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Definitions

This section defines the methods of preservation occurring in Union Township. The use of these terms throughout the Plan will conform to these definitions.

Conservation easement

A conservation easement is a recorded document that limits the type and amount of development that may occur on a property. The specific terms of a conservation easement can vary for each property, but the overriding purpose is to preserve the natural, scenic, historic and cultural features found on the property. Conservation easements are recorded with the deed, permanently eliminating the right to develop the property.

A landowner can sell or donate a conservation easement to another party, such as the Township or a non-profit land trust.

Farmette

The first farmette in Union Township was established in 1984. The municipal ordinance establishing farmettes allowed for clustering in Agricultural Development Areas within Union with the provision that there could be only one unit per 25 acres of the open space around the clustered development. The remaining land is deed restricted to prevent further development. The goal of establishing farmettes was to retain prime agricultural soils after a subdivision on farmland had occurred. By keeping the land open the ability for that land to be farmed in the future was preserved.

In 1999 the ordinance was changed to prevent any dwellings from being constructed on the open land around subdivisions. The only buildings allowed are those that are directly related to agricultural production. This new rule was put in place to safeguard against farmettes becoming estates with no intention of ever being farmed (*Carter Van Dyke, personal communication*).

Preserved farmland

Preserved farmland means that the state Farmland Preservation Program and/or the County Agricultural Development Board has purchased the development rights of a particular farm. The terms of this agricultural easement are generally that preserved farmland cannot be developed for anything other than agriculture; the property is intended to remain actively farmed.

Private open space

Private open space refers to land that has been set aside and reserved for private use, either by an individual or a group of individuals. Structures, streets and parking facilities can be constructed on private open space provided it does not deter the natural openness of the land.

Union Township Recreation and Open Space Inventory

A Recreation and Open Space Inventory (ROSI) is a legal contract with New Jersey Green Acres. The state requires a municipality to complete a ROSI whenever that municipality accepts state funding for land acquisition. A ROSI must include all land that is being held by the municipality for conservation or recreation purposes at the time of acceptance of state money.

The ROSI prevents the land listed from being diverted to uses other than conservation and recreation. The land is subject to Green Acres regulations and review.

Community Resources in the Township of Union

“The settlement of the county began and soon transformed the primeval wilderness into an energetic agricultural colony.”

Hunterdon County Democrat 1976, p. 4

The Township of Union is located in northwestern Hunterdon County, New Jersey. The Township is bordered by six Hunterdon County municipalities: Lebanon Township, Bethlehem Township, Alexandria Township, Franklin Township, Clinton Township, and the Town of Clinton.

Throughout the Township natural and cultural resources remind residents of Union’s natural and human history. The streams, forests and farmland of the Township provide a picturesque backdrop for the agricultural activities that comprise a large portion of the Township’s land use. Several communities, such as Jutland and Pattenburg developed throughout Union, mostly due to agriculture and the presence of the rail line. A total of four historic districts exist in Union, providing a nexus to the early settlement of the Township.

As infrastructure modernized, Union became a more viable place for commuters to live. Single-family homes became, and continue to be, the dominant housing form in the Township. The Township to this day has no business district. Off Interstate 78, a network of county and local roads ambles through the community, bringing motorists to out of the way farms and bed and breakfasts. Union has retained its bucolic heritage for all residents to enjoy.

Preserving open space in Union Township is a method of preserving these valuable resources and ensuring their future existence and productivity. Open space preservation will also allow the Township to plan for growth while maintaining the important characteristics that define the community.

Natural Resources

Within Union’s borders, residents enjoy many natural resources. Spruce Run Reservoir is almost entirely within Union’s borders. Union’s streams, such as the Mulhockaway Creek, feature clean, cool trout-supporting waters. Wetlands throughout the Township cleanse water bound for Spruce Run Reservoir and the nearby South Branch of the Raritan River and provide habitat for threatened and endangered species. Agricultural and forested regions provide a landscape that is productive, scenic and historic.

Geology

Union Township lies within both the Highlands and Piedmont Physiographic Provinces. The boundary between these two regions crosses Union Township near its northwestern border with Bethlehem Township. These physiographic provinces

distinguished themselves 170-200 million years ago when the Piedmont experienced a series of sinking episodes that left a number of basins along the east coast. Simultaneously, the rising Highlands were depositing sand and clay runoff onto the Piedmont forming the Hunterdon Plateau upon which most of Union Township rests (*New Jersey Geologic Survey*).

During this time, fast moving streams on the edge of the Highlands region were depositing a bedrock of quartzite conglomerates of Passaic and Lockatong Formations which are composed primarily of quartzite, sandstone and argillite. This rock group is the latest of three to have formed in Union Township and is found on its southern and western portions. Due to their adhesiveness and resistance to weathering, these quartzite conglomerates form some of the highest hills and ridges within the Township. The highest of these elevations is 914 feet above sea level located near Mechlin's Corner along Union's southwestern border with Alexandria Township (*Union Township Master Plan, p. A8-7*).

The lowest elevation in Union Township (240 feet above sea level) is found near the border with the Town of Clinton and Lingerts Pond. This location is within the Ordovician-Cambrian group that formed approximately 500 millions years ago. The Ordovician-Cambrian group in Union is comprised mostly of limestones and dolomites but also includes shales and sandstones. It exists beneath and around Spruce Run Reservoir in the eastern portion of the Township where the topography is generally flat with rolling hills.

The Precambrian igneous and metamorphic group, located entirely within the Highlands Province, contains the oldest rocks to be found in Union Township. They include varieties of granite, gneiss, alaskite, amphibolite, and syenite. These rocks are very resistant to weathering and form steep ridges in the northern portion of the Township (*Union Township Master Plan, p. A8-6*).

