

FARMLAND PRESERVATION PLAN ELEMENT

GREENWICH TOWNSHIP
WARREN COUNTY, NEW JERSEY



Adopted January 10, 2011

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WARREN COUNTY, NEW JERSEY**

Adopted Pursuant to *N.J.S.A. 40:55D-28(13)*

January 10, 2011

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Greenwich Township Farmland Preservation Plan

INTRODUCTION 1

I. GREENWICH TOWNSHIP’S AGRICULTURAL LAND BASE 1

A. LOCATION AND SIZE OF AGRICULTURAL LAND BASE..... 1

Figure 1: Project Area and Farmland Inventory Map 4

B. DISTRIBUTION OF SOIL TYPES AND THEIR CHARACTERISTICS 5

Figure 2: Important Farmland Soils Map 8

Figure 3: Soil Classification Map..... 9

Figure 4: Land in Production/ Active Agriculture Map 10

C. NUMBER OF IRRIGATED ACRES AND AVAILABLE WATER RESOURCES11

D. FARMLAND ASSESSMENT AND CENSUS OF AGRICULTURE STATISTICS AND TRENDS.....12

II. GREENWICH AGRICULTURAL INDUSTRY.....13

A. TRENDS IN MARKET VALUE OF AGRICULTURAL PRODUCTS13

B. CROP/PRODUCTION TRENDS OVER THE LAST 20 YEARS14

C &D. SUPPORT SERVICES WITHIN MARKET REGION / OTHER AGRICULTURAL RELATED INDUSTRIES18

III. LAND USE PLANNING21

A. STATE DEVELOPMENT AND REDEVELOPMENT PLAN21

Figure 5: State Planning Areas Map 25

B. HIGHLANDS WATER PROTECTION AND PLANNING ACT.....26

Figure 6: New Jersey Highlands Land Use Capability Zone Map..... 29

C. GREENWICH TOWNSHIP MASTER PLAN – 2006.....30

D. CURRENT LAND USE AND TRENDS33

E. SEWER SERVICE AREAS34

Figure 7: Existing land Use Map..... 35

Figure 8: Sewer Service Area Map..... 36

F. GREENWICH MASTER PLAN AND ZONING OVERVIEW.....37

Figure 9: Zoning Map..... 38

G. TDR OPPORTUNITIES.....42

IV. GREENWICH TOWNSHIP’S PLAN TO PRESERVE FARMLAND.....43

A. WARREN COUNTY AGRICULTURAL DEVELOPMENT AREAS43

Figure 10: Warren County ADA Map of Greenwich..... 45

Figure 11: Warren County ADA Map entire County..... 46

Figure 12: Warren CADB Project Areas..... 47

Greenwich Township Farmland Preservation Plan

| | | |
|--------------|---|-----------|
| B. | GREENWICH TOWNSHIP PRESERVED FARMLAND..... | 48 |
| C. | CONSISTENCY WITH THE SADC STRATEGIC TARGETING PROJECT..... | 51 |
| D. | EIGHT YEAR PROGRAMS..... | 51 |
| E. | COORDINATION WITH OPEN SPACE PRESERVATION INITIATIVES..... | 52 |
| | <i>Figure 13: Garden State Greenways Map.....</i> | <i>54</i> |
| | <i>Figure 14: Warren County Tier 1 Acquisition Map.....</i> | <i>55</i> |
| F. | FARMLAND PRESERVATION PROGRAM FUNDING EXPENDED TO DATE..... | 56 |
| G. | MONITORING OF FARMLAND PRESERVATION..... | 56 |
| H. | COORDINATION WITH TRANSFER OF DEVELOPMENT RIGHTS PROGRAMS..... | 57 |
| | <i>Figure 15: Greenwich Township Farmland and Open Space Map.....</i> | <i>58</i> |
| V. | FUTURE FARMLAND PRESERVATION PROGRAM..... | 59 |
| A. | PRESERVATION GOALS (1, 5 AND 10-YEAR ACREAGE TARGETS)..... | 59 |
| B. | PROJECT AREA SUMMARY..... | 60 |
| | <i>Figure 16: Project Area Map.....</i> | <i>61</i> |
| C. | MUNICIPAL AND COUNTY MINIMUM ELIGIBILITY CRITERIA COORDINATION..... | 63 |
| D. | MUNICIPAL AND COUNTY RANKING CRITERIA USED TO PRIORITIZE FARMS..... | 64 |
| E. | MUNICIPAL AND COUNTY POLICIES RELATED TO FARMLAND PRESERVATION APPLICATIONS..... | 65 |
| F. | FUNDING PLAN..... | 67 |
| G. | FARMLAND PRESERVATION PROGRAM / AGRICULTURAL ADVISORY COMMITTEE ADMINISTRATIVE RESOURCES..... | 70 |
| H. | FACTORS LIMITING FARMLAND PRESERVATION..... | 71 |
| VI. | ECONOMIC DEVELOPMENT..... | 74 |
| A. | 2007 NJDA ECONOMIC DEVELOPMENT STRATEGIES..... | 74 |
| B. | AGRICULTURAL INDUSTRY RETENTION, EXPANSION AND RECRUITMENT..... | 76 |
| VII. | NATURAL RESOURCE CONSERVATION..... | 83 |
| A. | NATURAL RESOURCE PROTECTION AGENCIES..... | 83 |
| B. | RESOURCE PROTECTION PROGRAMS AND FUNDING..... | 84 |
| C. | WATER RESOURCES..... | 87 |
| D. | WASTE MANAGEMENT AND RECYCLING..... | 90 |
| E. | ENERGY CONSERVATION..... | 91 |
| E.1 | ALTERNATIVE ENERGY GENERATING FACILITIES..... | 93 |
| VIII. | AGRICULTURAL INDUSTRY SUSTAINABILITY, RETENTION AND PROMOTION..... | 96 |
| A. | EXISTING AGRICULTURAL INDUSTRY SUPPORT..... | 96 |
| B. | ADDITIONAL STRATEGIES..... | 98 |

Greenwich Township Farmland Preservation Plan

APPENDIX A: FARMLAND INVENTORY101
APPENDIX B: AGRICULTURAL ADVISORY COMMITTEE ORDINANCE.....102
APPENDIX C: GREENWICH TOWNSHIP RIGHT TO FARM ORDINANCE103

Introduction

Greenwich Township, Warren County is perhaps best known in the region as an agricultural community with extraordinarily productive farmland. Located in southwest Warren County, at the cross-roads US Route 22, and I-78, Greenwich Township retains a vast agricultural landscape that is an increasingly rare picture of unspoiled bucolic beauty in northern New Jersey and eastern Pennsylvania. Greenwich Township’s primary land use objective is to retain and preserve its farmland base for agricultural pursuits today, as well as for the benefit of future generations. This farmland preservation plan element seeks to set forth goals, objectives, policies and strategies for farmland preservation in Greenwich Township.

At N.J.S.A. 40:55D-28. Preparation; contents; modification, subsection b. (13), the Municipal Land Use Law provides for the following:

(13) A farmland preservation plan element, which shall include:

1. An inventory of farm properties in the entire municipality and a map illustrating significant areas of agricultural lands;
2. A detailed statement showing that municipal plans and ordinances support and promote agriculture as a business;
3. A plan for preserving as much farmland as possible in the short-term by leveraging monies made available by the Garden State Preservation Trust Act, N.J.S.A. 13:8-1 et seq., P.L. 1999, c. 152 through a variety of mechanisms including but not limited to:
 - i. Option agreements;
 - ii. Installment purchases; and
 - iii. Encouraging donations for permanent development easements.

In addition, the State Agriculture development Committee promulgated rules at NJAC 2: 76-17A.4 detailing farmland preservation plan requirements and adopted Guidelines for Developing Municipal Comprehensive Farmland Preservation Plans dated May 24, 2007.

I. Greenwich Township’s Agricultural Land Base

A. Location and Size of Agricultural Land Base

Despite recent suburban growth in Greenwich Township, significant agricultural lands remain undeveloped and fully productive as farmland in the Township. Utilizing tax data from tax year 2008, there are 3,742 acres of agricultural land in the Township, which are eligible for reduced tax assessment under the Farmland Assessment Act of 1964. This amounts to approximately 56% of the Township’s overall acreage of 6,682 acres of land. Of these acres 3,212 acres were in active agricultural production (cropland harvested, permanent pasture or cropland

Greenwich Township Farmland Preservation Plan

pastured) in tax year 2008. The Township’s inventory of farmland is identified on the Figure 1: *Project Area and Farmland Inventory Map*. This map depicts a detailed breakdown of farmland properties (see appendix A for full farmland inventory list indicating Block and Lot, acreage and owner for tax year 2010. Please note, Farmland Assessment Block and Lot listing is for tax year 2010 and all other data is from the County Farmland Assessment Summary’s for tax year 2008.

The following table identifies the list of preserved farmland in Greenwich Township:

Table 1: Preserved Farmland

| Township-wide Preserved Farmland | | | |
|---|-----------------------|---------------|----------------------------------|
| Farm | Block; Lot | Acres | Program |
| Hamlin | 20; 18 | 87.00 | Municipal PIG |
| Oberly | 20; 8, 24 26; 27 | 128.38 | County Easement Purchase |
| Tom (Healy) | 20; 23 | 46.50 | SADC Direct Easement Purchase |
| Graham | 23; 10, | 104.84 | County Easement Purchase |
| Santini | 23; 31 | 70.50 | County Easement Purchase |
| Rayna | 23; 32 | 73.00 | Municipal PIG |
| Jayne Investments | 40; 2 41; 1, 14 | 39.02 | SADC Fee Simple |
| Schuster | 44;5 | 53.88 | County PIG |
| Slack | 41;5 | 117.02 | County PIG |
| | | 720.04 | |

Greenwich Township Farmland Preservation Plan

The following table indicates all preserved lands within the Township by individual program.

Table 2: Farmland and Preserved Open Space Area

| Category | Acres | % of Total Township Area |
|-----------------------------------|---------------|---------------------------------|
| Existing Preserved Farmland: | 720.14 | 10.8 % |
| Total Land Area: | 6,682 | 100% |
| 2008 Farmland Assessed land | 3742 | 56% |
| Municipally-owned land (parkland) | 27.50 | .4% |
| Preserved Green Acres land | 376.4 | 5.6% |
| Warren County Open Space: | 82.69 | 1% |
| TOTAL Preserved | 926.01 | 17.8% |

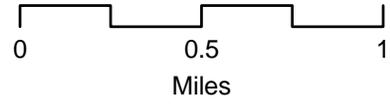
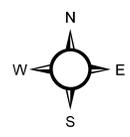
Greenwich Township Farmland Preservation Plan

Figure 1: Project Area and Farmland Inventory Map

Figure 1: Project Area and Farmland Inventory Map Farmland Preservation Plan

Greenwich Township

December 2007



See Appendix A for Full Inventory Description

Legend

-  Proposed Greenwich Farmland Project Area
-  Existing Preserved Farmland Property
-  Farm Qualified Tax Lot
-  Municipally Owned Property
-  Preserved Through Green Acres Program
-  Warren County Open Space Properties

Data Sources:
NJDEP
Finelli Engineering

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

B. Distribution of soil types and their characteristics

Greenwich is fortunate to have a high percentage of farm capable soils located throughout the Township. Seventy seven (83%) of Greenwich soils in production are prime farmland. An additional 12% are soils of Statewide Importance. The remaining soils are classed as other (5%) (see Table 3 below and *Figure 2: Important Farmland Soils Map* and *Figure 4: Land in Production/ Active Agriculture Map*) for the locations of land in production and the agricultural capability of the soils in these areas.

Table 3: Farm Capable Soils for Greenwich Township

| Soils | Overall Acres | Acres in Production | % of Total Acres |
|---------------------------|---------------|--------------------------|------------------|
| Prime Soils | 5,150 | 2,698 | 83% |
| Statewide Important Soils | 741 | 376 | 12% |
| other soils | 791 | 190 | 5% |
| TOTAL | 6,682 | 3,264¹ | 100% |

Soil Capability

The NRCS *land capability classification system* (LCCS) can be used to understand the potential for production and erosion of farmland. Capability classes are the broadest groupings of land and are designated by Roman numerals I through VIII. Limitations on land use increase with higher numbers.

Prime Farmlands include all those soils in Land Capability Class I and selected soils from Land Capability Class II which represent the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops. They have the quality, growing season, and moisture supply needed to produce sustained high yields of crops when treated and managed according to acceptable farming methods. Prime soils are not excessively erodible or saturated with water for a long period of time, and they either flood infrequently or are protected from flooding.

Farmlands of statewide importance include those soils in land capability Class II and III that do not meet the criteria as Prime Farmland, These soils are nearly Prime Farmland and economically produce high yields of crops when treated and managed according to acceptable farming methods, Some may produce yields as high as Prime Farmland if conditions are favorable.

¹ This acreage in production number is 478 acres less than the 2008 Farmland Assessed acreage number because the NJDEP 2002 Land Use Land Cover maps were used to identify acres in production.

Greenwich Township Farmland Preservation Plan

Farmland of local importance includes those soils that are not prime or statewide importance and are used for the production of high value food, fiber or horticultural crops.

The Soil Conservation Service divides the agricultural capabilities of soils into the following classes:

Class I soils have few limitations that restrict their use.

Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class III soils have severe limitations that reduce the choice of plants, require special conservation practices, or both.

Class IV soils have very severe limitations that reduce the choice of plants, require very careful management, or both.

Class V soils are not likely to erode but have other limitations, impractical to remove, that limit their use largely to pasture, woodland, or wildlife habitat.

Class VI soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture, woodland, or wildlife habitat.

Class VII soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture, woodland, or wildlife habitat.

Class VIII soils and landforms have limitations that preclude their use for commercial plants and restrict their use to recreation, wildlife, water supply, or to aesthetic purposes.

Soils descriptions²

The following is a brief description of the soils located in Greenwich Township. A map depicting the locations of these soils is found at Figure 3: Soils Classification Map.

Annandale Series – The Annandale series are typically a deep, well drained fine-loamy soil. This soil formed in old, highly weathered granitic glacial till. The soils are usually more than 15% gravel.

Bartley Series – The Bartley series is a fine-loamy soil that is deep and well drained. They typically are found in valley glacial deposits dominated by limestone and gneiss material.

² ² Natural Resources Conservation Service, United States Department of Agriculture. Official Soil Series Descriptions [Online WWW]. Available URL: "<http://soils.usda.gov/technical/classification/osd/index.html>" [Accessed 10 February 2008]. USDA-NRCS, Lincoln, NE.

Greenwich Township Farmland Preservation Plan

Califon Series – The Califon series is a fine-loamy soil that is often deep and moderately well drained to somewhat poorly drained. They typically formed in old gneiss glacial till and are found on uplands on concave slopes and drainage ways.

Cokesbury Series – The Cokesbury series consists of fine-loamy mixed soils that are deep and poorly drained. These soils formed in old glacial tills of predominately gneiss rock. They are often found in natural waterways, depressions and long narrow areas along the base of steeper slopes.

Edneyville series – The Edneyville soils fine loamy soils that are deep and well drained. These soils generally have granitic gneiss pebbles, cobbles and stones. They are often found on ridge tops and side slopes.

Hazen Series – The Hazen soils consist of coarse loamy over sandy-skeletal soils. They are typically well drained and under laid by stratified sand and gravel. They are often found on terraces and kames.

Middlebury Series – The Middlebury series consists of coarse loamy soils that are moderately to somewhat poorly drained. These soils are underlain by fine sandy loam, loam sand or silt loam alluvial material. They are often found on floodplains.

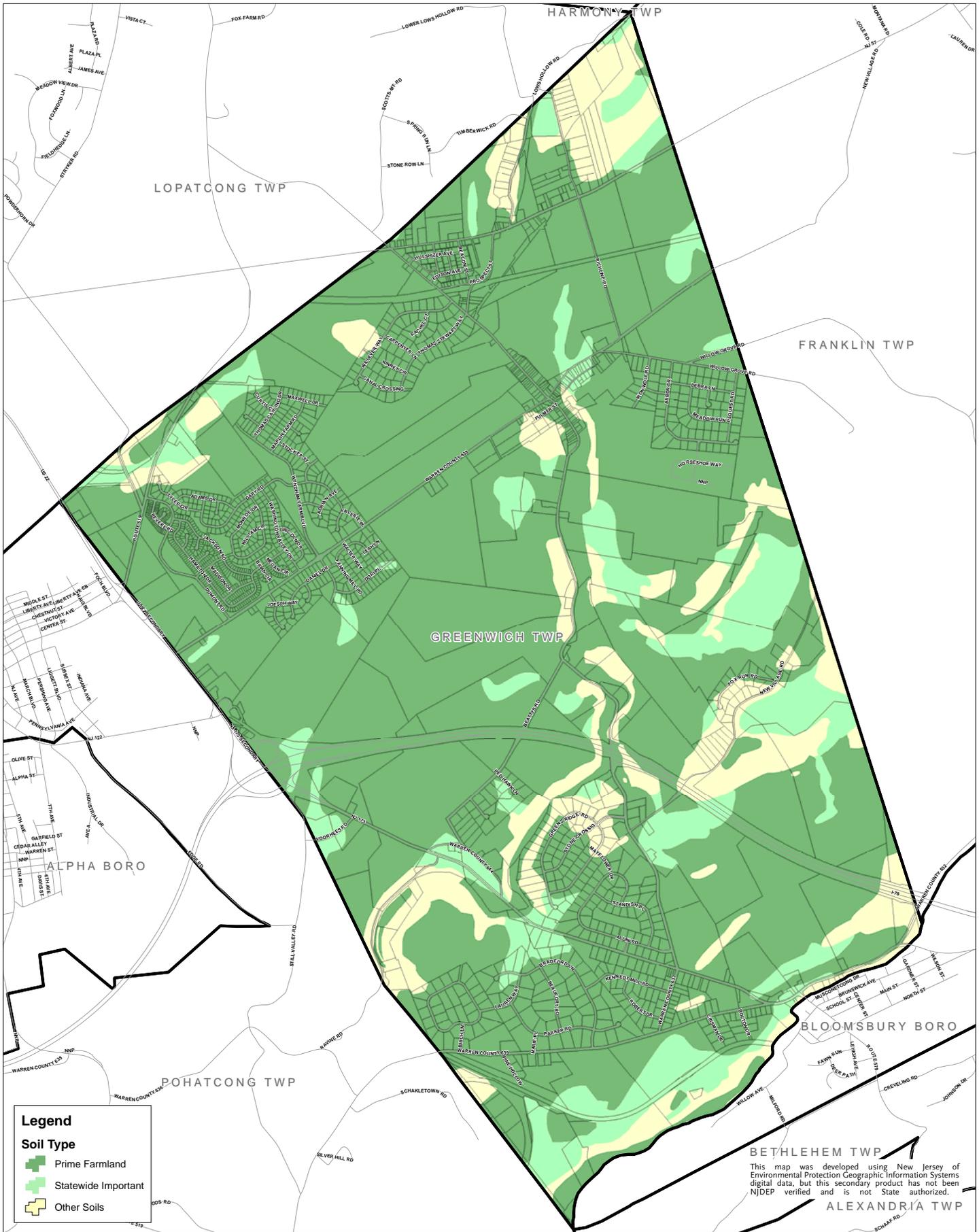
Parker Series – The Parker series consists of loamy-skeletal soils that are deep and somewhat excessively drained and have many angular granitic stones, cobblestones and pebbles. They are often found on ridge-tops and side slopes.

Washington Series – The Washington series consist of fine-loamy soils that are well drained. The soils are typically found in upland areas.

Wassiac Series – The Wassiac series consists of fine-loamy soils that are well drained and moderately deep. They were formed in glacial till that was dominated by limestone. They are often found on limestone ledges.

Wayland Series – The Wayland series consists of fine-silty soils that are deep and poorly drained. These are predominantly derived from limestone and are often found on floodplains.

Figure 2: Important Farmland Soils Map



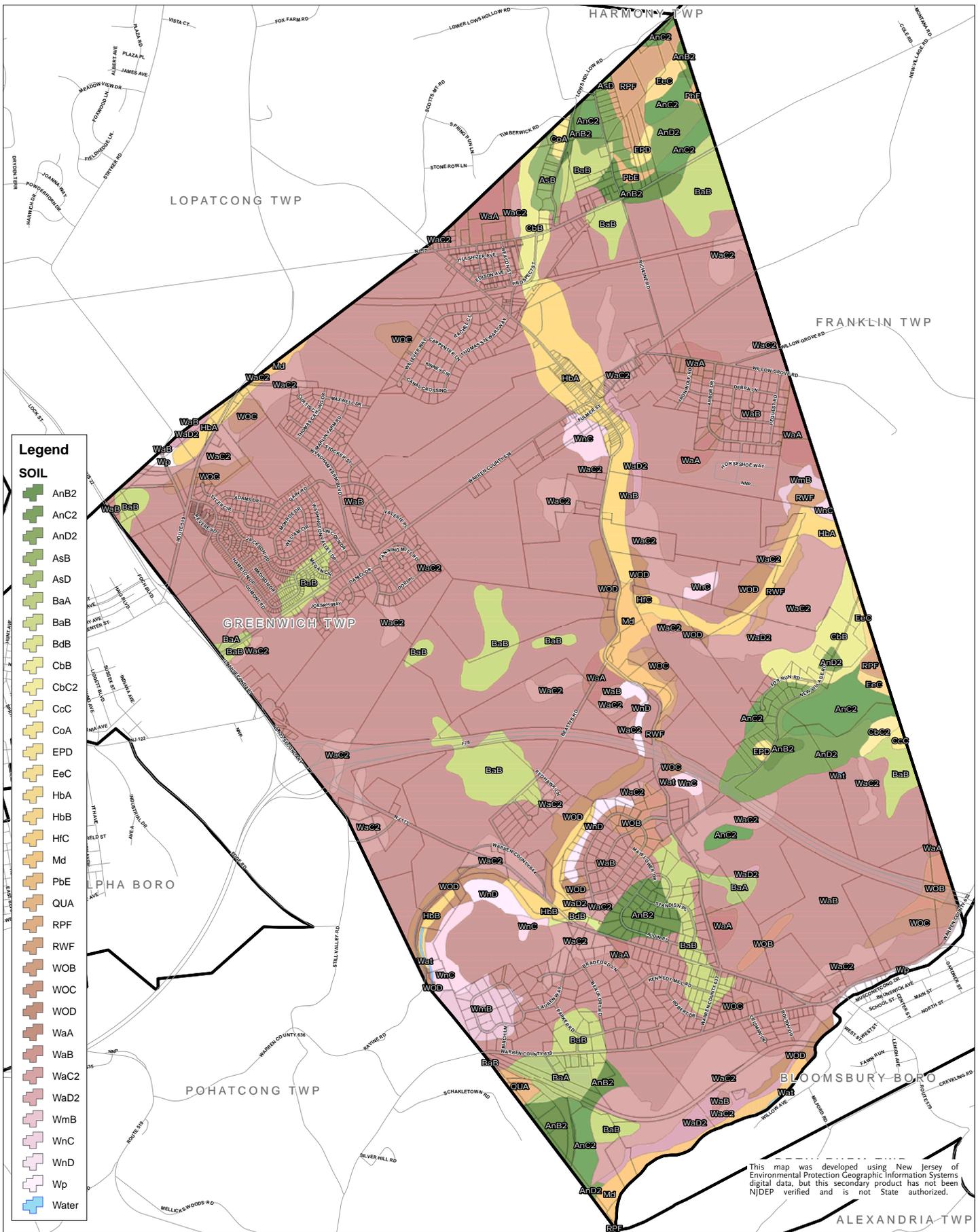
Farmland Soils

Greenwich Township, Warren County, NJ December 2010

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.

Clarke Caton Hintz Architects
Planners
Landscape Architects

Figure 3: Soil Classification Map



Soils

Greenwich Township, Warren County, NJ December 2010

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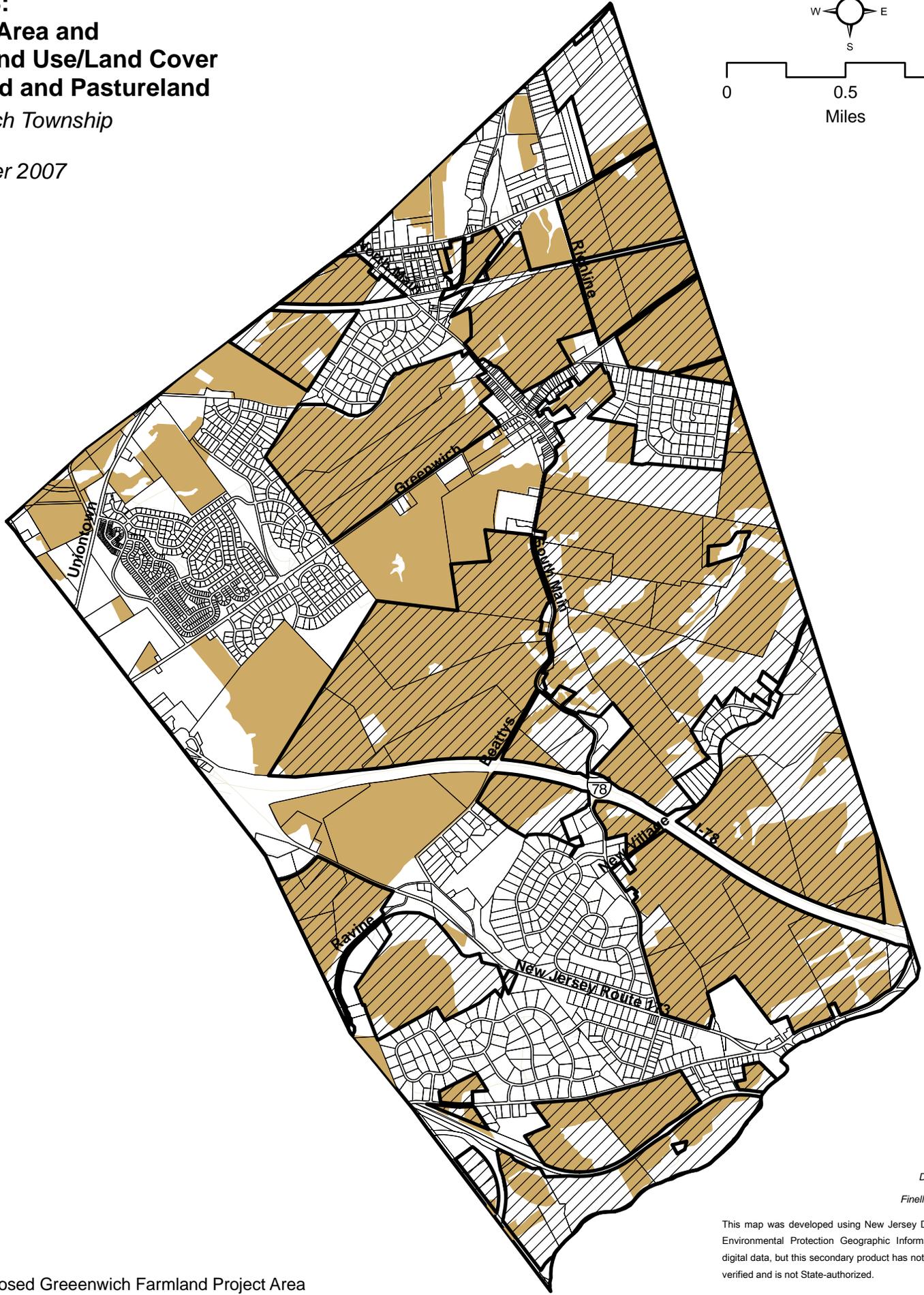
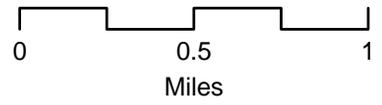
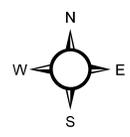
Greenwich Township Farmland Preservation Plan

Figure 4: Land in Production/ Active Agriculture Map

**Figure 3:
Project Area and
2002 Land Use/Land Cover
Cropland and Pastureland**

Greenwich Township

December 2007



- Legend**
-  Proposed Greenwich Farmland Project Area
 -  Cropland and Pasture Land

*Data Sources:
NJDEP
Finelli Engineering*

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

C. *Number of Irrigated Acres and Available Water Resources*

1. Irrigated Acres. According to the 2005 New Jersey Farmland Assessment, there are no irrigated acres in the Township. The land farmed in the Township is primarily dedicated to field crops and pasture land. Field crops such as corn, grass, alfalfa, and small grains typically rely on groundwater resources and require no additional irrigated water sources.
2. Available water sources: quality, quantity, recharge areas. Greenwich Township is underlain by one of the most pristine and productive aquifers in the state. In November of 2005, Greenwich Township retained M² Associates to conduct an evaluation of groundwater resources of the Township. Findings include the following:
 - N.J.A.C. 7:9B indicates that all of the streams in Greenwich Township are high quality surface waters worthy of significant protection. Both the Pohatcong Creek and the Lopatcong Creek are designated C-1 waterways.
 - The structural and bedrock geology of Greenwich Township with numerous fracturing and faulting provides high potential for storage and transmittal of groundwater indicating that this Township may be one of the best long-term resources for water supply in New Jersey.
 - 10% of the geologic formations in Greenwich may yield a median rate of 10 gallons per minute, gpm, and are drilled several hundred feet deep. However most of the Township is underlain by Cambrian Ordovician carbonate rock formations with openings yielding up to 1,000 gpm.
 - A well yielding 1,000 gpm could produce 1.4 million gallons of water per day, several of these highly productive wells located carefully could produce enough water to sustain a small city elsewhere in New Jersey.
 - Groundwater resources which are capable of such high water yields are, for the same geologic reasons, extremely susceptible to contamination.
 - Greenwich receives 47.4 inches of precipitation during a year of normal precipitation.
 - Groundwater recharge rates of 29.2 inches a year are probable for 90% of Greenwich Township or the equivalent of 1,540 to 2, 170 gallons per day per acre. Based on these local rates the aquifer beneath the 6, 293 acres of Greenwich Township underlain by carbonate rock formations are recharged at a rate of 9.7- 13.7 million gallons per day.

3. Merrill Creek Dam. In the 1930's, the Merrill Creek Dam was originally constructed by Ingersol Rand to supply water to the power plant. The company bought all of the surface water rights from farms downstream and paid to have wells drilled so they could dam the creek and supply water to the plant. Today, the Merrill Creek Dam has become a huge reservoir. According to Robert O. Leinbach, whose official title is project director, "Merrill Creek is the world's first engineering project whose purpose is to replace water in a river - the Delaware, in this case - consumed by power plants in the course of generating electricity," he explained. He has announced that visitors are welcome to preview the 3,150-acre water and wilderness tract and witness the completion of what he calls "this Yellowstone by the Delaware." The 650 acre reservoir was built by a consortium of seven electric utilities under mandate of the Delaware River Basin Commission to replace river water lost through evaporation in the cooling of 14 power plants.³

D. Farmland Assessment and Census of Agriculture Statistics and Trends

1. Number of Farms and Farms by Size

According to the 2008 Farmland Assessment data Greenwich has a total of 71 farms comprised of 3,742 acres. A complete list of all farmland assessed properties is included in the Appendix A.

2. Average and Median Farm Size

Using the 2007 Census of Agriculture data, farms were categorized and the average and median sizes determined.

The average farm size in the Township is 80 acres with a median of 22 acres.

The Township's average and median size farms are slightly smaller than Warren County's farm sizes. The County's average farm size is 96 acres with a median of 31 acres. The Township's average farm is approximately 17% smaller than the county average and the median farm size is 29% smaller.

³ The New York Times, Monday, April 21, 2008

Greenwich Township Farmland Preservation Plan

3. Cropland Harvested, Pasture, Woodland, Equine and total for Agricultural Use

According to New Jersey Farmland Assessment records, the Township’s primary agriculture comes from cropland, grain and forage, and secondarily from pasturing of livestock, primarily beef cattle. (Table 4). This is typical of the type of farming currently underway in the Township where grain and silage crops are the primary source of income.

