per Person Cost	Total Cost
Township Cost	7,608	\$144.20	\$1,020,905.93
School Board Costs	1,758	\$5,397.18	\$8,829,094.69

The Gross Nitrate Dilution Build-out permits an additional 511,725 square feet on the gross developable acreage, which translates into 730 jobs. Table 36. indicates the estimated additional cost of the new employment to the municipality.

Table 36. Estimated Costs for Non-Residential for Gross Nitrate Dilution Build-out

Service Category	Incremental Multiplier	Number of Employees	Product of Preceding Columns
General Government	.0000026	730	.0018978001
Public Safety	.0000162	730	.0118247544
Public Works	.0000299	730	.0218247011
Health and Welfare	.0000104	730	.0075912004
Recreation and Culture	.0000403	730	.0294159015
Debt Service	.0000496	730	.0362041864
Statutory and Unclassified	.0000212	730	.0154743700
Per Capita Expenditure	Product	Existing Population	Additional Cost
\$116.81	.22169094	9,949	\$2,205.51
\$ 5.39	.06371070	9,949	\$633.83
\$ 56.48	1.23264392	9,949	\$12,263.08
\$3.15	.02391763	9,949	\$237.95
\$3.40	.10012276	9,949	\$996.08
\$29.12	1.05414497	9,949	\$10,487.27
\$125.99	1.94968755	9,949	\$19,396.66
<i>Total Additional Cost</i>			<i>\$46,220.38</i>

Table 37. provides the increase in ratable anticipated under the Gross Nitrate Dilution Build-out.

Table 37. Ratables from Gross Nitrate Dilution Build-out

Development Type	Quantity	Unit Value	Assessed Value
Housing Units	1,876	\$328,014	\$615,354,264
Commercial Space	511,725 sq. ft.	\$104/sq. ft.	\$53,219,245
<i>Total</i>			<i>\$668,573,509</i>

Table 38. calculates the anticipated revenues generated by the Gross Nitrate Dilution Build-out.

Table 38. Annual Property Tax Revenues at 2008 Rates for Gross Nitrate Dilution Build-out

Property Taxes	Tax Rates	Residential	Non-Residential	Total
Municipal Rate	0.00238	\$1,464,543.15	\$126,661.80	\$1,591,205
School Rate	0.01468	\$9,033,400.60	\$781,258.52	\$9,814,659
Municipal Open Space	0.00031	\$190,759.82	\$16,497.97	\$207,258
Fire District (average)	0.000996	\$612,893.85	\$53,006.37	\$665,899
<i>Total Property Revenues</i>	<i>0.018366</i>	<i>\$11,301,596.41</i>	<i>\$977,424.65</i>	<i>\$12,279,021</i>

The fiscal impact of the development is calculated by comparing the total projected costs and revenues as illustrated below in Table 39. While the revenues have decreased from Existing Zoning, the Gross Nitrate Build-out continues to show a positive fiscal impact.

Table 39. Fiscal Impact for Gross Nitrate Dilution Build-out

Property Tax Revenue	Pittsgrove Township	Pittsgrove School District
Municipal Taxes	\$1,591,205	
School District Taxes		\$9,814,659
Open Taxes	\$207,258	
Fire District Taxes	\$665,899	
Other Revenue	\$243,611	
Total Revenues	\$2,707,973	\$9,814,659
Total Costs	\$1,067,126	\$8,829,095
<i>Net Fiscal Impact</i>	<i>\$1,640,847</i>	<i>\$985,564</i>

Fiscal Impact from Net Nitrate Dilution Build-out

Under the Net Nitrate Dilution Build-out, Pittsgrove is able to add 1,292 housing units and 358,901 square feet of commercial space. Table 40. shows the breakdown of the population added under this scenario.

Table 40. Additional Population Anticipated from Net Nitrate Dilution Build-out

Housing Units	Population	School Aged Children	Public School Attendees
1,292	4,876	1,391	1,127

The additional population generated under the Net Nitrate Dilution Build-out represents a 49% increase over the current population. This scenario will also add 1,391 new school aged children, 1,127 of whom will attend public school. Table 41. describes the Township costs for the added population and the cost associated with educating the additional public school attendees.