Soils

There are five main soil associations that occur in Union Township. The most abundant of these is the Washington-Berks-Athol Association that composes 40% of the Township and is found in its eastern portion adjacent to Spruce Run Reservoir. Washington and Athol soils are generally deep with surface layers of gravelly loam while Berks soils are only moderately deep and usually found as dominantly or steep sloping. The Washington and Athol soils are thus well suited to farming while Berks soils are only moderately so. The bedrock upon which these soils are found tends to be cavernous shale and limestone, which limits septic possibilities and generally restricts community development. Most Washington-Berks-Athol Association soils in Union Township are farmed (*Union Township Master Plan, p. A5-5*).

Pattensburg Association soils that compose approximately 30% of Union Township exist primarily on the rolling uplands of the Township's southwestern areas. These soils are deep to moderately deep and have a surface layer of gravelly loam. In

places the steepness of slope and wetness limit community development on this association. Most Pattenburg soils are farmed but those that exist on steeper slopes are generally wooded (*Union Township Master Plan, p. A5-5*).

Approximately 20% of Union Township contains Parker-Edneyville-Califon Association soils. These soils exist in the Highlands region of Union and are characterized by a gravelly, stony texture on the surface. The slopes on which they are commonly found and the presence of stones and gravel within their composition limit agricultural uses. As a result, much of the original farmland in this region has reverted to forested land, which comprises more than half of this area. This area is being developed for residential, commercial, and industrial uses, but the low level of groundwater in the area places some restrictions on such development (*Union Township Master Plan, p. A5-6*).

The Norton-Penn-Klineville Association soils are found on approximately 5% of the Township. They occur on the flat to moderately sloping terrain in Union's most southerly areas. These soils have a surface layer of shaly loam and pose some limitations to community development because of the slow permeability of the soil and the lack of available groundwater. Penn and Klinesville soils are shallow to their bedrock and Norton soils are slowly permeable. The soil association is predominantly forest and farmland in the Township (*Union Township Master Plan, p. A5-7*).

The quality of soil conditions is of particular importance in Union Township where agriculture is a prominent land use. The majority of soils in Union are considered "prime agricultural soils" or "soils of statewide importance." However, the vast majority of land in Union is also classified as "potentially highly erodible," and much of the remainder is "highly erodible" (*Union Township Natural Resources Inventory*). Surface runoff, the primary cause of erosion, is considered high in both the Highlands physiographic province and on the Hunterdon Plateau. This is due to characteristically shallow, impermeable bedrock that keeps water near the surface and varying slope grades that exist in these regions. Impervious surfaces that accompany development eliminate the soil's capacity for absorbing water and increase the amount of surface runoff in surrounding areas. The combination of these factors could heighten the potential for damaging erosion in Union Township.

Another important consideration is the impact of soils on septic suitability. Most of Union's soils impose severe limitations on the use of septic systems, the primary method of waste processing in Union Township (*Union Township Natural Resources Inventory*). Septic users in these regions regularly have septic function problems and the systems need to be serviced frequently on an individual basis. As there are no plans to expand the current sewer system, any new development in Union Township will be affected by these soil conditions.

Watersheds

Union Township is entirely within the South Branch of the Raritan River watershed. This is Watershed Management Areas 8 as classified by the Department of Environmental Protection. Much of its southwestern border with Alexandria Township constitutes the divide between the Raritan and Delaware River watersheds (*Natural Features Map* in Maps Section). Most of western Union drains into Mulhockaway Creek, which is fed by numerous tributaries originating within Union and, to a lesser extent, Bethlehem Township. Mulhockaway Creek, along with Black Brook and Spruce Run, drain to Spruce Run Reservoir. The Reservoir in turn drains to the South Branch of the Raritan River in Clinton. Sidney Brook drains all of southern Union Township, with the exception of Cakepoulin Creek, which receives the water from a small corner in the extreme southern section of the Township. Both of these streams, which are fed by several tributaries, empty into the South Branch of the Raritan River in Franklin Township.

The Spruce Run Reservoir's feeder streams, including Mulhockaway Creek, Black Brook and Spruce Run, are Category One trout production systems. This means that the waterways support trout year-round in their waters and that trout use the waterways for spawning or nursery purposes. Cakepoulin Creek, Sidney Brook, and their tributaries are trout maintenance systems, which signifies that these waters support trout year-round. Both of these classifications indicate that the water bodies in Union Township are of high quality. The category one waters are protected by antidegradation policies set forth by the New Jersey Department of Environmental Protection for their clarity, color, scenic setting, and ecological and recreational significance (*NJDEP Surface Water Quality Standards, p. 2 & p. 108*).

The 11 billion gallon Spruce Run Reservoir provides nearly two million New Jersey residents with drinking water. In times of drought, the Reservoir can also supplement the flow of the South Branch of the Raritan River. The Raritan River is important to the ecosystems and agricultural areas that lie downstream of Union. Proper water resources management in Union Township will help ensure the health of regional water supplies.

Wetlands

Wetlands provide important resources to the Township of Union. Wetlands act as a natural filtering system for the surface water that passes through. Wetlands also provide natural flood plains for water bodies and streams they adjoin. In particular, wetlands immediately to the west of Spruce Run Reservoir help to decontaminate the water that flows into it via Mulhockaway Creek. Wetlands in Union Township also help minimize flooding in residential areas near creeks and streams. These wetlands support State threatened and endangered species that otherwise could not exist in Union. The bog turtle, wood turtle, long-tailed salamander, red-shouldered hawk, and bobolink live and breed in these wet, swampy habitats (*Union Township Master Plan, p. A5-12*).