Over the 25 years from 1983-2008 Greenwich’s agricultural industry lost just over 30% of its acreage in production. This can be attributed to several residential developments constructed, some of which were required by settlement of affordable housing obligations.

The main commodities to lose ground were beef cattle production and dairy. Equine and woodland management commodities saw significant increases in acres produced over the period.

Table 4: Agricultural Land Use

| Use | 1983 | 1990 | 2000 | 2004 | 2005 | 2008 | % Change |
|---------------------------|---------------|--------------|--------------|--------------|--------------|--------------|-----------------|
| Cropland Harvested | 4,494 | 3,875 | 3,244 | 3,107 | 2,900 | 2,859 | -37% |
| Permanent Pasture | 465 | 565 | 378 | 348 | 289 | 290 | -38% |
| Cropland Pastured | 166 | 260 | 96 | 77 | 65 | 63 | -62% |
| Active Agriculture | 4,706 | 4,700 | 3,718 | 3,532 | 3,254 | 3,212 | -32% |
| Attached Woodland | 323 | 370 | 180 | 282 | 302 | 285 | -12% |
| Unattached Woodland | 58 | 48 | 239 | 221 | 192 | 184 | +317% |
| Equine Acres | | | 20 | 57 | 43 | 61 | +305% |
| Total for Ag Use | 5,451* | 5,118 | 4,157 | 4,092 | 3,791 | 3,742 | -31% |

II. Greenwich Agricultural Industry

A. Trends in Market Value of Agricultural Products

According to the Warren County Comprehensive Farmland Preservation Plan, adopted in April 2008, agriculture accounted for \$39.9 million in sales during 1992, \$46.005 million in 1997, and \$75.477 million in sales during 2007. The

Greenwich Township Farmland Preservation Plan

total amounts of revenue generated by farms in Greenwich Township are hard to identify. As stated in the Warren County plan, the use of the United States Department of Agriculture's National Agriculture Statistics Service (NASS) is tabulated annually with certain crop yields recorded in recent years that were not preciously recorded. Additionally, trends in the market value are not compiled annually at the County level, but rather reported every five years as part of the National Census of Agriculture. While these statistics are available at the County level, they are not typically available at the municipal level. However, much of the trending witnessed in at the County level correlates to the Township level.

According to the Census of Agriculture, as identified in the Warren County Plan, County sales from "crops, including nursery and greenhouse" category had steadily increased from \$14.5 million in 1992 to \$19.693 million in 1997. A slight drop was recorded in 2002 where production of nursery crops measured \$18.437 million. In 2007, the industry had increased by 58% to \$43.622 million in sales. Similar declines were seen across New Jersey due to the severe drought conditions that were observed during the 2002 Census year. "Livestock, poultry and their products" from Warren County produced \$12.6 million in 1986, \$27.007 million in 1987, \$25.375 million in 1992, \$26.312 million in 1997, \$21.264 million in 2002 and increased by 33% to \$31.855 million in 2007. It should be noted that drought losses were more than compensated in 2007 with the significant increases in production (~30% in livestock and 58% in nursery crops).

B. Crop/Production Trends over the last 20 years

As identified in the previous section, production trends as reflected in acreage in various crops generally have been decreasing throughout the State over the past 20 years. Greenwich Township has also witnessed this decline. For the most part, all agricultural production units have been on the decline with the exception of soybean products. Table 5 identifies the 20 year trend of acres devoted to field crops such as barley, grains, grasses and soybeans. In each case, acres devoted to field crops have been on the decline with the exception of soybeans.

Warren County's agricultural production trends compiled by the farmland assessment data illustrate a few notable changes over the period from 1984- 2004. The size of the agricultural land base in Warren County has declined in recent years. Between 1992 and 2002, Warren County lost nearly 10,000 acres of farmland, corresponding to an 11% drop in overall acreage. The dairy industry suffered losses over the period. Milk production trends show that the decline in Warren County's dairy industry has been occurring gradually for some time. The County's best year on record in terms of milk production was 1972 when it produced over 135 million pounds, while its worst year on record was 2005 when it produced less than 35 million pounds.⁴ The comparatively low land intensity of non-dairy cattle operations has made this a more attractive option for some dairy farmers in Warren County. If land values continue to increase, it is likely that

⁴ Warren County Comprehensive Farmland Preservation Plan, April 2008, page 2-3.

Greenwich Township Farmland Preservation Plan

more dairy farmers will begin to utilize their land in other ways and that new livestock farmers will run non-dairy cattle.⁵ The nursery and greenhouse industry has experienced far more growth than any other agricultural sector in the County over the last 20 years, indicating a continuing upward trend. Corn for grain has been the historically dominant field crop of Warren County. Vegetables were the County's second highest earning crop during 2002 with \$4.4 million in sales. More than 2,000 acres in Warren County were planted with vegetables during 2002.

The largest change was in woodland management with an additional 9,000 acres devoted to timber production and conversion of 4,000 acres of previously non managed woodlands added, presumably part of the 9,000 acre increase in production acreage. Greenwich has not experienced the increase in nursery or direct marketing reflected in the County wide trends but has seen a large increase (approximately 150 acres) in the woodland managed acres representing 46,500 board feet harvested in 2004.

Greenwich Township production trends for field crops over the 24 year time period indicate a significant increase in soybean production and a corresponding decline in corn for grain production up to 2004. Between 2004 and 2007 soybean production decreased by 300% and corn for grain increased by approximately 28%. Declines in all other field crop categories except sorghum were reported over the time period as indicated in Table 5.

Table 5: Greenwich Township Land devoted to field crops (Acres)

| | 1983 | 1990 | 2000 | 2004 | 2007 | Acreage change | % Change 1983-2004 |
|--------------------------|-------|-------|-------|-------|-------|----------------|--------------------|
| Barely | 61 | 15 | 0 | 17 | 0 | -61 | -100% |
| Grain Corn | 2,544 | 2,084 | 1,778 | 1,388 | 1,784 | -760 | -30% |
| Silage Corn | 443 | 313 | 241 | 224 | 167 | -276 | -62% |
| Grass Silage | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Alfalfa Hay | 644 | 212 | 440 | 217 | 137 | -507 | -79% |
| Other Hay | 166 | 173 | 55 | 70 | 95 | -71 | -43% |
| Oats | 111 | 29 | 12 | 34 | 0 | -111 | -100% |
| Rye Grain | 32 | 3 | 0 | 0 | 0 | -32 | -100% |
| Sorghum | 12 | 0 | 0 | 0 | 94 | +82 | +783% |
| soybeans | 216 | 596 | 448 | 943 | 300 | +84 | +38% |
| wheat | 205 | 151 | 256 | 173 | 133 | -72 | -35% |
| cover cop | 14 | 0 | 0 | 0 | 0 | -14 | -100% |
| other field crops | 15 | 0 | 0 | 0 | 0 | -15 | -100% |

⁵ Warren County Comprehensive Farmland Preservation Plan, April 2008, page 2-4.

Greenwich Township Farmland Preservation Plan

Table 6 identifies acres devoted to fruit productions. Historically, the Township has not produced fruit, however in recent years some acres have been in fruit production.

Table 6: Greenwich Township Fruit Production (Acres)

| | 1983 | 1990 | 2000 | 2004/07 | Acreage change | % Change 1983-2004 |
|----------------|------|------|------|---------|----------------|--------------------|
| Apples | 0 | 0 | 1 | 1 | +1 | 100% |
| Peaches | 0 | 0 | 2 | 1 | +1 | 100% |

Table 7 depicts the amount of farm acres devoted to vegetable production. Greenwich has not historically produced vegetables but there has been a recent introduction of pumpkins, tomatoes and mixed vegetable crops. These could be to target a specific niche group usually sold at farmers market, farm stands and seasonal demand.

Table 7: Greenwich Township Vegetable Production (Acres)

| | 1983 | 1990 | 2000 | 2004 | 2007 | Acreage change | % Change 1983-2004 |
|------------------------|------|------|------|------|------|----------------|--------------------|
| Pumpkins | 0 | 0 | 0 | 54 | 1 | +1 | 100% |
| Tomatoes | 0 | 0 | 0 | 1 | 0 | +1 | 100% |
| mixed veg crops | 0 | 0 | 0 | 3 | 1 | +3 | 100% |

Table 8 identifies nursery and tree stock acres produced in the Township. This category has seen a modest increase, primarily due to a raise in nursery sales to home owners as residential areas increase and landscaping demands rise.

Table 8: Greenwich Township Nursery and Tree Production (Acres)

| | 1983 | 1990 | 2000 | 2004 | 2007 | Acreage change | % Change 1983-2004 |
|---------------------------|------|------|------|------|------|----------------|--------------------|
| Trees & Shrubs | 2 | 11 | 11 | 9 | 8 | +6 | +300% |
| Christmas Trees | 11 | 12 | 21 | 5 | 5 | -6 | -55% |

Greenwich Township Farmland Preservation Plan

Table 9 identifies timber and woodland production and areas in the Township. This category has one of the highest growing areas. As woodland management has become more important to the overall health of the natural systems, more farms with woodland areas have been preserved.

Table 9: Timber and Woodland Product and Areas

| | 1983 | 1990 | 2000 | 2004 | 2007 | Change | % Change 1983-2004 |
|--|------|------|------|--------|--------|---------|--------------------|
| Fuelwood (Cords) | 31 | 30 | 27 | 21 | 28 | -3 | -10% |
| Timber (Board Feet) | 0 | 0 | 0 | 46,700 | 43,000 | +43,000 | 100% |
| Woodland State Plan (acres) | 85 | 0 | 0 | 0 | 0 | -85 | -100% |
| Woodlands Private Plan (Acres) | 45 | 0 | 0 | 0 | 0 | -45 | -100% |
| Woodland No Plan (Acres) | 20 | 0 | 0 | 0 | 0 | -20 | -100% |
| Land in Federal or Government Program (Acres) | 0 | 327 | 327 | 7 | 299 | +299 | +300% |

The last trend analyzed is livestock and poultry product (Table 10). The Township has seen mixed results in the 20 year trend for livestock. Traditionally, Warren County has been a large producer of beef cattle and dairy operations. That trend has steadily been declining. Greenwich still retains smaller operations of dairy and cattle, but not to the degree it once did. On the other hand, goat and poultry for eggs has been on the rise.

Greenwich Township Farmland Preservation Plan

Table 10: Greenwich Township Livestock and Poultry Products (head)

| | 1983 | 1990 | 2000 | 2004 | 2007 | Acreage Change | % Change 1983-2004 |
|----------------------------|------|------|------|------|------|----------------|--------------------|
| Beef Cattle | 313 | 110 | 92 | 86 | 51 | -262 | -84% |
| Mature Dairy | 421 | 4 | 191 | 120 | 110 | -311 | -27% |
| Young Dairy | 375 | 14 | 150 | 80 | 80 | -295 | -79% |
| Ducks | 0 | 12 | 15 | 12 | 14 | +12 | +100% |
| Goats | 35 | 9 | 36 | 78 | 78 | +43 | +123% |
| Ponies & Horses | 90 | 119 | 64 | 76 | 82 | -8 | -9% |
| Laying Chickens | 0 | 74 | 38 | 151 | 114 | +141 | +100% |
| Sheep | 78 | 42 | 43 | 32 | 45 | -33 | -42% |
| Swine | 6 | 6 | 0 | 6 | 4 | -2 | -33% |
| Turkeys | 0 | 0 | 4 | 0 | 0 | 0 | 0% |
| Other Livestock | 0 | 10 | 13 | 23 | 9 | +9 | 100% |

C & D. Support Services within Market Region / Other Agricultural Related Industries

The Warren County Comprehensive Farmland Preservation Plan offers some insight into the support services offered in Warren County:

“The agriculture support services in Warren County are predominantly oriented towards supplying the raw materials necessary for farming. They include businesses such as tractor sales and supply stores, feed vendors, and hardware/equipment retailers. The largest cluster of agricultural support firms in Warren County is Washington Borough where equipment and tractor retailers, such as Smith’s Tractor and Frank Ryman and Sons, are located. Hackettstown contains a second notable concentration of agricultural support firms. It houses the largest agricultural auction house in New Jersey – the Livestock Cooperative Auction Market – where local farmers can sell or trade their products as well as general farm supply stores, such as Tickner’s. Also, local hardware and grocery stores throughout Warren County serve as vendors for farming goods and supplies.”

“Local support businesses are often insufficient to meet all the needs of Warren County’s agricultural community. Consequently, Warren County’s farmers have become very adept at minimizing the need for many repair

Greenwich Township Farmland Preservation Plan

services by fixing many mechanical problems themselves. Farmers tend to specialize in some kind of agricultural repair and supplement their incomes by offering their services to other farmers. Warren County's farmers also rely heavily upon mail order and out-of-state retailers for their agricultural supplies. Processing facilities such as creameries and lumber mills have become absent from Warren County as well, forcing local farmers to ship their products out-of-town to be processed. Some farmers have found that reliance upon out-of-state suppliers and non-local processing facilities imposes high transportation costs that cut deeply into the profitability of their operations."

Many farms in Greenwich Township are farmed by out of Town operators. Support services for these operators often come from out of state sources. Local farmers also find they look out of state for larger goods and mechanical items, but will shop closer to home for smaller items.

The greater market region has the following support operations:

Farm Equipment

- Barnes Farm Repairs, Ringoes, NJ
- Champion Tires, Ringoes, NJ
- Deer Country Farm and Lawn, Allentown, NJ
- D & R Equipment, Ringoes, NJ
- Haver's, Whitehouse Station, NJ
- Mid-state Equipment, Titusville, PA
- Pennington Sales & Service, Pennington, NJ
- Pole Tavern Equipment, Elmer, NJ
- Powerco, Inc., Clinton, NJ
- Smith Tractor, Washington, NJ
- Zimmerman Equipment, Ephrata, PA
- Messicks, Elizabethown, PA
- ABC Groff, New Holland, PA
- Hooper's, Intercourse, PA
- Eckroth Bro's, Orefield, PA
- Pikeville Equipment, Oley, PA

Farmers' Markets

- Flemington Farmers' Market, Dvoor Farm, Flemington, NJ
- High Bridge Farmers' Market, High Bridge, NJ
- Summit Farmers' Market, Summit, NJ
- Melicks Farm market, Tewksbury, NJ
- Cider Mill, Tewksbury, NJ

Farm Management Systems

- Cooperative Extension of Hunterdon County, Flemington, NJ
- Farmers Insurance, Flemington, NJ

Greenwich Township Farmland Preservation Plan

- Farm Family Insurance, Washington, NJ
- First Pioneer Farm Credit, Lebanon, NJ
- Natural Resource Conservation Service, Pittstown, NJ
- Rutgers University Snyder Research Farm, Pittstown, NJ

Farm Supplies (fertilizer, pesticide, feed, seed, equipment, parts, etc .)

- Agway Feed and Farm Supply, Flemington, NJ
- Agway, Washington, NJ
- Horsemen's Outlet, Lebanon, NJ
- Neshanic Farm, Home and Garden Supply, Neshanic Station, NJ
- Stephan Farm & Horse Supply, Long Valley, NJ
- Tractor Supply, Washington, NJ
- GroMark, Bloomsbury, NJ
- Crop Production Services, Jutland, NJ
- Martin's Limestone, New Holland, PA
-

Feed

- Somerset Grain & Feed, Bernardsville, NJ
- Sergeantsville Grain & Feed, Sergeantsville, NJ
- The Tack Room, Pittstown, NJ
- Penwell Mills, Port Murray, NJ
-

Fencing

- Amwell Fence, Ringoes, NJ
- Eagle Fence and Supply, Branchburg, NJ
- The Fence Company, Ringoes, NJ
- New Holland Fence, New Holland, PA
- Rudl Fencing, Glen Gardner, NJ
- Superior Fencing and Hole Drilling, Lebanon, NJ
- Town and Country Fencing, Lebanon, NJ
- York Fence, Hillsboro, NJ
-

Fertilizer

- Crop Production Services, Hampton, NJ
- Growmark FS Inc., Bloomsbury, NJ

Livestock Auctions

- Livestock Cooperative Auction, Hackettstown, NJ
- New Holland Livestock Auction, New Holland, PA
- Leesport Auction, Leesport, PA

Pond Construction

- Country Acres Landscaping, Stockton, NJ
- Landcraft, Inc., Clinton, NJ

Processing Facilities

- Dealaman Enterprises, Warren, NJ
- Frigit Freeze, Milford, NJ
- V. Roche & Son, Whitehouse Station, NJ
- Springtown Meats, Springtown, PA
- Joe Chue, New Village, NJ

Well Drilling

- Samuel Stothoff Company, Flemington, NJ
- Brian Well Drilling, Chester, NJ

In addition, “The Green Pages”, a publication compiled by David Lee has a comprehensive listing of service providers in the New Jersey, Pennsylvania region. This publication will be added to the township website along with other agricultural advise and resources links.

(<http://saalem.rutgers.edu/greenpages/service.pdf>)

III. Land Use Planning

A. State Development and Redevelopment Plan

The State Development and Redevelopment Plan (SDRP) offers guidance in the formulation of land management and natural resource conservation policy. The entire Township project area is designated as Rural Planning Area (PA4), Rural/Environmentally Sensitive Planning Area (PA4B) or the Environmentally Sensitive Planning Area (PA5) as noted on the 2001 adopted *State Development and Redevelopment Plan Map (Figure 5)*. These designations recognize the valuable agricultural resources and environmentally sensitive natural features that Greenwich Township seeks to protect from the siege of development pressure within the region that threatens to transform these valued resources to suburban sprawl. The suburban planning area, Planning Area 2 is included on the SDRP Policy Map acknowledging the existence of the developed sewer service area in the westerly portion of the Township.

SDRP guidance for management of the Rural Planning Area has been provided, as follows:

“Prudent land development practices are required to protect these resources and retain large contiguous areas of agricultural land. If a viable agricultural industry is to be sustained in the future, the conversion of some of the lands to non-farm uses must be sensitive to the areas predominant rural character and agricultural land base. Throughout New Jersey, some Rural

Greenwich Township Farmland Preservation Plan

Planning Areas are subject to greater development pressure than other areas. Without greater attention to maintaining and enhancing our rural areas, these economic activities are at risk. Tools and techniques need to be tailored to address the distinctive situation. In particular, new development may require additional attention in areas with environmentally sensitive features.”

For the Environmentally Sensitive Planning Area, the State Plan offers the following:

“The Environmentally Sensitive Planning Area contains large contiguous land areas with valuable ecosystems, geological features and wildlife habitats particularly in the . . . Highlands region, . . . The future environmental and economic integrity of the state rests in the protection of these irreplaceable resources. . . 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, . . . These resources are critically important not only for the residents of these areas, but for all New Jersey citizens.

The Environmentally Sensitive Planning Area is highly vulnerable to damage of many sorts from new development in the Environs, including fragmentation of landscapes, degradation of aquifers and potable water, habitat destruction, extinction of plant and animal species and destruction of other irreplaceable resources which are vital for the preservation of the ecological integrity of New Jersey’s natural resources. . . New development in these Environs has the potential to destroy the very characteristics” (environmental sensitivities) “that define the area”.

The SDRP promotes the retention of large open land areas in PA 4, 4B & 5, and the Plan defines “large contiguous area”.

“When applied to habitat, (large contiguous area) means the area of undisturbed land required to maintain a desired community of plants and animals”, and “when applied to farmland, large contiguous area means the amount of contiguous farmland usually considered necessary to permit normal farm operations to take place on a sustained basis.”

The Township is endowed with large contiguous land areas with valuable ecosystems, geological features and wildlife habitats that support critical habitat. Whether it is the maintenance of large contiguous areas for farmland or to protect environmentally-sensitive areas, Greenwich’s stewardship of these areas requires policies and management techniques to sustain the landscape in such a way that the long-term viability and function of these lands and natural systems may be assured. Greenwich seeks to manage these resources consistent with the SDRP

policy orientation for the Environmentally Sensitive Rural Planning Area and the Environmentally Sensitive Planning Area.

SDRP Policies seek to maintain the viability of agricultural areas and the function of natural systems through strategies aimed at the protection of these resources and coordinated growth policies that orient new development adjacent to either Centers, or existing developed areas with infrastructure capable of supporting development. Development should be compact, and innovative development approaches, such as clustering or open lands zoning will be needed to discourage sprawl-type patterns of development that would fragment and destroy the very resources that the Rural and Environmentally Sensitive Planning Area designations seek to protect.

Centers

The New Jersey State Plan outlines the criteria and policies for centers on pages 37-43: Centers are compact forms of development that, compared to sprawl development, consume less land, deplete fewer natural resources and are more efficient in the delivery of public services. As Centers are planned to be the location for much of the growth in New Jersey, it is critical that they be located and designed with the capacity to accommodate desired growth. Centers in the Fringe, Rural and Environmentally Sensitive Planning Areas have Center Boundaries delineating the geographic focus of development and redevelopment activities, infrastructure and other investments. Center Boundaries can be marked by greenbelts—large tracts of undeveloped or developed open space, including areas under cultivation, areas maintained in a natural state, parks or school playgrounds, and areas with low intensity, land intensive uses such as golf courses or cemeteries.

Centers have three basic components: center boundaries, cores and neighborhoods. The Core of the Center should include activities that generate the most pedestrian traffic, such as restaurants, retail, and services. Neighborhoods exhibit a clear identity and personality, and this is most commonly achieved by the manipulation of the physical design features, by capitalizing on the presence of dramatic natural features, or by an important local institution. There are five types of Centers outlined in the State Plan: Urban, Regional, Town, Village, and Hamlet.

The Centers in Greenwich are Hamlet type Centers specifically Stewartsville. Hamlets are the smallest types of Centers in the State Plan. Existing Hamlets are found primarily in rural areas, often at crossroads. Hamlets are not synonymous with conventional single-use residential subdivisions. Although Hamlets are primarily residential in character, they may have a small, compact core offering limited convenience goods and community activities, such as a multi-purpose community building; a school; a house of worship; a tavern, luncheonette; or a commons or similar land uses. The density of a Hamlet should conform to the carrying capacities of natural and built systems.

The area outside of the Centers, the Environs, should be comprised of contiguous areas of farmland, open space and large forest tracts. Strategies for preserving the Environs include density transfers into Centers, purchasing or donating

Greenwich Township Farmland Preservation Plan

easements, restricting the extension of capital facilities and adopting ordinances that limit development.

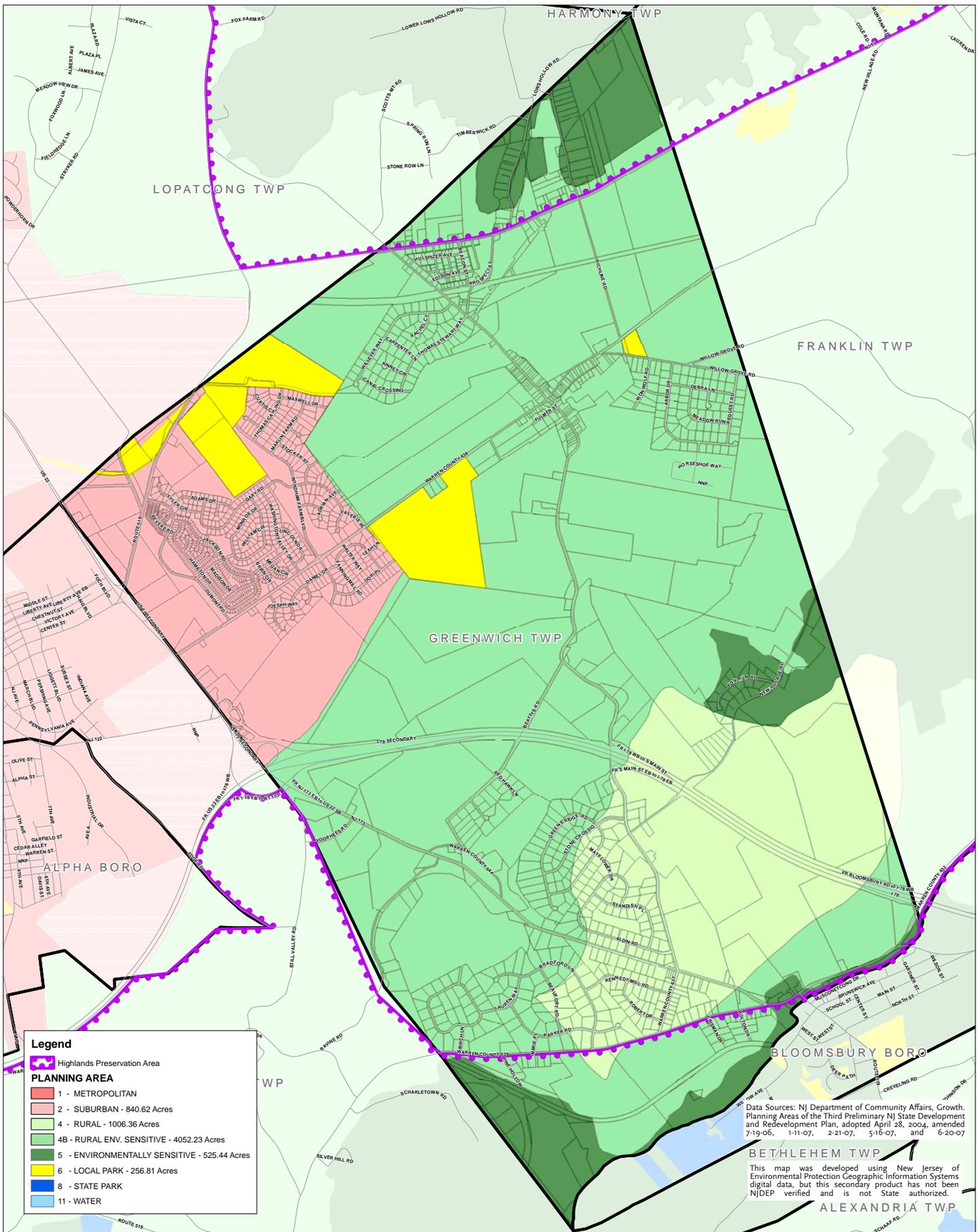
Regional Center/ Phillipsburg

Regional Centers like Phillipsburg are a compact mix of residential, commercial and public uses, serving a large surrounding area and developed at an intensity that makes public transportation feasible. Greenwich borders Phillipsburg and has a small extension of sewer service area from that regional center.

Plan Endorsement

The State Planning Commission updated the Guidelines for Plan Endorsement in 2007. Achieving Plan Endorsement status is a comprehensive process that results in an official determination that a municipal plan is consistent with the State Plan. The process seeks to coordinate the planning initiatives of the state with local plans. The Office of Smart Growth (OSG) explains that the benefits of obtaining plan endorsement are financial and technical assistance from the State to help implement an endorsed plan. Greenwich Township has submitted a Petition for Conformance with the Highlands Regional Master Plan. If granted Plan Conformance and upon completion of Full Plan Conformance, Greenwich's Master Plan will enjoy the same protections and privileges as if it were endorsed by the State Planning Commission.

Figure 5: *State Planning Areas Map*



Legend

- Highlands Preservation Area
- PLANNING AREA**
- 1 - METROPOLITAN
- 2 - SUBURBAN - 840.62 Acres
- 4 - RURAL - 1006.36 Acres
- 4B - RURAL ENV. SENSITIVE - 4052.23 Acres
- 5 - ENVIRONMENTALLY SENSITIVE - 525.44 Acres
- 6 - LOCAL PARK - 256.81 Acres
- 8 - STATE PARK
- 11 - WATER

Data Sources: NJ Department of Community Affairs, Growth Planning Areas of the Third Preliminary NJ State Development and Redevelopment Plan, adopted April 28, 2004, amended 7-19-06, 1-11-07, 2-21-07, 5-16-07, and 6-20-07

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.

NJDCA
**State Planning Areas and
 Highlands Planning Area Boundary**

Greenwich Township, Warren County, NJ April 2008



Clarke Caton Hintz

Architects
 Planners
 Landscape Architects

B. Highlands Water Protection and Planning Act

The Highlands Regional Master Plan was adopted July 17, 2008 and Greenwich Township filed a Petition for Conformance on December 8, 2009. The Highlands Region is divided into two primary management areas, including (1) a Preservation Area and (2) a Planning Area. The entirety of Greenwich Township is included within the Highlands Region. The majority of the Township is designated Planning Area and includes all areas of the Township lying north of CR 639 and south of SR 57. The areas south of CR 639 and north of SR 57 are designated Preservation Area (*Figure 6: Highlands Land Use Capability Zone Map*).

The legislation sets forth separate goals for the Preservation Area and the Planning Area, which are listed below. Natural resource protection, ground and surface water protection, historic preservation, farmland preservation, scenic and cultural resource protection, recreation and smart growth planning goals.

Highlands Preservation and Planning Area Goals

Section 10 of the legislation states the following (underlined emphasis added):

- a. The goal of the regional master plan with respect to the entire Highlands Region shall be to protect and enhance the significant values of the resources thereof in a manner which is consistent with the purposes and provisions of this act.
- b. The goals of the regional master plan with respect to the preservation area shall be to:
 - (1) protect, restore, and enhance the quality and quantity of surface and ground waters therein;
 - (2) preserve extensive and, to the maximum extent possible, contiguous areas of land in its natural state, thereby ensuring the continuation of a Highlands environment which contains the unique and significant natural, scenic, and other resources representative of the Highlands Region;
 - (3) protect the natural, scenic, and other resources of the Highlands Region, including but not limited to contiguous forests, wetlands, vegetated stream corridors, steep slopes, and critical habitat for fauna and flora;
 - (4) preserve farmland and historic sites and other historic resources;
 - (5) preserve outdoor recreation opportunities, including hunting and fishing, on publicly owned land;
 - (6) promote conservation of water resources;
 - (7) promote brownfield remediation and redevelopment;

Greenwich Township Farmland Preservation Plan

(8) promote compatible agricultural, horticultural, recreational, and cultural uses and opportunities within the framework of protecting the Highlands environment; and

(9) prohibit or limit to the maximum extent possible construction or development which is incompatible with preservation of this unique area.

c. The goals of the regional master plan with respect to the planning area shall be to:

(1) protect, restore, and enhance the quality and quantity of surface and ground waters therein;

(2) preserve to the maximum extent possible any environmentally sensitive lands and other lands needed for recreation and conservation purposes;

(3) protect and maintain the essential character of the Highlands environment;

(4) preserve farmland and historic sites and other historic resources;

(5) promote the continuation and expansion of agricultural, horticultural, recreational, and cultural uses and opportunities;

(6) preserve outdoor recreation opportunities, including hunting and fishing, on publicly owned land;

(7) promote conservation of water resources;

(8) promote brownfield remediation and redevelopment;

(9) encourage, consistent with the State Development and Redevelopment Plan and smart growth strategies and principles, appropriate patterns of compatible residential, commercial, and industrial development, redevelopment, and economic growth, in or adjacent to areas already utilized for such purposes, and discourage piecemeal, scattered, and inappropriate development, in order to accommodate local and regional growth and economic development in an orderly way while protecting the Highlands environment from the individual and cumulative adverse impacts thereof; and

(10) promote a sound, balanced transportation system that is consistent with smart growth strategies and principles and which preserves mobility in the Highlands Region.

Township's Perspectives on the Highlands Regional Plan

Greenwich Township is supportive of the goals of the Highlands Water Protection and Planning Act that pertain to the protection of water resources, preservation of environmental sensitive lands and the continuation of agricultural uses.

Greenwich Township also recognizes that consistency between local and regional planning efforts will only strengthen the effectiveness of the Township's farmland preservation program by creating greater continuity with other municipalities, government agencies, and nonprofit organizations working to protect and preserve

Greenwich Township Farmland Preservation Plan

farmland in Greenwich Township and the surrounding region. As such, Greenwich Township is supportive of a farmland preservation program that is compatible with the goals of the State Development and Redevelopment Plan as well as the Highlands Act.

