

SOLEBURY TOWNSHIP

OPEN SPACE PLAN



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Open Space Committee

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Purpose of Plan

The Solebury Township Open Space Plan has been prepared to set goals for open space preservation, provide guidance on the implementation of open space goals, and document the successes of the open space program already in place in the township.

The Plan has been prepared by Solebury Township for several specific purposes:

- To become eligible to participate in the Bucks County Open Space Program, including the municipal grant program and the Natural Areas Program funding. The Bucks County Open Space Program has earmarked \$ 641,983 for Solebury Township's use in preserving farmland, natural areas, or recreation land in the township, upon completion of a plan and a suitable application for project funding.
- To complement the Township's Comprehensive Plan
- To provide a guide for the Township's Open Space Preservation Program
- To support the Township's request for public and private grants
- To help coordinate open space efforts with surrounding municipalities, the Delaware Canal State Park, and the Delaware River Wild and Scenic Greenway Program

The plan was prepared by the township's Open Space Committee, a group appointed by the township Board of Supervisors.

Solebury Township has a long history of concern about its landscape and its environment. All the residents of Solebury Township and the many committed individuals who are working to preserve open space have inherited a legacy from conservationists who had a vision years ago. Township voters have supported the expenditure of taxpayer funds to preserve farmland and open space. The results are visible. Township residents can see the results of past efforts as they travel through the township and see preserved farm fields and open spaces as well as protected streams, waterways and woodlands.

At the beginning of the 21st century the Board of Supervisors, the Planning Commission, the Park and Recreation Board, the Land Preservation Committee and the Comprehensive Plan Review Committee are committed to support the mandate of the Township's voters to protect open space and manage future growth. These same Township groups as well as the citizens at large have come to understand the importance of our surface and ground water resources to our future well being. As a result, water resource management is becoming an additional part of Solebury's educational and regulatory program.

“Township residents can see the results of past efforts as they travel through the township and see preserved farm fields and open spaces as well as protected streams, waterways and woodlands.”



Community Background

Solebury Township is located along the Delaware River at the eastern edge of Bucks County, with a land area of about 17,000 acres. It surrounds the borough of New Hope.

Early History

Solebury Township was originally part of a larger area known as Buckingham. The township was incorporated in 1702 after the area was divided. The name comes from a village in Buckinghamshire, England, called Soulberry. The English name may be translated to “Plough manor” or Ploughland,” an appropriate name for a township based on agriculture.

Predating European settlers were the Wolf tribe of the Lenni-Lenape Indians who were early friends of the first settlers and who provided names for many of the township’s geographic features, including the Paunacussing, Aquetong, and Cuttalossa creeks.

In the late 1600s, the first English settlers arrived in response to William Penn’s offers of land and religious freedom. William Penn’s secretary, James Logan, laid out the original 28 tracts that divided the Township. In 1695 Thomas Holme, Penn’s Surveyor General, laid out a large tract that included the lower part of the township, with the understanding that “Penn’s children would inherit this particularly beautiful section.” By 1700 ownership had spread to 41 tracts that ranged in size from 200 to 800 acres, but the population at this time was only 150, with many tracts controlled by absentee owners. The early settlers were primarily English and Welsh Quakers who built their first meetinghouse in Lahaska.

The township’s historic development pattern was influenced by agriculture and early industry. Several villages grew up along major roads which provided access to markets for farmers. The villages of Solebury, Centre Bridge, and Aquetong grew as market centers along major roads. Other villages expanded around water-powered mills. Carversville and Phillips Mill were established around gristmills. Lumberville grew up around a sawmill.

After 1860, with the decline of the mill towns, the later abandonment of the Delaware Canal and the decline in labor-intensive agriculture, the township’s population was reduced by almost fifty percent.

Population Growth and Change

1700	150
1800	1,524
1860	3,014
1880	2,648
1900	2,082
1920	1,647
1940	1,689
1950	2,208
1980	4,827
1990	5,998
2000	7,743

Factors Affecting Future Development

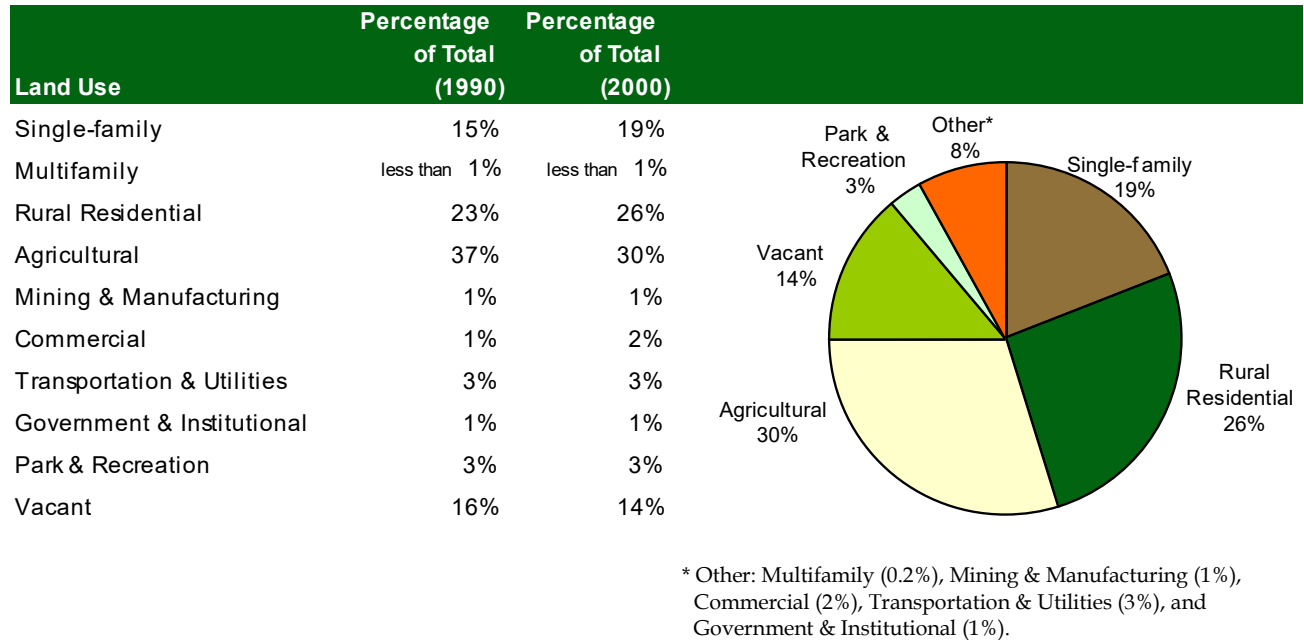
Bucks County's rapid growth began in the 1950s, first in Lower Bucks and spreading north, as the flight from Philadelphia and the lure of better life in the suburbs fueled the demand for residential housing. Solebury's population grew from 2,208 in 1950 to 5,998 in 1990 to 7,743 in 2000 almost a three-fold increase. Since 2000, it is estimated that the population has increased to about 9,000.

The population increases of some of the surrounding townships have been greater than Solebury's, a difference attributable in part to Solebury's on-going land preservation efforts. Growth rates in Buckingham and Plumstead between 1990 and 2008 have been about two times that of Solebury Township, and other rapidly growing townships in central Bucks County such as Warwick have had growth rates three times that of Solebury.

The percentage of the township devoted to residential land tripled between 1970 and 2000, with a corresponding reduction in farmland. Nonresidential development has taken place more slowly, but major developments on Route 202 west of New Hope have contributed to land dedicated to businesses.

Land use patterns have changed between 1990 and 2008. There has been a slight reduction in the amount of land devoted to agriculture, from 37 percent to 30 percent of total land area. Land devoted to single family residential uses and rural residential uses (houses on properties of 20 acres or more) has increased.

2000 Land Use



The pattern of land use is a product, in part, of the township's land use and planning policies and, in part, a response to economic, social, and legal circumstances that have affected growth and development.

A pattern of development has become evident. The Route 202 corridor, stretching from the Buckingham border through to the Delaware River Bridge, has been partially developed with the Logan Square strip mall anchored by the Giant grocery store as well as by low-intensity nonresidential uses such as antique shops and small scale commercial uses. More intense residential development has occurred around the borough of New Hope. Farmland continues to dominate in the traditional farming areas along Mechanicsville Road, Saw Mill Road and the Windy Bush Road corridor. The wooded stream corridors and the Delaware River area have experienced little development due to the environmental limitations on their development and township policies to protect these areas. Crossroads villages such as Solebury, Lumberville, Carversville, Centre Bridge, Lahaska and Phillips Mill have continued to provide small scale centers where residences and certain commercial or institutional uses exist side by side. Several other villages or hamlets exist along the township roadways where small, rural associations of buildings establish a sense of place that is uniquely Solebury's.

Several factors affect the future of the township and how and where it will grow. Estimates of future population growth prepared by the Delaware Valley Regional Planning Commission suggests that, based on past trends, the township could increase from its current level of 9,000 to more than 15,000 people in the next 25 years. This would mean the addition of at least 2,000 new houses and the consumption of many acres of land.

The forces at work often come from outside township boundaries.

- **Population pressure in nearby areas**–Townships around Solebury are growing rapidly. Growth rates in Buckingham, Plumstead, and Upper Makefield, have exceeded Solebury's. Significant growth pressures are being felt across the center of Bucks County.
- **Solebury's natural beauty**–The location along the Delaware River as well as the rural nature of its farming areas increases the attractiveness for development.
- **Solebury's location**–The Township is convenient for people who work in Philadelphia, New York and New Jersey, making it an appealing place to live. Developments in Solebury are marketed in northern New Jersey and New York.
- **Economic forces**–The economic incentives for development are strong. Large tracts of farmland are appealing to development due to the quality of land and ease of development.
- **Land preservation efforts**–Forces at work to help mitigate the external factors are the township's strong land use planning and growth management ethic as well as the land preservation effort.

"Other villages grew up around water-powered mills. Phillips Mill and Carversville were established around gristmills."



Inventory of Protected Lands

Open space, parkland, and farmland has been preserved in Solebury by state, county, township programs, and private initiatives.

INVENTORY OF PROTECTED LANDS			SIZE (ACRES)
STATE LANDS (Public)			
Property Name	Tax Parcel Number(s)	Description/Utility	Size(Ac.)
Delaware Canal State Park	41-18-57; 41-28-56, -73	canal trail suitable for walking/riding	61
Ingham Spring	41-22-108, -109	spring and lake areas/passive recreation	48
Bowman's Hill Wildflower Preserve	41-36-54, -65; 41-64-1		221
Hendrick Island	41-18-51, -56	fishing/passive recreation	135
River Road State Forest Preserve	41-18-132, -35	wooded steep slopes/passive recreation	56
BUCKS COUNTY LANDS (Public)			
Hal Clark Park	41-28-57	open space/recreation	28
River Road tract	41-18-37	open space/recreation	7
SOLEBURY TOWNSHIP PARKS AND OPEN SPACE AREAS			
Property Name	Tax Parcel Number	Description/Utility	Size(Ac.)
Canal Park	41-28-61-35	active recreation	12
Pat Livezey Park	41-28-63, 41-31-41	ball fields/active recreation	18
Laurel Road Park	41-13-62-5, -11	ball fields/active recreation	11
Limeport	41-28-60	open space	5
Magill's Hill Park	41-28-67-5	steep slopes with views over DE river	5
Marshall Tract	41-22-63-1	passive recreation/open space	30
North Pointe	41-22-63-1	open space	74
Cuttalossa	41-2-112, -114; 41-7-13-3, -20, -20-2, -12-1, -12-16, -12-21	wooded slopes suitable for passive recreation	34
Laurel Run	41-18-23, -32	wooded steep slopes suitable for passive recreation	18
Roeser Farm	41-21-6	woods/farmland public use plan in development	100
SOLEBURY TOWNSHIP CONSERVATION EASEMENTS (Private)			
Property Name	Tax Parcel Number		Size(Ac.)
Fitting	41-13-25-2,-3		25.2
Kale	41-18-33-1		78.7
Coan	41-13-30		40
Fell	41-22-120,-126,-173,-173-1,-2		118

Ryan	41-19-14,-17	2.2
Carey	41-2-88	48
Klingensmith	41-13-33,-33-1,-2,-13-41	118
Raymond	41-36-56,-62	119.9
Henze	41-13-31,-2-102,-103,-104	173.3
McClintock	41-13-37	54.8
Bradshaw	41-21-7,-7-2	181.2
Tollgate/McArdle	41-2-3	63
Glover	41-18-13-3	48.5
Plumb	41-36-63	107.5
Sylvester	41-2-93,-93-2	68.2
Audubon/Honey Hollow	41-13-81-3	9.5
Rivinus	41-18-19	50
Burgess Lea	41-18-58, -49	31.1
Imperatore	41-36-2	123
Zeleski	41-13-46	62.2
Crooks,Marj	41-13-80-1	11.25
Denby	41-36-78,-1	60
Bergenfield	41-36-54	15.23
Crosscreek/Welch	41-22-51	83.2
Rosenblatt	41-22-175-1	25
Deer Park	41-22-107,22-44,22-119	80
Chadwick	41-36-78-5	18.47
Knight	41-18-77-1,-4,-5	15.18
Haskey	41-8-30,-33	96.51
Wachob	41-22-27	54
Rockwood	41-36-108,-100,-110-1,-118,-119	73
Sage Meadows	41-21-33	36.22
Wilson	41-1-21-7	9.3
Chiesa	41-18-125	84
Smerconish	41-35-1-2	13
Lanctot	41-13-124	13.2
Leydon	41-28-5,-6	30
Ferrari	41-8-12	17.5
Yarnall	41-2-64-1	15.7
Guthrie	41-2-51-1	24.6
Schweickhardt	41-36-87-12	21.21
Misty Hills/Town	41-18-78	62
Schwalm	41-22-151	7.5
Magruder	41-18-130	25.4
Von Zelowitz	41-13-55-1	22
Borthwick	41-28-43,-1	20.5
Cosgrove	41-2-66-1	27
Holmquist	41-36-70-3	10
Nemzoff	41-36-68-1,-2,-3	35
Otto	41-13-17-3,17-11-1	17
McArdle	41-2-85	10
Fox Run	41-22-53	91.51
Stone/Turner	41-8-9	11.3
Harrington	41-2-4	10.5
Johnson	41-28-16	5.2
Waldman	41-22-3-1	5
Questar	41-22-88	17.88
Preston	41-18-114,-120,-121	30
McGinn	41-18-21-1	5.26