The majority of wetlands in Union are found along Mulhockaway Creek and its numerous tributaries in the western part of the Township. Sidney Brook, Cakepoulin Creek and their tributaries have some associated wetlands as well. Freshwater wetlands compose approximately 8% of the land area in Union (*Union Township Natural Resources Inventory; Natural Features Map in Maps Section*).

Endangered and Threatened Species

Union supports several threatened and endangered species throughout the Township. The preserved areas in Union, such as Spruce Run Recreation Area, Clinton Wildlife Management Area and Hoffman Park are vital in maintaining healthy habitat for wildlife. Areas that need protection are stream corridors, grasslands and wetland forests, for they harbor the greatest diversity of birds, mammals and reptiles.

The largest concentration of unprotected endangered species habitat occurs in the western half of Union, in and around Pattenburg. It is here that wood turtle (state threatened) and bobolink (state threatened) habitat is found. Wood turtles depend on stream corridors, farmland and upland forests. In the western section of Union, the Mulhockaway Creek's tributaries fan out providing clear, cool waters for the turtle. The patchwork of farmland and forest in that region enhances the turtle's habitat. Bobolink, a migratory grassland bird species, rely on the open fields in Union. Areas of the Township that provide this habitat are Hoffman Park and a portion of the western half of the Foster Wheeler property.

Another state threatened bird with habitat in Union Township is the vesper sparrow. This bird, also a grassland species, has habitat in Finn Road Park and some of the adjacent farm fields. Bald eagle habitat is also present in the Township. Nesting bald eagles are federally endangered. In Union there is foraging habitat and land that serves as a buffer to the birds' nests. Both of these areas are located within the Spruce Run Recreation Area/Clinton Wildlife Management Area holding (*New Jersey Division of Fish and Wildlife Landscape Project*).

Other reports of threatened and endangered species in Union Township include bog turtle and Cooper's hawk. There have been sightings of the state endangered bog turtle in the Finn Road/Sidney Brook vicinity. A Cooper's hawk (state threatened) has been sighted behind Perryville Road and Cooks Cross Road (*Bob Nargi, personal communication*).

Groundwater Resources

Aside from parts of the Interstate 78 corridor, which is connected to Clinton utility services, residents of Union Township rely on private on-site wells for drinking water. (No residents of Union Township receive drinking water from Spruce Run Reservoir.) The aquifers that supply these wells are contained within the fractures of the area's bedrock. Groundwater is the only source for these aquifers and the wells that they serve. The productivity of these wells is dependent upon several factors that impact the

recharge of groundwater including the soil that overlays the aquifers, the nature of the fractures being tapped, and the type of bedrock that contains the water supplies. The groundwater that cannot enter the bedrock aquifers eventually enters and feeds the Township's stream system and accounts for 75-90% of the precipitation that falls on Union (*Union Township Master Plan, p. A8-1 & A8-15*).

Union is located within the Northwest New Jersey Sole Source Aquifer area according to New Jersey Department of Environmental Protection (NJDEP). Within this region, the NJDEP has determined that groundwater is the only source of potable water, and that measures should be taken to protect the resource. It is a goal of the Township to protect its groundwater resources. The groundwater of Union Township is a vital resource for a region whose population is projected to grow by more than 30% in the next fifty years (*Union Township Master Plan, p. A8-1*). The Township contains some of the highest elevations in the region and is an upland recharge area for the Raritan River Watershed. Its effects on regional drinking water and watershed areas make the protection of groundwater quality and recharge areas in Union particularly important.

Land Use

The combination of Union's wooded and agricultural landscape, along with views of mountains, lakes, and streams creates a charming rural character with convenient access to commercial amenities and transportation along the Interstate 78 corridor.

Forested land covers 37% of Union. These wooded areas tend to be fragmented throughout but exist in larger concentration around Spruce Run Reservoir and in the south and west sections of the Township. Many of the steep slopes in Union are wooded and provide buffers from roads and residential areas along with wildlife habitat, scenic views, and erosion prevention (*Union Township Natural Resources Inventory; Land Use Map in the Maps Section*).

Agriculture constitutes 25% of Union Township. Farmland is scattered throughout the Township but has concentrations in the Rockhill and Van Syckle Historic Districts. Much of this area is designated by the United States Department of Agriculture as prime or statewide-important agricultural soil (*Union Township Natural Resources Inventory*).

Urban land uses make up 19% of the Township. Urban land includes residential, industrial, transportation, commercial, and any other areas of development. Urban development has a concentration around the Interstate 78 corridor with residential areas scattered mostly to the south of the highway. Residential areas account for roughly half of the urban land total.

Water and wetlands combine to form 17% of Union Township. The most significant area in this classification is the 11 billion gallon Spruce Run Reservoir which covers approximately 8% of the Township. Other open waters in the form of ponds are situated along Mulhockaway Creek, Sidney Brook, Cakepoulin Creek, and their

tributaries. Union's streams are branched throughout Union and generally flow in an east-southeast direction towards the Spruce Run Reservoir, and ultimately the South Branch of the Raritan River.

Barren land makes up the remaining 2% (271 acres) and is located in large, contiguous tracts found principally along the Interstate 78 corridor. Barren land is land lacking vegetative cover, such as quarries or dumps (*Union Township Natural Resources Inventory; All land use percentages have been interpreted from NJDEP 1995 data*).

The natural resources of Union Township have remained healthy through the Township's post-World War II growth period. The population of Union has quadrupled since the 1950s but its resources continue to support its inhabitants' livelihoods (*Township of Union Master Plan*). Agriculture continues to be successful due to exceptionally fertile soils. The implementation of an open space program will preserve lands that are important to the health of these resources and will help maintain the prosperity Union Township currently enjoys.