Table 41. Estimated Costs for Non-Residential for Net Nitrate Dilution Build-out

	Projected Increase	Per Person Cost	Total Cost
Township Cost	4,876	\$144.20	\$703,097.26
School Board Costs	1,127	\$5,397.18	\$6,080,591.87

Using the DEP Nitrate Dilution Model, Pittsgrove is able to add an additional 358,901 square feet on the net developable acreage. This translates into 512 jobs. Table 42, Estimated Costs of Non-Residential for the Net Nitrate Dilution Build-out, indicates the estimated additional cost of the new employment to the municipality.

Table 42. Estimated Costs for Non-Residential for Net Nitrate Dilution Build-out

Service Category	Incremental Multiplier	Number of Employees	Product of Preceding Columns
General Government	.0000026	512	.0013310360
Public Safety	.0000162	512	.0082933782
Public Works	.0000299	512	.0153069142
Health and Welfare	.0000104	512	.0053241441

Recreation and Culture	.0000403	512	.0206310582
Debt Service	.0000496	512	.0253920717
Statutory and Unclassified	.0000212	512	.0108530629
Per Capita Expenditure	Product	Existing Population	Additional Cost
\$116.81	.15548457	9,949	\$1,546.85
\$5.39	.04468397	9,949	\$444.54
\$56.48	.86452385	9,949	\$8,600.80
\$3.15	.01677481	9,949	\$166.89
\$3.40	.07022183	9,949	\$698.61
\$29.12	.73933231	9,949	\$7,355.32
\$125.99	1.36742766	9,949	\$13,603.99
<i>Total Additional Cost</i>			<i>\$32,417.01</i>

Table 43 provides the increase in ratable anticipated under the Net Nitrate Dilution Build-out.

Table 43. Ratables from Net Nitrate Dilution Build-out

Development Type	Quantity	Unit Value	Assessed Value
Housing Units	1,292	\$328,014	\$423,794,088
Commercial Space	358,901 sq. ft.	\$104/sq. ft.	\$37,325,704
<i>Total</i>			<i>\$461,119,792</i>

Table 44. calculates the anticipated revenues generated by the Net Nitrate Dilution Build-out.

Table 44. Annual Property Tax Revenues at 2008 Rates for Net Nitrate Dilution Build-out

Property Taxes	Tax Rates	Residential	Non-Residential	Total
Municipal Rate	0.00238	\$1,008,629.93	\$88,835.18	\$1,097,465
School Rate	0.01468	\$6,221,297.21	\$547,941.33	\$6,769,239
Municipal Open Space	0.00031	\$131,376.17	\$11,570.97	\$142,947
Fire District (average)	0.000996	\$422,098.91	\$37,176.40	\$459,275
<i>Total Property Revenues</i>	<i>0.018366</i>	<i>\$7,783,402.22</i>	<i>\$685,523.88</i>	<i>\$8,468,926</i>

The fiscal impact of the development is calculated by comparing the total projected costs and revenues as illustrated below in Table 45.

Table 45. Fiscal Impact for Net Nitrate Dilution Build-out

Property Tax Revenue	Pittsgrove Township	Pittsgrove School District
Municipal Taxes	\$1,097,465	
School District Taxes		\$6,769,239
Open Taxes	\$142,947	
Fire District Taxes	\$459,275	
Other Revenue	\$167,775	
Total Revenues	\$1,867,462	\$6,769,239
Total Costs	\$735,514	\$6,080,592
Net Fiscal Impact	\$1,131,948	\$668,647

Fiscal Impact Summary

The fiscal impact analysis shows that all three build-out scenarios result in a positive fiscal impact for Pittsgrove Township. The level of impact is positively correlated with the amount of growth that occurs. For example, the existing zoning build-out allows for the most growth under all three models and also has the largest positive fiscal impact. Table 46. compares the fiscal impact under each scenario.