The Township has already taken steps to update its Township Master Plan consistent with the State Development and Redevelopment Plan and the Highlands Act. The Township petitioned for Plan Conformance with the Highlands Regional Master Plan on December 8, 2009 and is currently waiting for the Highlands Consistency Recommendations Report. In 2006, the Townships Master Plan was revised to include a Conservation Plan Element that includes the following goals related to farmland preservation in the Township and are consistent with the goals, policies and objectives of the Highlands Regional Master Plan:

- Retain large contiguous tracts of agricultural lands and protect important farmland soils by discouraging conversion of these lands to non-agricultural uses
- Protect groundwater recharge areas by maintaining them in an undeveloped state
- Protect, restore and enhance the quality and quantity of surface and groundwater resources in the Township
- Establish zoning, design and performance standard that serve to protect agricultural, natural, historic and scenic resources
- Discourage sprawl through growth management techniques which include the protection of open space

In 2006 Greenwich Township was granted an MP3 grant from the NJ Highlands Council to conduct a case study in three specific areas:

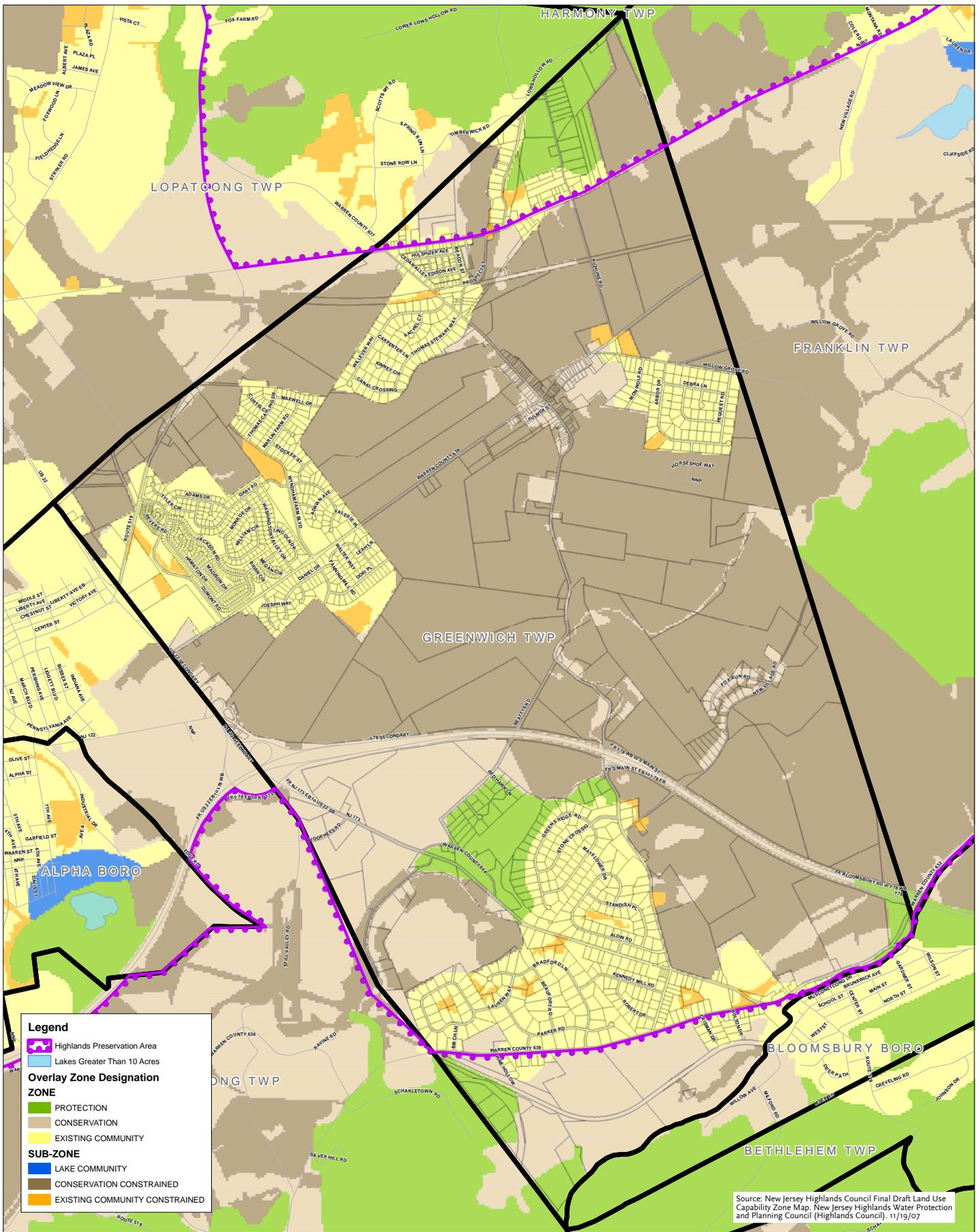
Task 1 – Environmental Protection / Growth Management Issues

Task 2 – Analyze affordable housing needs and develop strategies to provide affordable housing.

Task 3 – Agricultural Sustainability;

The Greenwich Township Planning Board developed a Technical Report which called for Agricultural Sustainability investigations and resource conservation related studies. After developing this report, the Greenwich Township Planning Board decided to include this report as an Appendix to the Land Use Plan Element of the 2006 Master Plan Update to supplement the findings and recommendations of the Land Use Plan and the underlying rationale for the Resource Conservation District that is designated in the master plan. The recommendations contained throughout that document, in part, provide a basis for implementing a land preservation / resource protection land use and zoning strategy, for a majority of the lands in the Township located within the Highlands Planning Area that are primarily farmland, and which remain in active cultivation.

Figure 6: New Jersey Highlands Land Use Capability Zone Map



Legend

- Highlands Preservation Area
- Lakes Greater Than 10 Acres

Overlay Zone Designation ZONE

- PROTECTION
- CONSERVATION
- EXISTING COMMUNITY

SUB-ZONE

- LAKE COMMUNITY
- CONSERVATION CONSTRAINED
- EXISTING COMMUNITY CONSTRAINED

Source: New Jersey Highlands Council Final Draft Land Use Capability Zone Map. New Jersey Highlands Water Protection and Planning Council (Highlands Council). 11/19/07



C. *Greenwich Township Master Plan – 2006*

The 2006 Greenwich Township Master Plan identifies farmland preservation as one of two fundamental local priorities in the Land Use Plan. The Master Plan's priorities are essentially to protect and retain farmland and preserve agricultural activities on a permanent basis; and maintain the open character of the land to ensure that groundwater reserves are maintained as a resource for existing agricultural land uses, as well as for regional potable water supply.

The following goals and objectives are found in the Greenwich Township's Land Use Plan and indicate the extent to which the Land Use Plan supports and promote agriculture as a business:

- To establish farmland preservation and the retention of priority agricultural soils as the highest land use priority.
- Identify land use strategies that will permanently retain large contiguous tracts of farmland to ensure the survival of this valuable natural resource and farming as a way of life in Greenwich Township.
- Coordinate permitted agricultural activities with the need to limit impervious coverage to maintain maximum groundwater recharge of groundwater aquifers.
- Identify a comprehensive strategy for assisting individual landowners in retaining agriculturally viable farmland and for encouraging innovative economically viable agricultural uses that are compatible with the Township's existing neighborhoods and developed areas.
- Establish a series of farm compatible land use options including home-based businesses options and agricultural related land uses, such as farm stands, that could assist in supplementing family farm income.
- Maintain a municipal farmland preservation program that will build upon State Agriculture Development Board and County Agriculture Development Board development easement purchase programs and prior public investments in farmland preservation.
- Discourage the conversion of productive agricultural lands to non-agricultural uses and to preserve productive soils, which are under threat of development.
- Establish farmland and environmentally sensitive land protection strategies through agricultural protection and resource conservation zoning techniques that will retain these natural resources to the greatest extent achievable, while at the same time providing limited opportunities growth in areas of the Township with available infrastructure that can support desired levels of development.
- Establish performance and design standards that will ensure that the greatest amount of farmland will be preserved as part of a limited growth management strategy.

Greenwich Township Farmland Preservation Plan

- Discourage sprawl development patterns by managing the arrangement of growth through zoning techniques such as mandatory clustering, lot averaging, open lands zoning, noncontiguous clustering, and through the use of other tools and regulatory techniques.
- Establish design standards to maintain and reinforce rural character and the protection of scenic resources, including important scenic viewsheds and areas of exceptional aesthetic value.

The Township designated a Resource Conservation District (RCD) in the Land Use Plan, which is described, in part, as follows:

- The Resource Conservation District designation identified for Greenwich Township in this plan, is not intended to slow the pace of development, but rather maintain large contiguous areas of farmland for continued agricultural use, protect existing critical habitat and an exceptional groundwater resource for the survival of these resources into the long-term future.
- Whether lots clustering, open lands, lot-size averaging or a hybrid of the three are utilized, the primary objective to maintain at least 80% open lands should be maintained. In addition to the 80% open lands requirement, the Resource Conservation District zone should require that not less than 50% of the ‘unconstrained land’ of a tract is included in the 80% open lands area. Unconstrained land is defined as land that is not encumbered by wetlands, transition areas, state open waters, floodplain areas, riparian corridors, Category 1 (C-1) buffer areas, areas, steep slope areas in excess of 20%, existing easement areas, and roads and Highlands special or critical resource protection areas.

Under the discussion of the RCD, the Land Use Plan includes the following policies for retaining farmland and agriculture as an industry in Greenwich Township:

“The RCD permits conventional single-family residential dwellings at a density of .05 dwelling units per acre on lots of one (1) dwelling units per 20-acres. Development options including cluster arrangement, lot size averaging and open lands zoning are permitted at a maximum density of .1 residential dwelling units per acres, provided that not less than 80% of the total tract area is maintained as open lands, and deed restricted against future subdivision so that open lands are maintained for agriculture, and resource conservation purposes. Minimum lot sizes of 81,000 sq. ft. are permitted in conjunction with these development options.

The Land Use Plan calls for the following permitted uses in the RCD:

- Farms. See Right-to-Farm Ordinance.

Greenwich Township Farmland Preservation Plan

- Single-family detached dwellings.
- Public recreation and small-scale community facilities, in conjunction with strict impervious coverage standards for the RCD.
- Public parks and playgrounds, but not including amusement parks or similar uses which detract from the natural rural characteristics of the district or are operated for profit.
- Agricultural uses.
- The keeping of livestock.
- Harvesting of wild crops, such as berries and tree fruits.
- Repair and maintenance of farm buildings and machinery located and used on the same premises, including required workshops.
- Conservation areas and public purpose areas.
- Conventional residential development in accordance with the standards identified above;
- Development options such as clustering, lot-size averaging, open lands zoning, in accordance with standards for optional development identified above.
- Horticulture, forest management, nurseries, arboretums.
- Home occupation accessory uses, provided that the home occupation is limited to not more than 20% of the floor area of the dwelling in which it is located, and further that all vehicles are stored in garages.

One of the primary objectives for the Resource Conservation District is to limit impervious coverage to the extent achievable in order to maximize groundwater recharge, maintain prime farmland and at the same time provide for permitted uses, such as farming, that rely upon open lands. Therefore, impervious coverage in the RCD should not exceed 5% of the land. By limiting impervious coverage for permitted uses to the minimum necessary, natural resource protection goals may be achieved. Uses requiring a greater area of impervious coverage than 5% should not be permitted in the RCD, but rather should be located within the Township's zoning districts where development at greater intensities is permitted, such as the B-1, B-2, RO, & ROM zones. Therefore, the RCD does not permit uses such as public buildings, government and civic uses, houses of worship, as well as office, research, business and employment generating uses that require building footprints and associated parking areas that would result in increased impervious coverage in excess of the allowable 5%."

Thus, it is clear that Greenwich Township's Land Use Plan clearly establishes comprehensive subdivision policies to retain farmland; and identifies a range of permitted uses that foster the survival of the agricultural industry and the continuation of farming as the primary land use in the RCD zone. The Township's RCD ordinance was implemented according to these policies. The Township's Land Use Plan policies and RCD ordinance build upon the Township's right-to-farm ordinance, which predates the adoption of the Land Use

Greenwich Township Farmland Preservation Plan

Plan, and enactment of RCD ordinance provisions. The Master Plan, the RCD Ordinance and the Township’s right-to-Farm Ordinance support and promote agriculture as a business.

D. Current Land Use and Trends

Existing Land Use

In 1980, Greenwich Township’s population stood at 1,738. In 1990, the Census reported a population of 1,899 for the Township. The 2000 Census identified a population of 4,365 persons and the NJ State Data Center estimated the population in 2004 at 5,223 accounting for an increase of 858 persons or an additional 16% over 2000. Between 1980 and 2004, the Township’s population grew by over 300%. This dramatic increase in population resulted in a loss of farmland as witnessed in the Land Use/Land Cover data (Table 11). See Figures 7 & 4 *Existing Land Use Map and 2002 Land Use Land Cover Map*.

Table 11: 1986 to 2002 Land Use/Land Cover Comparison

| Land Use | 1986 | | 1995 | | 2002 | | % Change |
|--------------------|--------------|-------------|--------------|------------|--------------|------------|----------|
| | Acres | % | Acres | % | Acres | % | |
| Agriculture | 4,723 | 71% | 3,756 | 56% | 3,402 | 51% | -28 |
| Barren Land | 1 | 0% | 228 | 3% | 124 | 2% | 12,300 |
| Forest | 897 | 13% | 1,024 | 15% | 1,040 | 16% | 16 |
| Urban | 847 | 13% | 1,471 | 22% | 1,919 | 29% | 127 |
| Water | 43 | 1% | 45 | 1% | 44 | 1% | 2 |
| Wetlands | 172 | 3% | 157 | 2% | 153 | 2% | -11 |
| TOTAL | 6,682 | 100% | 6,682 | 100 | 6,682 | 100 | |

As seen above, over 1,000 acres were converted to urban development over the last 20 years with a loss of over 1,300 acres of agricultural area. Barren land, typically indicative of cleared land for development, shows an additional 124 acres of cleared area. It should be noted the Land Use Land Cover data above for agriculture acres (3,402) differs from the mapped acreage based on soils (3,264) found on page 5. This difference is most likely due to the inclusion of modified agricultural wetlands in the soils in production acreage data.

Despite the loss of farmland to residential development and the resulting population growth cited above, land use in Greenwich remains predominantly agricultural. Table 11 shows that the majority of land cover, 51%, is still devoted to agriculture. However, this is not the complete picture for lands devoted to agriculture in the Township. The land use/land cover data cited above is less than

Greenwich Township Farmland Preservation Plan

the entire acreage of the Township that is devoted to farm qualified uses, which as of 2008 is 3,742 acres of qualified farmland. The 3,742 acres of qualified farmland accounts for 56% of the land area of Greenwich Township devoted to some form of agriculture.

Development Pressure, Capacity for Growth

Greenwich Township offers its residents an excellent quality of life, which makes the Township very inviting community in which to live. Major highways Rt. 22, Rt. 78, and Rt. 57 provide excellent commuter access to the Township and employment centers to the west. Sewer service is available from Phillipsburg and water is abundantly available from the vast aquifer below the community. Protecting the Townships precious agricultural resources and groundwater resources is the highest local land use priority.

The Township received a MP3 Planning Grant to investigate and make recommendations for sustainable agriculture in Greenwich.

E. Sewer Service Areas

Greenwich Township's water and wastewater disposal are primarily serviced by private wells and septic systems. The only developed sewer service areas are the more densely populated west portion of the Township including the neighborhoods of Greenwich Chase and Wyndham Farms and adjoining non-residential sites shopping centers oriented along US Route 22 (see *Figure 8: Sewer Service Area Map*). An additional undeveloped portion of the sewer service area exists along the Dumont Road Extension between Wyndham Farms and I-78, which also includes the lands lying south of I-78 bound by Beatty's Road to the east, SR 173 to the south and west, and I-78 on the north. These lands are currently farmed, but are not included in the Township's Farmland Preservation PIG Project Area. Public water supply areas include the Township's residential neighborhoods, including Greenwich Chase, Wyndham Farms, Stewartsville, and the suburban residential developments north and south of Stewartsville. None of the Township's proposed farmland preservation PIG project area includes any sewer service area.

Greenwich Township Farmland Preservation Plan

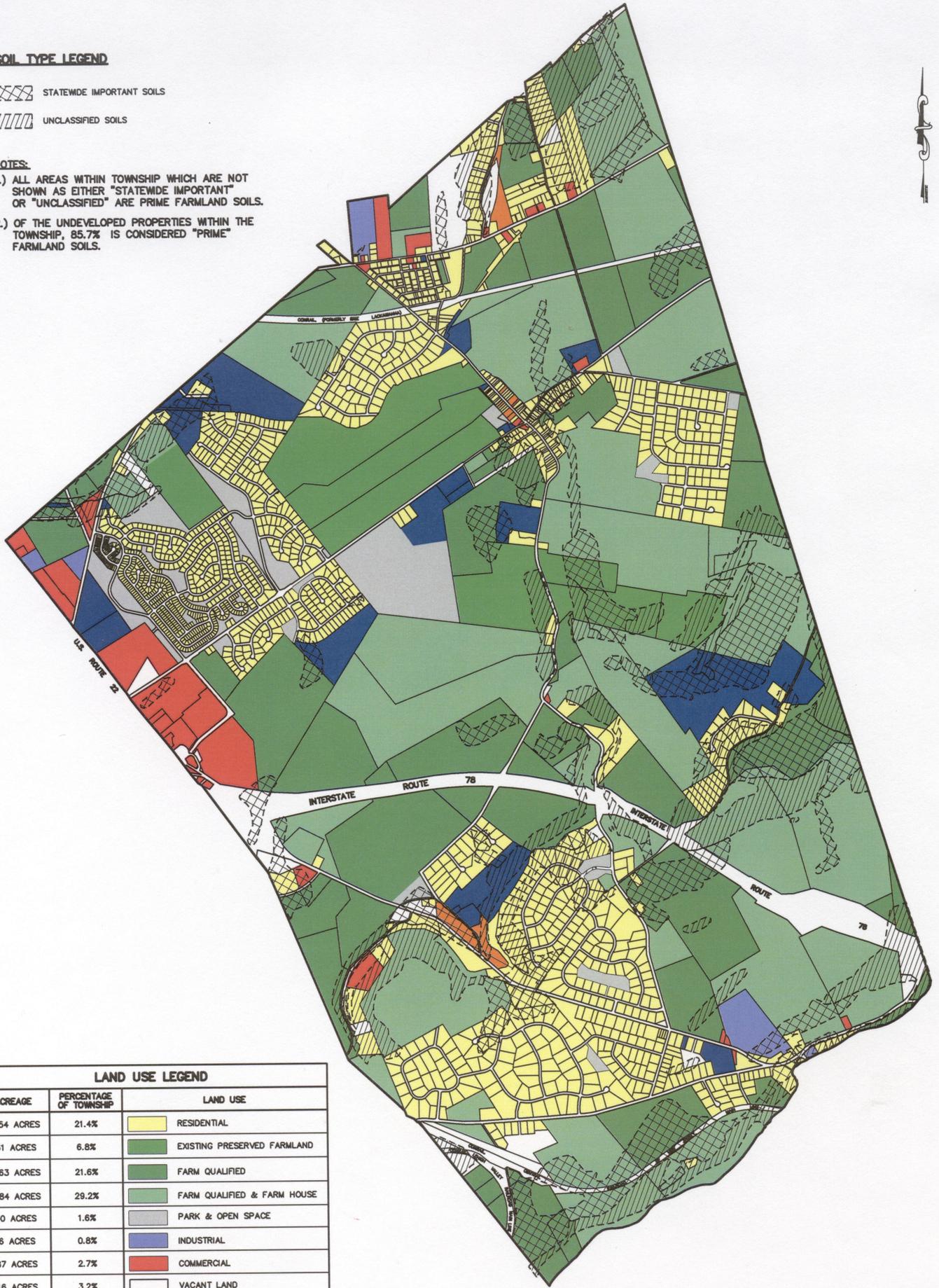
Figure 7: Existing land Use Map

SOIL TYPE LEGEND

-  STATEWIDE IMPORTANT SOILS
-  UNCLASSIFIED SOILS

NOTES:

- 1.) ALL AREAS WITHIN TOWNSHIP WHICH ARE NOT SHOWN AS EITHER "STATEWIDE IMPORTANT" OR "UNCLASSIFIED" ARE PRIME FARMLAND SOILS.
- 2.) OF THE UNDEVELOPED PROPERTIES WITHIN THE TOWNSHIP, 85.7% IS CONSIDERED "PRIME" FARMLAND SOILS.



LAND USE LEGEND

| ACREAGE | PERCENTAGE OF TOWNSHIP | LAND USE |
|-------------|------------------------|---|
| 1,454 ACRES | 21.4% |  RESIDENTIAL |
| 461 ACRES | 6.8% |  EXISTING PRESERVED FARMLAND |
| 1,463 ACRES | 21.6% |  FARM QUALIFIED |
| 1,984 ACRES | 29.2% |  FARM QUALIFIED & FARM HOUSE |
| 110 ACRES | 1.6% |  PARK & OPEN SPACE |
| 56 ACRES | 0.8% |  INDUSTRIAL |
| 187 ACRES | 2.7% |  COMMERCIAL |
| 216 ACRES | 3.2% |  VACANT LAND |
| 323 ACRES | 4.8% |  PUBLIC/QUASI PUBLIC |
| 25 ACRES | 0.4% |  RELIGIOUS |

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CERTIFICATE OF AUTHORIZATION NO. 2446292000

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MICHAEL S. FINELLI, P.E.
N.J. Professional Engineer Lic. No. 33288

EXISTING LAND USE MAP

GREENWICH TOWNSHIP
 WARREN COUNTY, NEW JERSEY

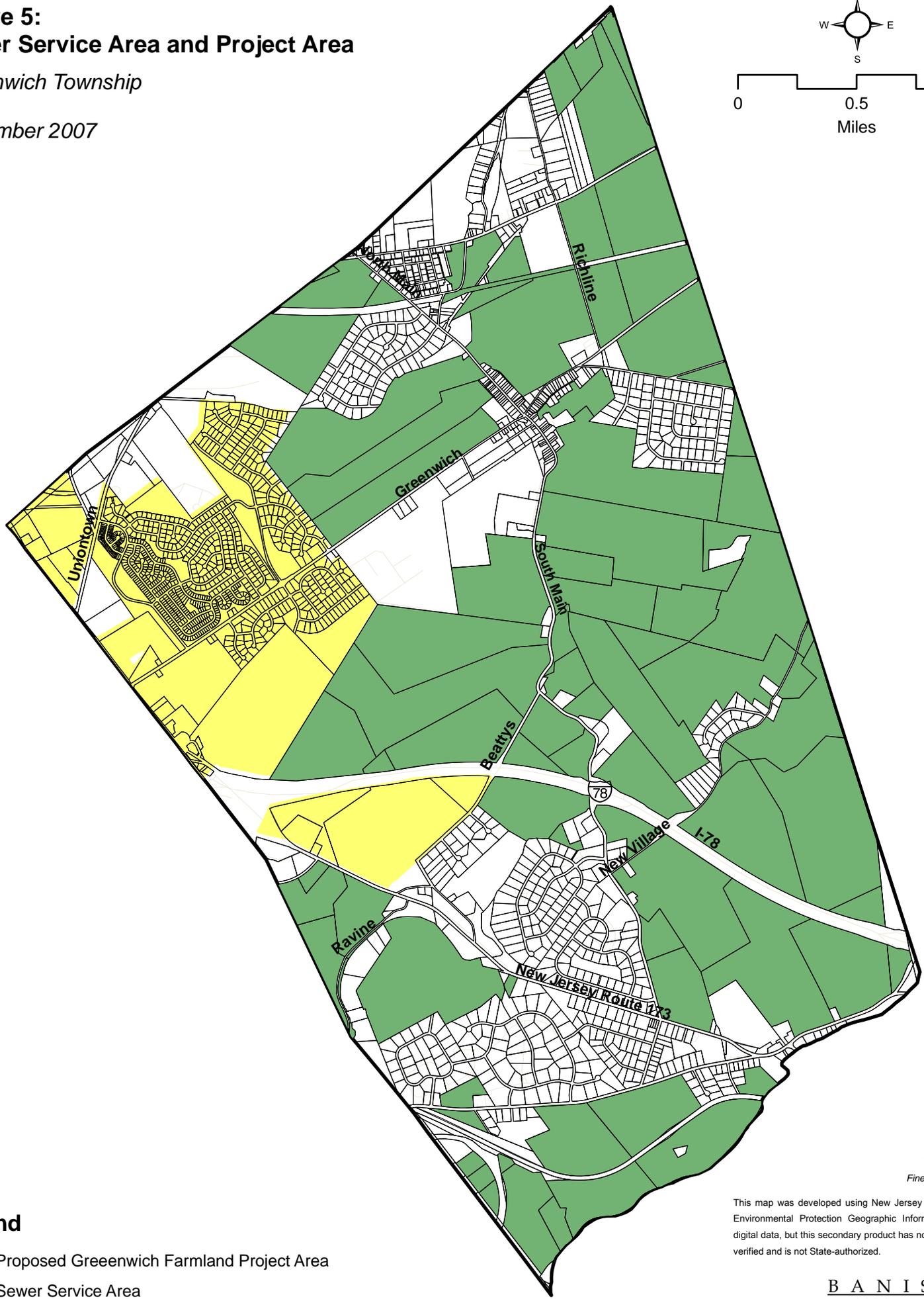
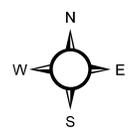
| | | |
|-----------------------|------------------|-----------------|
| DATE: 4/28/04 | SCALE: 1" = 800' | PROJECT NUMBER: |
| DRAWN BY/CHKD BY: JED | FIELD BOOK: | GRAPHIC: |
| SHEET: 1 of 1 | | |

Figure 8: Sewer Service Area Map

**Figure 5:
Sewer Service Area and Project Area**

Greenwich Township

December 2007



Legend

-  Proposed Greenwich Farmland Project Area
-  Sewer Service Area

*Data Sources:
NJDEP
Finelli Engineering*

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

F. Greenwich Master Plan and Zoning Overview

1. General Lot Size Categories and Distribution throughout the Township

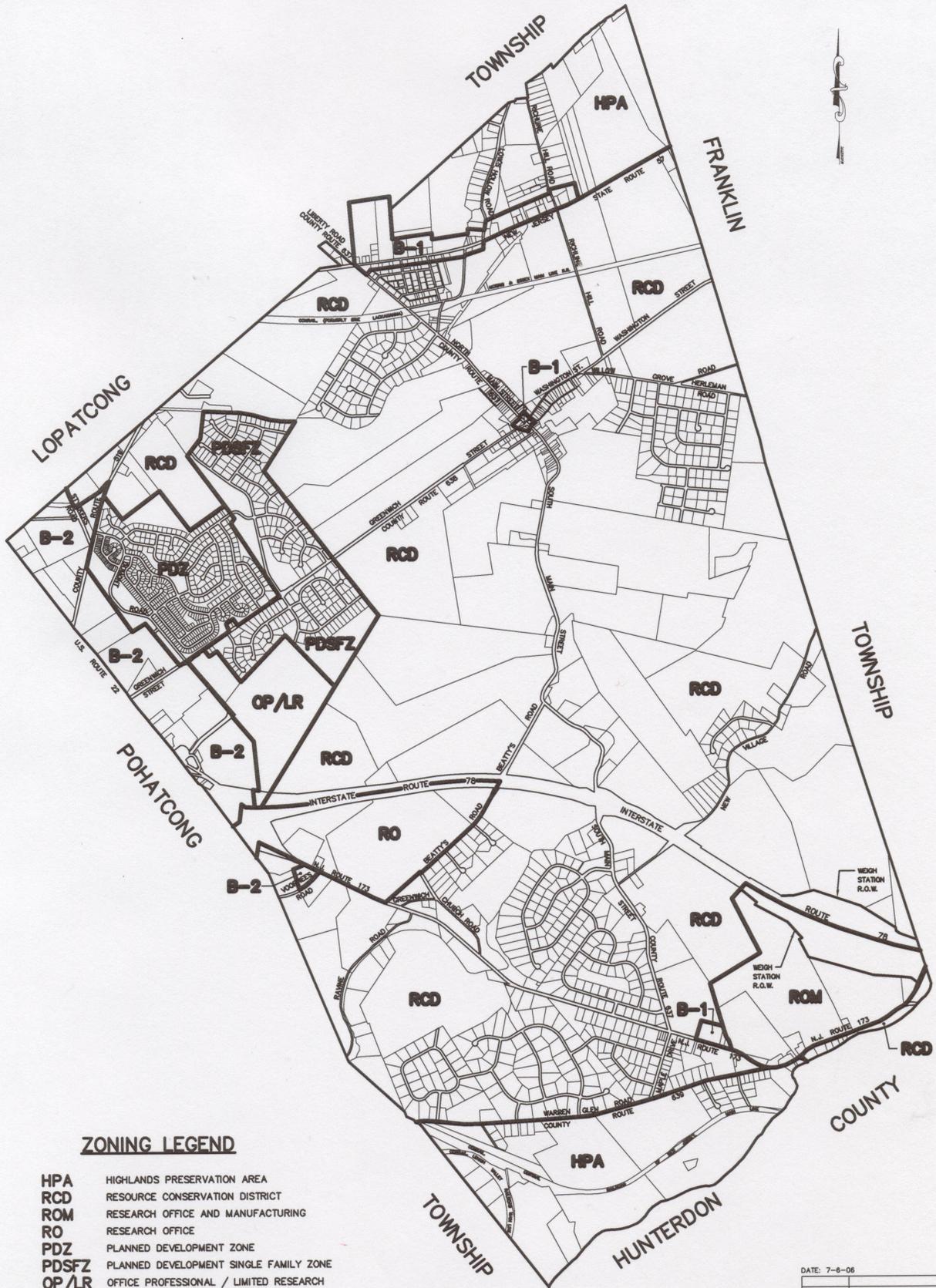
The distribution of lot sizes throughout the Township is identified in Table 12. The same general view of the Township is again evident with the larger lots located in the central and eastern portions of the Township with the major subdivisions located to the west and southern areas and Stewartsville. See Zoning Map on following page. As seen on the following table, the majority of the Township’s land area is in the category of lots greater than 10 acres with 72% (4,650 acres) of the total land area.

Table 12: Lot Size Comparison

| Category | Number of Lots | Total Acres | % of Township Area |
|---|----------------|---------------|--------------------|
| Lots less than 1 acre - septic | 522 | 298 | 5% |
| Lots less than 1 acre – Public Sewer | 833 | 269 | 4% |
| Lots Between 1 and 5 acres | 508 | 839 | 13% |
| Lots between 5 and 10 acres | 59 | 417 | 6% |
| Lots greater than 10 acres | 97 | 4,650 | 72% |
| Total | 2,019 | 6,473* | 100 |

*Tax record data includes only the area of the parcel, which does not include infrastructure such as roadways and railroad areas. Therefore, the acreage listed above using tax records totals less than the total land area of the Township, which is 6,682 acres, as measured from geographical information system (GIS) data for Greenwich.

Figure 9: Zoning Map



ZONING LEGEND

- HPA** HIGHLANDS PRESERVATION AREA
- RCD** RESOURCE CONSERVATION DISTRICT
- ROM** RESEARCH OFFICE AND MANUFACTURING
- RO** RESEARCH OFFICE
- PDZ** PLANNED DEVELOPMENT ZONE
- PDSFZ** PLANNED DEVELOPMENT SINGLE FAMILY ZONE
- OP/LR** OFFICE PROFESSIONAL / LIMITED RESEARCH
- B-1** NEIGHBORHOOD BUSINESS ZONE
- B-2** HIGHWAY BUSINESS ZONE
- ZONE BOUNDARY LINE

DATE: 7-8-06

| |
|--|
| |
| |
| |
| |

ZONING MAP

TOWNSHIP OF GREENWICH
WARREN COUNTY,
NEW JERSEY

FINELLI
CONSULTING ENGINEERS
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2. Innovative Planning Techniques

Cluster Zoning

The Township does not have a cluster zoning ordinance in place. However the RC district includes a development option that allows for Lot Averaging (see below for full details). This provision results in the preservation of large areas of open space will minimizing the negative impact of development by utilizing efficient land use.