Historical Resources

Early Settlement

Archeological evidence suggests that humans have lived in the area that is now New Jersey for thousands of years. The most prominent Native American tribe in New Jersey was the Lenape, or Delaware (*Delaware Tribe of Indians Homepage*). A survey conducted between 1912 and 1915 identified four hundred and sixty-two camps, villages, burial sites, and rock shelters within Hunterdon County (*Hunterdon County Democrat 1976, p. 4*). The majority of sites within Union that contain Native American artifacts currently lie under the Spruce Run Reservoir. An early Native American trail followed Mulhockaway Creek from West Portal, through Union Township, and up to High Bridge. Another trail, called Malayelick Path, originated in the village of Assunpink (Trenton), and apparently crossed through Union Township's southern border (*Union Township Historical Society 1976; Hunterdon County Democrat 1976, pp. 4-6*).

Hunterdon County provided rich hunting grounds to the Lenape, for most of the county was densely forested. Hunterdon County also provided the Lenape with argillite, a hard rock formation used by to make various tools and weapons. Because of its abundance, Native American tribes traveled from as far away as Port Jervis, New York, to acquire Argillite (*Union Township Historical Society 1976; Herdan 1987*).

The Lenape and the Delaware were among the first Native Americans to come in contact with the European settlers who arrived in Hunterdon County in the early 1700s. At the turn of the 19th century, colonial settlements had become larger in size and number, which changed the political and social life of the Lenape. The Lenape eventually were forced to relocate to Oklahoma (*Hunterdon County Democrat 1976, pp. 4-6; Herdan 1987*).

An Agricultural Society

The movement of English, Scottish, and Irish settlers from Monmouth and Burlington counties in the 1730s prompted industrial development in Union Township. The majority of industries revolved around the needs of the agricultural economy. In the mid 1700s, farmers specialized in grain, dairy products, and livestock such as cattle, pigs, and sheep. Peaches, apples, and pears became prominent crops, reaching peak production in the early 1800s. The fruit was sold to city merchants, and then shipped via railroad to New York City. This was a very successful industry until a devastating blight struck the area around 1900. The industry was leveled overnight (*Union Township Historical Society 1976; Herdan 1987*).

Union Township boasts a history of various industries, with a common link to agriculture. The rapid growth in farming enhanced connected industries such as tanning, weaving, and fertilizing. In the mid-18th century, grain was the major crop, and mills were grinding flour that was eventually shipped to major cities across New England. Most farmers with a water source took part in ice manufacturing. Sawmills were soon built along streams to create lumber for farm homes. By the time of the American Revolution, successful mining operations had been implemented and were providing ammunition for the War and iron to produce tools and machinery.

The Union Furnace, from which the Township got its name, was built in 1742 on Spruce Run, and was an iron slitting and rolling mill. Cannon balls were forged there and transported to the Continental Army. The furnace operated until the 1780s and stood until the creation of Spruce Run Reservoir in 1961 (*Herdan 1987*).

The industrial revolution introduced railroads to Union Township, providing a more comfortable mode of transportation than the stagecoach and a faster, more reliable method of transporting freight including livestock and iron ore. The first rail line that ran through Union Township was known as the Easton & Amboy rail line. The railroad was constructed to carry coal across New Jersey to the Amboys. This railroad, built by the Lehigh Valley Railroad Company and completed in 1875, enters the Township through the Musconetcong Tunnel, located near Pattenburg. The first tunnel was used until 1928, when a second tunnel was constructed in order to permit larger trains to safely pass through. The Easton & Amboy rail line was initially only used for freight transportation, however passenger trains were added shortly afterwards. In the early 1900s railroad stations were built at Pattenburg and Jutland. The towns of Pattenburg and Jutland were awakened by the completion of the tunnels and the services of the railroad. Residences began popping up along the railroad throughout Union Township, as more people wanted to live within walking distance of the railroad stations (*Union Township Historical Society 1976*).

Union Township consists of three historic communities: Pattenburg, Jutland and Norton. The development of the first two coincides with the railroad. Agricultural products were much more efficiently transported after the construction of the railroad. The stops on the rail line in Pattenburg and Jutland made the communities attractive for

residential purposes as well. Schools and other community facilities were constructed; commercial establishments also thrived in the villages. These three areas have all been designated historic districts.

Growth of Pattenburg

The Pattenburg Historic District, located in the western section of Union, was the center of commuter activity in Union Township. The first school in Pattenburg was built in 1804. The schoolhouse still standing in Pattenburg was built in 1898 and classes were held there until 1954. The Pattenburg Methodist Church, erected in 1853, and the adjoining cemetery remain little changed to this day. Pattenburg was home to the Supreme Milk & Cream Company, a hardware store, a peach basket factory, and the Pattenburg railroad station.

Commercial activity in Pattenburg boomed in the early 1870s when the railroad was constructed through the community. Several buildings were constructed near the site of the tracks. The introduction of the railroad to Union Township increased the efficiency of mail service to both Pattenburg and Jutland and introduced Pattenburg as the gateway to Bellewood Park. (*Herdan 1987; Union Township Master Plan*).

Bellewood Park, located on the outskirts of Pattenburg, was one of the best-known amusement parks in New Jersey during the early 1900s. The park officially opened on July 4, 1904, and welcomed a crowd of over 10,000 people. Bellewood Park included a ferris wheel, carousel, dancing pavilion, and a large Farmhouse Restaurant; it was “a weekend vacationer’s delight frequented by wealthy New Yorkers and local farm hands alike” (*Herdan 1987, p. 245*). Lehigh Valley Railroad Officials conceived Bellewood Park and its name; Bellewood Park was easily accessed from the railroad through both the Pattenburg Station and a separate Bellewood Park Station. The community of Pattenburg thrived on the tourism drawn to Bellewood Park. The Park operated until World War I. (*Union Township Historical Society 1976; Herdan 1987, pp. 251-253*).