Table 46. Comparison of the Fiscal Impact of the Build-out Scenarios

	Township Impact	School District Impact
Existing Zoning Build-out	\$4,677,256	\$6,057,256
Gross Nitrate Dilution Build-out	\$1,603,978	\$991,990
Net Nitrate Dilution Build-out	\$1,130,359	\$688,429

All three build-out scenarios show a positive fiscal impact. This may be a result of the high assessed value of the residential units that was utilized to calculate the impact. When lesser assessed values are utilized in the model, such as \$200,000, a negative fiscal impact is indicated in each scenario. Additionally, the fiscal impact analysis does not account for the increase of services that may be needed under the build-out scenarios in order to accommodate new residents and businesses. The fiscal impact model used assumes that the Township will offer the same level of services, even though additional services may be required, such as a Township police department. Additionally, the model does not account for the cost associated with constructing affordable housing units within Pittsgrove, as it was unclear whether or not the Township would receive subsidies to assist with funding the cost of the affordable housing or how affordable housing will be addressed in the State in the coming decades.

FUTURE RESIDENTIAL GROWTH PATTERNS

The residential development pattern over the next twenty years is very much dependent on the demand for housing in Pittsgrove Township and the density permitted for such housing. Over the last three decades, Pittsgrove Township has grown at a faster rate than both Salem County and New Jersey. From 2000 through 2008 there was an average of 40 new homes created per year. This is lower than the 1990 through 2000 average of 48 units per year¹⁴. These are unprecedented times due to the low growth rates from the current recession and the DEP nitrate dilution standards' upcoming impact on growth. It is anticipated that growth rates in New Jersey will begin to rebound in the next year; however, this increase in growth rates will be tempered by nitrate dilution standards which will likely require reevaluation of existing zoning and lower densities in the Township. The introduction of larger lot requirements typically slows growth for a period of time until the supply and demand for the larger lots adjust. Assuming 32 new units per year is consistent with the approximate eight unit reduction in average annual new homes per year experienced from 2000 through 2008 as compared to 1990 and 2000. Furthermore, the 32 units per year allows the model to account for the recession that the State is currently experiencing, and the associated lower housing growth rates, as well as the decrease in new housing that can be expected as a result of the required lower density standards that will result from the DEP nitrate dilution standards.

Lands which are developed first are of course most dependent upon which land owners seek subdivision and/or site plan review. Unlike many other parts of the State, new development in Pittsgrove rarely consists of five or more lots and more rarely involves the construction new roads to facilitate the development of interior lands. As discussed earlier in this report, the primary development pattern in Pittsgrove Township is strip frontage development (also known as ribbon development) where residential lots are developed along the frontage of existing roads. Comparison of the existing land uses in 2000 to the existing land uses in 2008 indicates that the primary factor determining the desirability of residential construction is the presence of existing small lots; as such developers and prospective homeowners are developing existing lots with road frontage first before seeking a subdivision of a larger lot.

Further analysis of the existing land uses in 2000 and 2008 indicates that new development is not clustering around particular locations – such as the Township's villages. This is generally consistent with the fact there are no significant employment or population centers in the Township. It is also consistent with the Township's rural

¹⁴ 1990 and 2000 US Census.

character stemming from the extensive agricultural and woodlands which is likely one of the primary reasons new residents find the Township desirable.

While road frontage is one of the most significant factors in predicting the location of new residential development, not all roads appear equally as desirable. The desirability of roads in the Township for residential construction can be done using the New Jersey Department of Urban Functional Classifications for roadways. The following ranks the road classifications by descending desirability for residential construction.

- Urban Local County roads, such as but not limited to County Routes 690 and 655;
- Local roads;
- Urban Collector County roads, of which there are two – County Routes 553 and 540;
- State Highway Routes, of which there is one – Route 56; and
- US Highway Routes, of which there is one – Route 40.