Non-contiguous cluster zoning

The Township does not currently have a non-contiguous cluster zoning provision. The Township's densely developed western area and Stewartsville does not lend itself naturally to a non-contiguous zoning provision. The remaining agricultural portions of the Township, where large contiguous farm and open space areas exist, would not benefit greatly from this type of provision as ownership often fall in a contiguous manner.

Lot Averaging

As mentioned in the prior section III-C, the Township has created a Resource Conservation District that included development options for allowing a lot-averaging development opportunity. The goal of this option is to allow development to be placed in an efficient manner that is sensitive to the natural resources on site and the impact of development on farmland. The Resource Conservation District intent is to maintain large contiguous areas of farmland for agricultural use while allowing for development to still occur.

The RCD development option has a maximum permitted density of 0.1 units per gross acre with a minimum lot size of 2 acres. A lot averaging subdivision is permitted when the subdivision results in at least 50 percent of the lots having a minimum lot area of 2 acres and provide a minimum 80% open lands is provided. Site design for the lot averaging option should shift more intensive development toward lands that can best support the installation of the dwelling, well, septic system and associated site improvements and to preserve areas that have sensitive environmental features (i.e., water bodies, floodplains, steep slopes, shallow bedrock, aquifer recharge areas, seasonal high water table, etc.) or contain active or prime agricultural lands or forested areas.

Greenwich Township Farmland Preservation Plan

Transfer of Development Rights

The Township currently does not have a TDR program. However, the Township has routinely investigated the option that will be available through the Highlands TDR program as well as creating a municipal level TDR program. To date, the Township has not identified a feasible TDR program but continues to investigate the possibility.

Use of Mandatory vs. Voluntary Options

The Township's RC district allows for the voluntary option of utilizing the Lot Averaging Provisions. While developers are required to use the regulations set forth in the RC district, which has the purpose of reducing sprawl and associated negative impacts, the voluntary option of using the lot averaging option creates preservation of open space areas while permitting for appropriate development.

3. Description of Buffer Requirements

The Township passed Ordinance 2005-5 which requires enhanced buffering standards where non residential development adjoins residential uses or zones. Currently, the Township does not have an enhanced buffering standard to separate farmland from new residential development. The agricultural advisory committee will consider proposing enhanced buffer standards to the Planning Board and Governing Body.

4. Discussion of Development Pressures and Land Value Trends

As discussed previously, the population growth that the Township witnessed in the 1990's placed prime farmland in the path of development pressures and increased the value of flat cleared farmland which still exists today. This change can be seen in the following table. Table 13 shows changes in over all land values and Table 14 and the associated graph illustrate the trend in easement values over the 2002- 2010 time period. In general land values as well as easement values increased over the time period. The drop in easement value for the farm preserved in 2010 could be indicative of lesser quality farmland and/or lower appraisal value due to the economic down turn.

Greenwich Township Farmland Preservation Plan

Table 13: Comparison of Historic Tax Data 1998 & 2004 Property Value Classification

| Classification | 1998 | 2004 | 6-year Change in Value | 6-year % Change in Value |
|-------------------------------|-------------|-------------|-------------------------------|---------------------------------|
| Vacant Land Value | 15,154,200 | 3,875,000 | -11,279,200 | -74% |
| Residential Land Value | 172,875,100 | 461,184,690 | 288,309,590 | 166% |
| Farmland Value | 8,922,300 | 10,865,400 | 1,943,100 | 22% |
| Farmstead Value | 1,595,440 | 2,412,000 | 816,560 | 51% |
| Commercial Value | 24,295,600 | 77,021,200 | 52,725,600 | 217% |
| Industrial Value | 8,761,350 | 14,709,000 | 5,947,650 | 67% |
| Total Value | 231,603,990 | 570,067,290 | 338,463,300 | 246% |

SOURCE: NJ Department of Community Affairs, Division of Local Government Services, Property Tax Information, Historical Data for 1998 & 2004

The Township’s population between 2000 and 2004 grew from 4,365 to 5,223, or 20% in just four years. Of particular concern is the modest increase in farmland and farmstead property value (\$2,759,660) compared to a substantial increase of residential property valuation, which grew by \$288,309,590, or more than 10 times that of the farmland and farmstead parcels. It appears that the loss in farmland and farmsteads translates into growth in the residential category, which brings with it not just the loss of irreplaceable agricultural resources, but also results in a substantial increase in municipal service costs that result in a financial burden to all taxpayers. Table 14 below illustrates the trend in farmland easement values between 2002 and 2010.

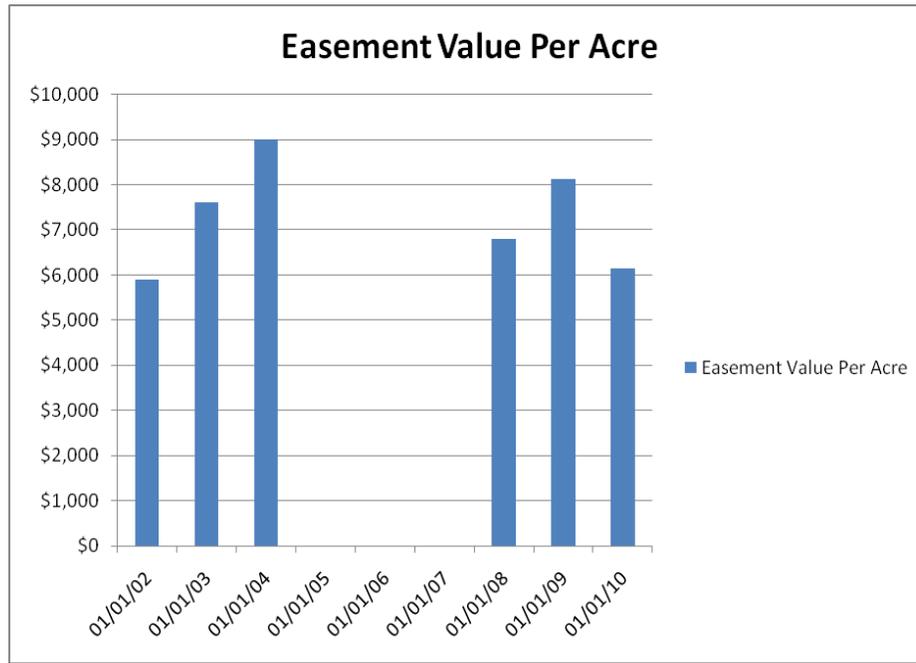
The following table illustrates residential building permits issued between 2000-2009. The rise in permits in the years 2000-2003 correspond to the settlement of a COAH dispute requiring residential inclusionary development.

Residential Building Permits 2000-2009

| 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007,8,9 | Total |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------|--------------|
| 129 | 83 | 39 | 15 | 19 | 10 | 2 | 0 | 295 |

Table 14: Land Value/Easement Value trends 2002-2010

| Easement Value Per Acre | Date of Purchase |
|-------------------------|------------------|
| \$5,900 | 05/03/02 |
| \$5,541 | 08/02/02 |
| \$7,600 | 07/01/03 |
| \$7,600 | 12/16/03 |
| \$9,000 | 08/04/04 |
| \$6,800 | 01/23/08 |
| \$8,134 | 12/09/09 |
| \$6,134 | 07/22/10 |



G. TDR Opportunities

Transfer of Development Rights (TDR) is a planning tool that allows the movement of development rights from an area where development is not suitable (sending area) to an area where development is more compatible (receiving area). TDR programs allow land owners to profit from the sale of their land while moving that development to more suitable areas. The goal of a TDR program is to channel development away from valuable resource areas to areas where development is more suitable.

Greenwich Township Farmland Preservation Plan

There are currently two TDR programs in place on the State level, through the State TDR Program and through the Highlands regulations. The Warren County Farmland Plan states that the New Jersey State Transfer of Development Rights Act (*N.J.S.A. 40:55D-140*) authorizes the transfer of development rights by municipalities and outlines procedures to adopt or amend a TDR ordinance. The New Jersey Highlands Council is currently establishing a regional TDR program that will be open to all Warren County municipalities. Through the Highlands program, landowners may sell the development rights on their lands at pre-Highlands Act prices to a Highlands TDR Bank, which will then allocate them to voluntarily designated receiving areas throughout the seven-county region.

As mentioned previously, the Township continues to investigate the possibility of creating a TDR program but to date has not found an appropriate level on which to create a TDR program.

IV. Greenwich Township's Plan to Preserve Farmland

A. Warren County Agricultural Development Areas

Warren CADB has updated their ADA designating land capable of supporting agricultural and excluding those lands that are protected as public open space, developed areas, and land contained within the developed Boroughs and Towns located within the County. Utilizing the state's regulatory criteria for designating ADA and existing farmland assessment data, the County designated an ADA on a county-wide basis that does not exceed 90% of the County's agricultural land base. Overall, there are 113,191 acres of farm assessed parcels in Warren County. Of this, 101,872 acres of farm assessed land is included within the ADA, or 82% of Warren County is within the proposed ADA. Inclusion within the County ADA is required for participation in most of the farmland preservation programs.

County Criteria:

- Land is currently in agricultural production or has strong potential for agricultural production or is farm assessed through a woodland management plan.
- Agriculture is the preferred, but not necessarily the exclusive use.
- Agriculture is a use permitted by current municipal zoning ordinance or is allowed as a non-conforming use.

Description of the Warren County ADA

The proposed ADA for Warren County includes productive agricultural lands, soils, and preserved farms throughout the County. In general, it excludes publicly preserved open space and populous regions of Warren County.

Greenwich Township Farmland Preservation Plan

Areas *excluded* from the Warren County

ADA in their entirety include:

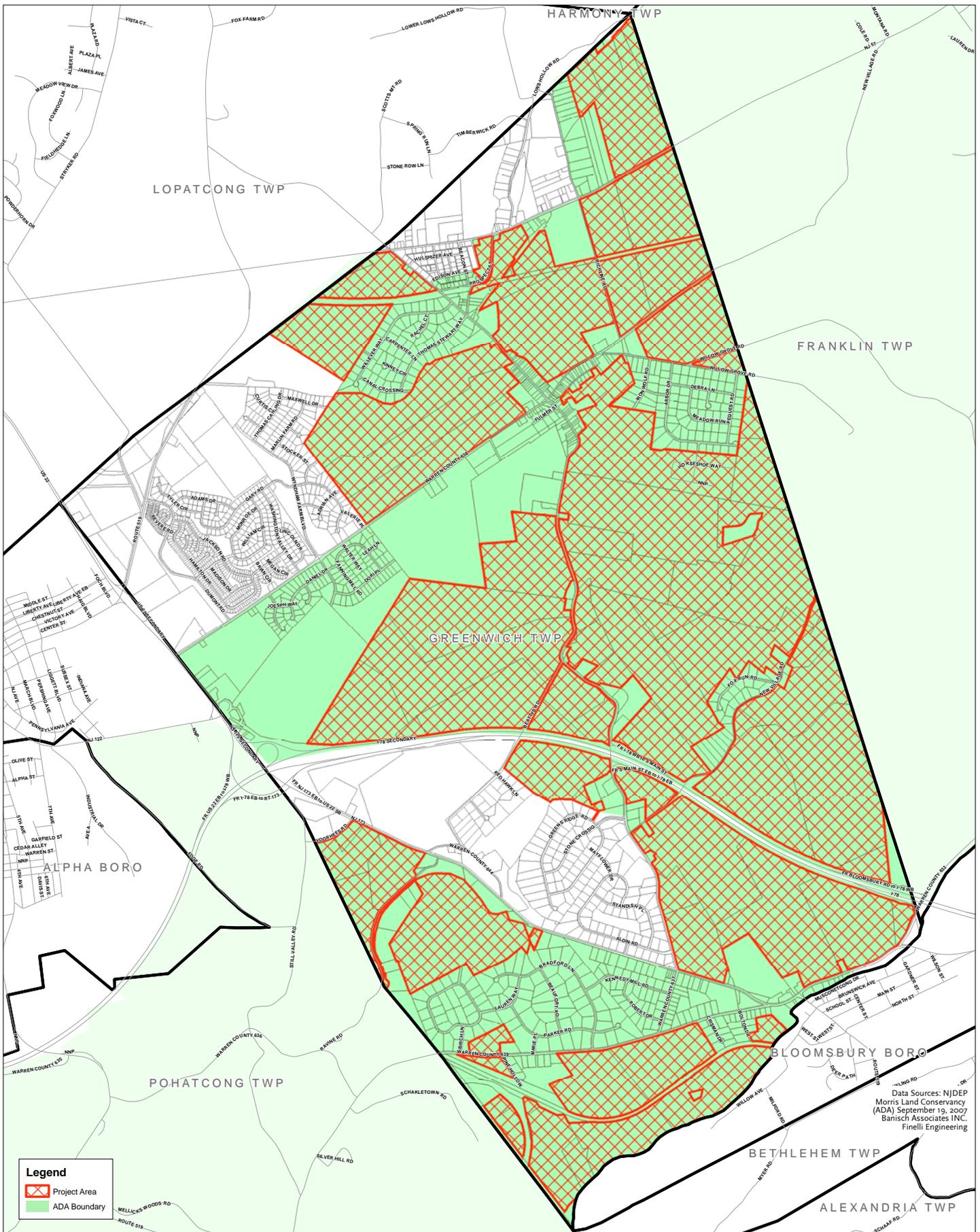
- 1) Phillipsburg
- 2) Merrill Creek Reservoir
- 3) Belvidere
- 4) Washington Borough
- 5) Hackettstown
- 6) Lopatcong
- 7) Pequest Wildlife Management Area (WMA)
- 8) Jenny Jump State Forest
- 9) Oxford Township

Any landowner excluded from the ADA may petition the CADB for inclusion. A landowner with property not targeted by the Warren CADB may apply to the program and will be considered if the land meets SADC minimum standards and if reasonable evidence can be provided to update GIS information regarding tillable acreage.

A map of the Greenwich Township section of the *Warren County ADA* is included as Figure 10. A map of the *Warren Count ADA and Warren County Project Area* are included as Figures 11 and 12.

Greenwich Township Farmland Preservation Plan

Figure 10: Warren County ADA Map of Greenwich



FARMLAND PRESERVATION PLAN

Proposed Project Area with ADA Boundary

Greenwich Township, Warren County, NJ April 2008

800 400 0 800 1,600 2,400 Feet



Clarke Caton Hintz

Architects

Planners

Landscape Architects

Figure 11: Warren County ADA Map entire County

Agricultural Development Area

Warren County, New Jersey

- Agricultural Development Area
- Preserved Farmland
- Farm Assessed Property (Class 3A and 3B)
- Preserved Open Space
- Land Parcels
- Municipal Boundaries
- Rivers/Streams
- Water Body

Towns enrolled in the Municipal PIG program are noted on the map in "purple"

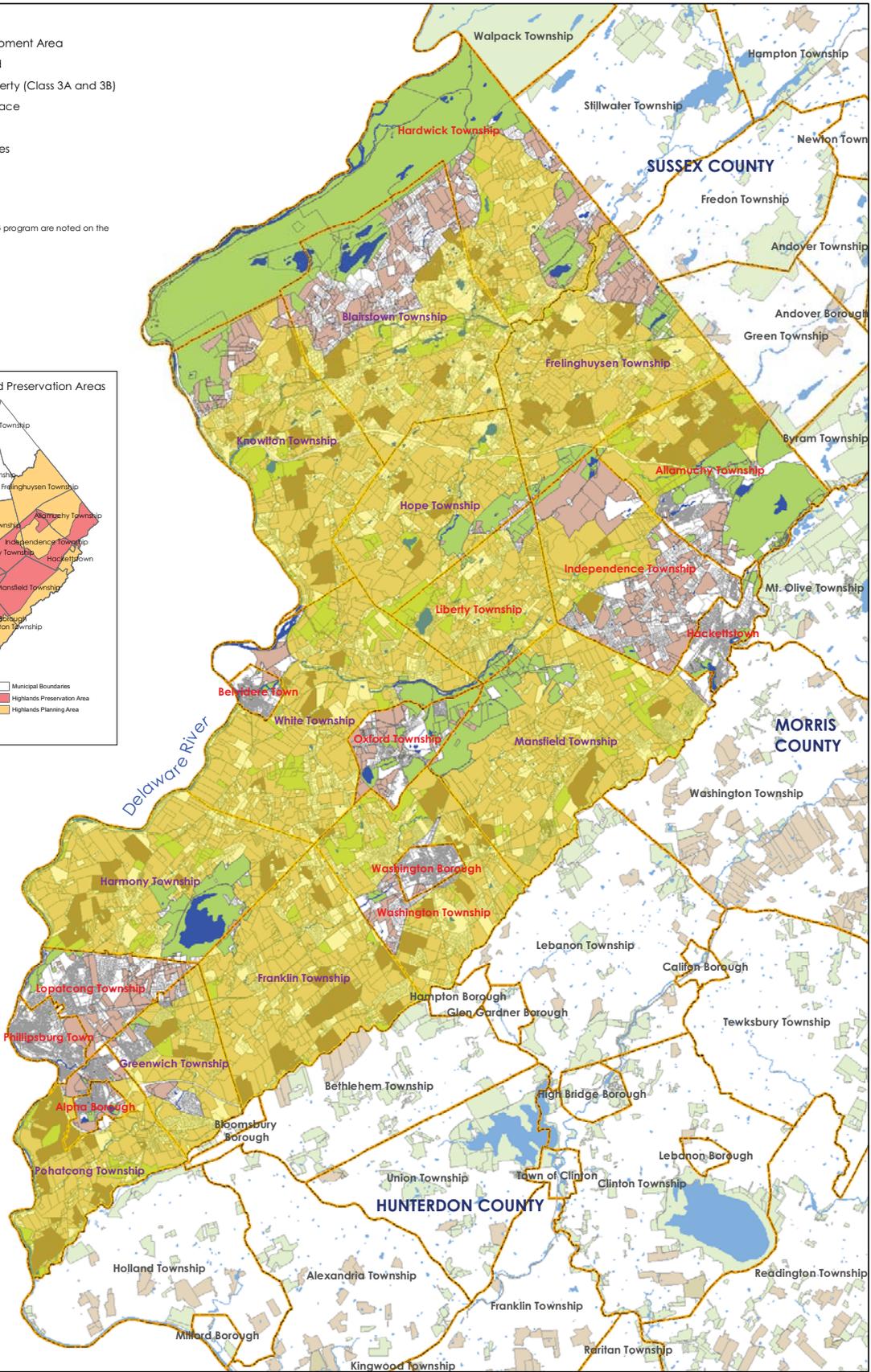
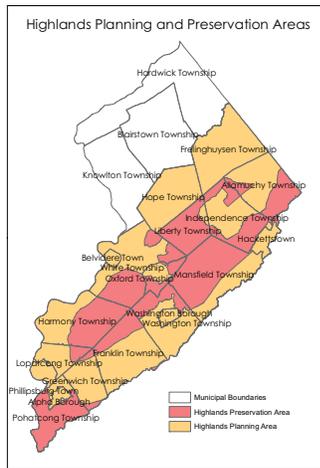


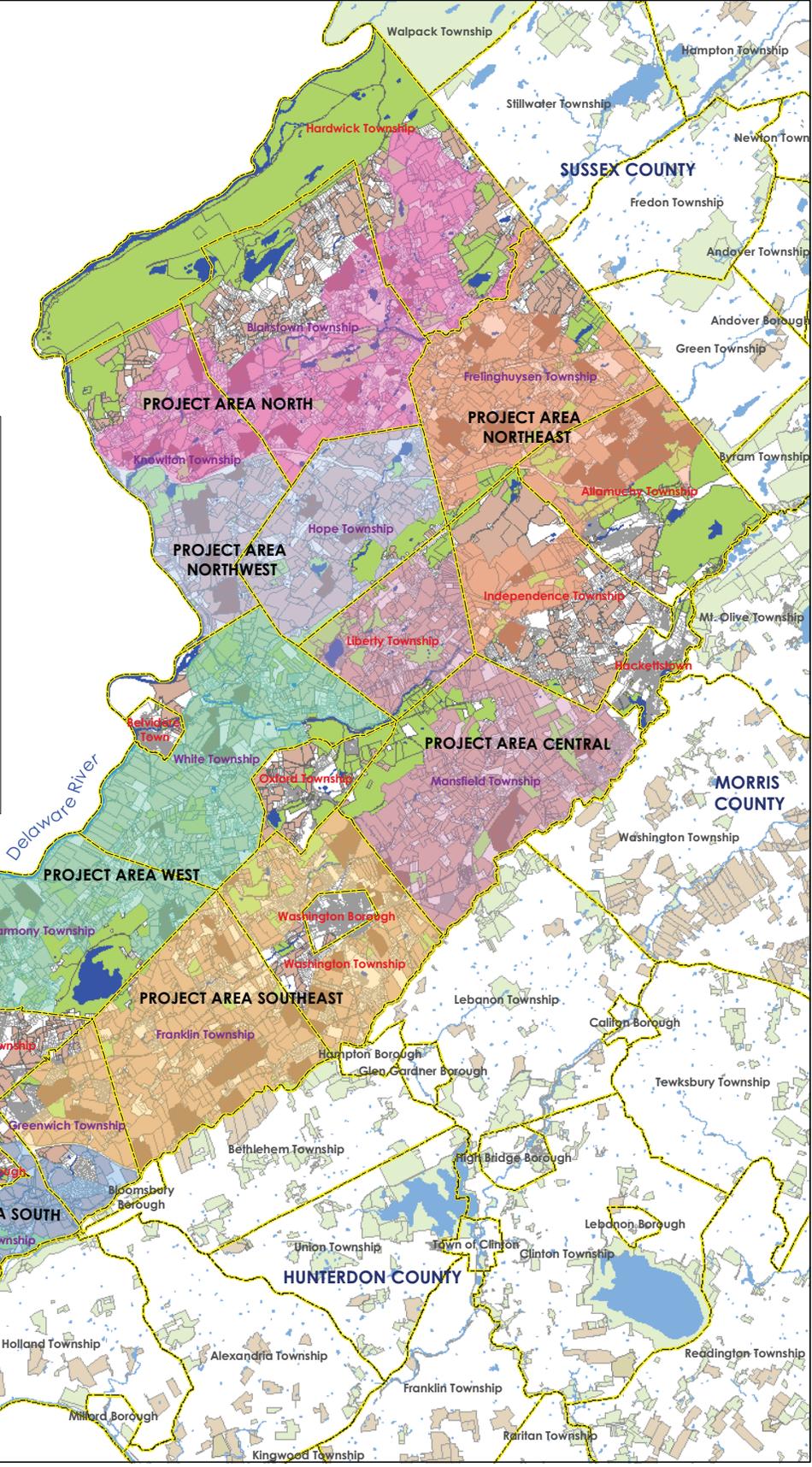
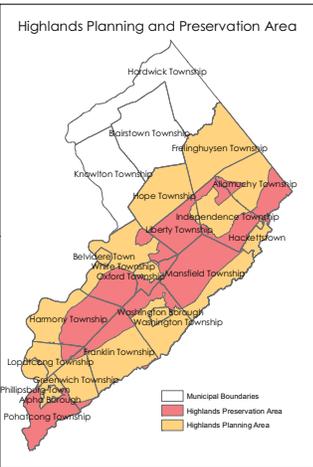
Figure 12: Warren CADB Project Areas

Project Areas

Warren County, New Jersey

- Project Area North
- Project Area Northeast
- Project Area Northwest
- Project Area West
- Project Area Central
- Project Area Southeast
- Project Area South
- Preserved Farmland
- Farm Assessed Property (Class 3A and 3B)
- Preserved Open Space
- Land Parcels
- Municipal Boundaries
- Rivers/Streams
- Water Body

Towns enrolled in the Municipal PIG program are noted on the map in "purple"



MORRIS LAND CONSERVANCY
 ARESTY MAPPING CENTER
 19 Boonton Ave
 Boonton, NJ 07005

Map Prepared November 13, 2007

Data Sources: NJ DEP, County of Warren Office of GIS Management, County of Sussex Office of GIS Management, County of Morris Department of Planning, Development and Technology, County of Hunterdon Office of GIS

This map was developed using New Jersey Department of Environmental Protection Geographic Information System data, and the secondary products have not been verified by the NJ DEP and is not state authorized.

This map is to be used solely for planning purposes, and does not take the place of a survey.



B. Greenwich Township Preserved Farmland

Greenwich Township currently has 720.04 acres of preserved farmland. As highlighted in Table 15, the Township has used a variety of methods to preserve farmland, each of which are described below.

Table 15: Preserved Farmland in Greenwich Township

| Farm | Block; Lot | Acres | Program |
|------------------------------|-----------------------|---------------|----------------------------------|
| Hamlin | 20; 18 | 87.00 | Municipal PIG |
| Oberly | 20; 8, 24 26; 27 | 128.38 | County Easement Purchase |
| Healy | 20; 23 | 46.50 | SADC Direct Easement Purchase |
| Graham | 23; 10, | 104.84 | County Easement Purchase |
| Santini | 23; 31 | 70.50 | County Easement Purchase |
| Rayna | 23; 32 | 73.00 | Municipal PIG |
| Jayne Investments | 40; 2 41; 1, 14 | 39.02 | SADC Fee Simple |
| Schuster | 44;5 | 53.88 | County PIG |
| Slack | 41;5 | 117.02 | County PIG |
| | | 720.04 | |

1. County Easement Purchase

The County Easement Purchase Program allows a farmer to sell their development rights to the County but retains ownership of the farm and is able to continue to farm the land and even sell the property at any time with a deed restriction preventing any future non- agricultural development. In order to enter into the program a landowner must submit an application to the County where it is reviewed and a site inspection conducted. Two independent appraisals of the property are conducted to determine the land’s fair market “before value”, and one to determine its deed restricted “after value”. The difference between these two is the price of the farm’s “development rights,” also known as the easement value. The SADC certifies a single easement value somewhere between the two independent easement value estimates. This is the price that is offered to the landowner. This was the most widely used program prior to the transition to the County Planning Incentive Grant Program.

2. County Planning Incentive Grant Program

The County Planning Incentive Grant is a new program that encourages a comprehensive planning process for farmland preservation at the county level. It offers several other advantages over the traditional easement purchase program, including enabling counties to accept and process farmland preservation applications year-round, rather than once a year; reducing the timeframe from landowner application to closing; and rewarding counties that complete transactions in a timely manner with the potential for additional funding.

The County Planning Incentive Grants (PIGs) program is intended to protect and preserve large pieces of contiguous farmland through the purchase of development easements. In order to qualify for PIGs, the County must create an County Agriculture Development Board, CADB, and must also maintain a dedicated funding source to purchase farmland. County PIG's require that the County and Township applications correlate with county comprehensive farmland preservation plans.

3. Municipal Planning Incentive Grants

The Municipal Planning Incentive Grant (PIG) Program enables the State Agriculture Development Committee (SADC) to provide grants to eligible municipalities to purchase development easements for permanent preservation of farmland in designated project areas.

The Municipal Planning Incentive Grants (PIG's), like the County PIG's program, have similar requirements. Municipal PIG's require the adoption of a Farmland Preservation Plan, an Agricultural Advisory Committee and a dedicated financial commitment for preserving farmland. Grants for a municipal PIG are provided by the SADC to purchase development easements. As identified in this Plan, several target farms have been identified by the Township for future preservation efforts. These targets will continue to be updated and farmer interest changes and farms are either preserved or removed for ineligibility. Warren County will provide matching funding (50:50) for the local cost share between the County and the Municipality, as part of a municipal PIG. Greenwich is developing this Comprehensive Farmland Preservation Plan in order to conform to the Municipal Planning Incentive Grant Regulation found at NJAC 2: 76- 17A.

4. SADC Direct Easement Purchase

Another option for farmland preservation is the SADC Direct Easement Program. The SADC provides direct funding to purchase development easements from landowners. Landowners do not have to be within an ADA if they are making an

Greenwich Township Farmland Preservation Plan

application directly to the State. In most cases, the State will pay up to 100% of the certified appraised easement value in the direct easement purchase program. By participating in this program, the landowner still retains ownership of their land, but agrees to restrict land use to agricultural purposes. The Direct Easement Program does not receive monetary contributions from the County. To date one farm, the Tom Farm (aka Healy Farm), has been preserved using this method.

5. SADC Fee Simple

The SADC fee simple acquisition program involves an entire property being purchased directly by the state. The SADC pays the survey and title costs, the landowner is exempt from paying rollback taxes for farmland assessment and the transaction can be completed in a matter of months. The SADC negotiates a purchase price subject to recommendations of two independent appraisers and review by a state review appraiser. The land becomes restricted so that it becomes permanently preserved for agriculture. In this type of acquisition, the landowner does not retain any rights. The property is then resold at auction, the SADC does not retain ownership. To qualify to participate in this program, the farmland must be within an ADA and be eligible for Farmland Assessment. The Jayne Investments property has been acquired using this program.

6. Nonprofit Grant Program

Nonprofit organizations have also been able to help achieve farmland preservation goals. Grants can be leveraged from SADC to fund up to 50% of the fee simple or development easement values on farms. These grants help to preserve farmland throughout the county, generally these transactions involve properties with both agricultural and environmental significance. As with other programs, grants are obtained through an application process, in which the land is valued by independent appraisers. Greenwich Township has not had any farms preserved in this manner but continually look for alternative funding source to help achieve farmland preservation goals.

7. Transfer of Development Rights

The transfer of development rights is a growth management tool that transfers development rights from one location, a preservation area, to another, an identified growth area. The development rights are used to allow for development at a higher density than what the previous zoning of the receiving area allowed. To date, this program has not been used to preserve farmland in the Township.

C. Consistency with the SADC Strategic Targeting Project

The purpose of the SADC Strategic Targeting Project is to prioritize farmland to be preserved by targeting farms for preservation based on specific criteria, including the prioritization of prime and statewide soils in agricultural production outside sewer service areas. According to the SADC, the Strategic Targeting Project has three primary goals. These are as follows:

- The coordination of farmland preservation and retention of agricultural practices “with proactive planning initiatives.”
- To update and create maps which serve as a tool for more accurate preservation targets.
- To coordinate different preservation efforts, such as open space, with farmland preservation.

Through the use of the Strategic Targeting Program, the SADC hopes to more efficiently target and designate farmland for preservation and, by doing so, boost the State’s agricultural industry. Greenwich Township has identified target farms that meet the SADC primary goals, as discussed in Section 5 and illustrated on Figure 7, Proposed Project Area and Target Farms. In addition, the Township continues to update all available information, through GIS, statistical data and the like, in order to maintain a data base of potential target farms for preservation efforts. The Township’s project area and project targeting is consistent with, and advances all three of the primary goals identified above.

Greenwich Township Agricultural Advisory Committee has worked closely with the Warren County CADB to negotiate the boundaries of the County ADA. The ADA map found on page 37 represents the consensus formed through these negotiations.

D. Eight Year Programs

The Eight-Year Farmland Preservation Program is a temporary farmland preservation program in which farmland owners agree to voluntarily restrict nonagricultural development for a period of eight years in exchange for certain benefits. There are two types of eight-year programs: municipally approved programs, which require a formal agreement among the landowner, county and municipality, and non-municipally approved programs, which require an agreement between only the landowner and county. Landowner benefits include the ability to apply to receive a 50% cost share match for soil and water conservation projects and protection against emergency energy and water restrictions and eminent domain. The landowner must sign an agreement that restricts the land to agricultural use for eight years. A farm must be located within an ADA to qualify for the program. There are no farms in the Township that are currently enrolled in the eight-year program.