Yerkes	41-18-21	12.31
Swan/ Zaveta	41-2-60	30
Welch/ Coles	41-1-29,-1,-2	118
Sixty Two properties preserved through conservation easements (purchase and donation)		2902.17

BUCKS COUNTY AGRICULTURAL LAND PRESERVATION PROGRAM AND SOLEBURY TOWNSHIP
(Private)

Bradshaw	41-21-7,-7-2	181.2
Imperatore	41-36-2	123
Henze	41-13-31,-2-102,-103,-104	173.3
Kale	41-18-33-1	78.7
Hasky	41-8-30, -33	96.51
Crosscreek/ Welch	41-22-51	83.2
Six properties preserved through conservation easements (purchase and donation)		735.91

CONSERVANCY PROPERTIES - OWNED OR PROTECTED WITH CONSERVATION EASEMENTS (Private)

Properties Owned by Heritage Conservancy

Property Name	Tax Parcel Number	Size(Ac.)
Rosfields (Fee Simple)	41-13-27-1, -2, 41-13-25-7	9.06, 15.41, 4.33
Tuckamony (Fee Simple)	41-13-80, 41-13-80-2	4.60, 50.50
Roberts (Fee Simple)	41-18-11	35.73
O'Conner (Fee Simple)	41-18-36	7.46
Hartman (Fee Simple)	41-18-26	1.10
Hartman (Fee Simple)	41-18-30	9.20
Hartman (Fee Simple)	41-18-24-1	2.10
Hartman (Fee Simple)	41-18-133	0.90
Trik (Fee Simple)	41-18-13-2, -4	2.65, 8.87
Cole (Fee Simple)	41-28-50-3, -4	4.0, 3.93
Knudsen (Fee Simple)	41-36-30	31.77

Properties Conserved by Heritage Conservancy

Property Name	Tax Parcel Number	Size(Ac.)
Tinsman (Conserved)	41-2-68,-1,-2-3	20.97, 19.54, 19.25, 26.05
Mulligan (Conserved)	41-2-101	63.67
Leeside (Conserved)	41-2-110,-1,-2,-3,-5,-6,-7,-8, -9,-10,-11,-12,-13,-14,-15	10,64.69,6.38,11.14,10,10,11,6.54 6,11,6.40,6,7.25,22.22,22.72
Leeside (Conserved)	41-2-112-1,-2,-3, 41-7-24	11.17,6.49,11,37.96
Mimnaugh (Conserved)	41-8-11	6.90
Honey Hollow (Conserved)	41-13-81-2,-3,-4	45.30,9.46,15.05
Honey Hollow (Conserved)	41-13-88-3,-4,-5, 41-13-95-2	17.81,4.50,8.17,33.75
Reilly & James (Conserved)	41-18-12	5.10
Roberts (Conserved)	41-18-15	15.20
Hartman (Conserved)	41-18-24	97.90
Koller (Conserved)	41-18-25-1	38.92
Hendrick Island (Conserved)	41-18-51,-54,-56	1.21,.33,135.42
Bradshaw/ Fest (Conserved)	41-21-7	17.59
Bradshaw/ Coles (Conserved)	41-21-7-2	163.64

Bradshaw/Horgan (Conserved)	41-21-10	37.20
Paxson (Conserved)	41-22-16,-26	30.10,38.80

19 properties owned/conserved by Heritage Conservancy 984

Properties Conserved by Natural Lands Trust

Property Name	Tax Parcel Number	Size(Ac.)
Kamen	41-13-72, -1	10.43,80.13
Keim	41-22-1	36.67
Delamontagne	41-22-53-8	29.61
Flamingo Enterprises	41-22-53-7	37.84
Holmes	41-22-50,-1	42.32,42.85
Rosenberg	41-13-77-1	12.74
Giacin	41-13-76	28.26
Beck	41-13-75-2	5.07
Kennethian	41-13-75	5.95
Marshall	41-13-85	103
Phillips	41-13-83,-1,41-22-3	34.90,21,47
Phillips	41-22-53-2,-6	54.90,22.57
Depp	41-22-53-1	12.55
Katz	41-22-4	23.60
Bogdnoff	41-22-4-1	51.21
Salvo	41-55-4-2,-3	20.07,25
Olsten	41-22-53.1	44.70
Lowe	41-22-54-1	34.35
Miller	41-22-56	62.54
Serge	41-22-54	33.24
Waldman	41-22-3-1	5
Kamen	41-13-78	47.03

22 properties conserved by Natural Lands Trust 998.13

TOTAL PRESERVED LANDS 6483.21 (acres)

Inventory of Resources

Agricultural Soils

About half of the township land is classified as Class I, II, or III soils, the highest quality agricultural soils. Solebury is identified as one of eight Bucks County's Significant Agricultural Areas. These eight areas have been designated because they contain valuable farmland soils and actively farmed land that form the basis for our county's agricultural economy. These areas are used by the county's Agricultural Land Preservation Program in targeting farms for preservation. (Map 4 shows properties in the Agricultural Security Area and Map 5 illustrates soil types.)

Geology and Groundwater

The geology and related groundwater characteristics affect the development of the township. Critical habitats, stream valleys, storm water runoff and an adequate supply of drinking water are in many ways dictated by the underlying geology.

Map 6 illustrates the five basic geologic systems. Starting in the northern end of the Township, they are:

- **Lockatong Shale and Argillite**

The Paunacussing Creek valley has an exposed band of shale that is subject to rapid erosion. A small wedge is also exposed just north of New Hope Borough.

- **Stockton Formation**

The Stockton Formation underlies the northern third of the Township. While the formation is classified as sandstone, it contains some conglomerates, shale and mudstone. The formation is porous, permitting good surface drainage and excellent ground water recharge. This formation is considered to have the highest average permeability of any aquifer in the county.

This formation is a good source of potable water, but proper spacing of wells is important. Conditions which make the Stockton formation a good source of water for residential development also make it ideal for agricultural uses. Excellent water supply supports irrigation and optimizes recharge capabilities.

- **Limestone Carbonate Belt**

A broad limestone belt, composed of three formations, the Allentown, Beekmantown and Leithsville, crosses the center of the township from Buckingham to the Delaware River.

Limestone has characteristics that make it vulnerable if the land is developed inappropriately. Soils with a limestone base are high priority agricultural lands and, with its permeable structure, recharge is excellent. The high percolation rates can lead to localized faulting, pinnacles, sinkholes and a high susceptibility to ground water pollution. Development in the limestone belt can lead to severe problems and

care must be taken to limit development to minimize the impairment and pollution of the aquifer. In addition to the limestone belt a small wedge of Hardyston Conglomerate is exposed adjacent to Buckingham Township.

- **Brunswick Shale**

The Brunswick formation underlies the southern one-third of Solebury. Typically, it consists of reddish-brown shale, mudstone and siltstone. The particle size is usually very fine grained and the rock is relatively soft. Where this formation interfaces with the diabase intrusives, the contact zone is a very hard argillite.

This formation is a good source of water and wells generally have good flow rates. The fault line contact between the limestone belt and the Brunswick shale is the source of the Aquetong Spring.

- **Diabase Formation**

Throughout the county are a series of diabase intrusive dikes that form the high points in the County's topography. They are very hard, non-porous rocks that run in two belts across the Township. One strip extends from the central part of the Township and underlies Solebury Mountain. The second strip is the base rock for Bowman's Hill. Because of highly resistant, nonporous characteristics, the rock does not readily erode and is evident as rocky boulder fields that are not arable and are less likely to be developed on a large scale. Parcels in this area are not suitable for septic systems and are poor sources of well water.

- **Wisconsin Deposits**

The islands in the Delaware River and the terraces that form the present and glacial banks of the river are generally in the 100 year flood plain. The soils are very permeable and an excellent source of ground water but should be protected from development because of their susceptibility to flooding. The interface between the River, the many stream valleys and the Delaware Canal aqueducts are a complex interconnecting system worthy of protection.

Significant Natural Areas

Bucks County contains a diversity of unique natural features. These natural features harbor a wide range of flora and fauna, some of which are not found anywhere else in the Commonwealth. The *Natural Areas Inventory of Bucks County, Pennsylvania* (1999) was conducted by the Morris Arboretum of the University of Pennsylvania for the Bucks County Commissioners, and provides guidance for implementation of the natural areas protection component of the Bucks County Open Space Program. The 2008 county program has allocated \$11 million for preservation of important natural areas in the county, using this inventory as a guide.

The individual site evaluation to determine the significance of natural areas is based upon thirteen criteria addressing biological, ecological, hydrological and geological components. The criteria/factors were weighted into three categories of importance. Considered most

important were: (1) presence of state rare, threatened or endangered species, (2) presence of federal threatened or endangered species, (3) overall biodiversity, (4) presence of natural communities that are rare in the context of Bucks County, and (5) presence of unusual geologic features. The second priority factors included: (1) a size/interior/edge factor, (2) proximity or connectivity to other important natural areas, (3) a site's location in a designated high quality or exceptional value watershed, (4) level of current or ongoing management needed to maintain the site's natural value, (5) the number of natural communities present, and (6) presence of wetlands. The third priority factors included: (1) severity of threats that would result in destruction of a site's natural value, and (2) overall non-natural disturbance.

In Solebury Township nine sites have been identified and ranked in a priority system by the county's inventory.

Solebury Natural Areas Sites

Priority # 2	Aquetong Lake and Ingham Spring
Priority # 2	Paunacussing Creek
Priority # 3	Bowman's Hill and Pidcock Creek
Priority # 3	Hendrick Island
Priority # 3	Hal Clark Park
Priority # 3	Sugan Lake
Priority # 3	Fieldstone Farm
Priority # 3	Cuttalossa Stream Valley
Priority # 4	Laurel Run

Several of these sites are protected. Bowman's Hill is protected under a state/private program involving the Pennsylvania Historical and Museum Commission and a private nonprofit group. Hendrick Island is part of the Pennsylvania State Park system, and Hal Clark Park is part of the Bucks County park system. These sites are shown on Map 7. The map narrative describes the sites and their importance. Aquetong Lake and Ingham Spring ranked in a priority system by Bucks County as a priority #2 is in the process of being purchased for open space/passive recreation by Solebury Township.

Watersheds and Streams

Almost all the streams in the Township flow into the Delaware, with a small stream around Lahaska flowing into the Neshaminy. The watersheds that flow into the Delaware can be segregated into three sub-systems: the Paunacussing, the Aquetong and the Pidcock (Map 8).

The Paunacussing drains the northern part of the Township. With spring sources in Plumstead and Buckingham, as well as Solebury, the Paunacussing Creek tributaries join in Carversville and flow along Fleecydale Road to the Delaware River. The Paunacussing is classified as a High Quality, Cold Water Fisheries Stream.

Farther south are a number of small streams, including the Coppernose, Cuttalossa, Laurel and Primrose Creeks. Among the most beautiful areas of the County, the wooded, steep slopes along these creeks are susceptible to disturbance. The Aquetong Creek and its tributaries are within the Brunswick formation and limestone belt and the aquifer feeds Ingham Spring. The spring surfaces along a fault line that parallels Route 202. The spring is among the largest in the state with a daily flow of 3 million gallons. Aquetong Lake, with a spring-fed source of water at fifty degrees Fahrenheit, rarely freezes and provides wintering waterfowl with a protected open water habitat.

Pidcock Creek and Dark Hollow Run are in the southernmost area of the Township. The Pidcock Creek area, surrounded by the diabase hills and the Bowman's Hill Wildflower Preserve, is not only a scenic jewel but an historic Revolutionary War site.

Currently, the following formal Watershed Associations are active with the mission of restoring and preserving our 5 watersheds and their riparian corridors/eco systems.

- Aquetong Watershed
- Paunacussing Watershed
- Primrose Watershed
- Cuttalossa & Coppernose Watersheds
- Pidcock Creek Watershed

Wetlands and Hydric Soils

Wetlands are areas that are saturated or where the seasonal high water table is close to or at the surface. Most wetlands occur as marshes or bogs. Wetlands are valuable resources that function to filter storm runoff, enhance water quality, reduce potential flood damage, increase ground water recharge and provide habitat for wildlife. Hydric soils are indicators of wetlands due to their inherent soil characteristics: poor drainage, high seasonal water table and slow permeability rates. Map 10 shows major wetland areas, but there are many more wetland areas throughout the township that can only be identified by on-site soil and hydrology analysis. The major wetland areas shown on the map are located along the Delaware River.

Flood Plains

Flood plains along the Delaware River and along major stream valleys are delineated in Map 8. Because of concern about development in the flood plain, the Township has established specific controls that limit development in these areas

Woodlands

Woodlands cover approximately 30 percent of the Township (Map 10). Forested areas play an important role in the ecological balance of the environment by reducing runoff from erosion, stabilizing stream banks, providing wildlife habitat, providing passive recreational areas and enhancing the viewscape. Map 10 shows woodlands throughout the township.

Scenic Viewsheds

The Township adopted a scenic viewshed map that portrays visually significant landscapes. Created in 1997, the Scenic Analysis map identifies the most important historic and scenic aspects of the Township:

Delaware River Canal scenic corridor
Scenic stream valleys
Open farmland
Ridge lines
National Historic Register Districts
Other historic villages/hamlets

The map identifies vistas along the roadways that are worthy of protection.

Protection of scenic views was a high priority in a survey of 800 Township residents in 1999. In answer to the question, “What is most important to consider when planning for the future of Solebury?” Township residents could select three responses from a list of thirteen choices. Their three highest selections were:

Conservation of scenic landscapes
Natural resource protection
Retention of rural atmosphere

Open Space Assessment

The Township contains approximately 17,000 acres. Based upon an evaluation of the parcel information, 50 percent of the Township has already been developed or is classified for zoning purposes in parcels that cannot be subdivided:

Township Area	Acres
Total Acreage	17,000
Developed or unable to be further developed	8,500
Undeveloped land/open space	8,500
Permanently Protected	6,483
Unprotected Open Space	5,198
Undevelopable Land	1,500
Developable Open Space	517

The undevelopable acreage estimate of 1,500 acres is, at best, a guess and includes properties in areas of steep slopes, woodlands, stream valleys and wetlands. These undevelopable areas are important as natural resources and can be protected with stringent zoning ordinances or with conservation easements. The township has already taken steps in protecting all these natural resources when they adopted Ordinance 2005-003 "Enacting Standards and Regulations for the Preservation and Protection of Natural Resources within Solebury Township".