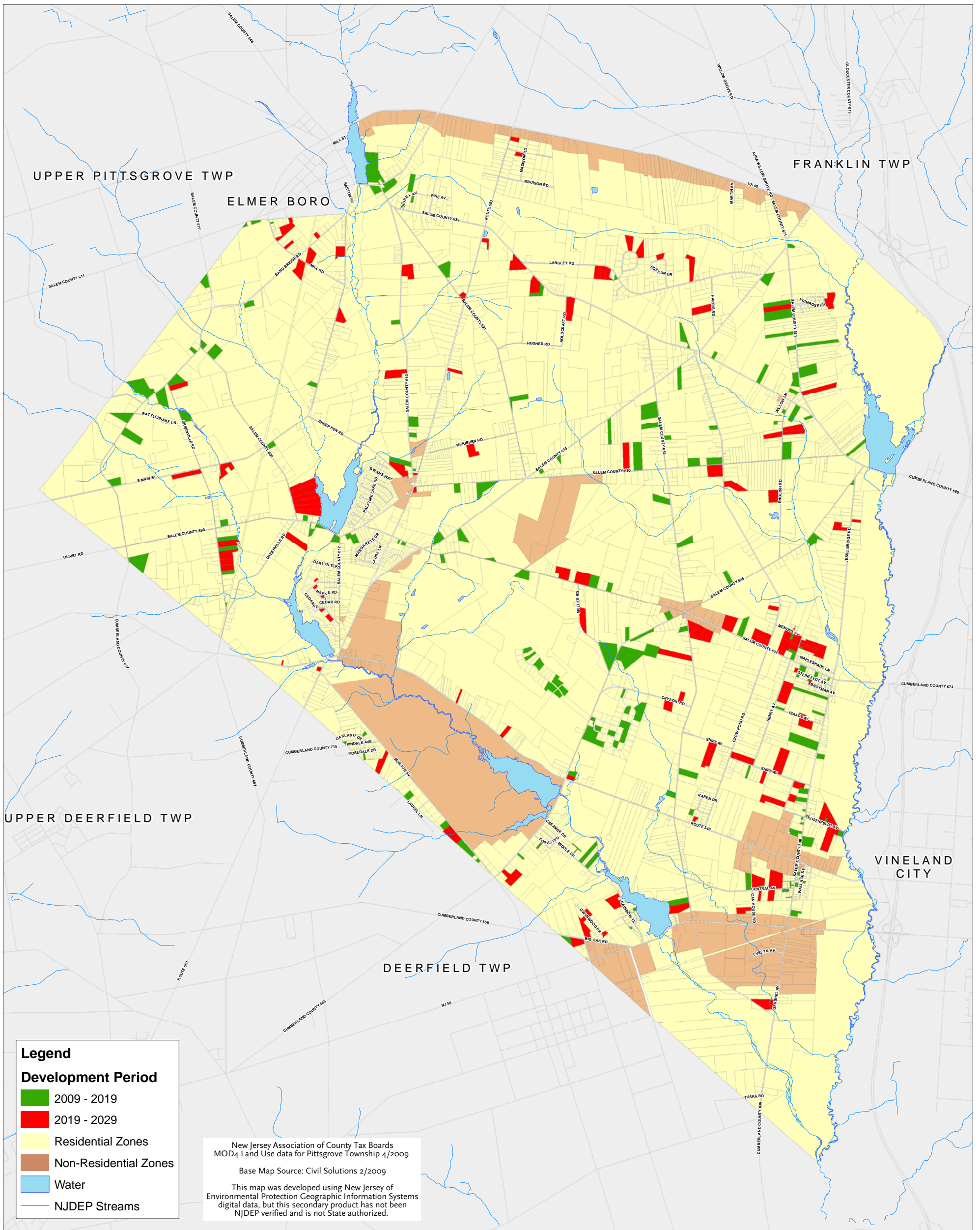
The following maps conceptually illustrate those lands which are likely to be developed at 32 units per year in the next 10 years, 2009 through 2019, and in the subsequent ten year period, 2019 through 2029. The conceptual future residential growth patterns have been analyzed for each of the three build-out scenarios; the existing zoning scenario relied upon the minimum lot area and the gross and net nitrate dilution scenarios relied upon the average septic density for the HUC 11 areas. The available lands for each scenario is utilized; as such environmental constraints are excluded from the existing zoning and net nitrate dilution growth patterns. Note however, that this analysis, unlike the build-out analysis, utilizes existing undersized lots and anticipates that they can accommodate one housing unit. The factors used to rank those lands as most likely to develop first are listed below in order of priority.