E. Coordination with Open Space Preservation Initiatives

Greenwich Township has partnered with Green Acres and Warren County to preserve key properties in the Township. To date, 376.4 acres of open space have been permanently preserved in Greenwich. Partnering with a variety of agencies allows the Township to leverage funds from various sources to help achieve open space preservation. As seen on *Figure 1, Farmland Inventory Map Warren County and Green Acres* both hold the rights to parcels in the Township. These parcels help to create larger contiguous tracts of land and help to maintain the rural character that is cherished by Township Residents. These areas also help to promote agriculture by preserving large areas next to actively farmed lands and creating a larger buffer between farms and more developed regions. The Township is currently completing an Open Space and Recreation Plan and will continue to support the preservation of open space, especially if it is able to compliment farmland preservation efforts. *Figure 13: Garden State Greenways Map* prepared by New Jersey Conservation Foundation illustrates the “Garden State Greenways” for Greenwich Township and the immediate region. This map indicates linkages where coordination at a regional level can be accomplished.

Warren County has developed an Open Space and Recreation Plan which identifies the Morris Canal as a Tier 1 target area for acquisition. *Figure 14: Warren County Tier 1 Acquisitions Map* indicates the Warren County targeted properties along the Morris Canal in Greenwich. There are two properties which are targeted along the canal in Greenwich. One parcel is divided almost in half by the Canal route and the other is part of an application currently before the Zoning Board of Adjustment for a Solar Electric Generating Facility. The Township Open Space Plan will identify the Canal route and recommend buffering of the adjacent residences and preserved farmland should the Canal route be acquired.

The following excerpt from the Warren County Plan describes the efforts to preserve the Morris Canal.

Greenways are elongated and are usually continuous strips of land or water under public control through ownership, easement, or other agreement. Greenways often occupy natural corridors such as streams, ridgelines, and woodlands or man-made corridors such as the Morris Canal, railroad, and utility rights-of-ways. The greenway should be of sufficient width to protect the host resource (i.e. stream valley, ridgeline, scenic vista).

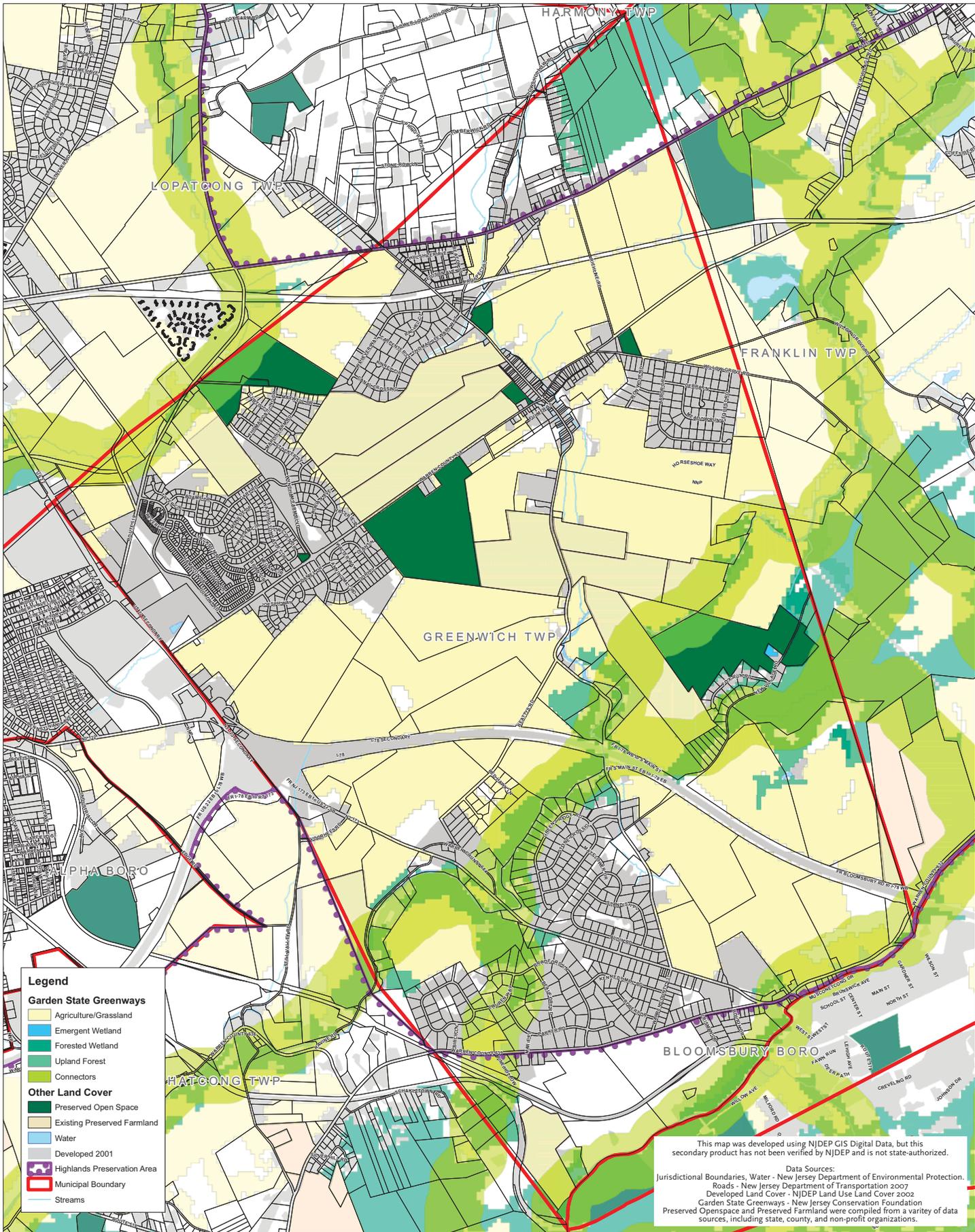
For the Morris Canal, at a minimum, a one hundred foot buffer along both sides of the Canal Corridor measured from the outside toe of the prism band, basin, lock or inclined plane is recommended. It should be of sufficient size and width to accommodate any intended public access and/or trail use type (i.e. pedestrian, bicycle, horse). Wider areas along the corridor may be necessary or desirable to accommodate ancillary facilities such as parking areas, picnic areas, and

Greenwich Township Farmland Preservation Plan

interpretive facilities or to encompass nearby areas of scenic, environmental, or historic interest.

The Morris Canal has been a high priority of the county for years. The Morris Canal was listed on the National and State Registers of Historic Places in 1974. Created in 1981 by the Board of Chosen Freeholders as a special committee to the Warren County Planning Board, the Morris Canal Committee has been instrumental in recommending properties for purchase, educating the public, and preserving and protecting Canal properties as well as increasing the awareness of its great historical significance. The Morris Canal Committee has developed a model conservation ordinance for use by municipalities to preserve and protect the Morris Canal. Of the nine municipalities that the Canal traverses, Independence, Franklin, Greenwich and Washington Township, have enacted a Morris Canal protection ordinance.

Figure 13: Garden State Greenways Map



FARMLAND PRESERVATION PLAN

Garden State Greenways

Greenwich Township, Warren County, NJ April 2008

Clarke Caton Hintz

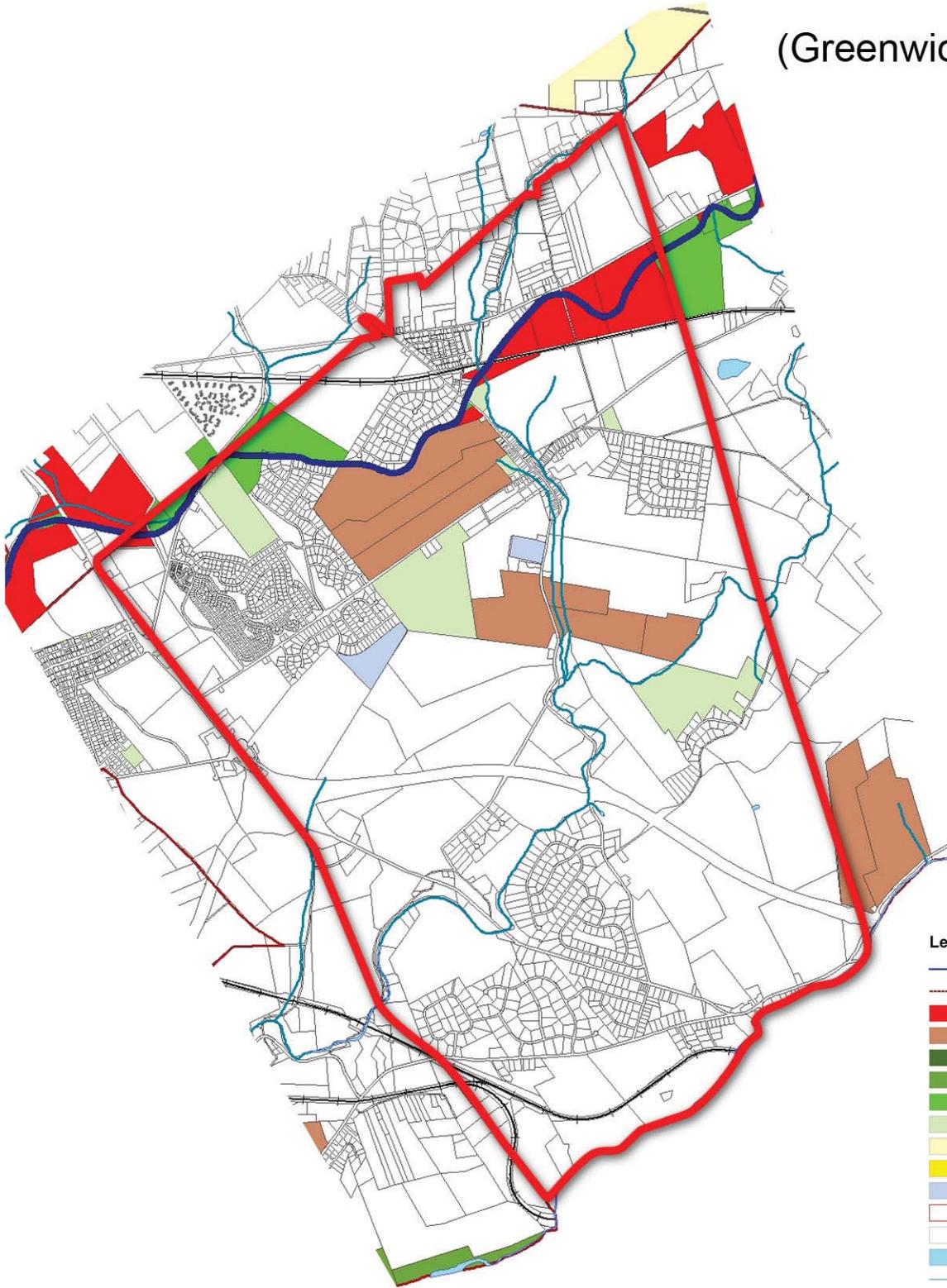
Architects

Planners

Landscape Architects

Figure 14: Warren County Tier 1 Acquisition Map

Portion of Warren County Proposed Tier 1 Properties for Acquisition (Greenwich Only)



Legend

- Morris Canal
- Warren Trail
- Target Areas Proposed For Aquisition
- Preserved Farmland
- Federal Property
- State Property
- County Property or Easement
- Municipal Property
- Semi-Public Property
- Non-Profit Property
- School Property
- Municipal Boundary
- Parcel
- Lakes
- Streams
- Railroad



Sources: New Jersey Department of Environmental Protection,
New Jersey Geological Survey and
New Jersey Agriculture Development Board
Produced by: Warren County Planning Department 1999
Updated June 2007, January 2008, & March 7, 2008

Greenwich Township Farmland Preservation Plan

F. Farmland Preservation Program Funding Expended to Date

Table 16: Farmland Preservation to Date

| Farm | Block; Lot | Acres | Year | Total Cost | State Cost Share | Co/Mun. Cost Share |
|--|-----------------------|---------------|-------------|--|-----------------------------|-------------------------------|
| Greenwich Twp (Hamlin) | 20; 18 | 87.00 | 2008 | \$587,300 | \$374,081 | \$213,219 |
| Oberly | 20; 8, 24 26; 27 | 128.38 | 2002 | \$739,440 | \$444,921 | \$294,525 |
| Tom (Healy) | 20; 23 | 46.50 | 2002 | \$252,789 | \$252,789 | 0 |
| Graham | 23; 10, | 104.84 | 2003 | Same owner when preserved \$1,334,755 | \$505,014 | \$311,627 |
| Santini | 23; 31 | 70.50 | 2003 | | \$320,413 | \$197,701 |
| Rayna | 23; 32 | 73 | 2004 | \$629,942 | \$559,948 | \$69,994 |
| St. of NJ (Jayne Investments) | 40; 2 41; 1, 14 | 39.02 | 2007 | \$918,575 | \$918,575 | 0 |
| Schuster | 44;5 | 53.88 | 2010 | \$330,513 | \$213,234 | \$117,279 |
| Slack | 41;5 | 117.02 | 2009 | \$972,863 | \$590,667 | \$382,196 |
| | | 720.04 | | \$5,766,177 | \$ 4,179,642 | \$1,586,535 |

To date, nine (9) farms totaling 720 acres and representing nearly 11% of the total land area of the Township have been preserved in Greenwich through State and County preservation programs. An overall investment of \$5,666,177 is divided approximately 72% from the State of New Jersey and 14% each from Warren County and Greenwich Township. Figure 15: Greenwich Township Farmland and Open Space Map illustrates the location and relative position of the preserved lands in the Township.

G. Monitoring of Farmland Preservation

Most of the farms in the Township have been preserved by Warren County Easement Purchase Program or in fee simple by the SADC. The agency responsible for preserving the property holds the easement and is responsible for annual monitoring of the property. The Township and the Agricultural Advisory Committee will notify the responsible agency if violations are suspected. The Warren County Soils Conservation District is in charge of performing annual inspections of preserved property. During inspections the inspector notes:

Greenwich Township Farmland Preservation Plan

- change in ownership since the previous inspection
- evidence of non-agricultural development (approved or otherwise)
- use of the premises for agricultural activities
- presence of expansion of non-agricultural activity since the previous inspection
- if the non-agricultural practice has been abandoned
- evidence of mining or removing of materials such as sand, gravel, rock, etc.
- evidence of dumping
- whether or not the farm has an approved conservation plan
- any improvements to farm buildings and residences
- any new agricultural buildings erected

H. Coordination with Transfer of Development Rights Programs

Transfer of Development Rights (TDR) may be used in conjunction with the traditional Purchase of Development Rights (PDR) program; these two programs are not mutually exclusive. Currently, the Township has not developed a Transfer of Development Rights program.

Greenwich Township Farmland Preservation Plan

Figure 15: Greenwich Township Farmland and Open Space Map

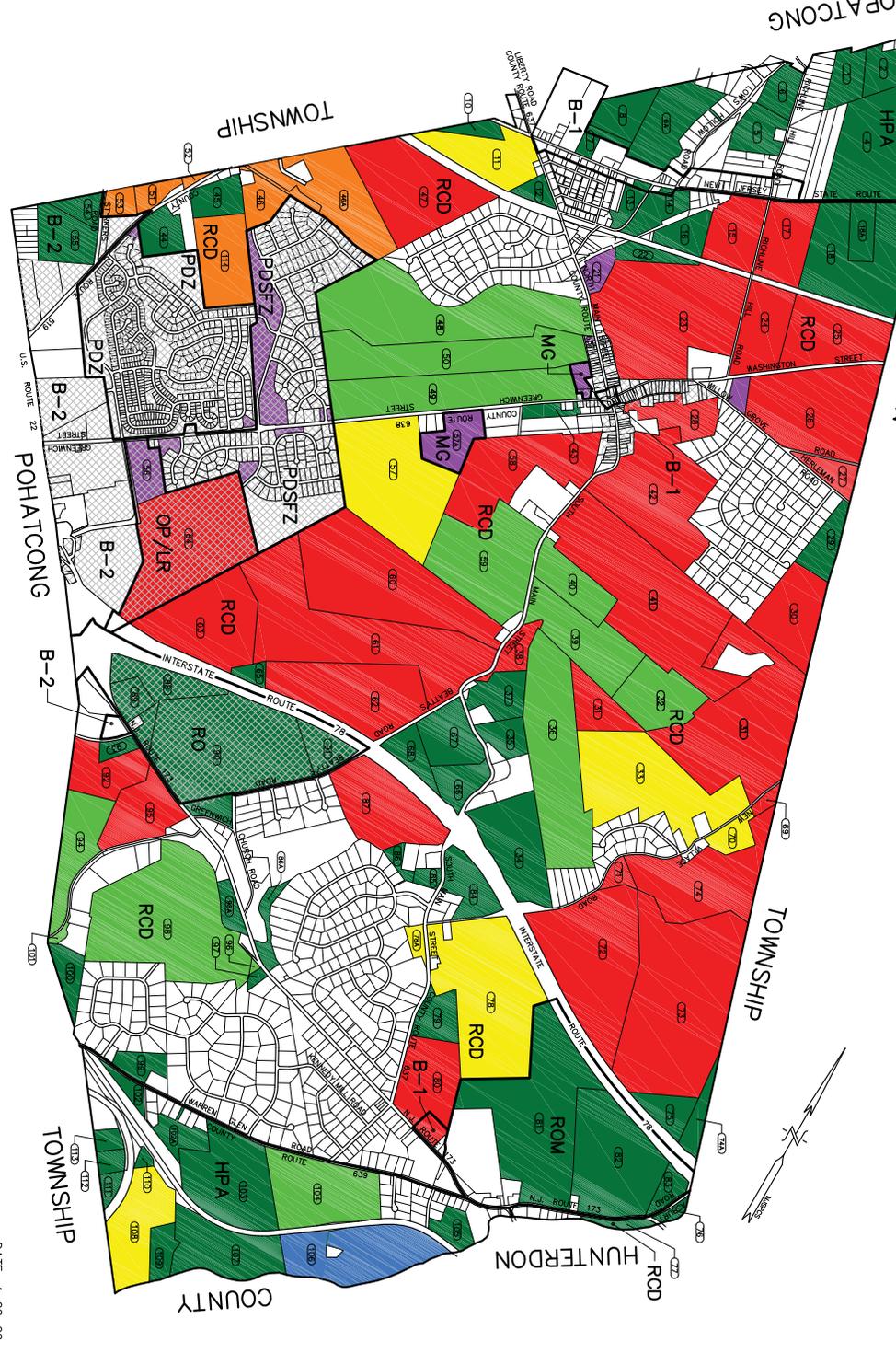
EXISTING PRESERVED FARMLAND

TARGETED PROPERTIES TO BE PRESERVED THROUGH GREEN AGRES PROGRAM

TARGETED FARMLAND PROPERTIES FOR PRESERVATION

TARGETED FARMLAND PROPERTIES FOR PRESERVATION

| PARCEL INVENTORY NUMBER | OWNER | ACREAGE | PARCEL INVENTORY NUMBER | OWNER | ACREAGE | PARCEL INVENTORY NUMBER | OWNER | ACREAGE | PARCEL INVENTORY NUMBER | OWNER | ACREAGE |
|-------------------------|-----------------------------|-----------|-------------------------|-------------------------------|-----------|-------------------------|---------------------------------------|-----------|-------------------------|-----------------------------|-------------|
| 32 | CLIFFORD & MARGARET OBERLY | 33.4 AC± | 16 | ODOWNS INC. | 29.0 AC± | 60 | KENNETH HOSER | 110.0 AC± | 104 | ROBERT & GERALDINE SCHUSTER | 1,991.8 AC± |
| 36 | HAULEN TREE FARM, LLC | 87.0 AC± | 17 | ODOWNS INC. | 31.0 AC± | 61 | JAMES CLINE | 99.0 AC± | 98 | DAVID S. SLACK | 116.0 AC± |
| 39 | RICHARD & CYNTHIA HEALEY | 46.5 AC± | 23 | ODOWNS INC. | 118.0 AC± | 62 | JOHN H. & CAROL A. BEATTY | 69.9 AC± | 99 | DAVID S. SLACK | 66.3 AC± |
| 40 | CLIFFORD & MARGARET OBERLY | 23.5 AC± | 24 | ODOWNS INC. | 37.0 AC± | 63 | WILLIAM H. & GEORGINE WOODHES ET. AL. | 63.9 AC± | 100 | DAVID S. SLACK | 66.3 AC± |
| 48 | MARY GRAMIA & FRANKS BORTZ | 104.8 AC± | 25 | BRIAN ODOWD | 45.3 AC± | 64 | CLIFFORD & MARGARET OBERLY | 93.4 AC± | 101 | DAVID S. SLACK | 66.3 AC± |
| 49 | S. SAMINI | 70.5 AC± | 26 | ODOWNS INC. | 81.1 AC± | 69 | WINDO DEVELOPMENT CO., LLC | 5.0 AC± | 102 | DAVID S. SLACK | 66.3 AC± |
| 50 | JOSEPH & GORIS RAYNA | 73.0 AC± | 27 | ODOWNS INC. | 11.0 AC± | 71 | NEW WALLACE ROAD, LLC C/O KAHLEN | 98.8 AC± | 103 | DAVID S. SLACK | 66.3 AC± |
| 59 | CLIFFORD & MARGARET OBERLY | 71.2 AC± | 28 | ODOWNS INC. | 20.0 AC± | 72 | NEW WALLACE ROAD, LLC C/O KAHLEN | 98.8 AC± | 104 | DAVID S. SLACK | 66.3 AC± |
| 64 | DAVID S. SLACK | 30.2 AC± | 30 | CLIFFORD & MARGARET OBERLY | 36.5 AC± | 73 | WINDO DEVELOPMENT CO., LLC | 147.3 AC± | | | |
| 86 | DAVID S. SLACK | 116.0 AC± | 31 | CLIFFORD & MARGARET OBERLY | 137.6 AC± | 74 | NEW WALLACE ROAD, LLC C/O KAHLEN | 55.0 AC± | | | |
| 98 | DAVID S. SLACK | 2.7 AC± | 38 | KENNETH HOSER | 12.8 AC± | 80 | MICHAEL BARTHE C/O LAND EQUITY | 42.8 AC± | | | |
| 101 | DAVID S. SLACK | 66.3 AC± | 41 | ROBMAN & TIMOTHY SMITH | 126 AC± | 87 | JOHN H. & CAROL A. BEATTY | 98.4 AC± | | | |
| 104 | ROBERT & GERALDINE SCHUSTER | 731.5 AC± | 42 | PATRICK J. & SARAH E. MAHONEY | 78.3 AC± | 92 | BLUENSBERRY ASSOCIATES | 35.9 AC± | | | |
| | | | 47 | FOX RIVERS, LLP | 66.7 AC± | 95 | CLEBURN ET AL. C/O LAND EQUITY INC. | 31.9 AC± | | | |
| | | | 58 | JOSE DOMINGUES | 66.0 AC± | 98 | DAVID S. SLACK | 116.0 AC± | | | |
| | | | | | | 104 | ROBERT & GERALDINE SCHUSTER | 66.3 AC± | | | |
| | | | | | | | | | | | |



- ZONING LEGEND**
- HPA HIGHLANDS PRESERVATION AREA
 - RCD RESOURCE CONSERVATION DISTRICT
 - ROD RESEARCH OFFICE AND MANUFACTURING
 - RO RESEARCH OFFICE
 - PDZ PLANNED DEVELOPMENT ZONE
 - OP/LR OFFICE PROFESSIONAL / LIMITED RESEARCH
 - B-1 NEIGHBORHOOD BUSINESS ZONE
 - B-2 HIGHWAY BUSINESS ZONE
 - MG MUNICIPAL GOVERNMENT
 - ZONE BOUNDARY LINE

- LEGEND**
- (C22) FARMLAND LOT INVENTORY NUMBER
 - PRESERVED FARMLAND PROPERTIES
 - TARGETED FARMLAND PROPERTIES FOR PRESERVATION
 - PROPERTIES PRESERVED THROUGH GREEN AGRES PROGRAM
 - TARGETED PROPERTIES TO BE PRESERVED THROUGH GREEN AGRES PROGRAM
 - PROPERTY OWNED BY WARREN COUNTY
 - MUNICIPALLY OWNED PROPERTY
 - FARM QUALIFIED TAX LOT
 - SEWER SERVICE AREAS

DATE: 4-28-08

| NUMBER | DATE | REVISION |
|--------|---------|---------------------------------------|
| 1 | 7/2/08 | ADDED PROPERTIES THROUGH GREEN AGRES |
| 2 | 10/2/08 | ADDED MAP AND PROPERTY STATUS CHANGES |
| 3 | 10/2/08 | ADDED FARMLAND MAPS FOR PRESERVATION |
| 4 | 7/2/08 | ADDED PROPERTIES THROUGH GREEN AGRES |

SCALE IN FEET

1" = 200'

GREENWVICH TOWNSHIP
FARMLAND AND OPEN SPACE PLAN

FINELLI CONSULTING ENGINEERS
CONSULTING ENGINEERS
TEL: 908-832-9900 FAX: 908-832-9900
1000 W. 10TH STREET, SUITE 200, GREENWVICH, N.J. 07830

V. Future Farmland Preservation Program

The proposed farmland preservation project area identified by the Township is also depicted on Figure 1. The identified project area is 3,453 acres of which 80% (2,756 acres) are farm assessed or in farmland preservation (Table 16). According to the Land Use/Land Cover data provided by NJDEP (Figure 4), 73% of the Project Area is classified as cropland and pasture land.

Table 16: Proposed Project Area Farmland Inventory

| Category | Acres | % |
|--|-------|-----|
| Existing Preserved Farmland in project area: | 720 | 16% |
| Farm Qualified Tax Lot: | 2,756 | 80% |
| Land in Production (cropland) in project area | 2,495 | 73% |
| Preserved Green Acres land | 97* | 3% |
| Other Lands | 9 | 0% |
| | | |

* New Village Road open space.

The proposed project area is also rich in farm capable soils. Of the total 3,454 acres in the project area, 87% (3,006 acres) are farm capable soils (Table 17).

Table 17: Farm Capable Soils for Proposed Project Area

| Soils | Acres | Percentage |
|---------------------------|--------------|------------|
| Prime Soils | 2,517 | 73% |
| Statewide Important Soils | 489 | 14% |
| Non-farm soils | 448 | 13% |
| TOTAL | 3,454 | 100 |

A. Preservation Goals (1, 5 and 10-year acreage targets)

Greenwich Township has recently updated its master plan and development regulations aimed at farmland preservation and groundwater resource protection as the primary land use and natural resource conservation objectives in the municipality. Greenwich Township’s master plan update and rezoning identifies a Resource Conservation District (RCD), and RCD zoning standards, which limit residential densities to 1 dwelling unit per 10 acres of land under a cluster option that requires 80% open lands set-asides to maintain large contiguous areas for agricultural production and natural resource protection purposes. The RCD zoning applies to all agricultural lands in the municipality except for

Greenwich Township Farmland Preservation Plan

approximately 300 agricultural/farm assessed acres situated in the sewer service areas and adjacent to a research manufacturing facility.

The purpose behind the RCD is to ensure that large tracts of agriculture are retained as a by-product of any subdivision or single-family residential development that may occur. The groundwater resource protection objectives in the plan are aimed at ensuring that there is an ample supply of potable water in the region as well as for continued agricultural production in Greenwich Township.

The Township's goal to preserve farmland through SADC/CADB/locally-funded farmland preservation is 1,189-acres, the 1, 5 and 10-year targets are outlined in the table below, based upon the list of target farms in subsection B below.

Table 17: Greenwich Township 1, 5 and 10-year Farmland Preservation Goals

| Year | Acres |
|--------------|-------------|
| 1-year goal | 120 acres |
| 5-year goal | 480 acres |
| 10 year goal | 1,189 acres |

B. Project Area Summary

Greenwich Township Project Area is 3,453 acres in area and includes 2,756 acres of farm-assessed tax lots. The identified farms within the project area that have been targeted for preservation include total 1,189.5-acres of farmland (*Figure 16: Project Area Map*). Of these 1,189-acres:

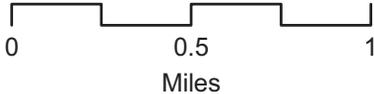
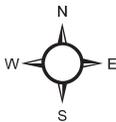
- 872 acres are prime farmland (73%),
- 129.5 acres are other soils (11%), and
- 990.1 acres are characterized as cropland or pastureland (83%).

Figure 16: Project Area Map

**Figure 6:
Proposed Project Area**

Greenwich Township

December 2007



*Data Sources:
NJDEP
Finelli Engineering*

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

Legend

 Proposed Greenwich Farmland Project Area

Greenwich Township Farmland Preservation Plan

These individual target farm characteristics are identified in the tables below:

Table 18: Target Farms and Farmland Capable Soils

| Owner | Prime Farmland Acres | % Prime Farmland | Statewide Important Acres | % Statewide Important | Other Soils Acres | % Other | Total Acres |
|-------------------------|-----------------------------|-------------------------|----------------------------------|------------------------------|--------------------------|----------------|--------------------|
| Fox River LLP | 52.27 | 78.4% | 0 | 0 | 14.43 | 21.6% | 66.7 |
| Cline | 95.54 | 96.5% | 0 | 0 | 3.46 | 3.5% | 99.0 |
| Hoser | 118.18 | 98.0% | 0 | 0 | 2.42 | 2.0% | 120.6 |
| Oberly | 82.93 | 46.4% | 58.23 | 32.6% | 37.44 | 21.0% | 178.59 |
| O'Dowds Inc. | 331.30 | 89.0% | 40.10 | 10.8% | 1.00 | .2% | 372.4 |
| Dominguez | | | | | | | |
| Millstein | | | | | | | |
| Viking Development LLC* | 3.50 | 5.8% | 38.20 | 63.7% | 18.30 | 30.5% | 60.0 |
| TOTAL | 786.34 | | 180.50 | | 112.74 | | 1079.6 |

*2007 SADC Fee Simple Application

Table 19: Target Farms and Cropland/Pastureland

| | Cropland and Pastureland Acres | % Cropland and Pastureland | Total |
|-------------------------------|---------------------------------------|-----------------------------------|---------------|
| Fox River LLP | 44.90 | 67.3% | 66.7 |
| Cline | 7.60 | 7.6% | 99.0 |
| Hoser | 6.28 | 5.2% | 120.6 |
| Oberly | 120.94 | 67.7% | 178.59 |
| O'Dowds Inc. | 324.70 | 87.2% | 372.4 |
| Dominguez | | | |
| Millstein | | | |
| Viking Development LLC | 1.13 | 1.9% | 60.0 |
| | | | 1079.6 |

These tables show that Greenwich Township's farms almost uniformly exhibit high percentages of prime and statewide significant soils and are highly productive from a cropland/pastureland perspective.

C. *Municipal and County Minimum Eligibility Criteria Coordination*

County - The Warren County Agriculture Development Board, in their Farmland Preservation Plan, identifies minimum criteria for the CADB's PIG preservation program. Greenwich Township includes the CADB's minimum eligibility criteria as it's own minimum criteria for farmland preservation. Greenwich will not consider independently preserving farms which do not meet the minimum SADC eligibility standards.

The CADB and Greenwich Township minimum eligibility criteria mirror the SADC's farmland preservation and project eligibility criteria. To be eligible, the farm must:

1. Possess development potential;
2. Contain soils that can support agricultural production; and
3. Meet or exceed SADC minimum tillable requirements.

Greenwich Township acknowledges the minimum requirements set forth at N.J.A.C. 2:76-6.20, which establishes the eligibility to receive PIG funding from the SADC for PIG project area farm preservation targets. This criterion includes an evaluation of the merits of individual applications and weighted factors for each of a number of considerations, including soils quality, tillable acres, boundaries and buffers, local commitment, size of farm and density of lands dedicated to farmland preservation, and local factors such as encouraging agriculture and the threat of development. Specific minimum criteria for lands less than or equal to 10 acres; and for lands in excess of 10 acres are summarized below.

- *For all lands less than or equal to 10 acres:*
 - The land must produce at least \$2,500 worth of agricultural or horticultural products annually.
 - At least 75% or a minimum of 5 acres of the land (whichever is less) must be tillable.
 - At least 75% or a minimum of 5 acres of the land (whichever is less) must be capable of supporting agriculture or horticulture.
 - The land in question must exhibit development potential as defined by the SADC (based upon zoning, ability to be subdivided, less than 80% wetlands, less than 80% slopes of 15%).
 - The land must be eligible for allocation of development credits pursuant to a Transfer of Development Credits (TDR) program.
- *For lands greater than 10 acres:*
 - At least 50% or a minimum of 25 acres of land (whichever is less) must be tillable.
 - At least 50% or a minimum of 25 acres of land (whichever is less) must have soils capable of supporting agriculture or horticulture.