Jutland

Jutland is considered the civic center of Union Township. This section of the Township is located around what is now the Jutland railroad crossing. In the early 1900s, a railroad station was built in Jutland, thus creating the center for produce marketing. Milk and fruit were among the most popular items transported from Jutland to New York City by train. Jutland included a town hall (now the headquarters of the Union Township Historical Society), a Post Office, a blacksmith and farm equipment store, a large feed and fertilizer store, and a school (now a day-care center).

The Rockhill Agricultural Historic District, located to the south of Jutland, is recognized for its exceptional soils and agricultural heritage. Rockhill boasts numerous outbuildings and structures spanning 200 years of farming history, including five farmhouses, which predate the American Revolution (*Herdan 1987*). Rockhill was

placed on the State and National Register of Historic Places in 1984. At the time, Rockhill was the largest designated Historic Agricultural District in New Jersey. “This picturesque expanse of rolling hillsides, woodlands, and babbling brooks,” wrote Andy Herdan in 1987 (*Rural Recollections, p.1*), “remains virtually unchanged since the arrival of early settlers to the area in the 1700s.”

In the past 15 years, however, there have been subdivisions in the District, which have resulted in an intrusion into the bucolic heritage of the area. The preservation of agricultural land in the Rockhill District will help maintain the area’s important historical values.

Development of Norton

Norton is best known for being the home of the historic Union Furnace, which sparked the industrial growth in the Township. In 1742 two Philadelphians—William Allen and Joseph Turner—established the Union Iron Works in what is now the Van Syckle National Historic District.

At its peak, the Union Forge produced about 20 tons of iron per week, including horseshoes, wagon iron, nails, and farm equipment. The forge became well known because of the support it gave to the Continental army. The iron works became less active after the Revolution and eventually became the Taylor-Wharton Iron & Steel Company of High Bridge, which operated until 1971.

The ruins of the Union Furnace at Spruce Run were lost when the Spruce Run reservoir was constructed in 1961. However the forge master’s house still stands. It is located north of Van Syckle Road, near the site of the original furnace. In addition to the actual furnace, William Allen owned a summer home in Norton, that later became known as the Union Farm. Martha Washington was a regular guest at the farm (*Herdan 1987*).

The Van Syckle Historic District, named to the State and National Registers of Historic Places, also includes the well-known Reynolds Tavern, which was built in 1763. The tavern was renamed the Van Syckel Tavern in 1795; a general store and post office were added on the property.

Van Syckle Corner was an important landmark to travelers and forge workers. The tavern served as a meeting place for local farmers. It was considered to be one of the most substantial structures in Hunterdon County. The tavern, private home, and other buildings are now owned and maintained by the Van Syckel-Martin family and still stand as proud reminders of a departed era. (*Union Township Historical Society 1976; Hunterdon County Democrat 1976, p. 28; Union Township Master Plan*).

In 1976, the Hunterdon County Cultural & Heritage Commission identified 125 properties of historic significance in Union Township. Further, over 100 structures appearing on the 1860 Farm Map of Union Township remain standing as reminders of the Township’s historical legacy (*Township of Union Master Plan*).

Register of Historic Places

There are six areas in Union on the New Jersey and National Registers of Historic Places (*Township of Union Master Plan, p. A3B-1*). These areas provide exemplary evidence of Union's heritage and rich history. Although there are many other structures and locations in the Township that could be included on the list, they have not, to date, been included.

- Case Farmstead, early 1800s, on Little York-Pattenburg Road
- Turner/Chew/Carhart Farm, 1800s, on Van Syckles Corner Road
- Mechlin Tavern, 1830, County Routes 625 and 579
- Perryville Tavern, 1813, Interstate 78 and County Route 625
- Rockhill Agricultural Historic District, early 18th century
- Van Syckle Corner District, 18th and 19th centuries

The Built Environment

The built environment determines where open space preservation can occur in Union Township. Open space will complement the existing built areas and infrastructure of Union Township. Open space preservation will also shape the Township's future growth and help retain a rural community identity.

Population

Union Township has an area of 21.1 square miles, or 13,526 acres. The 2000 census indicated a total population in Union Township of 6,160. This is a density of about 325 persons per square mile.

Growth has been fairly evenly spread out over the past five decades in Union Township. There have been periods of exceptionally large growth in Union, however. The largest growth period in the Township occurred in the 1970s. The growth rate for that decade was 70%. Since 1980, Union Township's population growth has continued, but at a decreasing rate. The rate was 28% throughout the 1980s and 21% through the 1990s. (*Union Township Master Plan, p. A1-1-3, A3A-2; United States Census Bureau 2002*).

Official population figures for Union Township include institutionalized populations contained in the Edna Mahan Correctional Facility and the Hunterdon Developmental Center. These state run facilities are both located in the eastern section of the Township on one holding.

In 2000, the two facilities contained 1,809 people. This number is not insignificant. In 2000 the institutionalized populations represented 29% of the total figure for Union Township. If the institutionalized population were removed from the total population count, Union's growth rates would look different. The largest single

decade of growth is still the 1970s, but the rate is reduced to 58%. In addition, the rates of growth for the 1980s and 1990s are greater by a few percentage points each. It is important to note that although the growth rates are decreasing as Union's population base increases, the Township added between 800 and 1,000 people in each of the last three decades (*Clarke, Caton and Hintz 2002*).

Among neighboring municipalities in Hunterdon County rates of growth over the past five decades have been commensurate with those in Union. Bethlehem and Alexandria both experienced high growth in the 1970s. Since then populations have been continuing to grow substantially, although at decreasing rates (*Union Township Master Plan, p. A1-3*).