1. Location within a residential zone district
2. Road frontage, further broken down by roadway classification
 - a. Urban Local County roads
 - b. Local roads
 - c. Urban Collector County roads
 - d. State Highway Routes
 - e. US Highway Routes

3. Acreage at or below the build-out scenario's minimum required septic density, provided there exists a minimum of .25 acres of unconstrained land¹⁵.

The model assumes that the small lots will be developed first. This is consistent with existing small lots being the target of much of the Township's residential development. As such, properties with equal rankings, pursuant to the above list, were given priority based on lot area with the smaller lot area given a greater priority. The model also assumes development utilizing individual septic systems; it does not account for the potential use of package treatment plants or the creation of public sewer or water districts in Pittsgrove Township.

¹⁵ Lots with less than .25 acres of unconstrained land were excluded from the analysis as being unbuildable.



EXISTING ZONING

Conceptual Future Residential Growth Patterns

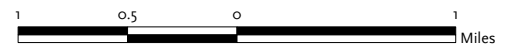
Pittsgrove Township, Salem County, NJ August 2009

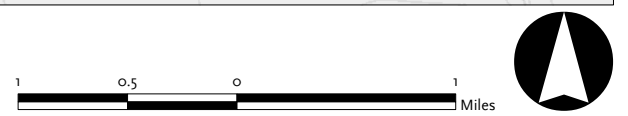
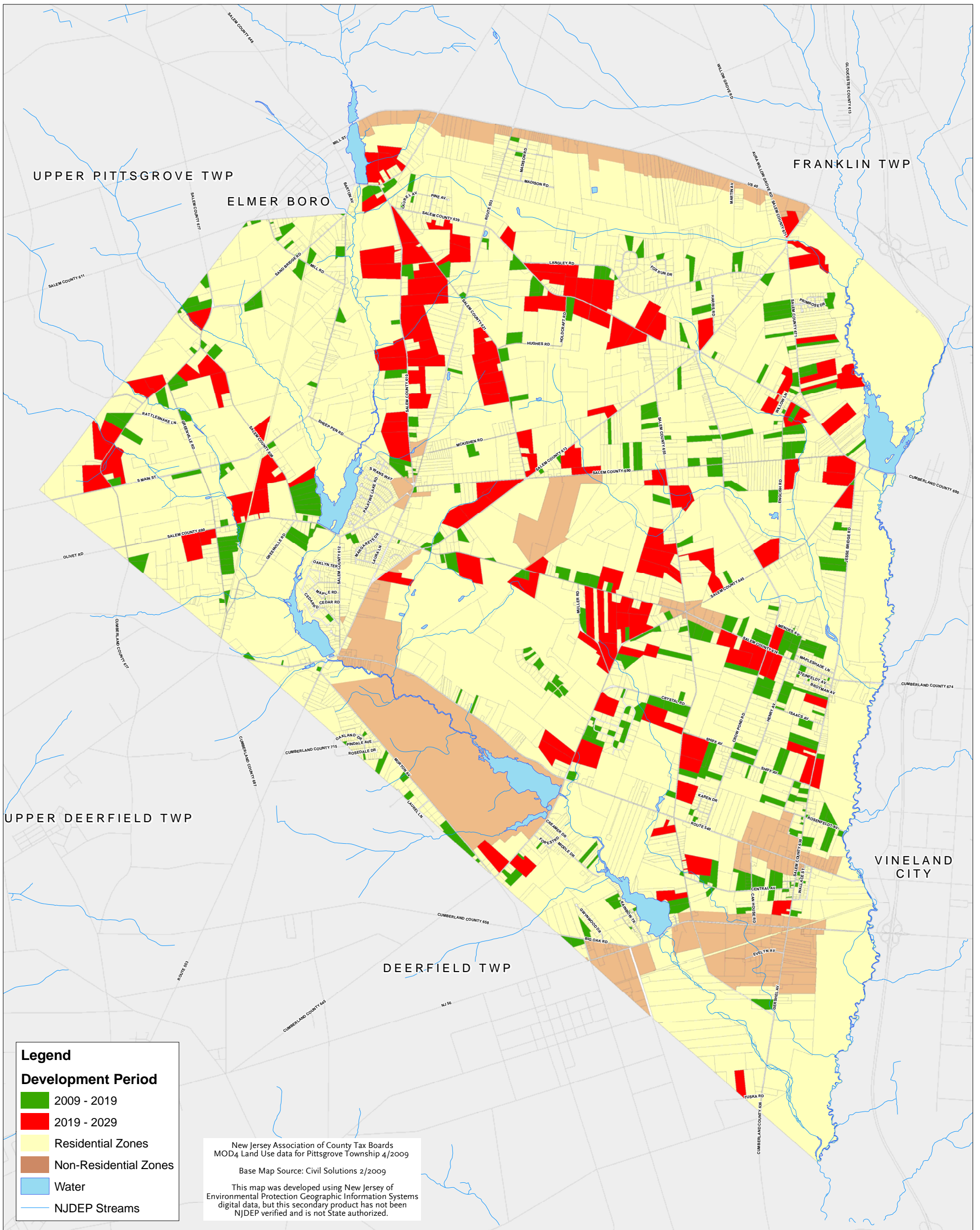
Clarke Caton Hintz