Greenwich Township Farmland Preservation Plan

- The land in question must exhibit development potential as defined by the SADC.
- The land must be eligible for allocation of development credits pursuant to a TDR program.

Greenwich Township's target farms conform to all of the minimum physical characteristics requirements listed above, including eligibility for allocation of development credits pursuant to a TDR program. However, with respect to TDR, this mechanism for preservation may not be effective in Greenwich Township, which has reduced permitted residential development densities due to the Planning Board's adoption of the RCD in the Land Use Plan, and the Township Committee's rezoning of the Township in response to very high development pressure for residential development in the Township.

D. Municipal and County Ranking Criteria Used To Prioritize Farms

Greenwich Township uses the SADC's and CADB's criteria for ranking farms funded through the County Easement Purchase and PIG programs as well as the following local ranking criteria developed in coordination with the Open Space Committee and the Agricultural Advisory Committee for local PIG acquisitions:

- Owner Willingness to Preserve – 15%
- Natural Resource Protection – 15%
- Sensitive Landscapes – 15%
- Contiguous Lands – 10%
- Economic Viability – 10%
- Price – 10%
- Development Pressure – 10%
- Public Use, Enjoyment – 5%
- Location of the Land – 4%
- Buffer Zones – 3%
- Access, free of Easements – 3%

In reality, applications for farmland preservation and farms are preserved as farmers decide to put their land in preservation. This tends to be a slow process and one of the controlling factors that limits farmland preservation progress. This is due, in part, to the very high development pressure in the region to convert farms to residential subdivisions, which tends to cause farmers and landowners to delay making application for farmland preservation.

E. Municipal and County Policies Related to Farmland Preservation Applications

Greenwich Township and the Warren CADB follow the SADC's policies regarding housing opportunities, division of premises and exception areas. Below is a brief summary of the state policies for each of these issues:

1. Approval of Housing Opportunities

- a. Residual Dwelling Site Opportunity: Residual Dwelling Site Opportunities (RDSOs) are lingering potential housing prospects located within a deed-restricted farm. By designating an area as an RDSO, the landowner is implying that the land will be used for a residential unit or other structure as referred to in N.J.A.C. 2:76-6.17. These prospective residential units can be allocated to parcels that are at least 100 acres in size (one residential unit per 100 acres inclusive of existing residential units) and exercised at any time with a finding by the CADB that the construction and use of the residential unit is for an agricultural purpose and that the location of the unit minimizes any adverse impact on the agricultural operation. The purpose of the building in question must be for "single-family residential housing and its appurtenant uses." (*SADC Appraiser Handbook 2007*); To qualify as an RDSO, the SADC requires that the use of the residential unit be for agricultural purposes and "at least one person residing in the residential unit shall be regularly engaged in common farm site practices." Greenwich Township Agricultural Advisory Committee has adopted the following policy for RDSO's: Individual decisions as to RDSO allocation will be made on an individual project-by-project basis, but will to the extent possible be subject to ordinance objectives to maintain 80% open lands for agriculture in the RCD Zone and minimize nonfarm intrusions by locating dwelling units on the periphery of the farm outside of the active agricultural areas.
- b. Agricultural Labor Housing: Agricultural labor housing is not currently protected under the Right to Farm Act in the State of New Jersey. However, the State Agricultural Development Committee understands the need for this type of housing and does have a policy that a landowner must refer to in order to construct labor housing. Agricultural labor housing provides onsite residential opportunities for farm workers and their immediate families who are employed full or part time on the

Greenwich Township Farmland Preservation Plan

farm in order to enhance the economic viability of the agricultural operation. Such housing may not be used as a residence by the farm owner or his/her family. Applications for agricultural labor housing are reviewed by the State Agricultural Development Committee and the County Agricultural Development Board.

- c. House Replacement: The policy of the State Agricultural Development Committee on house replacement is that requests for replacement of a residence on permanently preserved land must be reviewed and approved on an individual basis by the CADB and the SADC, in order to minimize the impact on the agricultural operation.

- d. Division of the Premises: The goal of the State Agricultural Development Committee is to preserve large tracts of farmland and, therefore, a division of the premises is not an encouraged practice; however when division occurs it must be for agricultural purposes and must result in agriculturally viable land parcels. A landowner wishing to divide permanently preserved farmland must submit a written request. The application must be approved, in writing, by both the State Agricultural Development Committee and the CADB. Greenwich Township will permit division of preserved premises in accordance with local zoning

- e. Approval of Exceptions: Exceptions are defined by the SADC as “acres within a farm being preserved” which are “not subject to the terms of the deed of easement.” Exceptions are used to allow for future housing opportunities and for the continuance of non- agricultural uses on the property. When an exception is made, the landowner does not receive any compensation in the excepted area. Exceptions while generally not encouraged may be appropriate in some circumstances (eg. Trail easements or when two houses are on the same tax lot). There are two types of exceptions that can occur; severable and non-severable.

Severable: A severable exception is defined by the SADC as an “area which is part of an existing Block and Lot owned by the applicant which will be excluded from the restrictions of the Deed of Easement and may be sold as a separate lot in the future.” (*SADC Appraise Handbook 2007*) A severable exception is made “if a landowner wants to be able to sell the excepted area separate from the deed-restricted farm.”

Greenwich Township Farmland Preservation Plan

Greenwich Township prefers not to encourage severable exception but in cases where a severable exception is required to preserve large tracts of farmland, severable exceptions may be permitted in accordance with local zoning (i.e. either 2-ac. maximum cluster or lot size averaging with 80% open lands for agriculture or natural resource conservation;

Non-severable: Non-severable exceptions are defined by the SADC as “area which is part of an existing Block and Lot owned by the application that will not be subject to the restrictions of the Deed of Easement but cannot be sold separately from the remaining premises.” (*SADC Appraiser Handbook 2007*) Unlike a severable exception, a nonseverable exception is “always attached to the protected farm.” Exceptions made to farmland have the potential to impact the value of the property. When an appraisal occurs, both severable and non-severable exceptions are considered in the determination of the restricted/ after value of the property.

F. Funding Plan

1. Description of Municipal and County Funding Sources

According to the Warren CADB 2007 Farmland Preservation Plan funding information:

“The Warren County Open Space Preservation Trust Fund was initially established in January 1995 and set at two cents. It was subsequently increased in 1999 and again in 2003. The present trust is now at six cents and in 2007 generated approximately \$7,800,000 for farmland, open space, and historic preservation. The present division for the Trust Fund is: 55% farmland, 25% municipal and charitable grants and 20% open space. Approximately 6% to 7% of the Trust is used for administrative costs.

Of the available funding in 2007, approximately \$4,500,000 was available for farmland preservation. To date Warren County has expended \$18,591,819 on 150 projects preserving 15,125 acres. This year, County has available \$8,928,000 in funding of which, \$7,204,675 is encumbered and set aside for farms with final approvals.”

Greenwich Township Farmland Preservation Plan

Greenwich Township established an open space tax of \$.02 in 1995 and increased the tax to \$.04 in 1999 and again in 2003 to \$.06. The open space tax that may be used for open space and farmland preservation and has generally been apportioned as follows:

- 55% - Farmland Preservation
- 25% - Municipal Acquisitions
- 20% - Open Space Program
- 6-7% - Administration

In 2004, the open space tax raised \$228,942. In 2005, the Township's open space tax raised \$230,014. In 2007, the tax raised \$237,200. Recent expenditures from the fund included the acquisition of municipal parkland, and farmland preservation cost-sharing. The acquisition of the new park provides for ample room for the development of recreation and open space facilities to serve the existing population, which suggests that the Township will be able to dedicate the majority of its open space tax proceeds in the future for farmland preservation.

2. Financial policies related to cost-share requirements between County and Municipal / other funding partners / installment purchases.

The Warren CADB identifies a cost share policy which may provide 50% of the difference between the Certified Fair Market Value (CMV) of a development easement and the SADC cost share.

With an SADC 60% cost share, this results in a County and Township each providing a cost share of 20% of the CMV.

Greenwich Township has been fortunate in the participation of other funding partners, such as the Morris Land Conservancy, which is the Township's open space consultant that is responsible for farmer and landowner outreach and farmland preservation negotiations. Morris Land Conservancy also provides funding for open space and farmland preservation projects in Greenwich Township.

Greenwich Township has not considered the use of installment purchase but should the Warren County CADB initiate an installment purchase program Greenwich would be willing to consider participation.

The SADC rules require a "sliding scale" to be applied to state cost share on easements. The Committee shall not authorize a grant for an amount greater than 80 percent of the Committee's certified market value of the development easement or the board and/or county's purchase price of the development easement, whichever is lower. In situations where the Committee is cost sharing on an easement which has been acquired, or is being acquired, by a municipality, the Committee shall not authorize a grant for an amount greater than 80 percent of the

Greenwich Township Farmland Preservation Plan

Committee's certified market value of the development easement or 80 percent of the sum of the municipality's purchase price of the development easement plus the interest or discount on bonds the municipality incurred in association with the acquisition of the development easement from the date the municipality acquires the easement to the date of the appropriation of State funds, whichever is lower.

The percent Committee cost share shall be based upon the following price per acre scale:

| Landowner asking price \$/ acre | Percent Committee Cost Share |
|------------------------------------|-----------------------------------|
| 0.00-1,000 | 80% |
| >1,000-3,000 | \$800 +70% above 1,000 |
| >3,000 – 5,000 | \$2,200 + 60% above 3,000 |
| >5,000 – 9,000 | \$3,400 + 50% above \$5,000 |
| > 9,000 – 50,000 | 60% |
| >50,000 – 75,000 | \$30,000 +55% above 50,000 |
| >75,000 – 85,000 | \$43,750 + 50% above \$ 75,000 |
| >85,000 – 95,000 | \$48,750 +40% above 85,000 |
| >95,000 – 105,000 | \$52,750 + 30% above 95,000 |
| >105,000 – 115,000 | \$55,750 + 20% above 105,000 |
| >115,000 | \$57,750 + 10% above 115,000 |

3. Cost Projections and funding plan associated with 1-, 5-, and 10-year preservation goals;

Greenwich Township’s cost projections are based upon a 120-acre per year target for the Township’s 10-year plan. For planning purposes, a development easement value of \$20,000 is used in the following table along with a 120-acre per year farmland preservation target.

Table 20: Cost Projection for Preservation Goals

| Year | Acres | Value (\$) | \$TWP | \$County | \$SADC |
|--------------|--------------|------------------------|--------------------|--------------------|---------------------|
| 1 | 120 | \$2,400,000 | \$480,000 | \$480,000 | \$1,440,000 |
| 5 | 480 | \$9,600,000 | \$1,920,000 | \$1,920,000 | \$5,760,000 |
| 10 | 589 | \$11,780,000 | \$2,356,000 | \$2,356,000 | \$7,068,000 |
| Total | 1,189 | \$23,780,000.00 | \$4,756,000 | \$4,756,000 | \$14,268,000 |

Greenwich Township Farmland Preservation Plan

Of the total \$23,780,000 that would be required under this projection, a 20% Township and County cost share is assumed, which would total \$4,756,000 from each source. Assuming a 60% SADC cost share, \$14,268,000 will be required to preserve the targets in this project area.

3. Any Other Financial Information as Appropriate – the above sources of funding do not include a range of other strategies, which may be used to assist in meeting the Township’s preservation targets, a number of which are listed at the end of this chapter, along with the outline of actions and activities that may be implemented by the Greenwich Township Agricultural Advisory Committee to reduce the overall cost for preserving the Township’s farmland preservation targets.

G. Farmland Preservation Program / Agricultural Advisory Committee Administrative Resources

1. Municipal Staff and / or Consultant Resources

The Township Agricultural Advisory Committee, AAC, was formed by Ordinance 2007-20 which is included as Appendix B of this document. The AAC is assisted by the consulting services of Morris Land Conservancy to assist with farmer/landowner outreach and land preservation negotiations. Planning assistance to the AAC, the Planning Board and the Township is provided by the Township regular planning consultant. The Township’s Mayor, assisted by the Township Clerk and Administrator, oversees day-to-day tasks associated with the township’s farmland preservation program. The Township’s CFO/Treasurer provides a system of financial controls, and record keeping, and reports to and works with the Township Committee on all financial matters including farmland preservation.

2. Legal Support

The Township’s Attorney provides legal services to the Township Committee on matters pertaining to farmland preservation. When action by the Planning Board is necessary, in the case of a minor subdivision for example, the Township’s Planning Board Attorney provides the legal services required.

3. Database Development

The Township’s open space financial records are maintained by the Township’s consulting CFO/Treasurer in the municipal building, as well as remotely in his private office. The Township’s land database is maintained by the Township Engineer. Up until recently, the Township’s Open Space and Farmland Preservation Committee maintained their own database detailing ongoing

Greenwich Township Farmland Preservation Plan

landowner outreach efforts, which will now be maintained by the Agricultural Advisory Committee, which is supported in its efforts by the Morris Land Conservancy and the Township's Planner.

4. Geographic Information System (GIS) Capacity and staff resources

The Township's Planning Consultant maintains a GIS database for the municipality, which is compatible with the County and State GIS database. The Township's Planner has a GIS Department, with two GIS technicians that are capable of manipulating GIS and preparing all types of mapping and data reporting and analysis.

H. Factors Limiting Farmland Preservation

1. Funding (county or municipal)

The Warren CADB Farmland Preservation Plan reports that funding availability is the most critical limiting factor to farmland preservation. The County's open space trust fund generates approximately \$7,800,000 per year, which must be available for farmland preservation projects throughout the County, including approximately 20 municipalities with eligible projects. Strictly on the basis of today's dollars, the current revenue generated from the open space tax would yield less than the required 20% cost share if all revenue generated were evenly shared among all municipalities with eligible farmland preservation projects – setting aside other potential non-PIG projects.

Greenwich Township's goal of 1,189-acres in its plan for farmland preservation will require a local match in today's dollars of \$5,236,000; whereas the Township's open space tax generates approximately \$250,000 per year, or approximately 50% of the total amount of local funding that will be required to achieve the Township's 10-year goal. The Township would consider bonding to raise the requisite match if tax revenue for preservation fell short.

2. Projected Costs

As outlined in subsection F.3, above, the projected cost for Greenwich Township's farmland preservation program appear to exceed the amount of funding that may be available through the County and will be available through the Township's local open space fund, based upon the Township's \$.04 local open space levy. The projected cost for achieving the Township's goal is \$23,780,000. Over a 10-year period, this goal would require approximately \$1,426,800 in annual SADC funding; \$475,600 in CADB annual funding; and \$475,600 in Township annual funding. At the local level, a combination of an increase in the local open space tax, creative financing, easement donations will be needed to achieve the targets based upon the limiting factor of projected costs.

Greenwich Township Farmland Preservation Plan

3. Land Supply

There is no shortage of in the supply of farmland eligible for farmland preservation in Greenwich Township. The Township's projected preservation target of 1,189-acres of farmland is slightly less than one-third of the total 3,598 acres of farm-assessed land in the Township's farmland preservation project area.

4. Landowner Interest

Landowner interest in farmland preservation has resulted in fairly modest success from Greenwich Township's local farmland preservation efforts to date. The combined efforts and investments of the SADC, CADB, the Township, Morris Land Conservancy have resulted in preservation of approximately 720-acres of farmland to date. Landowner interest in farmland preservation has been a major factor in this success.

There have been some landowners that have expressed reluctance to preserve their farmland because there is a belief that local zoning could change favorably for the development community, which could result in increasing local land values. Over time, and particularly with the adoption of the Highlands Regional Master Plan, such attitudes are expected to change and to result in increased landowner interest in farmland preservation. In addition, the dual appraisal methodology which enables a land owner to use the 2004 zoning for appraisal purposes has recently been extended to Highland's municipalities by the NJ Legislature and signed by the Governor. To a certain extent, increased landowner interest is expected to be dependent upon on the availability of adequate funding to bring a higher degree of predictability to the farmland preservation process.

5. Administrative Resources

Greenwich Township's administrative resources that support local farmland preservation efforts are not a factor limiting progress with farmland preservation. As described above in Section G.1., there is adequate staffing, administrative resources and volunteer participation in place to adequately support the Township's farmland preservation program.

6. Other

Enhanced communication with and outreach to the farm community will be needed to increase success with Greenwich Township's efforts to retain agricultural as an industry, and preserve large, contiguous tracts of prime farmland. Preservation strategies will include a series of farmland preservation techniques, including financing alternatives and other opportunities to retire development rights. Among those recommended are the following:

Greenwich Township Farmland Preservation Plan

- Option agreements provide an opportunity to reserve the right to acquire farmland at some time in the future. Such agreements can provide valuable assurances for both the Township and the property owner that preservation can and will occur at some time in the future, based on agreed pricing and terms.
- Installment purchases leverage public funds by extending the horizon for payment over a period of years. Rather than requiring a front-end commitment of cash to acquire all development rights at the outset, installment purchases allow the municipality and the owner to devise a payment strategy, which meets their mutual objectives and needs.
- Donations of permanent development easements can be particularly valuable to both the farmland preservation effort and the landowners involved. Donations of all or part of the development rights can provide substantial Federal income tax deductions, particularly for high-income landowners. Such donations also offer estate tax benefits, reducing the estate taxes, which frequently force the sale of farm properties in order to pay the tax. Property owners and the Township can structure donation plans, which minimize the tax consequences to landowners and increase the effectiveness of farmland preservation funds.

A coordinated outreach effort should be initiated, identifying the goals of the farmland preservation plan and soliciting program participation. This could involve a joint effort of the Planning Board and the Agricultural Advisory Committee. Potential methods of soliciting participation include targeted mailings, announcements on bulletin boards at the Municipal Building or on the Township's web site, informational town meetings and forums and articles in local newspapers. A farmland preservation brochure could also be a useful tool for outreach.

Retaining agriculture as a viable industry must extend beyond simple land preservation; meaningful changes in the area of regulation can ease the burden on local farmers and ensure that young farmers will maintain an interest in farming. Changes could include reducing costs of permits for agriculture-related infrastructure, expansion of permitted "non-farm" activities to supplement farm income and expansion of direct marketing opportunities. Ordinance amendments should be considered to address these and other techniques for preserving farmland and agriculture as an industry in the Township.

VI. Economic Development

The Warren County Farmland Preservation Plan offers a great deal of information regarding economic development strategies for local farmers. Greenwich Township encourages a variety of economic development strategies to promote agricultural production in the Township. The following information was provided by the Warren County Farmland Preservation Plan and is relevant and encouraged in the Township.

A. 2007 NJDA Economic Development Strategies

The Warren County Comprehensive Farmland Preservation Plan identifies the NJDA economic strategies. The following section has been provided by the county, and has strategies relevant to Greenwich have been highlighted.

“The goal of the NJDA is to identify products grown in New Jersey through branding, Agritourism, farm direct sales programs, and farm markets. The NJDA *Economic Development Strategies* for 2007 support the promotion of Jersey products through a variety of markets and mechanisms. NJDA is committed to promoting Agritourism through the New Jersey Office of Travel and Tourism, the Jersey Fresh website, the distribution of printed materials, and other forms of advertisement.”

The Warren County Plan also includes a discussion of economic development strategies offered in the 2007 “Economics Development Strategies” report. The following were provided by the County and strategies were isolated as they pertain to Greenwich Township.

Corn – Corn requires relatively less labor and costs inputs than produce, nurseries and greenhouses, and livestock, making it more profitable. It is also grown on livestock farms as feed for animals. Therefore, much of the corn grown never makes it to market, and is not included in any census sales figures. To continue and expand its strong market place in the county economy, some strategies Warren County could follow are:

- Explore ways to produce renewable fuels, thus adding a ready market for Warren County corn; and,
- Support the livestock industry which uses corn as feed.

Livestock and poultry - To strengthen and expand its place in the county economy, some non-dairy cattle, sheep, hogs, and poultry strategies Warren County could follow are:

- Ensure animal health;
- Explore various additional products and markets, including local restaurants and grocery markets;
- Work to bring more livestock veterinarians back to the area. This strategy can include economic incentives;

Greenwich Township Farmland Preservation Plan

- Aggressively market value-added dairy products from goats;
- Assist farmers with farming techniques, regulatory requirements and the latest research for livestock and poultry. This would include continued and additional cooperation with the Rutgers Cooperative Extension of Warren County, NJDA and NRCS; and,
- Promote the Agritourism portion of livestock and poultry, such as petting zoos.

Hay – Hay is typically grown as feed on livestock farms and never makes it to market, and is therefore not included in census sales figures. To continue and expand its strong market place in the county economy, some strategies Warren County could follow are:

- Explore new markets, and also ways to expand existing markets; and,
- Support the livestock industry which uses hay as feed.

Equine – Many of the equine farms in Warren County consist of pasture and stable horses, and provide riding lessons. This fact is not reflected in any sales figures, but contributes to the County’s economy. To continue and retain the County’s market share in the state and regional equine industry, Warren County farmers can:

- Ensure the health of horses;
- Promote the industry at shows and festivals, such as the annual Warren County Farmer’s Fair; and,
- Promote the Agritourism aspect of the equine industry through petting zoos, horse and pony rides, and boarding and riding lessons.

Greenwich Township Agricultural Advisory Committee and the Greenwich Township Council were awarded a MP3 Planning Grant from the NJ Highlands Council to investigate sustainable agriculture in Greenwich Township. The MP3 grant conducted a case study in three specific areas:

Task 1 – Environmental Protection / Growth Management Issues

Task 2 – Analyze affordable housing needs and develop strategies to provide affordable housing.

Task 3 – Agricultural Sustainability;

The Greenwich Township Planning Board developed a Technical Report which called for Agricultural Sustainability investigations and resource conservation related studies. After developing this report, the Greenwich Township Planning Board decided to include this report as an Appendix to the Land Use Plan Element of the 2006 Master Plan Update to supplement the findings and recommendations of the Land Use Plan and the underlying rationale for the Resource Conservation District that is designated in the master plan. The recommendations contained throughout that document, in part, provide a basis for implementing a land preservation / resource protection land use and zoning strategy, for a majority of the lands in the Township located within the Highlands

Greenwich Township Farmland Preservation Plan

Planning Area that are primarily farmland, and which remain in active cultivation. In addition, The AAC intends to include a new section to the Township website linking available resources for farmers to aid them in transitioning to more profitable agriculture.

B. Agricultural Industry Retention, Expansion and Recruitment

1. Institutional

The Warren County Comprehensive Farmland Preservation Plan provided an extensive wealth of information on agricultural retention, expansion and recruitment strategies. The following sections have been taken from the County's plan as it relates to Greenwich Township, for additional information refer to the County's plan. The Township promotes and encourages these strategies in an effort to maintain and expand the Township's agricultural base.

Greenwich Township AAC is in the process of investigating how the Committee and the Township can best encourage, sponsor, and promote agricultural viability in the Township and the region. Greenwich AAC would help to promote and support any regional initiatives.

Market Research

Working closely with Rutgers University Food Policy Institute, and the Rutgers Cooperative Extension of Warren County, the County's agriculture community may identify and integrate market research on agriculture and economic trends. In this way, Warren County will remain a leader in New Jersey's agriculture community. The Food Policy Institute can be reached at (732) 932-1966.

Livestock Cooperative Auction – This is a co-op run by the Auction Market Association of North Jersey, comprised mostly of farmers, and has been operating since 1941. Farmers, as well as restaurants and private individuals sell, buy, and trade livestock, eggs and crops. Most of the sheep, lambs, goats, hogs, and cattle are sold to slaughterhouses, which use the animals for use in food products. Private individuals and restaurants buy mostly eggs.

Farmer's Market – The Washington Borough Weekly Farmers Market is held on Fridays from 3 to 7 p.m., between June and September, and is located on Route 57 in the United Methodist Church parking lot, just west of the Route 31 intersection.

Community Supported Agriculture

The Food Shed Alliance (FSA) – is a local, grass roots group supporting

Greenwich Township Farmland Preservation Plan

community agriculture. The FSA is a non-profit group devoted to “promoting profitable, sustainable farming and locally-grown, fresh, healthy food in northwestern New Jersey”. The FSA closely links the health of land and communities with the existence of local farms, believing that farmers are the key in connecting people with “food, the land, and our sense of place”. These tenets foster a “self-sustaining “food shed” that supports farmers, nourishes people, respects the land, and strengthens (our) communities.”

Additional Resources

The Rutgers Cooperative Extension (RCE) of Warren County and the Rutgers University Agricultural Experiment Station are vital to the long term economic sustainability of agriculture in Warren County, and the State of New Jersey. Farmer education programs keep the Warren County agriculture industry apprised of the most recent farm research and techniques, which helps Warren County farmers to remain competitive. The Future Farmers of America (FFA) organization trains young people in agriculture practices, preparing them to be future Warren County farmers.

Sustainable Agriculture Research and Education (SARE) is a “United States Department of Agriculture competitive grants program with regional programs and regional leadership. SARE supports research and education that helps build the future economic viability of agriculture in the United States. SARE funding is authorized under Subtitle B of Title XVI of the Food, Agriculture, Conservation and Trade Act (FACTA) of 1990.

The Agricultural Marketing Resource Center (AgMRC) brings together agriculture experts from Iowa State University, Kansas State University and the University of California “ ... to create and present information about value-added agriculture. The center draws on the abilities, skills and knowledge of leading economists, business strategists and outreach specialists to provide reliability in value-added agriculture”. AgMRC provides information to help farmers “assess value-added market opportunities, investigate processing options and understand business and production issues” for such agricultural commodities and products as Agritourism, renewable energy, livestock, specialty crops, and numerous others.

Farm Link Program

The Farm Link Program serves as a resource and referral center for new farmers, farmers seeking access to land and farming opportunities landowners seeking farmers, and farmers working on much needed estate and farm transfer plans. The program’s linking service works to connect farm owners with farmers seeking access to land and farming

Greenwich Township Farmland Preservation Plan

opportunities. People looking for land typically include new farmers or farmers looking to expand or relocate their operations. When matches occur, they often involve leases, partnerships, apprenticeships, standard sales, and other arrangements. The Agricultural Advisory Committee could provide a link to the Farm Link Program on the Township's website.

Jersey Fresh/ Jersey Grown

Maintain an interactive directory of community farmers markets on the department's website and continue to offer community farmers market lists for publication in local papers.

The year 2007 saw the continuation of the *Jersey Grown* quality-grading program promotion of Christmas Trees. The upgraded retail nursery and garden center listing on the *Jersey Grown* website features an interactive search feature to assist consumers to locate garden centers and nurseries by county, town, business name or product.

Continue to assist in linking growers with organic food processors, retailers, animal feed suppliers and all other handlers to help identify new market opportunities and take advantage of the growing demand for processed food products made from organic ingredients.

The marketing and distribution of fresh and frozen grass-fed and organic grass-fed livestock products throughout the state will be supported.

Expand the number of farmers markets that currently offer fresh meat products.

Continue to develop and promote livestock sales at several locations throughout the State and enhance support for the sale of market lambs and 4-H animals.

Continue to support the New Jersey Junior Breeders' Fund loan program which is helping future generations of agricultural education/FFA students and 4-H members to continue to advance the breeding of purebred livestock and the production quality of grade livestock.

Jersey Organic

The Department provides New Jersey farmers and processors access to a quality organic certification program. Farmers who are transitioning to organic production now have the ability to market their products under the new Department "Transitional Sustainable" label, which is not available under the NOP program. In doing so, New Jersey farmers will not have to wait the required 36-month "free of prohibited materials" to realize

Greenwich Township Farmland Preservation Plan

increased prices this niche market supports.

Over the last several years the Department received USDA funds to help offset the costs of organic certification. In 2008, the Department will continue to promote and administer cost sharing of organic certification fees for eligible operations, preparing informational brochures and fact sheets, and fully integrating organics into the Department's promotional programs.

Encourage integration of the marketing of the *Jersey Organic* brand along side of the *Jersey Fresh* promotional program. Represent *the Jersey Organic* brand at national produce industry trade shows and promote the availability of organic products and the use of the *Jersey Organic* promotional brand to wholesalers and retailers.

Jersey Bred

Work with horse owners to assure awareness of disease threats and animal safety. Continue working to protect the health of horses from the immediate threat of devastating and economically damaging diseases.

Work to implement the recommendations of the Department's "Focus on New Jersey's Horse Racing Industry" report and seek to augment purse values, increase track attendance, and improve the industry's supportive infrastructure.

Promote and create general awareness of the development of Equine AMP (Agricultural Management Practices) to allow for increased right-to-farm protection for New Jersey's equine industry.

Jersey Fresh Wine

Promote products from the newly established "Jersey Coastal Plain" American Viticulture Area.

Support the wine industry's effort to expand its number of eligible retail outlets and also the ability to sell their wines at farmer's markets.

2. Businesses

Again, the Warren County Farmland Preservation Plan offers information on local suppliers and distributors in the region:

Supplies and Services - Some farmers now purchase equipment parts from suppliers via United Parcel Service, Federal Express, or similar delivery services. This is becoming more of an option, and a necessity, as fewer supply stores are in the area. However, since delivery prices are

Greenwich Township Farmland Preservation Plan

relatively low, and farmers do not have to take the time to physically drive and pick up parts and supplies, this can actually be an economical way to receive certain parts and supplies. Mail order will not work for delivery of bulk supplies such as feed or fertilizer, which must be picked up at distant locations, or delivered for a fee.

Equipment and supply stores in the area include:

- Gro-Mart in Bloomsbury, Hunterdon County
- D&R Equipment in Ringoes, Hunterdon County
- New Holland Equipment in Washington Township, Warren County
- Smiths Tractor in Washington Township, Warren County
- Frank Rymon and Sons in Washington Township, Warren County
- Tractor Supply in Sussex County
- Farmside Supplies in Sussex County
-

Due to extremely limited budget for Planning Board and no budget for the Agricultural Advisory Committee, the Township relies upon Warren County for coordination for promotion of regional opportunities such as regional farm markets and press releases.

3. Anticipated Agricultural Trends

This decrease in farm size, also typical of other New Jersey farming counties, is due in large part to the decline of large acreage dairy farms. Subsequently, farms are being subdivided to facilitate the increase in beef cattle, equine, nursery and greenhouse, sheep, and goat farms, which require less acreage. As an example of adaptability, the county's larger farms can (and do) grow hay and corn for the rising equine and beef cattle industries within the county. Also, smaller farms mean more opportunity to focus on specialized farm products for designated customers. As agriculture is indeed a business, farmers must continue to be adaptable to change with the needs and wants of its customer base.

Greenwich Township AAC is investigating ways which can assist farmers to identify and take advantage of new marketing opportunities. The strategy is to identify and disseminate information through the Township web site. The Township could coordinate with Warren County by offering the municipal building for functions and informational session.

4. Agricultural Support Needs (From County Plan)

Agricultural Facilities, and Infrastructure

Although many of the suppliers and processors the farmers utilize are not located in the County, declining production and inventory figures in the crop and livestock sectors may indicate that there is little need to alter this state of affairs. The infrastructure the farmers most need is on the

Greenwich Township Farmland Preservation Plan

regulatory and technical assistance side: getting municipalities, residents and consumers to look favorably on agriculture and understand the economic and quality of life advantages it brings to the County, getting municipal support through flexible land use regulations and ordinances that take into consideration the special needs of the agricultural operations, and getting help with financial and planning matters through workshops and other educational and counseling services provided by the state, RCRE, the CADB and the federal government.

Additional support could come from a concerted effort to promote agritourism through signage, publications, website and media promotion.

Regional investment in reopening freight lines for grain transportation could be an asset to Greenwich farmers.