Solebury Township, in partnership with the state, county, private groups and private landowners, has protected 6483.21 acres. The township established an open space preservation program in the spring of 1996 with the voters' approval of a \$4 million bond, through which 626 acres were preserved. Since the first bond referendum in 1996 Solebury Township has passed three more bonds with an overwhelming voters' approval of 89% totaling \$44 million. With the passage of the \$44 million bond issues between 1996 and 2005, the Land Preservation Committee was able to set a goal of preserving as much of the remaining developable acreage as possible.

“The wooded stream corridors and the Delaware River area have experienced little development due to the environmental limitations on their development and township policies to protect these areas.”



Municipal Plans, Policies, and Ordinances Protecting Natural Areas and Open Space

The township has policies and plans preserving environmental features and open space. It is a longstanding concern of township residents that the character of the township and the community be preserved.

Comprehensive Plan

The township's comprehensive plan in each of its revisions over the past 40 years reinforces the notion that the landscape of Solebury is worthy of preservation. It identifies important natural, farming, and scenic areas. Among its goals are: preservation of open space, preserving rural character, preserving agriculture and historic sites and the land around them, and retaining natural beauty.

Included with the concern for natural beauty is a growing concern about night time light pollution. The three key factors that need to be controlled when artificial exterior lighting is used are: 1) glare disability (bright light sources that make it hard to see); 2) light trespass (intrusion of one person's exterior lighting onto another person's property); and 3) sky glow (illuminating and washing out the night sky with artificial lighting).

Zoning Ordinance

The zoning ordinance has been designed to provide open space through the development process and to protect natural features.

- Several types of open space development options are provided in the residential districts. These options allow for residential development on smaller lots in exchange for open space preservation. Open space can be farmland, wooded areas, flood-prone areas, steep slopes, stream corridors, groundwater recharge areas, lands adjoining the Delaware River or lands with recreation potential.
- Preservation of historic resources is encouraged in the zoning ordinance by providing for a density incentive where historic buildings or resources are preserved during development.
- Steep slope regulations provide some protection of areas with steep slopes.
- Zoning ordinance requires an environmental assessment for most developments.
- Zoning ordinance allows for protection of the following resources as part of required open space: floodplain areas, steep slopes, woodland and forests, surface water resources (lakes, ponds, streams, and wetlands), farmland soils, historic sites, groundwater recharge areas, and areas along the Delaware River.
- Zoning ordinance Section 1905 provides special setbacks along the Delaware Canal.
- **Special regulations on development in limestone/carbonate areas are part of township ordinances.**

- Zoning ordinances that govern impermeable coverage and storm water management are being drafted.

Subdivision/Land Development Ordinance

- Ordinance requires protection of limestone/carbonate areas.
- Ordinance requires mandatory dedication of recreation land or fee in lieu thereof.

“Open space can be farmland, wooded areas, flood-prone areas, steep slopes, stream corridors, groundwater recharge areas, land adjoining the Delaware River or lands with recreation potential.”



Preservation Accomplishments and the Preservation Program

The Township and its residents have been working toward protection of important environmental and natural areas in an organized way since at least 1942. The Honey Hollow Watershed, the Canal, stone barns, old mills, river communities, bridges and historic districts are resources and unique scenic features worth preserving. Solebury Township has been dedicated to preserving the character of its landscape and community for many years, employing many methods and approaches. In 1996 and through 2005 four municipal bond issues all received a mandate of over 80 percent support from the electorate. Solebury voters supported the Bucks County Open Space ballot question with a larger margin than any other township in the county.

The preservation milestones for the township are:

1942 Farmers in Honey Hollow implement a watershed conservation program

1956 Zoning ordinance was enacted to regulate development

1962 Township comprehensive plan was enacted. The comprehensive plans of 1975 and 1990 reaffirmed the goals of:

- preserving agriculture and the rural character of the township
- preserving open space
- relating land use to land capability
- preserving historic sites
- encouraging more intense development near New Hope Borough
- retaining scenic roads and respecting roadway capacity
- limiting commercial developments to community-serving uses

1969 Honey Hollow Watershed Conservation area was recognized as National Historic Landmark

1970s Township's historic districts were formed to recognize the importance of its historic villages and to protect them from destructive changes.

- 1986** Establishment of the Agricultural Security Area, including 17 landowners and 2,826 acres of farmland
- 1987** Township appoints Land Use Committee (established as Land Preservation Committee, 1999)
- Township adopts revised Zoning Ordinance, which includes:
 - Open Space Option
 - Conservation District
 - Steep Slope Ordinance
 - Outdoor Recreation District
 - Township approves new Comprehensive Plan
- 1994** Honey Hollow/Aquetong Valley Preserve reached 1,500 acres, largest contiguous protected area in Bucks County
- 1995** Zoning Ordinance amended to protect scenic roads
- 1996** Voters overwhelmingly approve \$4 million Open Space Bond
- 1999** Voters overwhelmingly approve \$10 million Open Space Bond
- 2000** Adoption of the updated Park and Recreation Plan
- 2002** Voters overwhelmingly approve \$12 million Open Space Bond
- 2005** Voters overwhelmingly approve \$18 million Open Space Bond

Open Space Goals

The township's open space vision is to continue a well-planned program of preservation of farmland, natural areas, scenic areas, and other open spaces.

1. Protect Ground Water Resources – Integrate open space preservation, municipal planning, and growth management to support land use that protects the quality and quantity of ground water, recharge areas, and prevent nonpoint source pollution.

Residents are dependent on ground water resources for safe and reliable drinking water. Stream flows are dependent on the recharge of ground water. By protecting ground water resources, the township can protect future safety of residents and protect the natural areas from damage.

Open space plans and policies should support the comprehensive plan and zoning map of the township. Some important open space areas cannot be preserved using zoning or land use controls. These should be addressed through open space efforts. Zoning and planning can be used to support open space efforts by requiring protection of environmental features, such as limestone areas, slopes, wetlands, floodplains, and woodlands.

2. Preserve Farmland – Preserve farmland and agricultural soils through farm easements in important farming areas throughout the township.

Preservation of farmland will ensure preservation of a strong farming economy.

The preservation of farmland helps to meet other township goals, such as protection of viewsheds, protection of groundwater recharge areas, and preservation of natural areas.

Preservation of farmland helps to protect natural areas such as limestone areas and woodlands associated with farm properties.

3. Protect Critical Natural Resources – Protect important environmental features such as forest, floodplains, the stream and river corridors, slopes, wetlands, and limestone/carbonate areas.

Preservation of natural areas will protect against environmental damage and will preserve wildlife habitat.

The preservation of natural areas helps to meet other township goals, including directing development into lands that can sustain development and protecting those lands that are sensitive and susceptible to damage.

4. Provide Greenways and Trails – Plan to preserve greenways along stream corridors and establish trails for recreation as part of the open space strategy.

The township Park and Recreation Plan recommends a greenway and trail system. This recommendation is strongly supported by the Township survey of residents who identified greenways and trails as the number one recreational priority. Bucks County Audubon Society's study also places a high priority on contiguous properties that create linked landscapes as the best method of protecting wildlife habitat.

The Park and Recreation Plan support a conceptual plan to link the Township's parks and open spaces. These plans should be integrated with the Township's Open Space Plan.

5. Protect Scenic Views

In 1989 the Land Use Committee created a scenic viewshed map that identified those historical, rural, village or watershed locations that should be protected. A Scenic Analysis map was adopted by the township as a policy guide in 1997. Twenty-five roadside viewsheds have been identified as sites worth preserving.

6. Work with Landowners – Pursue the best method of preservation for the township, taking into account available funding, landowner needs, and township goals.

The township's Land Preservation Program is designed to work effectively with individual landowners to meet their needs and to support township goals. The township has established a formal program for approaching landowners whose properties would enhance the overall township open space program. Members of the Land Preservation Committee are assigned to meet with landowners. All discussions are kept confidential. Individual conservation desires and financial considerations are blended with township goals to develop an effective preservation plan. This results in a range of options, including donations of easements, purchase of easements, limited development, and cooperation with other preservation programs.

The land preservation program only works if there are willing landowners, and the township program has been successful because it has recognized the importance of individual needs in the pursuit of community goals.

7. Protect Scenic Roads – Monitor scenic roads maintenance and planting guidelines to protect scenic roads and corridors.

The township has established a policy of protecting the character of local roads to protect scenic qualities. By maintaining roadside vegetation, the appeal of local roads is retained and a natural buffering is kept in place.

Preservation Methods and Action Steps to Meet Open Space Goals

The Open Space Plan addresses four basic items:

1. Where the township is today in terms of its development and open space efforts
2. Where the township is going and what trends and forces will affect its future
3. Where does the township want to be, what are its goals for open space and growth management
4. How the township will achieve its goals.

This section of the plan addresses the last issue: how to work toward its goals and accomplish what needs to be done.

Goal 2. Preserve Farmland

Action Steps

- Farmland should be preserved through the use of farm preservation easements, by donation, and by using township funds and/or the county/state farmland preservation program or other grants. These programs enable the farmer to retain ownership of the land.
- Evaluation criteria developed by the Land Preservation Committee should continue to be used.
- Farmers should be encouraged to join the Agricultural Security Area and to prepare the required soil conservation plans.
- Properties eligible for preservation through the Bucks County Agricultural Land Preservation program should be encouraged to apply. The township should continue its cooperative efforts with this county/state program.
- Land Preservation Committee should continue its successful efforts with landowners.

Targeted Areas

Areas targeted for farmland preservation efforts are the following:

- Gateway area - entrance to Solebury Township along Route 263.
- Farming areas along Stony Hill Road, along Windy Bush Road, and extending to the Delaware River.
- Areas in the Mechanicsville Road corridor where there are preserved farms and large farms that could be preserved, including lands in the Paunacussing watershed.
- Paxson/Laurel Road area
- Parcels adjacent to preserved lands

- All properties in the Solebury Township Agricultural Security Area.

Implementation Responsibilities

Land Preservation Committee, Board of Supervisors

Maintenance Responsibilities

Land would be retained by the landowner who would be responsible for maintenance. Township and Bedminster Land Conservancy would be responsible for monitoring and enforcing the easement.

Goal 1. Protect Ground Water Resources

Action Steps

- Revised stormwater management ordinance to give greater emphasis to preserving and recharging groundwater through infiltration and other methods that retain water on site.
- Protect groundwater quality by requiring stringent controls on stormwater and grading requiring best management practices to improve quality.
- Revised Act 537 Sewage Facilities Plan to limit exportation of sewage which diminishes groundwater by exporting water. Revise wastewater hierarchy to give consideration to recharge.
- Revised riparian buffer requirements to protect streams against nonpoint source pollution and erosion.
- Revised wellhead protection ordinances to protect public water supplies from contamination.
- Improve limestone/carbonate ordinance to protect against contamination of groundwater.
- Protect recharge areas through easements or donations.
- Create watershed overlay protection zoning.

Targeted Areas

- Watersheds/Riparian Corridors
- Limestone/Carbonate area

Implementation Responsibilities

Planning Commission, Board of Supervisors, township professional staff, Land Preservation Committee

Maintenance Responsibilities

Land would be retained by the landowner who would be responsible for maintenance. Township and Bedminster Land Conservancy would be responsible for monitoring and enforcing the easement.

**Goal 2. Protect Critical Natural Resources and Environmental Areas:
Ingham Spring, carbonate areas, Honey Hollow, Paunacussing ,
Primrose, Aquetong, Cuttaloosa, Coppernose, Laurel Run, and
Pidcock watershed areas, and small Delaware River tributaries.**

Action Steps

- Encourage donation of easements by property owners
- Apply for funding through the Bucks County Natural Area program to preserve critical natural areas identified in the *Natural Areas Inventory*
- Receive donations and purchase easements on important natural areas
- Upgrade township ordinances regarding limestone/carbonate areas to provide better protection for the limestone valley
- Revised ordinances to provide better protection for steep slope areas
- Added riparian buffer protection to township ordinances to protect stream corridors
- Complete the process of acquiring and protecting Aquetong Lake/Ingham Spring through cooperation with state agencies
- Encourage landowners and watershed groups in critical areas to work together to preserve lands cooperatively.

Targeted areas

Encourage cooperative preservation or natural areas program in the following areas:

- Honey Hollow, Paunacussing , Cuttaloosa, Coppernose, Laurel Run, Primrose, and Pidcock watersheds.
- Aquetong Lake/Ingham Spring
- Delaware Canal corridor
- Limestone/Carbonate area
- Solebury mountain

Implementation Responsibilities

Land Preservation Committee, Planning Commission, Board of Supervisors

Maintenance Responsibilities

Land would be retained by the landowner who would be responsible for maintenance. Township and Bedminster Land Conservancy would be responsible for monitoring and enforcing the easement.

Goal 3. Extend Existing Trail System by Coordinating Park and Open Space Preservation Efforts.

Action Steps

- Follow the recommendations of the Township Park and Recreation Plan (2006) - See Map 12
- Consider the potential for trails as part of open space protection efforts; determine where greenways are possible.
- Consider bicycle and pedestrian circulation as part of all development plan reviews.
- Follow through on the recommendations and findings in the Linkages section of this plan.

Targeted Areas

- Areas identified as potential linkage areas
- Areas defined by the Park and Recreation Plan
- Areas adjacent to or near existing or proposed development so that trails are accessible

Implementation Responsibilities

Park and Recreation Board, Planning Commission, Board of Supervisors

Maintenance Responsibilities

Maintenance of trails will be determined by the township.

Goal 4. Protect Scenic Views.