Architecture

Planning

Landscape Architecture



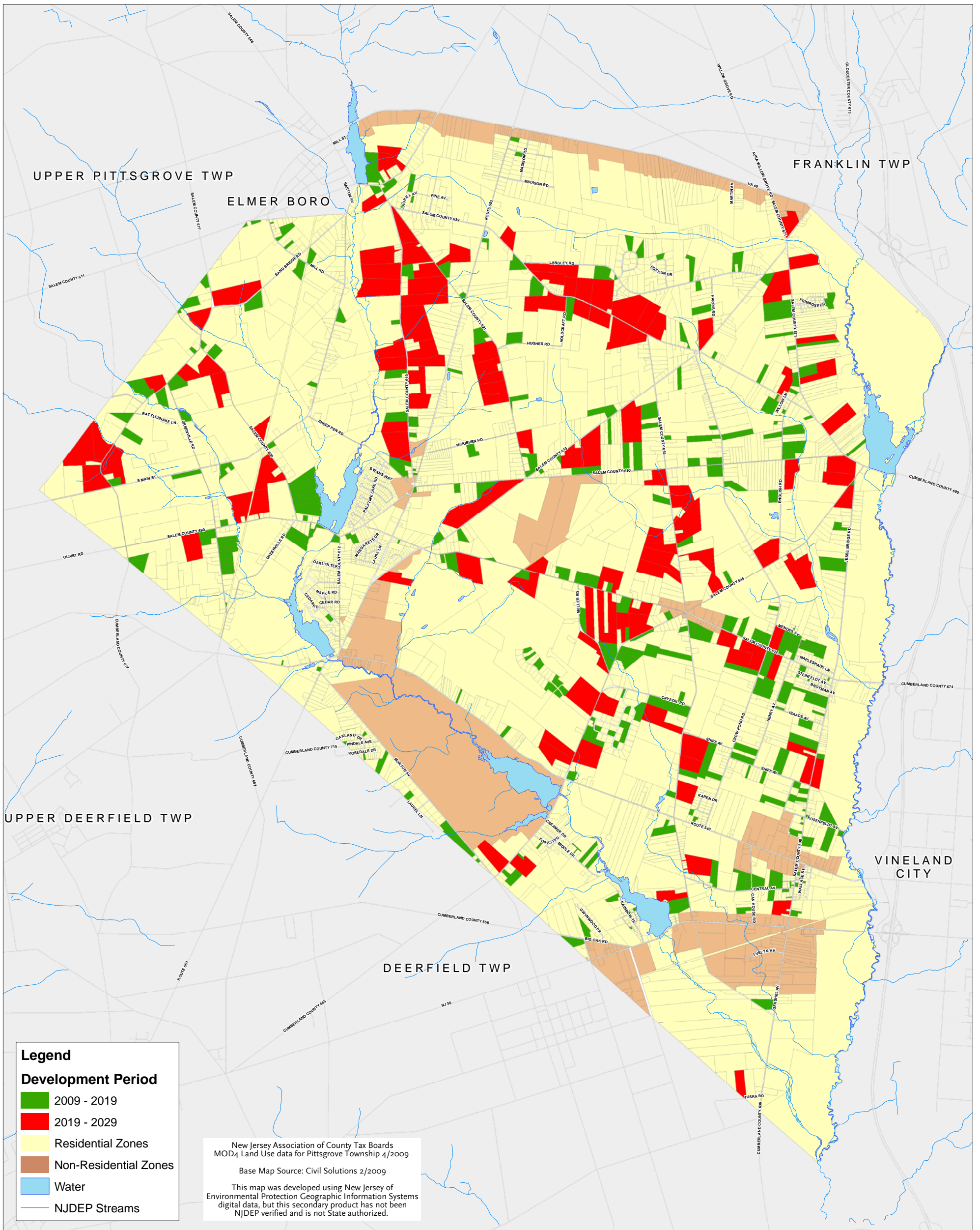


GROSS NITRATE DILUTION

Conceptual Future Residential Growth Patterns

Pittsgrove Township, Salem County, NJ August 2009

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture

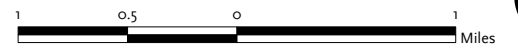


NET NITRATE DILUTION

Conceptual Future Residential Growth Patterns

Pittsgrove Township, Salem County, NJ August 2009

Clarke Caton Hintz
 Architecture
 Planning
 Landscape Architecture



ADEQUACY OF NONRESIDENTIAL ZONE DISTRICTS

As discussed, there are six nonresidential zone districts in the Township, of which one is the P district which consists of open space and municipally used lands. The development intensity within these zones differs dramatically with the HB-40 district being the most developed and the MC-1 district being the least developed. The below table illustrates the development levels within each of the Township’s nonresidential districts, excluding the P district.

Table 47. Nonresidential District Development Levels

	Total Area*	Developed		Underdeveloped		Undeveloped	