Flexible Land Use Regulations

The County can work with local municipalities toward understanding the importance of agriculture to the economy of the county and the importance of an agriculture-friendly environment at the municipal level in support of the agricultural sector of the community. Right to Farm and accommodations for agricultural vehicle movement and the building of an awareness of and provisions supportive of agriculture into municipal master plans and zoning ordinances go a long way towards the kind of support agriculture needs in order to be an economically viable sector.

Other areas where municipal sensitivity to the land use needs of agriculture can be helpful include consideration of the following issues when creating municipal ordinances and regulations:

- Setting specific buffer standards for non-farm development adjacent to working farms that help to limit trespassing and littering and also protect the residential landowner from dust and spray materials spread during farming activities, thus minimizing potential Right to Farm conflicts;
- Code or ordinance provisions requiring developers to notify purchasers of the proximate existence of active agriculture;
- Exemptions for certain farm structures from building height restrictions;
- Allowing additional principal dwelling units on farms in order to meet the needs of farmers for additional housing for their children or for farm managers;
- Exemptions from setback requirements when farmers seek to expand an existing nonconforming structure;
- Flexible fencing ordinances that make allowances for types of fencing on farms that might not be desirable in residential zones, in

Greenwich Township Farmland Preservation Plan

- consideration of the farmers needs to prevent wildlife damage; and
- Construction fee reduction for agricultural buildings.

Agricultural Representation

Some of the local farmers are involved in regional business associations but generally Township farmers rely upon the CADB for representation.

Agricultural Support Implementation

Suggestions for future agricultural support include workshops and other educational opportunities at the state and county level that may require funding through the many grant opportunities available from state and federal programs. In addition, support for the implementation and monitoring of farmland preservation, one of the chief ways to protect and ensure the continued presence of agriculture in the County, comes from the County's open space trust fund, local contributions from municipalities, SADC dollars through programs such as Planning Incentive Grants and soil and water conservation grants and federal dollars from federal programs such as the Farm and Ranch Lands Protection Program. The mechanism is in place for increasing the trust fund if the county freeholders see the need. In addition, the freeholders reevaluate the trust fund each year and can shift the proportion of trust fund dollars allotted to farmland preservation, open space and historic preservation based on the priorities for the given year.

In addition, the County maximizes the amount of land it preserves by encouraging applicants to donate a portion of the land preserved through the traditional easement program and to accept a lower amount for the land than the certified market value. This benefits the preservation program by enabling the acquisition of property it might not otherwise have been able to acquire, while at the same time providing the landowner with tax benefits.

Greenwich Township like many of the smaller rural municipalities in New Jersey is facing harsh economic impacts from the cuts in the State budget. The Township has committed to the dedicated tax for farmland preservation but is not contemplating implementation of any new programs aimed at economic development of the agricultural industry at this time.

The AAC is in the process and will continue to investigate how the Township can assist in regional initiative to promote the industry of agriculture.

VII. Natural Resource Conservation

A. Natural Resource Protection Agencies

The Warren County Plan provided information on various services involved in farmland preservation and natural resources protection. The following section has been provided by the County Plan. The Township seeks to increase its communication with the Natural Resource Conservation Service (NRCS) and the Warren County Soils District to encourage agricultural retention and best management practices by local farmers. Please refer to the full County Plan for additional information.

Natural Resource Conservation Service

An important partner in support of natural resource conservation for the agricultural community is the United States Department of Agriculture (USDA)'s Natural Resources Conservation Service (NRCS). The NRCS “*provides assistance to private land owners (including farmers) in the conservation and management of their soil, water, and other natural resources. Local, state, and federal agencies and policymakers also rely on (its) expertise*”. The NRCS provides technical assistance suited to the natural resource issues that are specific to a farmer’s needs, with ample opportunity for cost shares and financial incentives.

The local NRCS office serving Sussex, Warren, and Morris Counties is located at 101 Bilby Road, Suite 1H in Hackettstown. Warren County farmers may utilize this local NRCS office for assistance. NRCS will also reach out directly to landowners if they know of a farmer who is in need of technical assistance, or can use the guidance of the NRCS staff. The local NRCS office also helps to prepare Conservation Plans for Warren County Farmers. These Conservation Plans nearly always include strategies to conserve soil and water, but may also include conservation practices for flora, fauna and clean air. If all five elements are included, they are referred to as Resource Management Plans.

Within one year of selling their development easement, owners of preserved farms are required to enter into a Conservation Plan. The Plans are also required to apply for natural resource conservation program grants such as the Wildlife Habitat Incentive Program (WHIP) and Environmental Quality Incentive Program (EQIP). The local NRCS office administers these conservation program grants, which offer financial incentives to support conservation projects, including stream riparian buffers and wildlife habitat. Administration of these grant programs includes field visits to prepare the Conservation Plans, preparation of grant program contracts, assistance with installation of contract conservation practices, and inspection of farms to verify that contract conservation

Greenwich Township Farmland Preservation Plan

practices are implemented and maintained.

Warren County Soil Conservation District

Another partner in the conservation of agricultural resources is the New Jersey Department of Agriculture, Division of Agricultural and Natural Resources. Among its responsibilities, the Division implements the natural resource conservation programs, administered by the State Soil Conservation Committee (SSCC). These programs *“provide engineering services and regulatory guidance to soil conservation districts, homeowners, engineers, planners, and virtually all development activities. The Division provides technical standards applicable to construction and mining sites regulated by the Soil Erosion and Sediment Control Act program ...”*

The Warren County SCD is charged with reviewing and approving natural resource conservation and assistance program grants, implementing agricultural conservation planning assistance, agricultural conservation cost-sharing program grants, application of organic materials on agricultural land, agricultural water supply and management, soil erosion and sediment control, storm water discharge authorization, and soil surveys.

Rutgers Cooperative Extension of Warren County

The Rutgers Cooperative Extension (RCE) of Warren County provides both field and technical research which is focused on best management practices for farmers, to ensure the long term viability of both the agricultural economy and the natural resources upon which it is based.

Relative to natural resource conservation, the RCE of Warren County offers the Agriculture and Natural Resource Management program. This education program provides *“nonbiased, research-based educational programs and services for both homeowners and commercial producers. Services offered by extension personnel include soil testing, insect identification, plant disease diagnosis, and pest management recommendations for agricultural operations”*, as well as *“educational publications covering a wide range of agricultural topics”*. Staff members offer programs that are, among other things, designed to *“reduce environmental impact.”*

B. Resource Protection Programs and Funding

The following section is taken from the Warren County Comprehensive Farmland Preservation Plan. The Township and local farmers are encouraged to use any available grant program to retain agricultural production in the Township. The

Greenwich Township Farmland Preservation Plan

Township will seek to provide additional support to local farmers in educating and outreach to ensure that land owners are aware of all the support opportunities available to them. The follow is an outline of some of the grant opportunities provided by the State and Federal programs.

SADC Soil and Water Conservation Grants

The New Jersey Department of Agriculture, State Agriculture Development Committee (SADC) has in the past provided grants to farms that are permanently preserved, or are enrolled in the eight year preservation program, with priority for preserved farms. Cost share grant funding for fiscal year 2008 has been approved. The purpose of the grants and program is to provide funding for soil and water conservation practices.

The types of soil and water conservation projects funded by SADC include soil erosion and sediment control systems (terrace systems), control of farmland pollution (stream protection; sediment retention, erosion or water control systems; animal waste control facilities; and agricultural handling facilities), the impoundment, storage and management of water for agricultural purposes (diversions; water impoundment reservoirs; irrigation systems; and, drainage systems), and management of land to achieve maximum agricultural productivity (land shaping or grading).

These grants fund soil and water conservation projects approved by the Warren County Soil Conservation District (District), with the program administered by both the District and the local NRCS office in Hackettstown. Both the District and the local NRCS office also provide technical assistance for eight year program projects. Once the District deems the conservation project necessary and feasible, applications are forwarded to the N.J. State Soil Conservation Committee, which recommends projects to the SADC for funding approvals. Traditionally 50% of the costs of approved soil and water conservation projects are paid with grant funds, but up to 75% has also been approved in the past.

Conservation Reserve Enhancement Program (CREP) and Conservation Reserve Program (CRP)

Through CREP and CRP, agricultural producers voluntarily retire land to protect environmentally sensitive areas, decrease soil erosion, provide and restore wildlife habitat, and protect ground and surface water. Examples of conservation practices include riparian buffers and filter strips for water quality, and contour buffer strips to reduce soil erosion. With incentive payments for farmers to fully implement a CREP contract, payment for

Greenwich Township Farmland Preservation Plan

this program may be fully funded by NRCS and NJDA. Statewide, CREP was most recently funded with \$100 million for the 2004 to 2007 timeframe, and has been used successfully in Warren County. It is used mostly along streams and rivers, to protect water resources.

Conservation Innovation Grant program (CIG)

The aim of the CIG program is to stimulate the development and adoption of conservation approaches and technologies which are innovative, in conjunction with agricultural production. Funds are awarded as competitive 50-50 match grants to non-governmental organizations, tribes, or individuals. CIG is a component of EQIP, and its grants are generally funded through EQIP.

Environmental Quality Incentive Program (EQIP)

EQIP is a conservation program in which farmers receive financial and technical assistance with structural and management conservation practices that address soil, water, and grazing land concerns. EQIP is the most popular and widely used conservation program in Warren County, and is the most well funded of all the programs, receiving approximately \$4 million statewide on an annual basis. In Warren County, between 2005 and 2007 there are 4,494 contracted acres, with 38 active contracts.

Farm and Ranch Land Protection Program (FRPP)

FRPP provides up to 50% matching funds to purchase development rights and conservation easements to keep farm and ranchland in agricultural use. The USDA partners with state, tribal, or local governments, and non-governmental organizations. Farmers accepting funds through this program must adhere to strict impervious surface limitations. In New Jersey, this program receives approximately \$500 thousand to \$1 million annually, most of which goes to the State Agriculture Development Committee or private conservation groups.

Grassland Reserve Program (GRP)

GRP was a program which offered landowners the opportunity to protect, restore, and enhance grasslands on their property, which play a vital role in protecting water quality and providing wildlife habitat. This program was coordinated through several federal agencies but has recently become inactive in Warren County.

Greenwich Township Farmland Preservation Plan

Wetlands Reserve Program (WRP)

WRP offers farmers payments for restoring and protecting wetlands on their property that had been previously drained for agricultural use. Wetlands help reduce flooding, filter pollutants from water, provide critical wildlife habitat, and protect open space. Payment by NRCS is based upon appraised agricultural land value. With appraised values from \$100 to \$2000 per acre, many farmers are not willing to create wetlands on otherwise productive agricultural lands. As a result, the WRP is not widely used in Warren County.

Wildlife Habitat Incentives Program (WHIP)

WHIP provides technical and financial assistance for creating, enhancing and maintaining wildlife habitat. The State Technical Committee for WHIP in New Jersey awards project contracts for designated wildlife habitat categories such as for migratory and declining wildlife species, and for pollinators that benefit agriculture. Since its inception in 1998, WHIP has been a popular program for non-federal landowners interested in wildlife habitat management in New Jersey.

C. *Water Resources*

Greenwich Township is predominantly underlain by limestone formations, which are capable of rapid groundwater recharge and through which water can move at rapid rates through cavities in the rock. Protecting these geologic and land features assume a high local and regional priority.

Greenwich Township prepared a hydrogeologic report in 2005 which determined the need for conservation strategies in the Township for the future of water supplies. The Township is located within the Highlands Physiographic Province. Underlying geology, aquifers and Greenwich Township's soil types are uniquely capable of recharging and storing large quantities of groundwater.

An "Evaluation of Groundwater Resources of Greenwich Township, Warren County, New Jersey" dated November 2005 identified a series of findings and policies for the protection of Greenwich Township's groundwater resources, including the following which are abbreviated below:

1. N.J.A.C 7:9B indicates that all of the streams in Greenwich Township are high-quality surface-water resources worthy of significant protective measures.

Greenwich Township Farmland Preservation Plan

2. As C1 waters, streams are protected from degradation resulting from discharges such as those from wastewater treatment plants, which limits options for disposal of wastewater to groundwater discharges. Greenwich's soils will limit the operation of wastewater leaching systems.
3. The structural geology of Greenwich Township indicates that the rocks beneath this municipality have a high potential for the storage and transmittal of large quantities of groundwater within the carbonate rocks. The structural and bedrock geology of Greenwich Township indicate that this Township *may be one of the best long-term resources for water supply in New Jersey.*
4. Ninety percent or approximately 6,293-acres of Greenwich Township are underlain by carbonate rocks, where groundwater is stored. The openings in the rock can transmit very large quantities of water sometimes in excess of 1000 to 2000 gpm.
5. For the same reason that carbonate rock aquifers are capable of very high well yields, they are also extremely susceptible to contamination from anthropogenic sources. Solution features and sinkholes can rapidly transmit man-made or man-introduced contaminants into these prolific water resources. Because of the nature of these aquifers, additional measures are often necessary to protect water quality and quantity. The filling, grouting, or sealing of solution cavities can significantly reduce groundwater recharge and greatly increase surface water runoff. The sealing of these solution openings will affect the long-term water resources of Greenwich Township and the region.
6. Wells located by qualified geologists using best available technologies in carbonate rock-aquifers can often yield in excess of 1000 gpm. A well with a long-term sustained yield of 1000 gpm could produce more than 1.4 million gallons of water per day and based on a usage rate of 100 gallons per day per person, could provide sufficient water for more than 14,000 people. A series of properly located wells in a well field or combination of well fields could feasibly sustain a small to moderately sized city located elsewhere in New Jersey.
7. It is very likely that the groundwater resources of Greenwich Township are equivalent if not greater than the surface-water storage capacity of Spruce Run Reservoir, one of New Jersey's largest reservoirs. If the porosity of the carbonate rock-aquifers beneath Greenwich Township is closer to 20 percent than 2 percent, the total potential volume of water in storage beneath the Township would be nearer 123 billion gallons, which would be more than twice the size of Round Valley Reservoir, which is the largest reservoir in New Jersey with a capacity of 55 billion gallons.

Greenwich Township Farmland Preservation Plan

8. The groundwater resources of the carbonate rock-aquifers of Greenwich Township could sustain the water-supply demands of at least 15,700 persons per day without resulting in adverse impacts to the aquifer during drought conditions similar to the “Drought of Record”. Given the hydrogeologic characteristics of the carbonate rock-aquifers and the relationship of these aquifers with the streams in the Township, it is possible that the dependable yield of the carbonate rock-aquifers could be much higher than 20 percent of drought recharge. If it were assumed that 50 percent of recharge during a drought could be withdrawn without resulting in adverse impacts, the groundwater resource of Greenwich Township could sustain a population of 39,000 persons. If properly protected, the Township’s carbonate rock-aquifer resources likely could sustain the population of a small city. However, additional development or increasing populations within the Township will likely diminish the quantity and quality of water that could be obtained.
9. If Greenwich Township protects the groundwater resources of its carbonate rock-aquifers by concentrating development and preserving areas underlain by these rocks, especially where highly fractured, one of New Jersey’s best untapped resources will be available for future generations.

Water Conservation Strategies

The following activities have been identified to protect groundwater aquifers and ground water quality and quantity in the Township.

- Protect aquifer and groundwater recharge areas and prevent contamination of ground water resources to maintain safe drinking water supplies for future regional potable water supplies and to ensure that an ample supply of water is available for local agricultural uses.
- Protect groundwater quality and quantity through the proper management of aquifer recharge areas, wetlands and their transition areas and limestone and fractured bedrock groundwater aquifers.
- Require compact patterns and arrangements of development to limit impervious surfaces, surface runoff and the potential for water quality impairment; and to maximize groundwater recharge capacity.
- Limit permitted impervious coverage to maintain maximum groundwater recharge and storage capacities and prevent any compromise in groundwater quality.

Agricultural Demand for Water

New forms of profitable agricultural operations are often more intense and demand for resources including water may be increased. The Township has not

adopted a formal policy on giving agriculture priority in water allocations, but the AAC is including water allocation in their ongoing investigations of agricultural viability. All Township residents including farmers should be encouraged to employ water conservation strategies.

D. Waste Management and Recycling

Waste management for the Township exists on several levels. Field crop production can create a large amount of agricultural byproducts. Additionally livestock production creates a great deal of organic waste byproducts that need to be carefully disposed of to avoid pollution issues. The following section, as provided by the Warren County Plan, highlights the current strategies employed by the County. Greenwich Township does not have a separate policy on waste management and has relied upon County and State level initiatives for waste planning.

Waste Management in Warren County

Discussion with the local NRCS office in Hackettstown and the Warren County Land Preservation Department, indicate the following regarding animal and crop waste management in Warren County:

- Many farmers have “Nutrient Management Plans” to manage the manure generated on their farms.
- Horse waste on farms can be a problem. This is due in part to the relatively small land area of horse farms, making the manure more difficult to effectively and safely distribute on fields. This can spread diseases from the horse manure. Warren County is aware that more needs to be done to control this problem.
- Relative to disease, cattle manure is not as serious a problem as horse manure. This is due in part to the relatively large land area of dairy farms, making it easier to safely and effectively distribute the manure on fields. This helps to control the spread of disease.

Animal Waste Management

The New Jersey Department of Agriculture in August of 2010 adopted an Animal Waste Management Rule. New Jersey Department of Agriculture (NJDA) has been authorized by the Legislature to develop criteria and standards for animal waste management through the Leaf Composting Law of 1989 and the Aquaculture Development Act of 1997. The NJDA is developing these rules to fulfill its legislative mandate and to proactively address non-point source pollution that may emanate from agricultural animal operations. There are 5 General Requirements: 1) No agricultural animal operation shall allow animals in confined

Greenwich Township Farmland Preservation Plan

areas to have access to waters of the State unless such access is controlled in accordance with the NJDA BMP Manual. 2) Manure storage areas shall be located at least 100 linear feet from surface waters of the state. 3) The land application of animal waste shall be performed in accordance with the principles of the NJDA BMP Manual. 4) No livestock that have died from a reportable contagious disease or an act of bio-terrorism (nor associated animal waste) shall be disposed of without first contacting the State Veterinarian. 5) Any person entering a farm to conduct official business related to these rules shall follow bio-security protocol.

Recycling

Recycling should be an important part of natural resource conservation for the agriculture industry. Recycling saves natural resources, and can also save farmers money through creative reuse, such as using leaves and grass clippings to mulch and fertilize farm fields, and saving on solid waste disposal costs. Recycling reduces the amount of refuse finding its way to limited landfill space. Corn and hay, the dominant farm product by acreage in Warren County, use limited products which can be recycled, and as such limits recycling opportunities.

E. Energy Conservation

Energy conservation has wide ranging implications, not only on the local environment but on a global scale. Climate change has been on the forefront of the world stage and strategies to combat the resulting issues have been promoted and encouraged. One such strategy is to conserve energy and find alternative energy production that does not further degrade the environment.

Solar Energy

Solar energy can be harnessed via the installation of solar panels. This harnessed or stored energy can then be used to create electricity and provide heat. If excess electricity is generated, it can be sold back to the electric grid for a profit. The overall use of solar panels has greatly increased in New Jersey. EQIP does provide some funding for solar panels, and farmers interested in using this alternate energy source can contact the local NRCS office.

Wind Energy

The power of a strong wind can be captured by turbines or windmills, turning such power into electricity. Expanding and evolving technology is making this option more attractive to farmers as a way to cut energy costs. According to the NJDA the northwestern part of New Jersey has ample and consistent enough wind power to make turbine energy feasible. One possible roadblock to use of wind turbines, is that few, if any, municipal ordinances allow the use of wind turbines.

Ethanol

Ethanol is a renewable fuel “made by distilling the starch and sugar in a variety of plants.” It can then be blended into gasoline as an “oxygenate”, reducing air pollution. Its use may also reduce dependence on foreign oil, and the harmful environmental effects of oil drilling. Also, unlike the gasoline additive MTBE, Ethanol will not contaminate groundwater. Corn, a dominant field crop in Warren County (along with hay and soybeans), could position Warren County farmers to financially capitalize on the spreading movement towards ethanol-blended fuels. More study would need to be done on whether this would be profitable for County farmers, and how it would affect other local agriculture industries (for instance, how it would affect the dairy industry’s supply of, and price for, feed corn).

Bio-diesel

Petroleum diesel is an emitter of sulfur emissions, a major air pollutant. Bio-diesel, made from the oils of soybeans, is an alternative to petroleum diesel. This organic fuel can be blended and used in diesel engines without modification. The result is a significant reduction of the harmful fumes produced by pure petroleum diesel.

Renewable Energy Grant Programs

The NJDA provides the following information on renewable energy grant programs, which can help encourage the use of these energy sources:

New Jersey’s Clean Energy Program: Administered by the New Jersey Board of Public Utilities, this program provides financial incentives to install clean energy systems, including fuel cells, solar energy, small wind and sustainable biomass equipment. Financial incentives are in the form of rebates, grants and loans. Additional information is at www.njcep.com/.

Renewable Energy Systems and Energy Efficiency Improvements Program: As part of the 2002 Federal Farm Bill, this program “funds grants and loan guarantees to agricultural producers for assistance with

Greenwich Township Farmland Preservation Plan

purchasing renewable energy systems and making energy efficiency improvements”. Final rules for loans and grants were adopted by the U.S. Department of Agriculture in July 2005. The proposed 2007 Farm Bill would reportedly continue this funding. Additional information can be found at the following website: www.rurdev.usda.gov/rbs/farmland/index.html.

Biomass Research and Development Initiative Grants: The United States Departments of Agriculture and Energy support development of biomass energy. Grants are available for research, development and demonstrations on bio-based products, bio-energy, bio-fuels, bio-power and additional related processes. In the recent past, grants have focused on development and demonstration projects that lead to greater commercialization. Additional information is available at the following website:

<http://www.state.nj.us/agriculture/news/hottopics/topics060222.html>.

E.1 Alternative Energy Generating Facilities

Alternative energy generating facilities such as solar, photovoltaic, wind and biomass facilities are not permitted uses in any zone district in the Township. However, there is rapidly increasing demand for large “grid scale” facilities to be located on open land. New Jersey ranks second after California in the siting of alternative energy facilities in an effort to reduce reliance upon fossil fuels, particularly coal, and nuclear energy. However, the potential conflicts associated with large scale facilities in the nation’s most densely populated state should not be underestimated. It is the intent of this Farmland Preservation Plan Element to identify potential conflicts and set policy for the eventual siting of alternative energy generating facilities. The approving Board may rely upon these policies when analyzing and considering any applications for such uses.

New Legislation. The New Jersey Legislature has been active recently in legislating to facilitate the production of alternative forms of energy. The following three new statutes in particular have substantially changed the way alternative energy can be developed in New Jersey;

1. Industrial Zones. The Municipal Land Use Law, NJSA 40:55D-66.11, was amended March 31, 2009 by P.L. 2009 c. 35 to pre-empt local zoning authority and to permit, by right, solar, photovoltaic, and wind electrical generating facilities in every industrial district of a municipality. To be eligible for this permitted use, a tract must be a minimum size of 20 contiguous acres and entirely under one owner.
2. Inherently Beneficial Use. The Municipal Land Use Law, NJSA 40:55D-4 &7, was also amended by P.L. 2009 c. 146 to define inherently beneficial uses

and to include solar, wind and photovoltaic energy generating facilities in the definition.

“Inherently beneficial use” means a use which is universally considered of value to the community because it fundamentally serves the public good and promotes the general welfare. Such a use includes, but is not limited to, a hospital, school, child care center, group home, or a wind, solar or photovoltaic energy facility or structure.”

Inherently beneficial uses are assumed to serve the zoning purpose of promoting the general welfare and therefore presumptively satisfy the positive criterion for grant of a use variance pursuant to NJSA 40:55D-70d. In addition, for an inherently beneficial use, the enhanced burden of proof with regard to the “negative” criteria does not apply; instead, the positive and negative criteria are to be balanced and the relief granted providing there is no substantial detriment to the public good.

3. Wind, Solar, and Biomass on Farms. P.L. 2009 c. 213, signed in to law on January 16, 2009, modifies several laws regarding alternative energy and preserved farms, commercial farms, right to farm, and farmland assessment.

The State Agriculture Development Committee (SADC) with assistance from the Board of Public Utilities (BPU) must adopt rules identifying standards for siting alternative energy generating facilities on preserved farms. A maximum of 1% of the preserved farmland may be dedicated to alternative energy generation.

The Right to Farm Act has been amended to permit and protect up to 10 acres or 2 megawatts (2MW) maximum production of electricity on commercial farms not subject to farmland preservation, provided the acreage of the electrical facility does not exceed a ratio of 1 acre of energy facility to 5 acres of agricultural acres, or approximately 17% of the farmland. In addition, farms developing electrical facilities not exceeding these limits will remain eligible for farmland assessment for the entire farm including the area under the electric generating facility.

E2. Standards for Siting Alternative Energy Generating Facilities

There are essentially three types of energy generating facilities for which siting standards must be developed: residential scale facilities generating no more than 10 kilowatts of electricity, farm scale facilities under 10 acres in size and generating no more than 2 megawatts of electricity and grid scale facilities producing greater than 2 megawatts of electricity. Siting standards must be tailored to the intensity of each type of facility.

Residential scale facilities are easily accommodated within the standard setbacks of a residential lot and should not typically generate the need for buffering. Farm scale facilities up to ten acres in size may require buffering from adjacent

Greenwich Township Farmland Preservation Plan

residential uses and zones. Grid scale solar facilities, large ground mounted photovoltaic facilities generating greater than 2 megawatts of electricity may be very large in size often exceeding 100 acres in size. The scale of these facilities will generate the need for buffering, setback, coverage, site maintenance, and locational standards.

In addition, grid scale facilities may require the siting of new or expanded electrical substations, transformers and bundled overhead wires. They may outcompete agriculture for prime farmland causing an interruption in the contiguity of agricultural lands. The facilities are often fenced for security purposes and effective screening in exposed or hillside locations may be impractical. The facilities are quiet; requiring little maintenance, and typically no municipal services. The State of New Jersey provides substantial financial incentives and has recently eliminated much of the risk associated with investing in grid scale solar facilities. This action, coupled with related legislation has captured the attention of large nationwide investors and created a solar “gold rush” in New Jersey.

Balancing the positive and negative consequences of siting alternative energy generating facilities is key when considering their location, scale, and impacts. One consideration of grid scale facilities is their positive tax ratable with little or no associated municipal services. A down-side to such development is the competition created for active agricultural land, especially for solar facilities which are relatively consumptive of land.

The prospect of siting renewable energy facilities within the Township must be integrated with Greenwich’s unique status as a municipality which has adopted a Master Plan and Land Development Ordinance for the primary purpose of preserving its farmland, agricultural heritage, and resource conservation.

Notwithstanding the inherently beneficial use qualification conveyed by the 2009 statutory change to the Municipal Land Use Law described above, renewable energy facilities still require use variances within the Township; consequently, they must satisfy the so-called negative criteria.

The following policies are intended to guide the Land Use Boards in considering any such applications for renewable energy facilities and in applying the negative criteria:

1. In order to promote a policy of utilizing the most suitable lands within the Township’s Resource Conservation District (RCD) for farming, grid-scale renewable energy facilities should not be located on lots with greater than 75% prime agricultural soils.
2. In order to support the goal of providing for large contiguous tracts of farmland within the Township’s RCD district, grid-scale renewable energy

facilities should not be located on lots which are adjacent to preserved farmland.

3. In order to retain the rural appearance of the Township's RCD district as opposed to the industrial appearance of electric generating facilities, any grid-scale renewable energy facilities which are approved should provide sufficient land area and landscape material around the perimeter of the developed area to provide an effective year-round screen of the view of the facilities from adjacent public or private roads and residences.

The policies set forth above are not intended to thwart all applications for renewable energy facilities in the Township. Rather, they are intended to advise prospective developers of such facilities how the goals of Greenwich Township's Master Plan and those of the State Development and Redevelopment Plan can be balanced with the public interest in facilitating the development of renewable energy production.

VIII. Agricultural Industry Sustainability, Retention and Promotion

A. Existing Agricultural Industry Support

1. Right to Farm

New Jersey has enacted a strong right-to-farm statute, which applies statewide. New Jersey's Right-to-Farm Act provides commercial farm owners or operators with certain protections from restrictive municipal ordinances and public and private nuisance actions. Protected agricultural activities include production, processing and packaging of agricultural products, farm market sales and agriculture-related educational and farm-based recreational activities. Commercial farms are also protected from unduly restrictive municipal regulations and public and private nuisance lawsuits.

These protections are available to commercial farms which:

- are operated in conformance with federal and state laws, agricultural management practices recommended by the New Jersey State Agricultural Development Committee (SADC) or site specific agricultural management practices;
- are not a direct threat to public health and safety; and
- are located in an area where agriculture was a permitted use under municipal zoning ordinance; or
- were operating as of December 13, 1997

The SADC seeks to preserve agricultural viability, an individual parcel's ability to sustain "a variety of agricultural operations that yield a reasonable economic

Greenwich Township Farmland Preservation Plan

return under normal conditions. . .”. However, to maintain the agricultural viability of a region or sector, smaller agricultural parcels, which may continue in agriculture through hobby-farming or other forms of household subsidy, remain an important part of the fabric of the agricultural landscape. Both the SADC and the State Planning Commission seek to retain large masses of viable agricultural land. SADC policies recognize that agricultural parcels may become less viable if reduced in size.

While the New Jersey right-to-farm statutes extends protection to all farms in the State, incorporating right-to-farm language into the municipal ordinance makes a strong statement to those developing lands within the Township. Continuing development will undoubtedly be at odds with existing agricultural operations and nuisance conflicts will arise.

The Township has a right-to-farm ordinance section within the Land Development Ordinance which declares the Right to farm as a permitted use in all zones within the Township. Right to Farm Ordinance is included as an Appendix C to this Farmland Plan. When compared to the SADC model ordinance some minor discrepancies arise. The AAC will continue to review and make recommendations to the Township and the Planning Board to strengthen the Right to Farm ordinance. Should an issue arise for which the Township ordinance fails to provide adequate protection, the farmer may chose to petition the CADB for protection under the Right To Farm Act.

The AAC has identified traffic congestion as an important issue in Right to farm Conflicts. The committee has discussed recommendations which include installation of pull offs for large machinery and signage.

2. Farmland Assessment

Farmland Assessment is of primary importance to Greenwich Township farmers. The Warren County Plan identifies the following summary on the Farmland Assessment Act of 1964:

“The Farmland Assessment program is a tax incentive which reduces property taxes on active commercial farmed land, thereby assisting farmers with a critical financial aspect in helping to keep land in farms. This tax incentive is made possible by the Farmland Assessment Act of 1964, N.J.S.A. 54:4-23.1 et seq.”

The County further identifies the eligibility requirements as:

- The applicant must own the land;
- The property owner must apply annually for Farmland Assessment on or before August 1 of the year immediately preceding the tax year;
- Land must be devoted to agricultural and/or horticultural uses for at least two years prior to the tax year;

Greenwich Township Farmland Preservation Plan

- Land must consist of at least five contiguous farmed and/or woodland management plan acres. Land under or adjoining a farmhouse is not counted towards the minimum five acres;
- Gross sales of products from the land must average at least \$500 per year for the first five acres, plus an average of \$5.00 per acre for each acre over five. In the case of woodland or wetland, the income requirement is \$.50 per acre for any acreage over five. Dependent on the agricultural or horticultural products being produced, the farmer can also offer clear evidence of anticipated yearly gross sales, payments, or fees within a reasonable period of time; and,
- The property owner must represent that the land will continue in agricultural or horticultural use to the end of the tax year.

The Township uses the 1964 Farmland Assessment Act and subscribes to the eligibility standards it uses.

Policy discussion regarding rollback tax increases and extension of benefits to agricultural buildings among the AAC was positive. The Governing Body of Greenwich Township however, has not taken a position on amending the Farmland Assessment Act.