Action Steps

- Undertake action steps to protect farmland, natural areas, and the river corridor.
- Consider scenic component to zoning to regulate items such as reverse frontage lots, setbacks, preservation of hedgerows and native vegetation, preservation of roadside vegetation, and sighting of buildings.

Targeted Areas

Scenic areas identified by the township (Map 11).

Implementation Responsibilities

Planning Commission, Land Preservation Committee, Board of Supervisors

Maintenance Responsibilities

No additional maintenance responsibilities

Goal 5. Support Overall Land Use Planning - Integrate open space preservation with other planning and growth management programs to support land use plans.

Action Steps

- Continue to make recommended revisions to ordinances.
- Continue to target properties for preservation that complement land use planning.
- Completed comprehensive plan.
- Promote use of Open Space Options ordinance.

Targeted Areas

Entire Township

Implementation Responsibilities

Planning Commission, Land Preservation Committee, Board of Supervisors

Maintenance Responsibilities

No additional maintenance responsibilities

Goal 6. Work with Landowners - Pursue the best method of preservation for the township, taking into account available funding, landowner needs, and township goals.

Action Steps

- Continue successful program established by the township and the Land Preservation Committee that identifies important properties and works with willing landowners.
- Continue to encourage donation and sale of easements.
- Continue educational effort to promote conservation and value of conservation easements.

Targeted Areas

Entire Township

Implementation Responsibilities

Land Preservation Committee, Board of Supervisors

Maintenance Responsibilities

No additional maintenance responsibilities

Goal 7. Continue to Monitor the Adopted Scenic Road Maintenance Guidelines – Adopted guidelines are to protect Solebury’s scenic roads and corridors.

Action Steps

- Continue to maximize road enhancement through native tree and shrub plantings and by limiting roadside cutting.
- Formulated maintenance guidelines and continue to follow proper protocol.
- Continue to coordinate with township road department.
- Meet and discuss policies with adjoining municipalities for shared roads.
- Continue to coordinate with utility companies.

Target Areas

Scenic corridors

Implementation Responsibilities

Board of Supervisors, Road Department

Maintenance Responsibilities

Township, Utility Companies

"It is a longstanding concern of township residents that the character of the township and the community be preserved."



Open Space Linkages

Objectives

The township could accomplish a number of objectives by preserving contiguous open space properties. These include:

- Stream valley protection – Watershed protection from flooding and habitat destruction
- Greenway corridors – Linear green belts for habitat protection, trails and scenic views
- Trails – Biking, walking and jogging
- Canal linkages – Connections to the Delaware Canal and the New Jersey Delaware & Raritan Canal
- Agricultural Security Areas – Mutual support and operational efficiencies for farmers.

Open Space Linkages

The Township strengthens these linkages through acquisition, easements or right-of-way agreements.

- Paunacussing Watershed – A 5.25 mile watershed with headwaters in Buckingham and threatened by development in Solebury and Plumstead Townships. The Paunacussing is being evaluated for protection as a high priority natural area. Solebury parcels should be preserved, not only from a natural resource viewpoint, but also to prevent erosion.
- Pidcock Creek and Bowman's Hill – Spectacular natural areas site, partially in Upper Makefield Township, mostly preserved, with a very impressive collection of wildflowers and good connections to state park and canal trails.
- Honey Hollow Watershed – A National Historic Site, protected as the earliest watershed site in the United States to demonstrate agricultural conservation practices. Many of the 700 acres within the watershed are protected and, along with other contiguous properties outside the watershed, almost 1500 acres are protected. This is the largest privately protected area within Bucks County.
- Aquetong Watershed – A 7.5 mile watershed located within the central portion of the Township, and extends into New Hope Borough. A majority (75%) of the watershed consists of forested and agricultural areas. Aquetong Lake and Ingham Spring located within the watershed are classified as a Priority 2 site in the Bucks County Natural Areas Inventory. Aquetong Creek currently designated as a high quality cold-water fishery is currently being evaluated for a designation change to exceptional value.

- Primrose Creek Watershed – A 2.7 mile watershed located in the middle of the Township between the Cuttalloosa and Aquetong Watersheds. This watershed is primarily underlain by limestone geology. A primary concern in Primrose Creek Watershed is the New Hope Crushed Stone Quarry. Solebury Township and its residents have been working towards protection and restoration of this watershed since the early 1990's.
- Cuttalloosa & Coppernose Watersheds - These watersheds are located entirely in Solebury Township and the primary land use is agriculture, with a large percentage of the watershed being forested. Where, present, a large portion of the residential development consists of historic residences.
- Delaware Canal State Park – The Canal and towpath constitute the longest trail system in the County, with Township interconnections at:

Virginia Forest/Hendrick Island
Paunacussing-Black Bass
Centre Bridge
Canal Park
Washington Crossing State Park

- Improved connections between the Township and the Canal, coupled with the upgrading of the Canal towpath, provide increased biking and hiking opportunities.
- Utility Right-of-Way – PECO has two major transmission lines and owns the right of way of the New Hope and Ivyland Railroad. PECO has been willing to lease access to other communities, an option to be evaluated by the township.
- Conceptual Trail Planning – As part of the Township's Park and Recreation Plan, a four-phase trail plan is under consideration (Map 12). These phases are:

Phase I	Connecting Livezey, Magill and Canal Parks
Phase II	Connecting Livezey Park with the Delaware Canal
Phase III	Connecting utility right-of-way with the Marshall Tract
Phase IV	A loop trail using utility right-of-way connecting Honey Hollow and the Aquetong Valley

- Stream Valley Greenways – Some of the most scenic and important natural habitats are contained in the small stream valleys that drain into the Delaware River:

Paunacussing Creek
Cuttalloosa Creek
Laurel Run
Dark Hollow Run

Primrose Creek
Pidcock Creek
Aquetong Creek

Adjacent Communities

There are opportunities to connect Solebury's natural systems with the open space plans of the surrounding communities (New Hope Borough and Plumstead, Buckingham and Upper Makefield Townships).

Buckingham Township

Buckingham Township has two important connections to Solebury Township:

- Paunacussing Creek
- Carbonate geology belt along Route 202

The Paunacussing Creek has its headwaters at the Natural Lands Trust Preserve on Holicong Road.

The carbonate geology belt identified on Map 6 is a critical resource containing excellent agricultural soils as well as a very sensitive corridor that should be protected from development. Groundwater resources, storm water drainage, subsidence and protection of the Aquetong spring aquifer are all important issues where Solebury and Buckingham should have consistent protection policies.

Plumstead Township

Plumstead Township contains the high ground that feeds into the Paunacussing. Potential timbering and development of Fieldstone Farms could severely impact the Paunacussing. The two townships are cooperatively evaluating this threat.

Upper Makefield Township

The principal interface between Solebury and Upper Makefield is along Pidcock Creek, Bowman's Hill and Washington Crossing State Park. Both townships recognize the importance of this resource and are actively negotiating to preserve properties in this area.

New Hope Borough

New Hope Borough is entirely surrounded by Solebury Township and has important interconnections along the utility right-of-way, the New Hope and Ivyland Railroad, and Aquetong Creek.

“ The Aquetong Creek is being evaluated for protection as an exceptional value area...parcels should be preserved, not only from a natural resource viewpoint, but also to prevent erosion.”



Evaluation Criteria for Preservation Properties

1. Current Risk of Sale
2. Environmental Factors
 - Wetlands, streams, other watershed features
 - Within a natural area network or core reserve
 - Geology
 - Topography
 - Other significant natural features
3. Location/Site
 - Near or contiguous to preserved property
 - Proximity to development
 - Contiguous to a working farm
4. Size
 - Acreage
 - Degree of development
5. Development and Zoning
 - Zoning designation
 - Development pressure
 - Proximity to development
 - Public Road Access
 - Suitability for development
6. Historic and viewshed factors
 - Historical significance of site or structures
 - Scenic, as viewed from nearby
 - Scenic, as viewed from a distance
 - Public road frontage
7. Recreational Potential
 - Suitable for active recreation
 - Suitable for passive recreation

8. Farming Viability
 - Farmed?
 - Soil quality
9. Economic factors
 - Donation or bargain sale
 - Possibility of leveraging state/county funds

Solebury Township

Open Space Plan Maps

Map 1 - Township Map

Map 1 shows the township, its major roads, surrounding municipalities, and the crossroads villages. The map shows that the township is bounded by the Delaware River along the east side. Major roads cross the township, including Upper York Road, or Rt. 263, and Lower York Road, or Route 202. These roads connect Solebury with other counties to the west and with New Jersey to the east.

Several crossroads villages developed at the intersection of main roadways, and these villages are significant because they contain some of the oldest buildings in the township and because they are historic centers of commerce and community activities.

Map 2 - Zoning Map

The township is divided into zoning districts to direct growth and development within the township and to accommodate different land uses in appropriate locations. The map shows that the zoning ordinance allows for commercial, industrial, and higher density land uses in the areas around Route 202 and New Hope Borough. Village residential and commercial uses are permitted in the areas around the crossroads villages. Large areas of the township are devoted to residential/agricultural uses.

Map 3 - Preservation Map

The Preservation Map shows the areas of the township that have been permanently preserved. These properties have been protected from future development through a variety of means, including purchase by state, county or township governments, township or county easements, donations, and preservation by private conservancies and land trusts.

The map shows the large Aquetong Valley protected from development by easement. It illustrates the success of the township easement program by showing the areas protected by easement.

The state has protected lands along the Delaware River, at the Washington Crossing State Park and at Hendrick Island.

Conservancies have also protected lands in the Paunacussing area as well as lands in the Honey Hollow watershed and the limestone/carbonate area.

Map 4 - Agricultural Security Area Map

Property owners who qualify may enroll in the township's Agricultural Security Area, a program created by the Commonwealth of Pennsylvania in 1981 to help protect farming. Participation is voluntary and reflects the farmer's general interest and commitment to continuation of agriculture on the property. Participants are protected from "nuisance"

ordinances that are sometimes proposed to control noise, odor, and hours of operations. Participants are also afforded much greater protection against eminent domain. Farmers in the program are eligible to participate in the Bucks County Agricultural Land Preservation Program, the county/state program designed to purchase farm easements to protect working farms from development.

The township's agriculture security area includes an ever-growing number of properties throughout the township, with particular concentrations in the Laurel Run area, the Green Hill Road area, the Mechanicsville Road area, and the Honey Hollow area.

More property owners are expected to enroll.

Map 5 - Soils Map

Soils are important for their farmland value and for their ability to safely sustain development. Wet soils, soils with poor drainage, floodplain soils, and soils unable to absorb wastewater have limitations for development. Prime farmland soils, defined as soils Classes I, II, and III, are valuable resources that should be preserved because of their food-producing ability.

The soils map indicates large areas of good farming soils in most parts of the township. Areas along the Delaware River are stony, a typical condition along the river.

Poorer soils are located in the southern part of the township, particularly in areas underlain by diabase geology (See Map 6).

Map 6 - Geology

The township has a large carbonate/limestone area that runs across the township, in the vicinity of Routes 202 and 263. This is an important natural feature that is recognized in the Township's comprehensive planning, zoning, and open space planning. The area contains the important Ingham Spring. The rock is easily soluble, subject to subsidence, and ground water is easily polluted because of the solubility of the rock.

This area extends from Buckingham, near the intersection of Swamp Road and Rt. 263, across Buckingham and Solebury Townships.

The township is underlain by the Stockton formation, a good source of ground water. The diabase formation, below New Hope is poorly drained, with little opportunity for ground water recharge and on-site wastewater disposal.

Map 7 - Natural Areas

The Bucks County Natural Area Inventory has identified these sites as valuable natural areas.

1. Aquetong Lake and Ingham Spring - largest spring in Bucks County; important geologic feature (limestone area), wintering place for waterfowl.

2. Paunacussing Creek - diversity of forest types, diversity of habitat, high diversity of plants at the mouth of the creek at the Delaware River, outcrops of Stockton formation geology, high quality- cold water fisheries water quality classification.
3. Bowman's Hill and Pidcock Creek - a large variety of birds; wildflower preserve; important historic site (Bowman's Tower from Revolutionary War)
4. Sugan Lake - A six-acre lake formed by a dam on Aquetong Creek; rich deciduous forest, herbaceous flora, abundant waterfowl.
5. Cuttalousa Creek Valley - Picturesque rural valley; rich bird habitat; forested slopes above the creek.
6. Hal Clark Park and Delaware Canal State Park - Forested shores of the Delaware River; historic Delaware Canal; rich variety of plants
7. Hendrick Island - Archaeological site of native tribes; variety of hardwood trees.
8. Laurel Run - Area of wooded slopes along Laurel Run.

Map 8 - Streams, Watersheds, and Floodplains

This map shows the major stream corridors of the township. Most flow into the Delaware River. These corridors are important natural areas, many of which have scenic qualities and contain important natural features such as steep slopes and wooded hillsides. Watersheds indicate the areas of land that drain into the specific streams named. Floodplains are shown along major waterways.

Map 9 - Contours

Steep slope areas are indicated on this map. The areas along the River and along the major streams contain the major steep slopes.

Map 10 - Wetlands and Woodlands

Much of the township contains woodlands. Unwooded areas are typically farm fields. The wetlands shown are larger wetland areas only, and many smaller wetlands exist but cannot be mapped without a site survey.

Map 11 - Scenic Analysis

The Scenic Analysis Map was developed to show the important scenic areas of the township, including both natural areas and historic areas. The Delaware River is an important scenic area, as are the farms of Solebury.

Map 12 - Conceptual Trail Map

Potential trails were designed as part of the update of the township Park and Recreation Plan 2006. The location of future trails are shown, as is the possible sequence for implementation. These trails would connect existing parks, preserved lands, and scenic areas.

Map 13 - Parks and Facilities

Parks and open spaces owned by the township or other governmental groups are shown. This includes areas for recreation, schools, and natural areas.

Goal 1. Preserve Farmland

Action Steps

- Farmland should be preserved through the use of farm preservation easements, by donation, and by using township funds and/or the county/state farmland preservation program or other grants. These programs enable the farmer to retain ownership of the land.
- Evaluation criteria developed by the Land Preservation Committee should continue to be used.
- Farmers should be encouraged to join the Agricultural Security Area and to prepare the required soil conservation plans.
- Properties eligible for preservation through the Bucks County Agricultural Land Preservation program should be encouraged to apply. The township should continue its cooperative efforts with this county/state program.
- Land Preservation Committee should continue its successful efforts with landowners.