		Acres	% of Total	Acres	% of Total	Acres	% of Total
B-1 District	321.7	102.4	31.8%	60.7	18.9%	158.6	49.3%
HB-40 District	144.1	96.7	67.1%	36.4	25.3%	11.1	7.7%
HB-56 District	161.1	74.7	46.4%	35.5	22.0%	50.9	31.6%
MC-1 District	412.6	79.6	19.3%	90.9	22.0%	242.1	58.7%
PHB District	282.6	80.7	28.6%	81.5	28.8%	120.5	42.6%

The Township experienced limited nonresidential construction during the 1998 through 2008 period – approximately 172,000 square feet, an average of nearly 17,200 square feet per year¹⁶. Of this total floor area, approximately 87,000 square feet was storage space and approximately 42,000 square feet was for school construction. Construction levels have been in decline since 2005 with only one certificate of occupancy being issued each year from 2006 through 2008, all of which was for storage space. Table 47. and Chart 1. Historic Nonresidential Construction illustrates nonresidential development from 1998 through 2008.

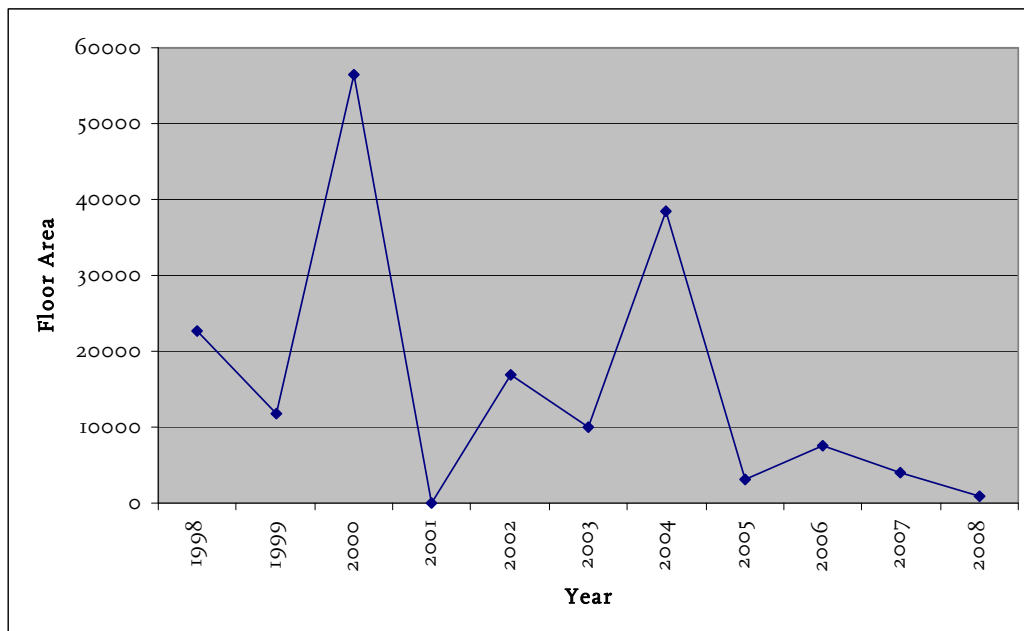
¹⁶ Source: New Jersey Department of Community Affairs Construction Reporter