Housing

According to 2000 census data, there are 1,725 housing units in Union Township. This is an increase by 22% over the previous decade's figure, or approximately 30 new housing units per year. The Township has a density of 90.9 housing units per square mile. According to the Master Plan, about 75% of all housing units in Union are owner occupied. In Union Township, 64% of housing are single-family dwellings (*Union Township Master Plan B2-1.4; Clark, Caton and Hintz 2002*).

Transportation Infrastructure

Roads

Interstate Highway 78 runs through the central section of Union Township. Constructed in 1956, Interstate 78 was built to divert interstate traffic from US Highway 22. Interstate 78 serves as the primary route from Pennsylvania to the Newark metropolitan area and the Holland Tunnel (*Roads of Metro New York 2002*).

Several county roads traverse Union Township. Route 635 runs through the northern section of Union Township from Norton to Perryville. Route 625 runs from Perryville to Mechlins Corner. Routes 513 and 579 compose the Township's southern and western boundaries with Franklin Township and Alexandria Township, respectively. Route 614 runs through Pattenburg and eventually joins up with Route 78 (*Union Township Master Plan*).

The remainder of Union Township contains local roads, with the largest concentration in the southern end of the Township. The lowest concentration of roadways is in the southwestern part of the Township, as most of the area is residential and farmland. There are approximately five miles of unpaved private roads, driftways, and country lanes in the Township (*Union Township Master Plan, p. A11-5*).

Railroads

The Lehigh Valley Railroad Company completed construction of the line in 1875. The railroad was called the Easton & Amboy, and was built to carry coal from

Pennsylvania to the Amboys in New Jersey. Today, the rail line is owned by Consolidated Rail Corporation (Conrail) and is used only for freight transport. The rail line runs through Pattenburg and Jutland before exiting the Township (*Herdan 1987*).

Education

The Union Township Board of Education operates one school in the Township. The Union Township School, located on Perryville Road, serves grades K through 8. Enrollment for the 2002-2003 school year is expected to be 632 students.

The Union Township Board of Education is expanding the school system to include a separate facility for grades K through 4. A site has been purchased on Perryville Road, near the current school. Construction plans for the new school are still pending (*Union Township Board of Education 2002*).

The North Hunterdon Regional High School, located in Annandale Borough, serves Union Township as well as Bethlehem Township, Clinton Borough, Clinton Township, Franklin Township, and Lebanon Township. The total number of students enrolled at the high school for the 2001-2002 school year was 1,460 (*Union Township Board of Education 2002*).

Commercial Development

The historic town centers of Pattenburg, Jutland, and Norton accommodated railroad development in the Township, which supported agricultural commerce for many years. The economic vitality of these centers has faded over time; today they are primarily residential areas. The majority of current economic activity in Union Township occurs in a commercial area along Interstate 78. This area, which includes a truck stop, deli and the historic Perryville Inn, is the center for business in Union Township (*Union Township Master Plan*).

The majority of Township residents have professional, business, and managerial occupations, and tend to work outside of Hunterdon County. Approximately 60% of Union Township residents commute outside of the County (*Union Township Master Plan, p. A1-11*).

Parks and Recreation

Union Township has a wide variety of recreational lands. The most notable public recreation site is the Spruce Run Recreation Area, located in the northeastern part of Union Township. The site features hiking, fishing, camping, boating, swimming, and biking.

Adjacent to Spruce Run Recreation Area is Clinton Wildlife Management Area. The Management Area offers hunting, biking, and other recreational uses. Together

these two areas comprise over 3,000 acres in Union Township (*Union Township Master Plan; Spruce Run Recreation Area 2002*).

The Hunterdon County Park System manages the Union Furnace Nature Preserve, located on Van Sickle’s Corner Road. This passive recreation site features a single hiking trail that runs throughout the Preserve. The trail is a section of the Highlands Trail, which is being developed by the New York-New Jersey Trail Conference in cooperation with local organizations. The Preserve also offers fishing in Spruce Run, as well as hunting (*Hunterdon County Department of Parks and Recreation B*).

Hoffman Park is owned jointly by Hunterdon County and Union Township. The Park contains hardwood forest, grasslands, and 32 ponds of various sizes. Hoffman Park offers paved and gravel trails for hiking and biking, and cross-country skiing in the winter. The Park also offers picnicking, fishing and bird watching. Threatened and endangered birds frequent the grassland habitat of the park (*Union Township Master Plan; Hunterdon County Department of Parks and Recreation A*).

Union Township also has municipal- and Board of Education-owned active recreation sites. The Union Township School has two baseball diamonds, a soccer field that overlaps the baseball fields, and a tot lot used for school purposes. In addition, Finn Road Park has two soccer fields, two baseball diamonds, and a system of exercise pathways that runs throughout the park. A passive and active recreation area owned by Union Township is located off of Strotz Road in the northern section of the Township. This area is adjacent to a recently constructed residential development (*Union Township Master Plan*).

Union Township offers four outdoor activities in which residents can participate: T-ball, Soccer, Baseball and Field Hockey. The chart below outlines the activity, the season in which it is offered, and the number of participants. All Township-sponsored recreation programs are played at Finn Road Park, and all activities are co-ed.

<u>Activity</u>	<u>Season</u>	<u>Grade/Age</u>	<u>Number of Participants</u>
T-ball	Fall	K-1	*
Soccer	Fall	K-8	264
Baseball	Spring	K-8	229
Field Hockey	Fall	K-8	15

* Number of T-ball participants was unavailable

The Township is building an additional baseball diamond on its property off Strotz Road. Also to be constructed on the Strotz Road holding are additional playground equipment, buildings for maintenance equipment, buildings for recreation equipment, basketball courts, a snack building with restrooms, a picnic pavilion and horseshoes. There are also plans to expand field space at Finn Road Park. Union Township’s recreation program is under no strain for playing fields. When the new fields are completed in the next few years, the program will have ample room to grow and expand.