Targeted Areas

Areas targeted for farmland preservation efforts are the following:

- Gateway area - entrance to Solebury Township along Route 263.
- Farming areas along Stony Hill Road, along Windy Bush Road, and extending to the Delaware River.
- Areas in the Mechanicsville Road corridor where there are preserved farms and large farms that could be preserved, including lands in the Paunacussing watershed.
- Paxson/Laurel Road area
- Parcels adjacent to preserved lands
- All properties in the Solebury Township Agricultural Security Area.

Implementation Responsibilities

Land Preservation Committee, Board of Supervisors

Maintenance Responsibilities

Land would be retained by the landowner who would be responsible for maintenance. Township would be responsible for monitoring and enforcing the easement.

**Goal 2. Protect Critical Natural Resources and Environmental Areas:
Ingham Spring, carbonate areas, Honey Hollow, Paunacussing ,
Cuttaloosa and Laurel Run, Pidcock watershed areas, and small
Delaware River tributaries.**

Action Steps

- Encourage donation of easements by property owners
- Apply for funding through the Bucks County Natural Area program to preserve critical natural areas identified in the *Natural Areas Inventory*
- Receive donations and purchase easements on important natural areas
- Upgrade township ordinances regarding limestone/carbonate areas to provide better protection for the limestone valley
- Upgrade ordinances to provide better protection for steep slope areas
- Add riparian buffer protection to township ordinances to protect stream corridors
- Complete the process of acquiring and protecting Aquetong Lake/Ingham Spring through cooperation with state agencies
- Encourage landowners in critical areas to work together to preserve lands cooperatively.

Targeted areas

Encourage cooperative preservation or natural areas program in the following areas:

- Honey Hollow, Paunacussing , Cuttaloosa and Laurel Run, Primrose, and Pidcock watersheds.
- Aquetong Lake/Ingham Spring
- Delaware Canal corridor
- Limestone/Carbonate area
- Solebury mountain

Implementation Responsibilities

Land Preservation Committee, Planning Commission, Board of Supervisors

Maintenance Responsibilities

Land would be retained by the landowner who would be responsible for maintenance. Township would be responsible for monitoring and enforcing the easement.

Goal 5. Protect Scenic Views.

Action Steps

- Undertake action steps to protect farmland, natural areas, and the river corridor.
- Consider scenic component to zoning to regulate items such as reverse frontage lots, setbacks, preservation of hedgerows and native vegetation, preservation of roadside vegetation, and siting of buildings.

Targeted Areas

Scenic areas identified by the township (Map 11).

Implementation Responsibilities

Planning Commission, Land Preservation Committee, Board of Supervisors

Maintenance Responsibilities

No additional maintenance responsibilities

Goal 7. Work with Landowners - Pursue the best method of preservation for the township, taking into account available funding, landowner needs, and township goals.

Action Steps

- Continue successful program established by the township and the Land Preservation Committee that identifies important properties and works with willing landowners.
- Encourage donation and sale of easements.
- Continue educational effort to promote conservation and value of conservation easements.

Targeted Areas

Entire township

Implementation Responsibilities

Land Preservation Committee, Board of Supervisors

Maintenance Responsibilities

No additional maintenance responsibilities

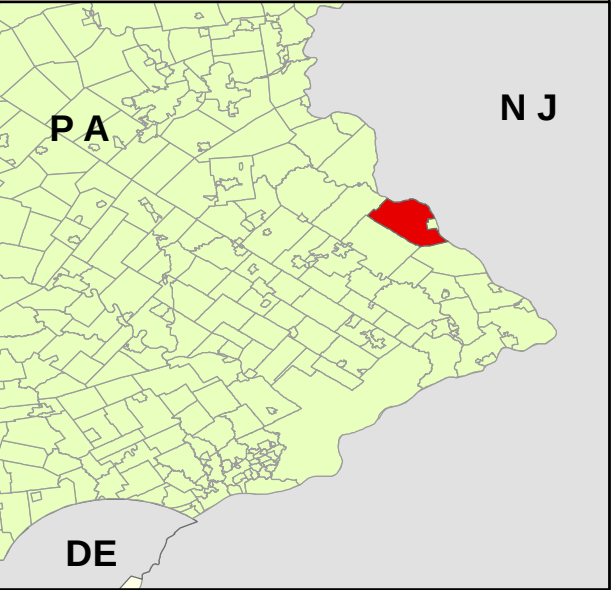
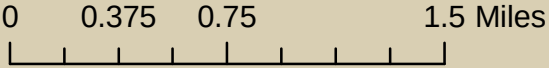


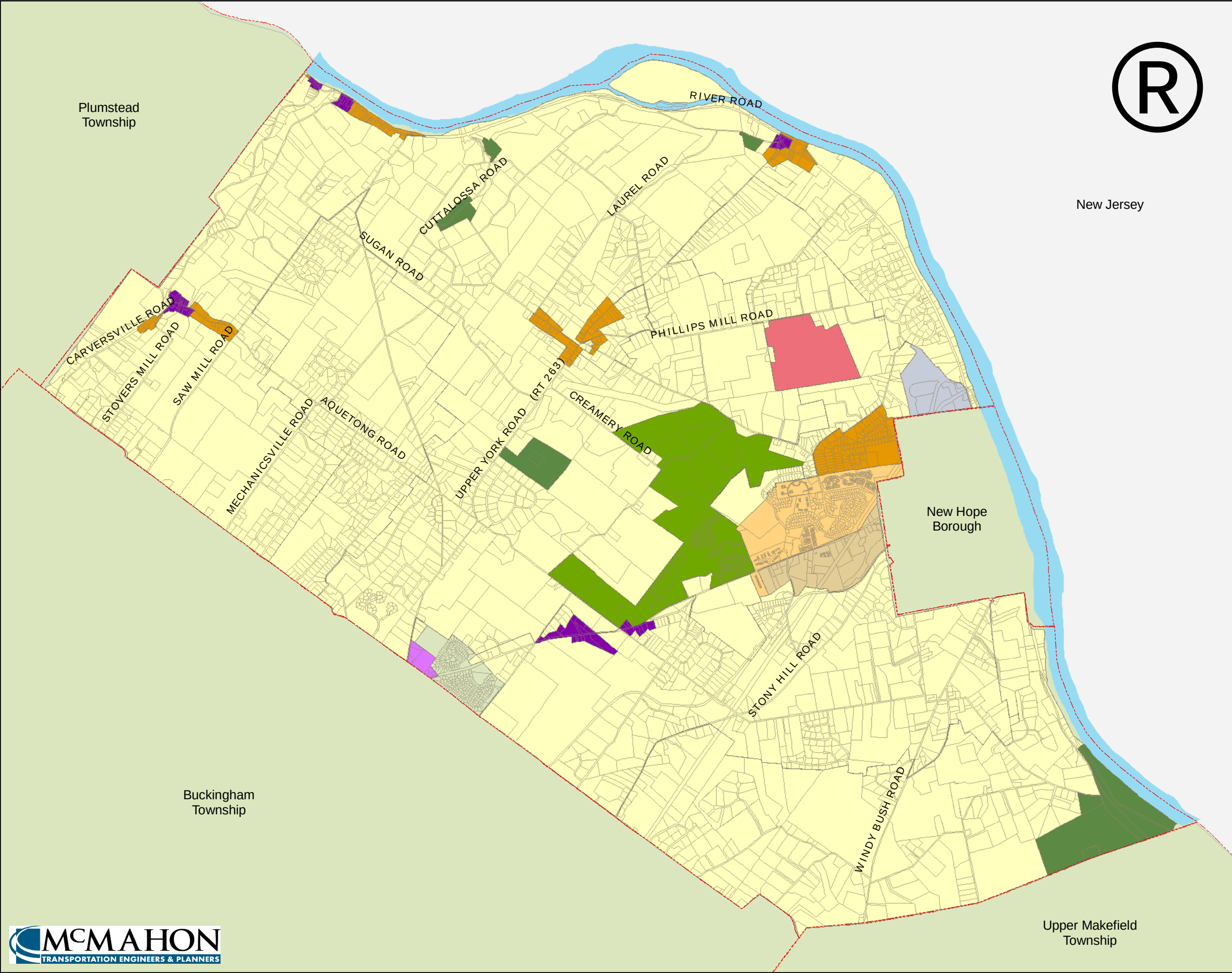
SOLEBURY TOWNSHIP

Base Map
Map 1

Legend

- Railroads
- Township Boundaries
- Parcels
- NJ_Dissolve
- Township Boundaries
- Villages



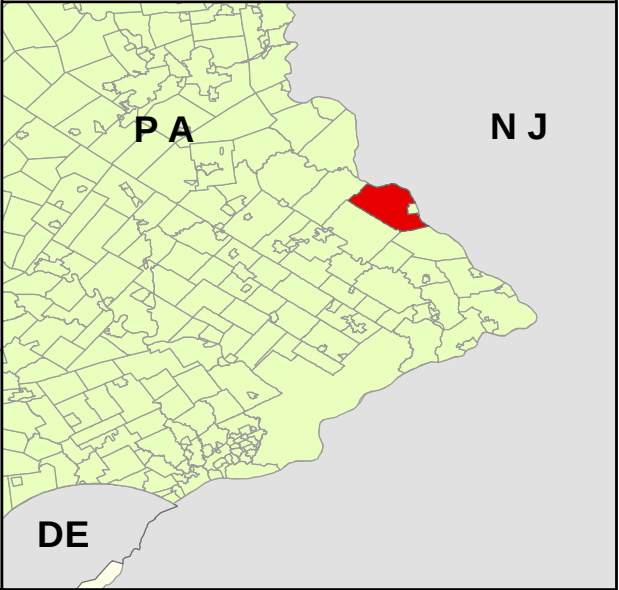


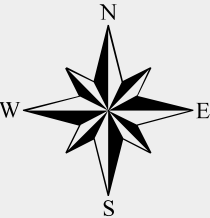
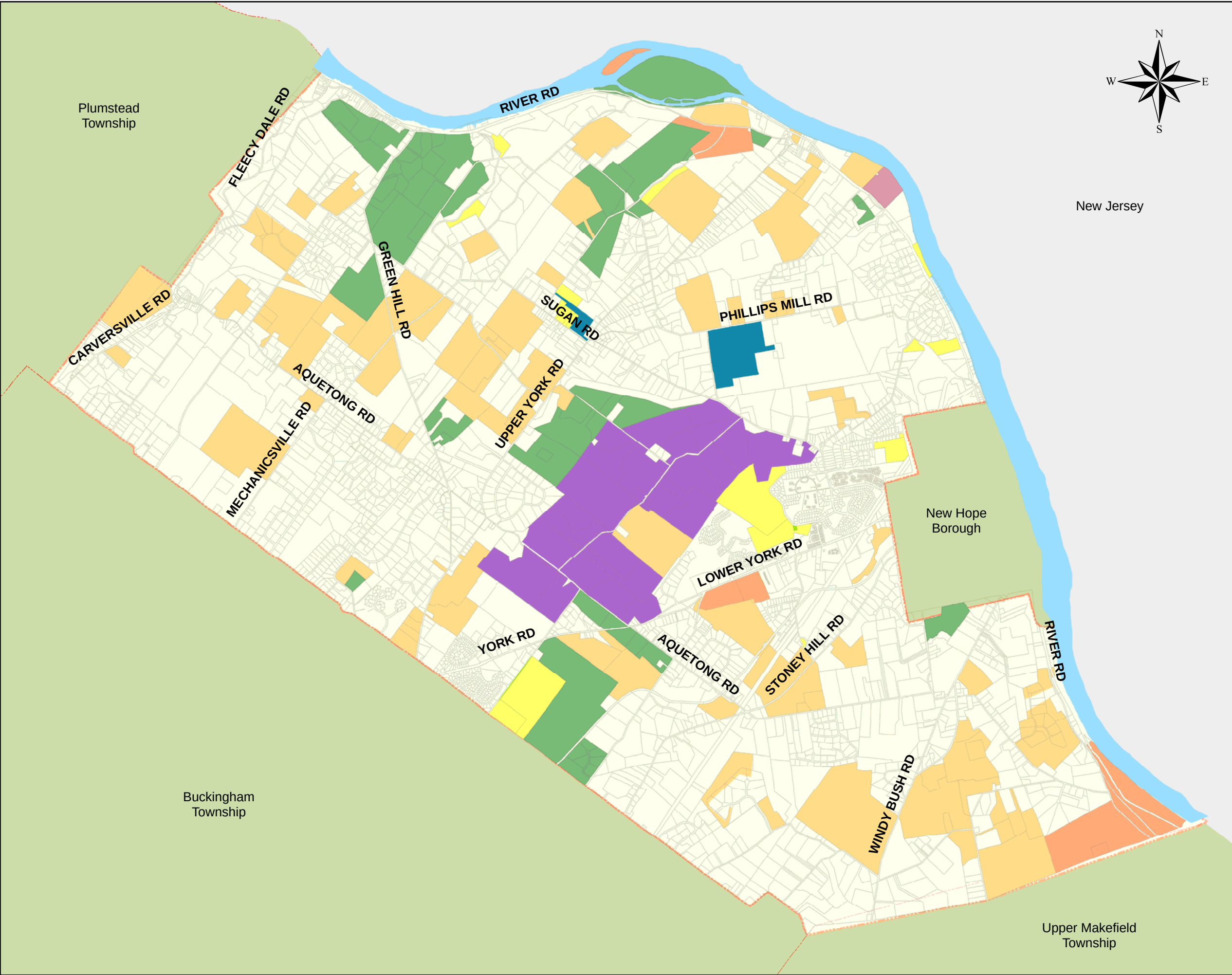
SOLEBURY TOWNSHIP

Zoning Map Map 2

Legend

- Township Boundary
- Parcels
- Zoning**
- Light Industrial
- Outdoor Recreational
- Quarry Agricultural
- Residential / Agricultural
- Residential Development
- Residential Development Conservation
- Rural Commercial
- Small Lot Residential
- Traditional Neighborhood Commercial
- Village Commercial
- Village Residential