Table 48. Historic Nonresidential Construction

DCA Land Use	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total sq. ft.
Office	0	0	0	0	360	0	0	1,505	0	0	0	1,865
Retail	690	0	0	0	0	0	0	0	0	0	0	690
Restaurant	0	0	0	0	7,000	0	0	0	0	0	0	0
Assembly	0	0	0	0	0	0	7,000	1,120	0	0	0	7,000
Arena	0	0	12,776	0	0	0	1,344	0	0	0	0	8,120
Schools	0	0	41,510	0	0	0	0	210	0	0	0	14,120
Factory	2,104	0	0	0	0	0	0	0	0	0	0	0
Institutional	0	8,635	0	0	0	0	0	216	0	0	0	8,851
Storage	19,894	3,172	2,112	0	9,600	10,000	30,000	0	7,500	4,000	960	87,238
Total	22,688	11,807	56,398	0	16,960	10,000	38,344	3,051	7,500	4,000	960	171,708

Source: New Jersey Department of Community Affairs Construction Reporter

Chart 1. Historic Nonresidential Construction



As evidenced by the number of certificates of occupancy for small amounts of space, much of the new floor area developed during this time period is likely associated with the Township's existing businesses. The Township's nonresidential uses are a mix of

locally oriented business, such as banks and restaurants, and regionally oriented business, such as Vineland Foods and B&B Poultry. The regional development trend is such that residents of Pittsgrove seek most goods and services from the surrounding area, such as Vineland, Millville and Bridgeton. This can largely be expected to continue since these areas are established population, employment, service and retail centers and they have existing infrastructure to support higher levels of development. Notwithstanding, there remains opportunity for the Township to provide goods and services to Pittsgrove residents, particularly in consideration of the increase in commercial demand that will result from the future residential development that will occur in the coming years.

During the period 1998 through 2008 there were 417 households created in Pittsgrove Township; this amounts to a ratio of approximately 4,100 square feet of new nonresidential space for each 10 new households¹⁷. At this ratio, there is exists adequate nonresidential development capacity in the Township to accommodate significant nonresidential growth in the Township, including the projected growth of 320 additional housing units in the next 10 years that would require 131,200 square feet of nonresidential building area. The 320 units projected for the subsequent 10 year period would require an additional 131,200 square feet, for a total of 262,400 square feet of nonresidential floor area. Under the net nitrate dilution build-out, which has approximately 359,000 square feet of development capacity, the nonresidential zones could provide 96,600 square feet of remaining development capacity. Under the gross nitrate dilution build-out, which has approximately 512,000 square feet of development capacity, there may be 249,600 square feet of remaining development capacity. The existing zoning build-out, which has approximately 3.64 million square feet of development capacity, provides significantly more development capacity than can be reasonably anticipated to be necessary based on historic trends.

Whether the nonresidential districts are adequate to serve the needs of Pittsgrove's future population are based in part on regional factors but are significantly based on the nitrate dilution model which is used to determine the Township's residential development capacity. Also, it should be considered that the Township's redevelopment and economic development efforts may have the effect of attracting business, particularly regionally oriented businesses to Pittsgrove.

¹⁷ Source: New Jersey Department of Community Affairs Construction Reporter. Certificates of occupancy minus demolition permits