B. Additional Strategies

1. Permit Streamlining (from Warren County Plan)

State agencies such as the Department of Environmental Protection, Department of Transportation, Department of Community Affairs, Department of Labor, and New Jersey Commerce Commission, should consider the NJDA Agricultural Smart Growth Plan when making important decisions regarding existing and proposed infrastructure, developing and amending regulations and programs, and protecting environmental and historical resources. These agencies should coordinate with NJDA to ensure that regulations, programs, etc. are attuned to the needs of Warren County farmers;

2. Agriculture vehicle movement

The Township protects slow moving vehicles under their adopted Right to Farm ordinance.

3. Farm Labor

The Township currently does not have a policy on farm labor housing. Most of the field crops grown in the Township do not typically require the hiring of seasonal farm labor that would require temporary housing. Field crops are often harvested through tractors and heavy equipment done by one or two workers.

4. Wildlife Management Strategies

The Township supports wildlife management strategies and will look to partner with the County and State in the future. The following is a description of wildlife strategies from the County Plan:

Management of nuisance and crop damaging wildlife is critical to the short and long term sustainability of Warren County's agriculture industry. Crop damage from wildlife leads to economic loss for the farmer and/or land owner, and is an extremely serious problem in Warren County, causing 75% or more crop loss in certain instances. Most damage is caused by a multitude of insects, as well as deer, bear, turkey, and other wildlife. It is important to not only control and manage damage to crops, but to also do it in a manner which causes the least amount of collateral natural resource damage (i.e. limit pesticide use to the greatest extent possible, using natural pest control). State, county, and local government units must be sensitive to the negative economic impacts caused by crop damage, and support efforts to control it through education, technical and financial assistance, and regulatory flexibility.

One key way for Warren County farmers to control damage from deer, bear, and turkey is through hunting of crop damaging animals. This hunting is allowed through depredation permits, issued by the New Jersey Department of Environmental Protection's (NJDEP) Fish and Wildlife Program. In many instances, this is the only short term solution to control crop damage by what is widely considered an excessive deer population in the County. Warren County farmers continue to work with the NJDEP and NJDA, as well as other counties and municipalities, to implement wildlife control strategies on privately and publicly owned land.

4. Agriculture Education and Promotion

The Township does not currently offer any agricultural education but does support the efforts of the Rutgers Cooperative Research and Extension. The following is an outline provided by the county on the RCRE efforts:

The size of the farm to which RCE lends assistance can vary greatly, from small one to five acre farms, to farms consisting of many hundreds of acres. During the growing season, RCE of Warren County provides one on one, on-site consultations with farmers to assist with control of insect infestations and plant diseases for fruits, vegetables, greenhouse nurseries and ornamentals, and also for field crops. Similar farm animal consultation is provided on a year round basis. During these one-on-one

Greenwich Township Farmland Preservation Plan

consultations, technical scientific research is relayed to the farmer in a useful and applicable manner. During the growing season, RCE of Warren County also conducts “twilight meetings” for fruits and vegetables at local farms, to discuss a wide range of issues relative to these agricultural products. In August of every year a twilight meeting is held locally to discuss sustainable horticulture.

5. Vision Statement for Agriculture in Greenwich Township

The AAC has adopted the following as the vision statement for agriculture in Greenwich Township:

The Township of Greenwich strives to maintain its agricultural heritage and farming tradition through farmland preservation and support for agricultural viability. The Township strives to insure that the agricultural landscape continues to be a working landscape by strengthening Right to Farm, developing strategies to assist agriculture where possible, and encouraging new forms of viable agriculture. The Township strives to retain current farming operations and attract new farmers and farming businesses to the community. The Township desires to coordinate open space acquisition with farmland preservation planning in order to best protect the valuable water and other natural resources of the Township.

Appendix A: Farmland Inventory

Greenwich Township 2107

Copies to Jua S!

BLOCK
LOT

PAGE 1

Area

Owner's Name & address

| BLOCK LOT | Area | Owner's Name & address | |
|--------------|-------|--|-------|
| 44 32 | 5.16 | ALTONEN, MARK 1710 ELM STREET BETHLEHEM PA | 18017 |
| 5 2 | 35.80 | AMEY, JOHN H JR & ELLEN STICHTER 40 THIRD ST STEWARTSVILLE NJ | 08886 |
| 31 4 | 42.61 | BARTHE, MICHAEL C/O LAND EQUITY INC 19 COKESBURY ROAD LEBANON NJ | 08833 |
| 5 5 | 5.51 | BAYLOR, CRAIG & MONICA 408 NORTH MAIN ST STEWARTSVILLE NJ | 08886 |
| 20 17 | 11.20 | BEATTY JOHN H 705 SOUTH MAIN ST STEWARTSVILLE NJ | 08886 |
| 20 19 | 19.16 | BEATTY, JOHN H & CAROL A 705 SOUTH MAIN ST STEWARTSVILLE NJ | 08886 |
| 26 31 | 69.90 | BEATTY, JOHN H & CAROL A 705 SOUTH MAIN ST STEWARTSVILLE NJ | 08886 |
| 26 40 | 4.20 | BEATTY, JOHN H & CAROL A 705 SOUTH MAIN ST STEWARTSVILLE, NJ | 08886 |
| 27 2 | 13.00 | BEATTY, JOHN H & CAROL A 705 SOUTH MAIN ST STEWARTSVILLE NJ | 08886 |
| 34 11 | 58.40 | BEATTY, JOHN H & CAROL A 705 SOUTH MAIN ST STEWARTSVILLE NJ | 08886 |
| 20 27 | 78.28 | BELCLARE FARM, LLC PO BOX 151 STEWARTSVILLE NJ | 08886 |
| 40 1 | 35.86 | BLOOMSBURY ASSOC C/O JP LEUENBERGER 32 MOOR DRIVE EASTON PA | 18045 |
| 23 1.05 | 11.77 | BUSS, JOHN K & BARBARA J 459 COUNTY ROAD 519 STEWARTSVILLE NJ | 08886 |
| 26 30 | 99.00 | CLINE, JAMES G 3817 CARMAN DRIVE FORT WORTH TX | 76116 |
| 31 2 | 15.60 | CLINE, RICHARD & ELIZABETH 813 SOUTH MAIN ST STEWARTSVILLE NJ | 08886 |
| 41 2 | 1.23 | CULBERTSON, ET AL C/O LAND EQUITY I POB 5008 CLINTON, NJ | 08809 |
| 40 3 | 31.50 | CULBERTSON, ET ALC/O LAND EQUITY IN POB 5008 CLINTON, NJ | 08809 |
| 3 12 | 5.00 | DAS REALTY, INC 2 ROCKWELL ROAD BELVIDERE NJ | 07823 |
| 28 6 | 10.08 | DEERBROOK FARM, LLC 35 TECHNOLOGY DRIVE WARREN NJ | 07059 |

PAGE 2

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| 26 26 | 66.00 | DOMINGUES, JOSE PO BOX 259 LONG VALLEY NJ | 07853 |
| 36 2 | 115.72 | DOWEL-IRIS GREENWICH LLC, ETAL 25 LINDSLEY DRIVE MORRISTOWN NJ | 07960 |
| 36 3 | 13.80 | DOWEL-IRIS, LLC ETAL 25 LINDSLEY DRIVE STE 201 MORRISTOWN NJ | 07960 |
| 20 5 | 8.44 | FARAONE, MICHAEL J & DIANA M 1576 EDMUND TERRACE UNION NJ | 07083 |
| 23 8 | 66.73 | FOX RIVER, LLP 11 FOX RIVER CROSSING MAHWAH NJ | 07430 |
| 40 1.01 | 5.01 | FUHRMANN, LAWRENCE G & CHERYL A 412 MINE ROAD ASBURY NJ | 08802 |
| 16 5 | 8.02 | GORGAS, CHARLES & BENTON, ANNE T 352 PLANE ROAD STEWARTSVILLE NJ | 08886 |
| 23 10 | 104.84 | GRAHAM, MARY FRANCES BORTZ 516 NORTH MAIN STREET STEWARTSVILLE NJ | 08886 |
| 20 7.01 | 8.47 | HAGERTY, JEFFREY G & KAREN M 400 ARBOR DRIVE STEWARTSVILLE, NJ | 08886.2209 |
| 20 18 | 87.00 | HAMLEN TREE FARM, LLC 671 SOUTH MAIN STREET STEWARTSVILLE NJ | 08886 |
| 41 8 | 5.31 | HAMPTON, F MALISSA 306 ROUTE 173 STEWARTSVILLE, NJ | 08886 |
| 2 2 | 16.72 | HARTMAN, JOHN & THERESA 211 PATERSON AVE MIDLAND PARK, NJ | 07432 |
| 3 12.01 | 18.58 | HAWRYLO, JOHN S 539 LOCUST ROAD FLEMINGTON NJ | 08822 |
| 20 23 | 46.50 | HEALEY, RICHARD & CYNTHIA 659 SOUTH MAIN STREET STEWARTSVILLE NJ | 08886 |
| 34 5 | 6.18 | HICKS, WILLIAM J 403 RT 173 STEWARTSVILLE NJ | 08886 |
| 1 10 | 23.00 | HIGHLANDER PROPERTIES II, LLC 110 CLYDE ROAD SOMERSET NJ | 08873 |
| 1 6.01 | 14.20 | HOCKENBURY, FRANK 39 RESERVOIR ROAD STEWARTSVILLE NJ | 08886 |
| 20 22 | 10.60 | HOSER, KENNETH 664 SOUTH MAIN ST STEWARTSVILLE NJ | 08886 |
| 26 29 | 110.00 | HOSER, KENNETH 664 SOUTH MAIN ST STEWARTSVILLE NJ | 08886 |

PAGE 3

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| 41.02 11.01 | 9.77 | JB STEWART LLC 417 THOMAS STEWART WAY STEWARTSVILLE NJ | 08886 |
| 13 7 | 1.53 | JIORLE, ROBERT/GOODMAN-JIORLE, JACKI 355 PROSPECT STREET STEWARTSVILLE NJ | 08886 |
| 13 9 | 7.67 | JIORLE, ROBERT/GOODMAN-JIORLE, JACKI 355 PROSPECT STREET STEWARTSVILLE NJ | 08886 |
| 44 1 | 5.31 | JOHNSON, ELIZABETH 608 WARREN GLEN RD BLOOMSBURY, NJ | 08804 |
| 44 1 | 5.31 | JOHNSON, ELIZABETH ESTATE POB 453 MIFFLIN PA | 17058.0453 |
| 44 33 | 5.00 | KANE, THOMAS B & DEBRA A 46 SHACKLETOWN RD BLOOMSBURY, NJ | 08804 |
| 23 2 | 11.91 | LEE, JEFFREY N & TRACY L 471 COUNTY ROUTE 519 STEWARTSVILLE NJ | 08886 |
| 25 1.01 | 23.40 | LOUIS HAJDU, LLC 710 NEW BRUNSWICK AVENUE ALPHA NJ | 08865 |
| 1 11 | 69.00 | MARTIN, WILLIAM 110 CLYDE ROAD SOMERSET NJ | 08873 |
| 44 27 | 40.60 | MATUCH, WALTER M & MARY SUSAN 22 PINE HOLLOW ROAD BLOOMSBURY NJ | 08804 |
| 44 27.02 | .37 | MATUCH, WALTER M & MARY SUSAN 22 PINE HOLLOW ROAD BLOOMSBURY NJ | 08804 |
| 44 29 | 2.04 | MATUCH, WALTER M & MARY SUSAN 22 PINE HOLLOW ROAD BLOOMSBURY NJ | 08804 |
| 31 11.03 | 94.68 | MEDAREX, INC (ATTN R & D FINANCE) ROUTE 206 8 PROVINCE LINE PRINCETON NJ | 08540 |
| 26 33 | 93.93 | MILLBURN-78 ASSOCIATES & MILLSTEIN 576 VALLEY ROAD # 301 WAYNE NJ | 07470 |
| 28 4 | 98.80 | NEW VILLAGE ROAD, LLC C/O KAPLEN POB 792, 10 WEST RAILROAD TENAFLY NJ | 07670 |
| 28 5 | 147.33 | NEW VILLAGE ROAD, LLC C/O KAPLEN POB 792, 10 WEST RAILROAD TENAFLY NJ | 07670 |
| 28 7 | 13.30 | NEW VILLAGE ROAD, LLC C/O KAPLEN POB 792, 10 WEST RAILROAD TENAFLY NJ | 07670 |
| 15 2 | 64.50 | NORTH CENTRAL REALCO, INC 139 ROUTE 46 HACKETTSTOWN NJ | 07840 |
| 14 10 | 29.00 | O DOWDS INC POB 665 HIGHWAY 46 PINE BROOK NJ | 07058 |

PAGE 4

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| 17 2 | 45.33 | O'DOWD, BRIAN P.O. BOX 665 PINE BROOK NJ | 07058 |
| 15 1 | 31.00 | O'DOWDS INC 1000 HIGHWAY NO 46 PINE BROOK NJ | 07058 |
| 16 6 | 118.00 | O'DOWDS INC 1000 HIGHWAY 46 PINE BROOK NJ | 07058 |
| 17 1 | 37.00 | O'DOWDS INC POB 665 HIGHWAY 46 PINE BROOK NJ | 07058 |
| 18 3 | 81.10 | O'DOWDS INC POB 665 HIGHWAY 46 PINE BROOK NJ | 07058 |
| 19 1 | 11.00 | O'DOWDS INC POB 665 HIGHWAY 46 PINE BROOK NJ | 07058 |
| 20 2 | 20.00 | O'DOWDS INC 1000 HIGHWAY 46 PINE BROOK NJ | 07058 |
| 20 8 | 53.47 | OBERLY, C K, M M, B A & TAMMY 652 SOUTH MAIN ST STEWARTSVILLE NJ | 08886 |
| 20 24 | 23.50 | OBERLY, C K, M M, B A & TAMMY 652 SOUTH MAIN STREET STEWARTSVILLE NJ | 08886 |
| 26 27 | 71.50 | OBERLY, C K, M M, B A & TAMMY 652 SOUTH MAIN STREET STEWARTSVILLE NJ | 08886 |
| 20 6 | 36.50 | OBERLY, C K, M M, C W & SHEILA 652 SOUTH MAIN STREET STEWARTSVILLE NJ | 08886 |
| 20 7 | 109.03 | OBERLY, CLIFFORD & MARGARET 652 SOUTH MAIN ST STEWARTSVILLE NJ | 08886 |
| 28 1 | 4.50 | OBERLY, CLIFFORD & MARGARET 652 SOUTH MAIN ST STEWARTSVILLE NJ | 08886 |
| 30 8 | 3.59 | PATERNOSTRO, ROCCO 8 LOUIS COURT EDISON NJ | 08820 |
| 31 12 | 42.25 | PATERNOSTRO, ROCCO 8 LOUIS COURT EDISON NJ | 08820 |
| 14 11 | 13.07 | PFEIFFER, TAMMY L 710 BEACON ST STEWARTSVILLE, NJ | 08886 |
| 23 32 | 73.00 | RAYNA, JOSEPH & DORIS 520 NORTH MAIN ST STEWARTSVILLE NJ | 08886 |
| 44 31 | 3.90 | REINER, EDWARD W SR & AUDREY R 50 SHACKLETOWN RD BLOOMSBURY NJ | 08804 |
| 44 24 | 54.70 | RIEWERTS, HENRY & TRIBBLE, DIANE POB 154 ASBURY NJ | 08802 |

PAGE 5

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| 44 22 | 10.02 | RYAN, MARGARET E ESTATE POB 134 BLOOMSBURY, NJ | 08804 |
| 33 1 | 18.00 | SANDERS, BUZZARD, BAXTER & DOWLING 715 SOUTH MAIN ST STEWARTSVILLE, NJ | 08886 |
| 25 1 | 4.50 | SANTINI, ROBERT A & SHARON 3 BROWNS LANE PHILLIPSBURG, NJ | 08865 |
| 23 31 | 70.50 | SANTINI, S J JR, C M, R A & SHARON 193 GOOD SPRINGS ROAD STEWARTSVILLE NJ | 08886 |
| 44 5 | 54.88 | SCHUSTER, ROBERT & GERALDINE 3 DORSET LANE WHITEHOUSE STATION NJ | 08889 |
| 40 2 | 36.21 | SLACK, DAVID S 603 ROUTE 639 BLOOMSBURY NJ | 08804 |
| 41 1 | .10 | SLACK, DAVID S 603 ROUTE 639 BLOOMSBURY NJ | 08804 |
| 41 5 | 116.00 | SLACK, DAVID S 603 ROUTE 639 BLOOMSBURY NJ | 08804 |
| 41 14 | 2.71 | SLACK, DAVID S 603 ROUTE 639 BLOOMSBURY NJ | 08804 |
| 41 13.01 | 10.80 | SLACK, JOHN 599 RT 639 BLOOMSBURY, NJ | 08804 |
| 20 26 | 126.00 | SMITH, NORMAN J & TIMOTHY M 651 SOUTH MAIN STREET STEWARTSVILLE NJ | 08886 |
| 14 2 | 13.24 | SORENSEN, GARY R & CHRISTINE A 552 CHANDLER MILL RD AVONDALE PA | 19311 |
| 3 2 | 39.37 | STEWARTSVILLE POSTAL PROPERTIES, LLC 7 PRICES SWITCH ROAD VERNON NJ | 07462 |
| 15 2.02 | 11.50 | SUNSHINE CONCEPTS LLC POB 253 WASHINGTON NJ | 07882 |
| 20 14 | 43.54 | TECTONIC ASSOCIATES 40 WHISKEY LANE FLEMINGTON NJ | 08822 |
| 27 1.01 | 24.00 | THE GARDEN DEPOT ENTERPRISES, LLC 250 BEATTYS ROAD STEWARTSVILLE NJ | 08886 |
| 27 1 | 14.00 | THE STEWART INN, LLC 708 SOUTH MAIN STREET STEWARTSVILLE NJ | 08886 |
| 2 2.02 | 12.46 | TINTLE, WILLIAM C & ALETA 200 RICHLINE HILL ROAD STEWARTSVILLE NJ | 08886 |
| 44 4.01 | 6.04 | TIR NA NOG FARM LLC 630 WARREN GLEN ROAD BLOOMSBURY NJ | 08804 |

PAGE 6

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| 44 4 | 51.06 | TIR NA NOG FARM, LLC 630 WARREN GLEN ROAD BLOOMSBURY NJ | 08804 |
| 44 26 | 45.50 | TIR NA NOG FARM, LLC 628 WARREN GLEN ROAD BLOOMSBURY NJ | 08804 |
| 21 1 | 7.13 | TREICH, KEVIN & MAUREEN 801 MARBLE HILL ROAD PHILLIPSBURG NJ | 08865 |
| 22 1 | 1.40 | TREICH, KEVIN & MAUREEN 801 MARBLE HILL ROAD PHILLIPSBURG NJ | 08865 |
| 22 1.01 | 1.47 | TREICH, KEVIN & MAUREEN 801 MARBLE HILL ROAD PHILLIPSBURG NJ | 08865 |
| 22 1.03 | .39 | TREICH, KEVIN & MAUREEN 801 MARBLE HILL ROAD PHILLIPSBURG NJ | 08865 |
| 28 3 | 5.00 | VIKING DEVELOPMENT COMPANY, LLC 35 TECHNOLOGY DRIVE WARREN NJ | 07059 |
| 28 5.01 | 55.00 | VIKING DEVELOPMENT COMPANY, LLC 35 TECHNOLOGY DRIVE WARREN NJ | 07059 |
| 36 1.01 | 1.00 | VOORHEES, WILLIAM & GEORGENE 12928 GREENSWITCH RD MAROA, ILLINOIS | 61756 |
| 36 1.02 | 9.00 | VOORHEES, WILLIAM & GEORGENE 12928 GREENSWITCH RD MAROA, ILLINOIS | 61756 |
| 26 32 | 63.90 | VOORHEES, WILLIAM H, GEORGENE ETALS 12928 GREENSWITCH ROAD MAROA IL | 61756 |
| 36 1 | 27.12 | VOORHEES, WM. & GEORGENE 12928 GREENSWITCH RD MAROA, ILLINOIS | 61756 |
| 5 1 | 6.51 | WALL, NORBERT F GP WAHA 700 NE SAVANNA VISTA JENSEN BEACH FLA | 34957 |
| 44 3 | 9.00 | WITTMAN, CHRISTOPHER & JACQUELINE 10 HIDDEN ACRES LANE BLOOMSBURY NJ | 08804 |

Appendix B: Agricultural Advisory Committee Ordinance

ORDINANCE No. 2007 - 20

AN ORDINANCE AMENDING THE REVISED GENERAL ORDINANCES OF THE TOWNSHIP OF GREENWICH, COUNTY OF WARREN, STATE OF NEW JERSEY ESTABLISHING THE GREENWICH TOWNSHIP AGRICULTURAL ADVISORY COMMITTEE

Section 1 – The purpose of this ordinance is to establish a municipal Agricultural Advisory Committee to advise the Township Committee on matters pertaining to the preservation and ongoing operation of agricultural activity in the Township of Greenwich.

Section 2 –

A. **Committee; Personnel; Appointment; Organization.** There is hereby established in the Township of Greenwich a permanent committee to be known and designated as "The Greenwich Township Agricultural Advisory Committee" which shall consist of three (3) residents of the Township of Greenwich to be appointed by the mayor with the consent of the township committee within sixty (60) days of the effective date hereof and the terms of office shall commence upon the date of their appointment.

The members of the said committee first appointed, shall serve for terms as follows: one (1) appointees for one (1) year term; one (1) appointees for two (2) year term and one (1) appointee for a three (3) year term. Thereafter, all appointments shall be for terms of three (3) years and vacancies shall be filled for the unexpired term only. The members shall serve until their respective successors are appointed and qualified. The members of the committee shall receive no compensation for their services. A majority of the members shall be actively engaged in farming and shall own a portion of the land that they farm.

A member of the committee or a member of his or her immediate family, is prohibited from selling or applying to sell a development easement on his or her property or from selling or applying to sell his or her property in fee simple title pursuant to the Agriculture Retention and Development Act, N.J.S.A. 4:1C-11 et seq. and the Garden State Preservation Trust Act, N.J.S.A. 13:8C-1 et seq.

The committee shall organize within thirty (30) days after the appointment of its total membership for the remainder of the then calendar year and thereafter annually and select from among its members a chairman and such other officers as it may deem necessary. Said committee may establish rules of order and meet at least quarterly and from time to time as its rules of order might provide. The Agricultural Advisory Committee shall report to the Planning Board.

B. **Alternate Members.** The committee may also include two (2) alternate members who shall be residents of the Township of Greenwich and who shall be appointed by the mayor with the consent of the township committee. The two (2) alternate members first appointed shall serve for terms as follows:

One (1) alternate for a term of two (2) years effective as of January 1, 2008; and
One (1) alternate for a term of three (3) years effective as of January 1, 2008.

Thereafter, all alternate members shall serve for a term of three (3) years, and alternate members shall serve until their respective successors shall be appointed. Vacancies shall be filled for the unexpired term only of such alternate member. The alternate members shall be designated at the time of their appointment as "alternate number 1" and "alternate number 2". Alternate members may participate in discussions of the proceedings but may not vote except in the absence or disqualification of a regular member. A vote shall not be delayed in order that a regular member may vote instead of an alternate member. In the event that a choice must be made as to which alternate member is to vote, alternate number 1 shall vote first.

C. Liaisons

The Agricultural Advisory Committee shall maintain as liaisons the Township Engineer, a Professional Planner, a member of the Warren County Agriculture Development Board, a member of the Rutgers University Cooperative Extension, and a Township Committee member. The committee shall establish other liaison positions as deemed appropriate, such as Jersey Fresh, other state agencies and publications to promote local farms, products and services.

D. Responsibilities of Committee. The responsibilities of the committee shall be as follows:

1. To become fully aware of all land in Greenwich currently used for agricultural and/or related purposes and compile, update and maintain an inventory of those lands.
2. To recommend planning and implementation of a Farmland Preservation Plan element to the Planning Board and make recommendations as to land use policies regarding farming and farm land preservation to the Township Committee.
3. To analyze how the township committee can best protect the continuance of the aforesaid uses while acting as an advocate for farming and farm preservation within the Township.
4. To determine existing issues facing farmers and those in related endeavors in the Township of Greenwich and to recommend reasonable and desirable solutions to the Township Committee.
5. To determine future issues, which will face farmers and those, related to farming in the Township of Greenwich and to recommend reasonable and desirable solutions to the Township Committee.

6. To encourage existing farmers to continue in active agricultural operation.
7. To communicate with Township Farmers that the Agricultural Advisory Committee exists and can offer direction and assistance in many cases.
8. To assist in continuing the sustainable use of economically viable farmland for agricultural production by making the flow of information from the local, county and state and federal branches readily accessible and to offer technical assistance were possible
9. To provide education were possible to farmers for the purposes of farming and meeting the challenges the industry faces.
10. To help preserve large, contiguous and economically viable tracts of agricultural land.
11. To assist in minimizing conflicts between agricultural uses and adjacent and nearby agricultural, natural resource based, rural, residential and commercial activities.
12. To promote compliance with the Farmland Assessment Tax program.
13. To encourage and assist applications to farmland preservation programs.
14. To encourage appropriate conservation strategies and agricultural activities.
15. To formulate strategies and objectives with regard to any present or future local, county, state or federal farmland regulations.
16. To promote interest in township children in 4-H and other related agricultural activities.
17. To recommend to the township committee reasonable and desirable changes to this listing of responsibilities.
18. To make an annual report to the township committee setting forth and detailing the activities and operations of the committee during the proceeding year.
19. To accomplish any other tasks referred to it by the township committee having to do with agricultural related activities.
20. Promote local farming through municipal avenues, such as Webs sites, municipal cable channel, guidebooks, community events, schools, etc.

E. **Cooperation with Committee.** The committee in performing its aforesaid responsibilities shall receive from all officials, employees, consultants, and all

authorized boards, departments, and offices of the Township of Greenwich, such assistance as may be necessary.

- F. **Powers of Committee.** The committee's powers relative to regulation of any activity are specifically limited to its making recommendations to the township committee as to its adoption of the same.

Publication by Summary Pursuant to N.J.S.A.40:49-2

The purpose of this ordinance is to establish a municipal Agricultural Advisory Committee to advise the Township Committee on matters pertaining to the preservation and ongoing operation of agricultural activity in the Township of Greenwich.

This ordinance was adopted at a regular meeting held by the Greenwich Township Committee on November 8, 2007.

Appendix C: Greenwich Township Right to Farm Ordinance

16-20 TOWNSHIP OF GREENWICH ORDINANCES

| OCTAVE BAND CENTER FREQUENCY IN CYCLES PER SECOND | SOUND PRESSURE LEVEL DECIBELS re0.0002 dyne/cm ² |
|---|---|
|---|---|

| | |
|-------|----|
| 63 | 58 |
| 125 | 49 |
| 250 | 42 |
| 500 | 37 |
| 1,000 | 33 |
| 2,000 | 25 |
| 4,000 | 25 |
| 8,000 | 24 |

For objectionable noises due to intermittence, beat frequency or hammering, or if the noise is not smooth and continuous, corrections shall be made to the above table by subtracting five decibels from each of the decibel levels given.

6. *Glare.* There shall be no direct or sky-reflected glare exceeding 0.5 footcandle measured at the property line of the lot occupied by such use. This regulation shall not apply to lights used at the entrances or exits of service drives leading to a parking lot.

16-20 Right to Farm.

16-20.1 *Findings.* The Planning Board of the Township of Greenwich has found and so recommended and the Township Committee hereby finds and determines that farming has existed and been carried on in the township for hundreds of years and long before the residential development that has since been prevalent in the township. The Planning Board further finds that residences have been located in close proximity to existing working farms that engage in spraying, the spreading of animal wastes, fertilizing and irrigation as well as other activities which are indigenous to farming. The Planning Board finds and determines that farmers must be secure in their ability to earn a livelihood and utilize customary farming procedures and techniques.

It is hereby determined that whatever nuisance may be caused to others by these uses and activities is more than offset

ZONING

16-20

by the benefits from farming to the neighborhood, community and society in general by preservation of open space, the beauty of the countryside, production of necessary food products and preservation of clean air and water. The preservation and continuance of farming operations in Greenwich Township and the State of New Jersey is a source of agricultural products for this and future generations and preserves land, a nonreplenishable resource.

16-20.2 *Right to Farm Declared as Permitted Use.* The right to farm lands and properties zoned for that use within the Township of Greenwich is hereby recognized to exist as a right to the farmer, his agents or assigns to utilize his land and properties in such a manner as to pursue his livelihood, and is hereby declared to be a permitted use in all zones of the township, notwithstanding specific and prohibited uses set forth elsewhere in this section, subject only to the restrictions and

(Cont'd on page 1682.19)

ZONING

16-20

regulations set forth in any applicable township, county and state health codes and regulations.

16-20.3 *Example of Activities.* This right to farm recognizes the following activities which are by way of example and not by way of limitations:

a. Use of irrigation pumps and equipment, aerial and ground seeding and spraying equipment, tractors and other equipment.

b. Use of necessary farm laborers.

c. The application of chemical fertilizers, insecticides and herbicides in accordance with manufacturer's instructions and the application of manure, except for the following limitations on poultry manure:

1. Poultry manure will not be stockpiled in the field;

2. The spreading of poultry manure should not take place closer than 50 feet to any occupied adjacent property line unless permission is given from the property owner of adjacent land;

3. Poultry manure will not be spread on frozen ground, ground which is snow covered or on ground that is too wet to be plowed within 24 hours;

4. Poultry manure spread on crop land must be soil incorporated within 12 hours by moldboards plowing or by chisel plowing followed by disking. Twenty-four hours will be allowed for emergency situations;

5. Poultry manure may not be spread on the surface of grass highland or pasture land;

6. Poultry manure may be spread on no-till corn land having less than eight percent slope at 1/2 the usual rate during the months of March, April and May, so long as odor is not a problem. The moisture content must be 50% or less;

7. Poultry manure cannot be spread on the same field twice in one year unless a crop has been planted and harvested;

16-20 TOWNSHIP OF GREENWICH ORDINANCES

8. Application of poultry manure per acre concerning soil content will be within the jurisdiction of the Warren County Soil Conservation;

9. Land slope application of eight percent or above must contain a plan and approval from the Warren County Soil Conservation for control of runoff and erosion;

10. There shall exist a three-thousand-foot buffer zone around any school which could be spread with poultry manure only when school is closed with 60 percent or drier manure;

11. Penalties for violations of this section shall be in accordance with Chapter III, Section 3-1, penalty provision.

d. The grazing of animals and use of range for fowl subject to the standards and regulations for intensive fowl and livestock use.

e. Construction of fences for these animals and livestock.

f. The traveling and transportation of large, slow-moving equipment over roads within the township.

g. The control of vermin and pests, provided such control is practiced under applicable State Fish and Game Laws.

(Cont'd on page 1683)

ZONING

16-20

h. The use of land for recreation purposes, e.g., snowmobiling, etc., shall be done only with the permission of the farm owners. Any recreational use of the farmland which changes the underlying agricultural nature of the use shall be subject to the usual site plan review, variance applications and all permits where otherwise required.

16-20.4 *Time/Noise and Odors.* The activities set forth herein incidental to the right to farm and when reasonable and necessary for that particular farming activity and livestock or fowl production, and when conducted in accordance with generally accepted agricultural practices, may occur on holidays, Sundays and weekdays, at night and during the day. The noise, odors, dust and fumes that are caused by these activities are recognized as ancillary to the permitted activities set forth in this section and the right to farm.

16-20.5 *Notice of Right to Farm.* For the purpose of giving due notice of nearby uses to proposed residents, the planning board shall require an applicant for a major or minor subdivision, as a condition of approval thereof, to include the following notice both on the subdivision plat itself and in an instrument in recordable form to provide constructive record notice to buyers of the existence of any proximate, non-residential uses, such instrument to be approved by the planning board prior to the filing of the final subdivision plat. Such notice shall read as follows:

“Grantee is hereby NOTICED there is, or may in the future be, farm use near the described premises from which may emanate noise, odors, dust and fumes associated with agricultural practices permitted under the ‘Right to Farm’ section (section 16-20) of the Greenwich Township Zoning Ordinance.”