New Jersey

SOLEBURY TOWNSHIP

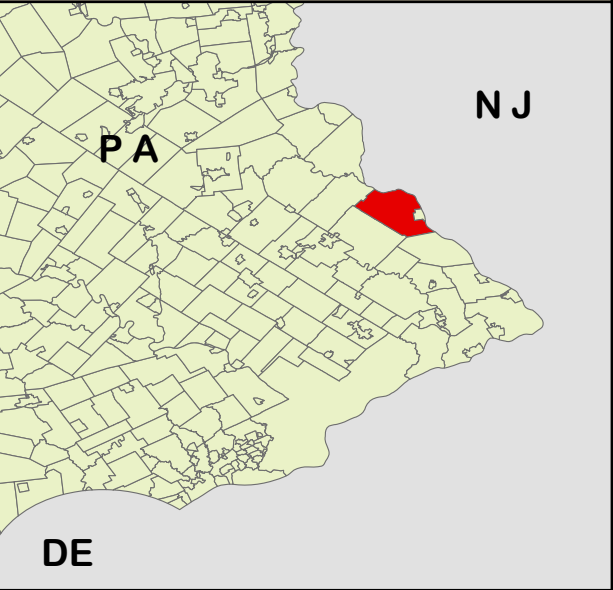
Preservation Map Map 3

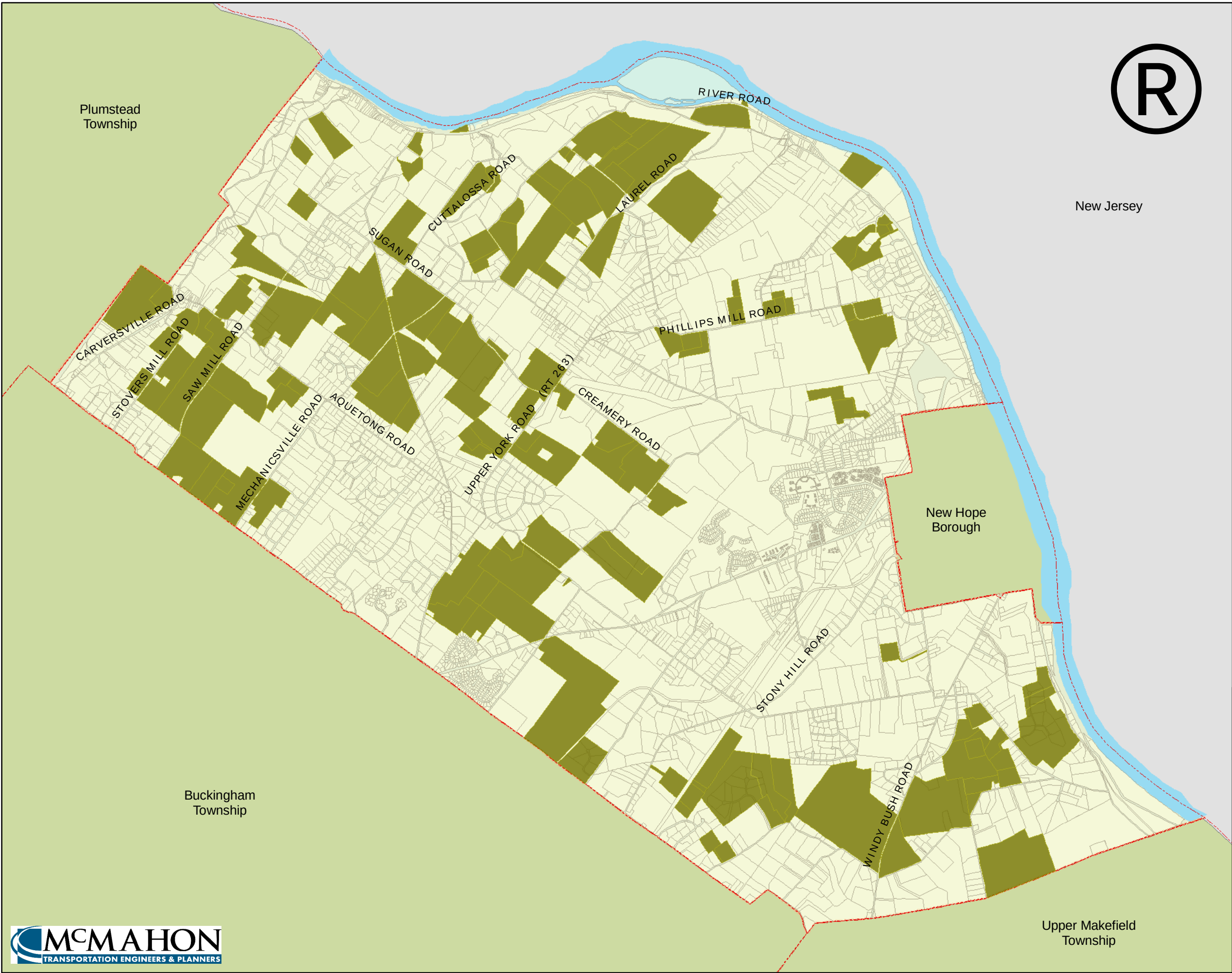
Legend

RMSSEG_Pasda selection

- Parcels
- Heritage Conservancy Easements
- Natural Lands Trust
- Schools
- State Owned
- Township Owned
- Township Easement
- Parks
- County Lands
- Delaware River

0 0.375 0.75 1.5 Miles





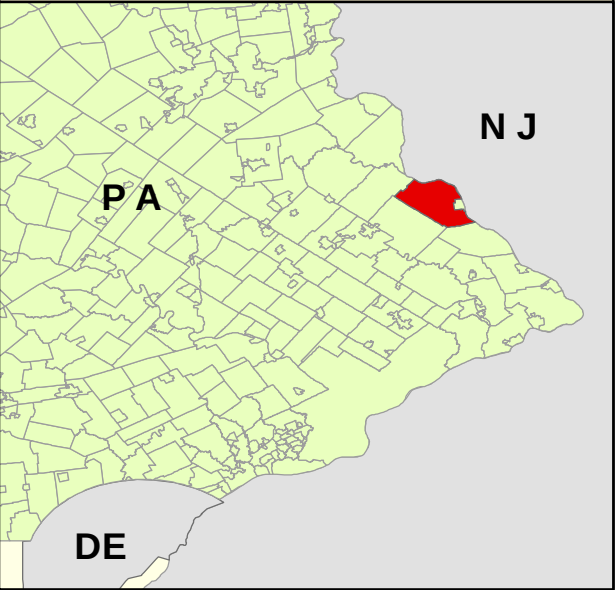
New Jersey

SOLEBURY TOWNSHIP

Agricultural Security Area
Map 4

Legend

-  Properties in Agricultral Security Area
-  Township Boundaries





SOLEBURY TOWNSHIP

Soils by Class Map 5

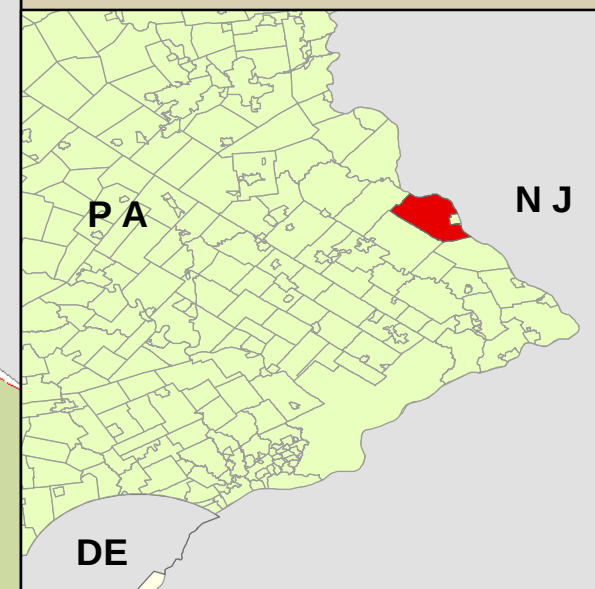
Legend

-  Parcels
-  Township Boundaries

Soils

-  Class I
-  Class II
-  Class III
-  Class IV
-  Class VI
-  Class VII
-  QUARRY
-  WATER
-  UNCLASSIFIED

0 0.375 0.75 1.5
Miles



Plumstead
Township

New Jersey

Buckingham
Township

Upper Makefield
Township

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Capability classes, the broadest groups, are designated by numerals 1 through 7. The numerals indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class I soils have few limitations that restrict their use.

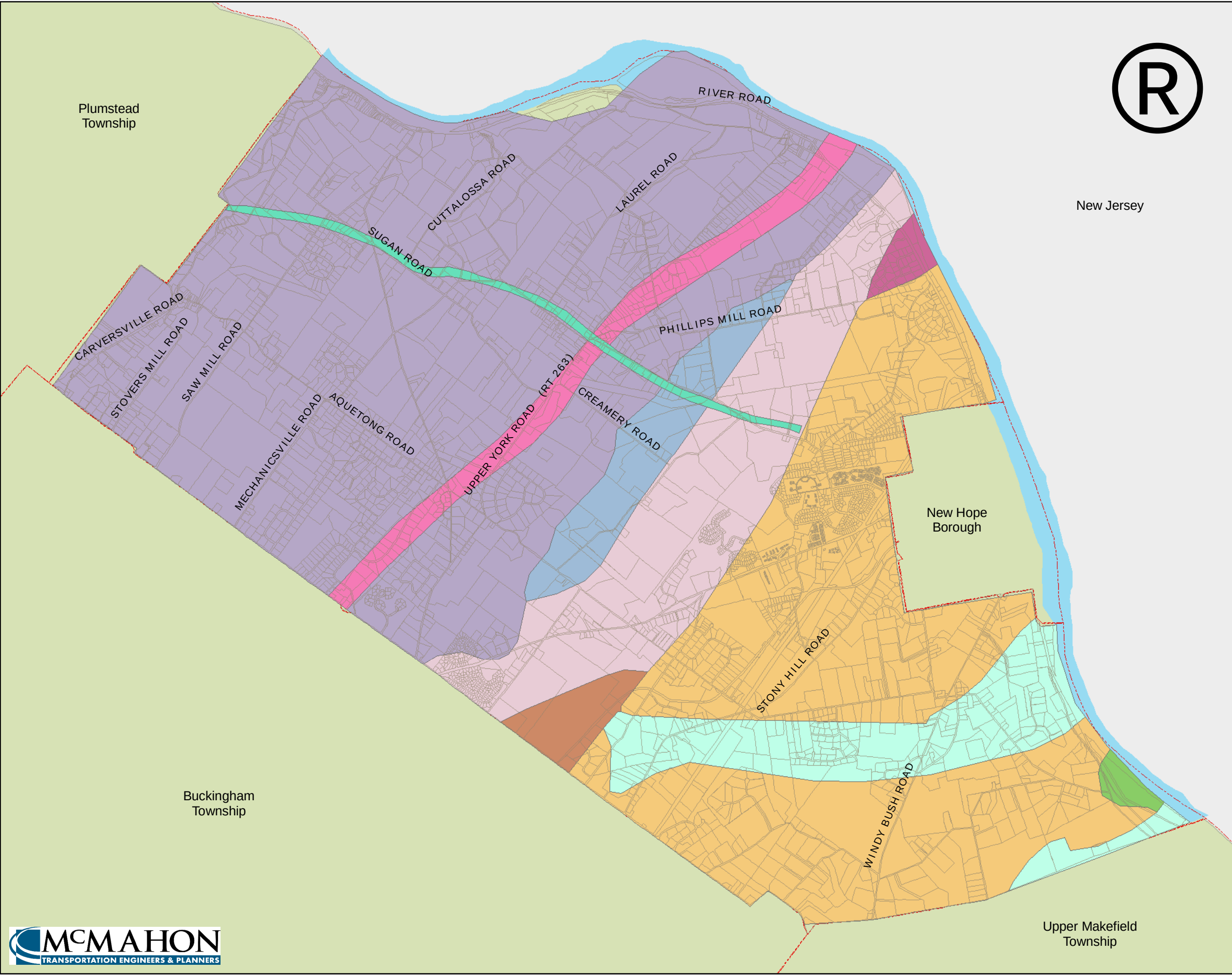
Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

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

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

Class VI soils have severe limitations that make them generally unsuitable for cultivation.

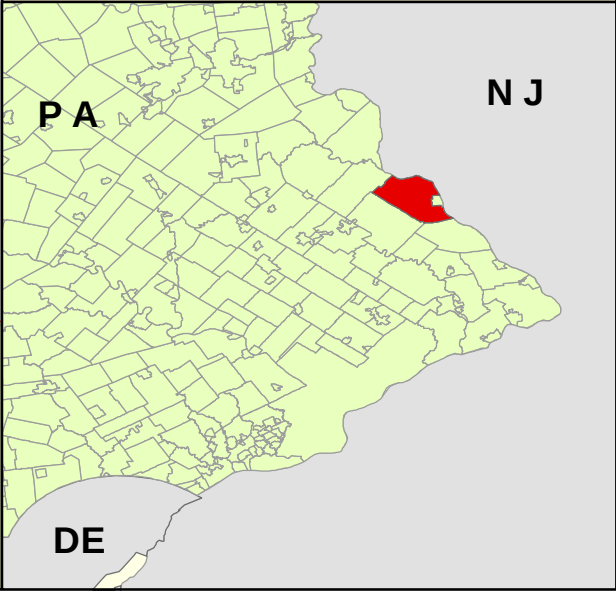
Class VII soils have very severe limitations that make them unsuitable for cultivation.