The Open Space Program in Union Township

“Without thoughtful planning, maintaining a high quality of life . . . will become increasingly difficult.”

-- George Brewster

Preservation of open space must be planned just as any municipal infrastructure, such as roadways or utilities. Development of an Open Space and Recreation Plan, and the Township governing body’s commitment to implement the Plan, are essential in maintaining a community’s character, and to preserve and improve the quality of life for its residents.

The Township of Union Environmental Commission and Open Space Sub-Committee have outlined the following open space goals for the Township. These goals and policies, listed in no particular order, will guide the recommendations of the Open Space and Recreation Plan:

- Protection of endangered species habitat
- Preservation and enhancement of historically significant areas in the community.
- Protection of Union Township’s ground water quantity and quality.
- Preservation of open space with other municipalities in the surrounding region.
- Preservation of wetlands, vernal ponds woodlands and groundwater recharge areas throughout the Township.
- Expansion and connection of preserved open space by a system of multiple use trails.
- Protection of the water quality of Township streams.
- Preservation of scenic views in the Township.
- Preservation of Union’s agricultural heritage.

Township of Union – Master Plan

The goals and objectives of the Open Space and Recreation Plan are drawn from discussions with the Township of Union Open Space Sub-Committee and Environmental Commission and from the Township of Union *Master Plan*. Since a major goal is for the Open Space and Recreation Plan to become an amendment to Union Township’s *Master Plan*, consistency between the two documents is important. Only those goals from the *Master Plan* that can be achieved through open space preservation are repeated in this Plan. The open space goals and objectives of the Township of Union *Master Plan* include the following:

- Preservation of the “agricultural lands, particularly prime soils and agriculturally significant soils,” of Union Township (*p. B1-1*).
- Preservation of “environmentally sensitive areas (steep slopes, flood plains)” (*p. B1-1*).
- Preservation of “areas vital to Spruce Run Reservoir water quality” (*p. B1-1*).

- Preservation of “the historical architectural and rural cultural heritage of Union Township” (p. B1-8).
- Acquisition of land suitable for development of active and passive recreation with athletic fields, trails and scenic views (p. B6-1).
- Connection of “community facilities, recreation areas, open space, villages and the Town Center with trails, paths and greenways” (p. B6-4).

In addition to the general goals and objectives of the *Master Plan*, the “Conservation Plan Element” of the *Master Plan* details objectives for the community. The goals of the “Conservation Plan Element” are to:

- Provide “a continuous network of open space along streams, slopes, scenic areas and critical environmental areas” (p. B7-1).
- Encouraging “land development which preserves natural amenities and does not aggravate drainage problems affecting the Township and water quality of the Spruce Run Reservoir” (p. B7-1).
- Providing for “suitable wildlife habitat” (p. B7-1).

New Jersey State Development and Redevelopment Plan

Union Township is a growing community with a rural agricultural legacy. The construction of Interstate 78 has allowed residents to commute longer distances from Union, making the Township a more practical, and desirable, place to live. Still without a ‘downtown’ district, Union’s growth has been primarily residential. A patchwork of residential developments is interspersed with the agricultural areas of the community.

Aside from the parkland contained in Spruce Run Recreation Area, the land in Union Township falls within three Planning Areas identified by the *State Development and Redevelopment Plan (State Plan)*: Suburban Planning Area, Environmentally Sensitive Planning Area; and Rural/Environmentally Sensitive Planning Area.

The *State Plan* suggests goals to guide land use in the various Planning Areas of Union Township.

Suburban Planning Area. This Planning Area stretches west across Union Township, south of Interstate 78 and north of the Lehigh Railroad. Suburban Planning Areas are defined as containing low-density development, and lacking infrastructure or defined commercial centers, making residents dependent on automobiles for transportation. These areas are forecast to receive the brunt of New Jersey’s future development (*State Plan, pp. 194-196*). The goals of the State Plan in the Suburban Planning Area are to (p. 196):

- Protect the character of existing stable communities;
- Protect natural resources;
- Redesign areas of sprawl;
- Revitalize cities and towns;

- Provide for much of the state’s future growth.

Environmentally Sensitive Planning Area. This Planning Area is located in the western half of the Township, adjacent to Spruce Run Recreation Area. The Planning Area extends south from Interstate 78 to the Alexandria Township border to include the uplands containing the Mulhockaway Creek drainage area.

Land within Environmentally Sensitive Planning Areas contains “large contiguous land areas with valuable ecosystems, geologic features and wildlife habitats.” These lands also contain “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 . . . and prime forested areas” (*State Plan, p. 215*).

The intent of the *State Plan* (p. 217) in Environmentally Sensitive Areas is to:

- Protect environmental resources through the protection of large contiguous areas of land;
- Accommodate growth in Centers;
- Protect the character of existing stable communities;
- Confine sewers and public water services to Centers;
- Revitalize cities and towns.

Rural/Environmentally Sensitive Planning Area. The southern section of Union—the Rockhill District—and the extreme western tip of the Township are designated as Rural/Environmentally Sensitive Planning Areas.

The Rural/Environmentally Sensitive Planning Area is a sub-area of the Rural Planning Area. What sets the former apart is that these areas contain one or more environmentally sensitive features, such as those listed in the Environmentally Sensitive Planning Area description. Rural Planning Areas include large belts of farmland and other open land where development is sparse. These areas usually surround rural towns that serve as regional centers (*State Plan, p. 205*).