SOLEBURY TOWNSHIP

Geology Map 6

- Legend**
- Township Boundaries
 - Allentown Formation
 - Beekmantown Group
 - Brunswick Formation
 - Diabase
 - Diabase Dike
 - Leithsville Formation
 - Lockatong Formation
 - Stockton Conglomerate
 - Stockton Formation
 - Trenton Gravel



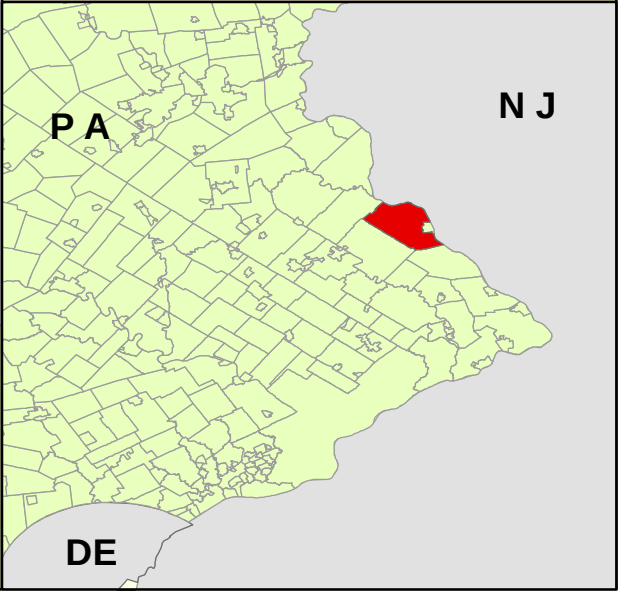


SOLEBURY TOWNSHIP

Natural Areas Inventory Map 7

Legend

- Railroads
- Natural Areas**
- Aquetong Lake and Ingham Spring
 - Bowman's Hill and Pidcock Creek
 - Burrell's Lake
 - Cuttallossa Creek Valley
 - David R. Johnson Natural Area
 - Hal Clark Park and adjacent areas of Delaware Canal State Park
 - Hendrick Island
 - Paunacussing Creek
 - Delaware River





SOLEBURY TOWNSHIP

Streams, Flood Plains,
Watersheds
Map 8

Legend

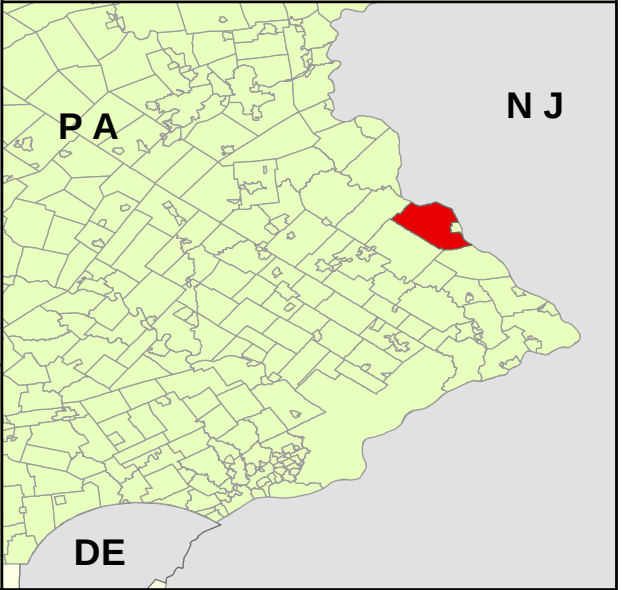
- Delaware River
- Township Boundaries
- Watersheds
- Streams

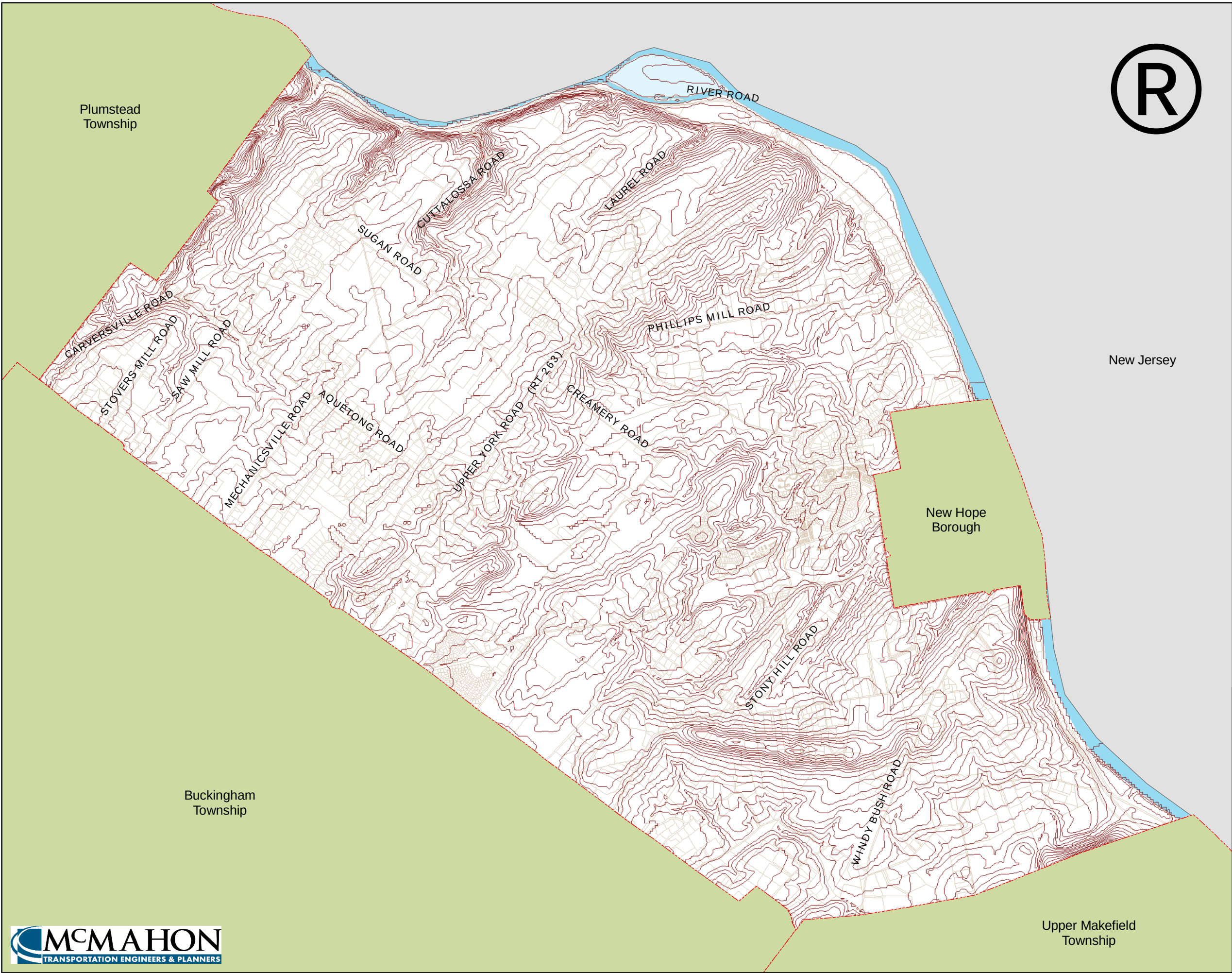
FloodPlains

ZONE

- A
- AE
- X500

0 0.375 0.75 1.5
Miles



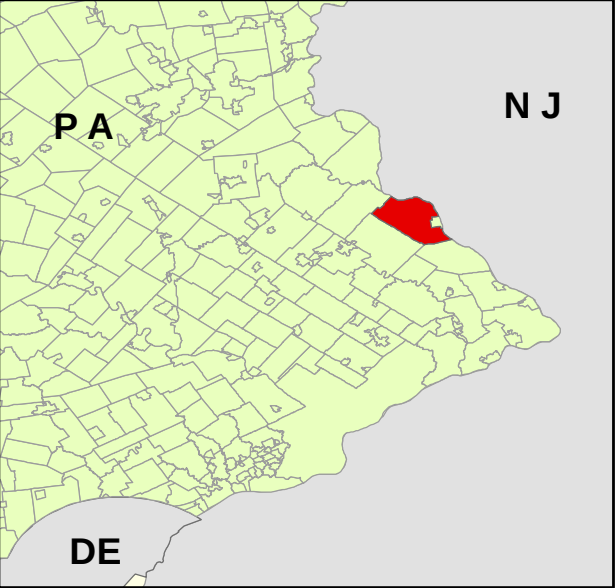
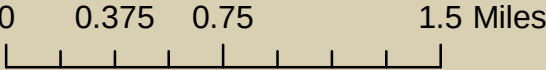


SOLEBURY TOWNSHIP

Contour Map
Map 9

Legend

-  Contours
-  Township Boundaries



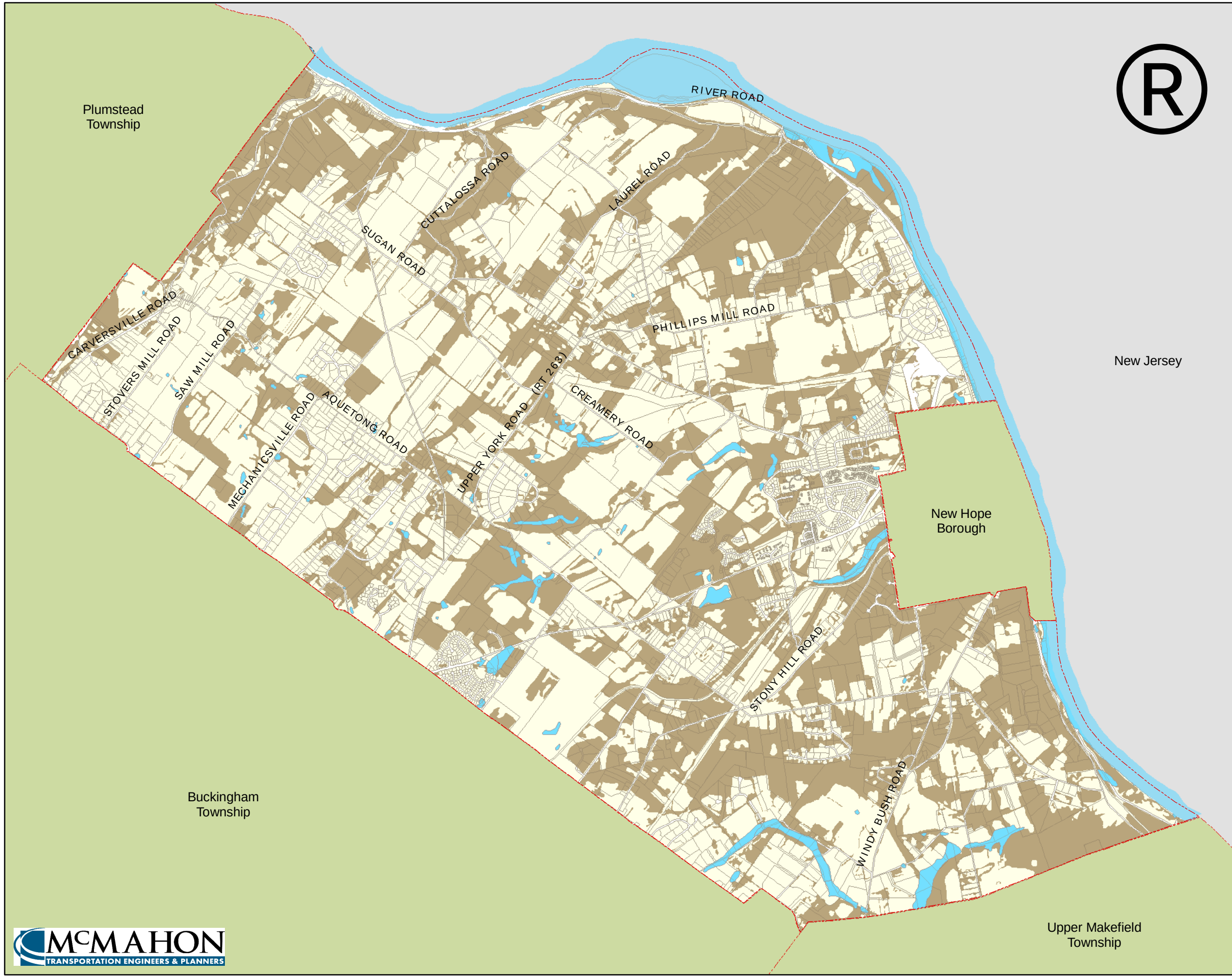
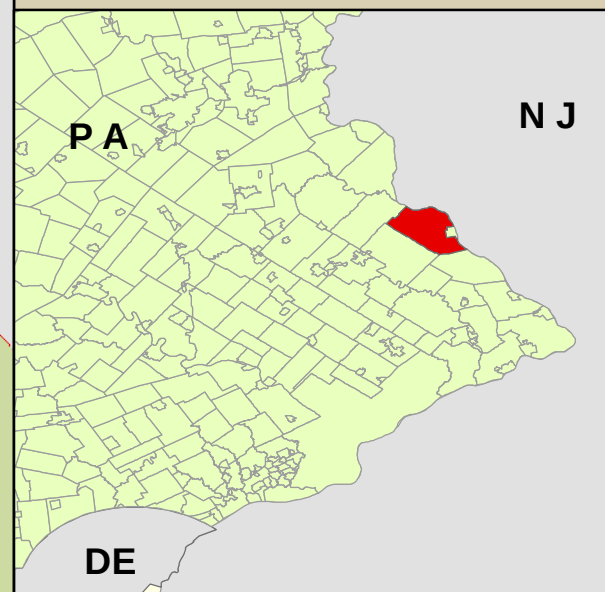
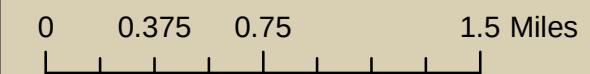


SOLEBURY TOWNSHIP

Wetlands and Watersheds
Map 10

Legend

- Township Boundaries
- Parcels
- Wetlands
- woodlands



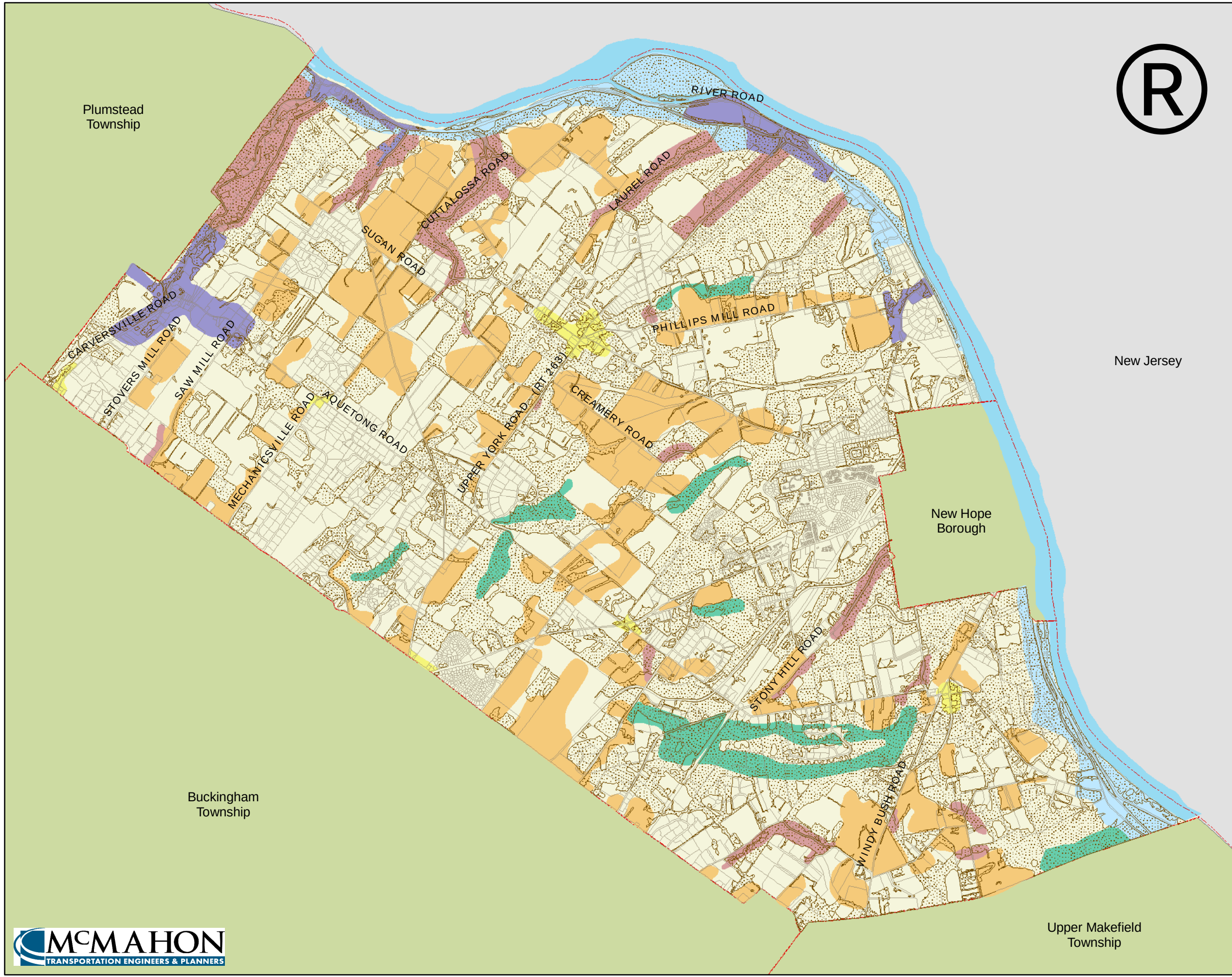
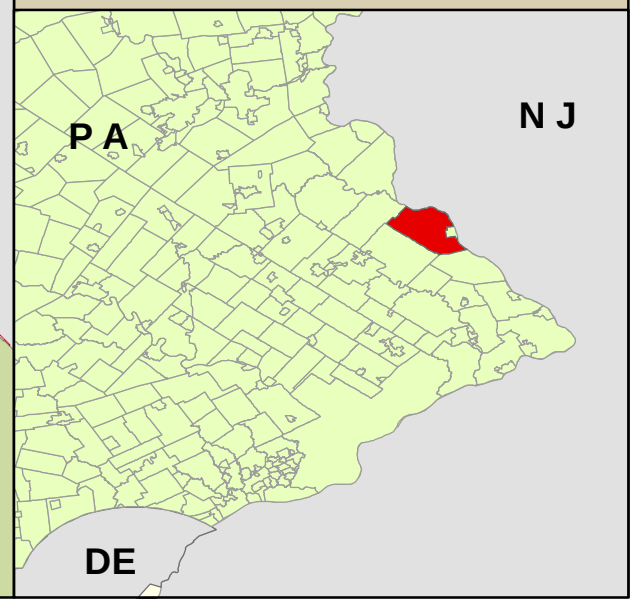
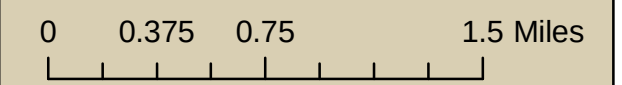


SOLEBURY TOWNSHIP

Scenic Analysis Map 11

Legend

- Township Boundaries
- Parcels
- Woodlands
- Visually Significant Landscapes**
 - Delaware River & Canal Scenic Corridor
 - Historical Villages/Hamlets
 - National Register Historic Districts
 - Open Farmland
 - Ridgelines
 - Scenic Stream Valleys



Plumstead
Township

New Jersey

New Hope
Borough

Buckingham
Township

Upper Makefield
Township



SOLEBURY TOWNSHIP

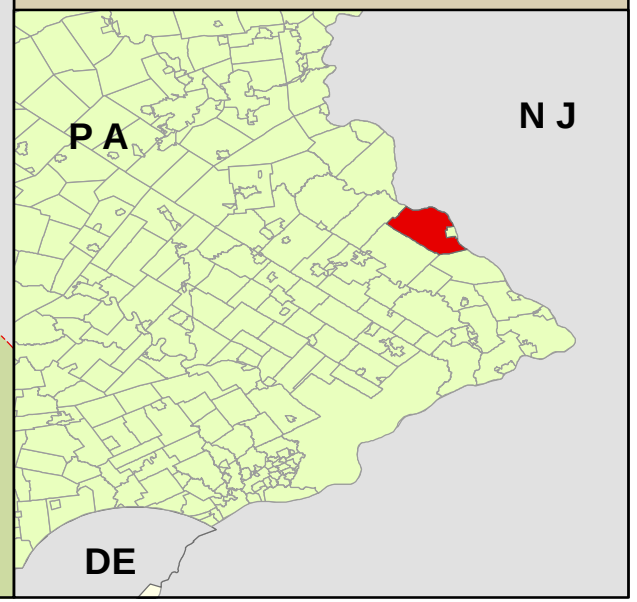
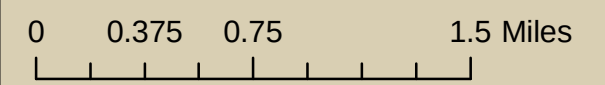
Conceptual Trail Plan Map 12

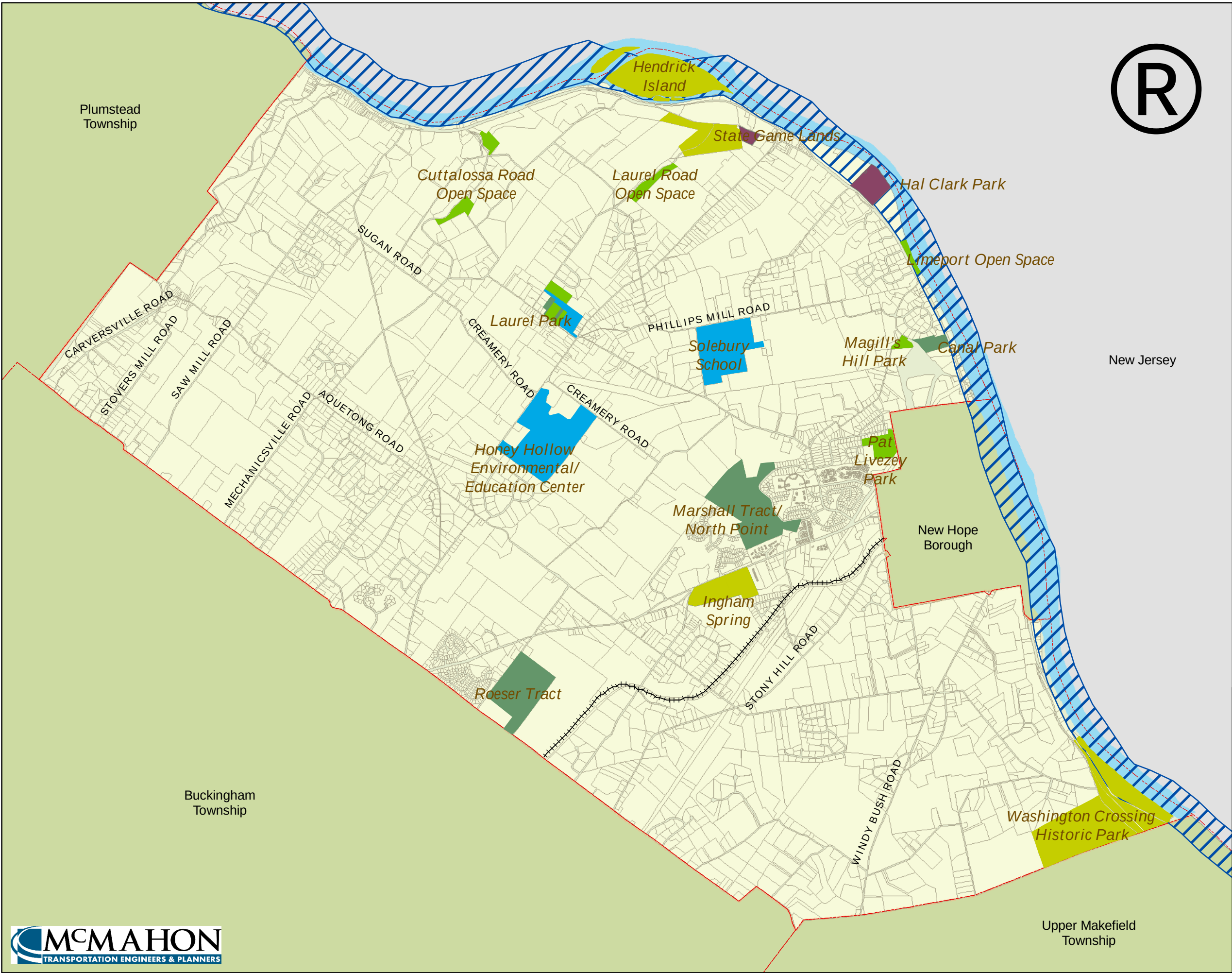
Legend

- Township Boundaries
- Parcels
- Railroads
- PECO Trail
- Delaware Canal Towpath
- Washington Crossing State Park Link Parks

Trails

- Phase I
- Phase II
- Phase III
- Phase IV



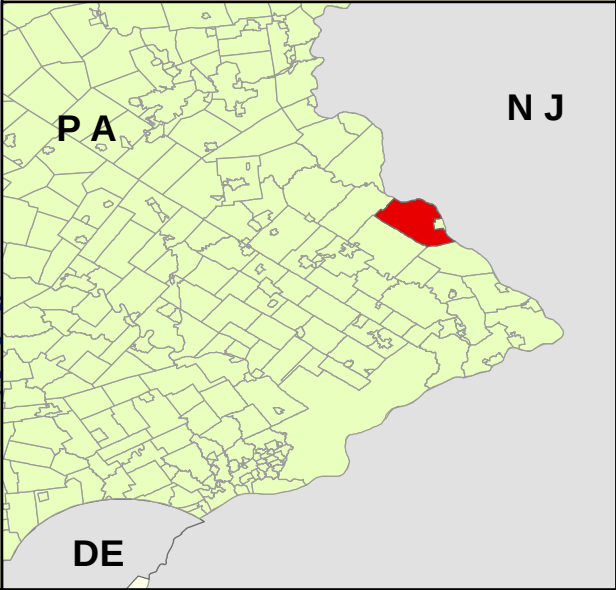
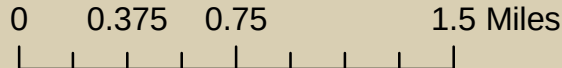


SOLEBURY TOWNSHIP

Parks and Facilities Map 13

Legend

- Railroads
- Schools/Education Centers
- State Lands
- Township Open Space
- Township Parks
- County Lands
- Canal State Park
- Township Boundaries
- Parcels
- Delaware River



A RESOLUTION OF THE BOARD OF SUPERVISORS OF
SOLEBURY TOWNSHIP, BUCKS COUNTY PENNSYLVANIA,
ADOPTING AN UPDATED OPEN SPACE PLAN

WHEREAS, the Board of Supervisors of the Township of Solebury, Bucks County, recognizes that the Township contains open space, farmland, and natural areas that contribute to the quality of life and economic health of our community which are worthy of preservation; and

WHEREAS, the Bucks County Commissioners has renewed funding of the Bucks County Open Space Program through a referendum overwhelmingly passed by voters on November 6, 2007 the purpose of which is to protect in perpetuity those natural resource areas and farmlands deemed essential to preserve the unique character of Bucks County; and

WHEREAS, the Bucks County Open Space Program provides an allocation of funding for protection of open space resources by municipalities provided that the municipality first prepares an approved municipal open space plan; and

WHEREAS, the Township of Solebury, wishes to participate in the Municipal Grant Program; and

NOW, THEREFORE, the Board of Supervisors of the Township of Solebury, Bucks County, Pennsylvania hereby resolves that the Township of Solebury Open Space Plan, dated _____, prepared in compliance with Municipal Open Space Plan Guidelines distributed by the Bucks County Open Space Program, has been discussed at a public meeting and is hereby adopted in its entirety in the form attached hereto, as the official Open Space Plan of the Township of Solebury; and

BE IT FURTHER RESOLVED, that a certified copy of this Resolution to be attached to, and made part of said Open Space Plan, and furthermore, that the Township of Solebury intends to take actions as appropriate to implement the goals of the Open Space Plan.

This Resolution had been duly prepared and adopted by the Governing Body of the Township of Solebury in public meeting held this 16th day of December, 2008.

Solebury Township Board of Supervisors

Ruth Ann Wilson, Chair

Michael Kennerley, Vice-Chair

Dennis Mankin

Peter Augenblick

ATTEST: _____

Dominic Marino