The goal of the *State Plan* (p. 208) for the Rural/Environmentally Sensitive Planning Area is to:

- Maintain the Environs as large contiguous areas of farmland and other lands;
- Promote a viable agricultural industry;
- Accommodate growth in Centers;
- Confine sewers and public water services to Centers.

Aside from the narrow swath of the Suburban Planning Area through the center of the Township, Union is designated by the State Plan as having Environmentally Sensitive lands, some of which occur in rural, agricultural settings. The majority of the eastern side of the Township, north of Interstate 78, is preserved as state parkland in the Spruce Run Recreation Area and Clinton Wildlife Management Area.

History of the Open Space Program

Union Township established a dedicated tax for the acquisition of open space through voter referendum in November of 1998.

Resolution #99-4 established a “Municipal Open Space, Conservation and Farmland Preservation Trust Fund” for Union Township (*Appendix*). The Trust, which began collecting tax revenue in 1999, is funded by an amount of two cents (\$.02) per \$100 of assessed property value. The Open Space Trust is expected to collect \$126,348 in 2002. At the end of 2002 the Trust is expected to have a balance of about \$400,000.

Three uses of funds from the “Municipal Open Space, Conservation and Farmland Preservation Trust Fund” were set forth in Resolution #99-4. The Trust can be used for:

- “The acquisition and development and/or maintenance of lands for Recreation and/or conservation.”
- “The acquisition of farmland for farmland preservation.”
- “Payment of debt service on indebtedness issued or incurred by the Township of Union” for any of the above purposes.

The Union Township Environmental Commission established an Open Space Sub-Committee in 2002 to oversee the production of the Open Space and Recreation Plan (*Acknowledgments*). The Open Space Sub-Committee works jointly with the Environmental Commission in the open space planning process.

Other Participants in Open Space Preservation in the Township of Union

Several regional entities are working to preserve open space and provide stewardship activities in the Township of Union. These regional initiatives include the following participants:

- **New Jersey Bureau of Land Management.** The Bureau of Land Management administers the system of Wildlife Management Areas. Clinton Wildlife Management Area is looking at expansion of the Area westward along the Mulhockaway Creek. Certain parcels have been considered for purchase.
- **New Jersey Natural Lands Trust.** New Jersey Natural Lands Trust’s mission is to preserve land in its natural state. The Trust acquires land that contains endangered species habitat, natural features and significant ecosystems (*New Jersey Natural Lands Trust 2000*). New Jersey Natural Lands Trust owns one 16-acre property in Union Township located off Strotz Road.
- **Hunterdon County Cultural and Heritage Commission.** This county agency administers grants to local governments for historic preservation, the enhancement of historic structures, and the understanding of local history. The Commission has

provided grants to Union for the production of Andy Herdan's *Rural Recollections* and for the restoration of the old Jutland Municipal Building.

- **Hunterdon Land Trust Alliance.** This non-profit land trust works to protect the natural and scenic amenities of Hunterdon County. Formed in 1996, Hunterdon Land Trust Alliance owns and manages several farms in the County. The group specializes in farmland and open space preservation, and habitat conservation.
- **Musconetcong Mountain Conservancy.** Musconetcong Mountain Conservancy was started in January of 2002 by conservationists in western Hunterdon County. The goal of the Conservancy is to preserve land in the area of the Musconetcong Mountain, which is the first mountain of the Highlands heading north from Union. The group also seeks to improve passive recreational opportunities. The Musconetcong Mountain Conservancy has preserved land in Union Township on Polktown Road. The Conservancy is also involved in the construction of the Highlands Trail, an interstate hiking trail that runs through northeastern Union Township.
- **New Jersey Water Supply Authority.** New Jersey Water Supply Authority, a state water purveyor, is involved in a long-term open space acquisition project in the Spruce Run Reservoir watershed. The majority of Union Township falls within the defined project area. Partnership opportunities in land acquisition may exist between Union Township and the New Jersey Water Supply Authority.
- **Union Township Trails Association.** The goal of this private, member-based organization is the establishment of a network of horse trails throughout Union Township. The Trails Association should keep the Union Township Environmental Commission and Open Space Sub-Committee aware of its goals and ongoing projects.
- **South Branch Watershed Association.** This watershed association works in the South Branch Raritan River watershed to protect natural resources through education, training workshops, and land acquisition. Union is within the South Branch Watershed Association's project area.
- **New York-New Jersey Trail Conference.** The New York-New Jersey Trail Conference is overseeing the development of the Highlands Trail. When completed the trail will run 150 miles from Storm King Mountain on the Hudson River, to Phillipsburg, New Jersey, on the Delaware River. In Union Township, a section of the Highlands Trail is contained within both Union Furnace Nature Preserve and Clinton Wildlife Management Area (*New York-New Jersey Trail Conference 2002*).
- **Morris Land Conservancy.** Founded in 1981, Morris Land Conservancy is a nonprofit, member-supported organization working in land conservation. The Conservancy assisted the Township of Union in the production of its Open Space and Recreation Plan.

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Inventory of Outdoor Resources in Union Township

“Productive operating farms preserve the rural character of Union Township, a feature desired by both current and prospective residents.”

Union Township Master Plan, p. A3A-4

This section of the Open Space and Recreation Plan inventories the open space lands within Union Township. Some of these lands are permanently protected as open space, and will be noted at the end of this section.

The acreage listed within this section of the report come from the property lists in the Appendix. The accompanying *Open Space Map* in the Maps Section details the location of these properties. The Open Space Map has been developed using the Geographic Information Systems (GIS) software ArcView 3.2. Union Township has the GIS capabilities necessary for the periodic update of the Open Space Map. The Union Township Tax Assessor’s office supplied the property list information, which is current as of August 2002. Some of these properties may contain structures, or be developed otherwise. Publicly owned property often represents opportunity for open space preservation.

Public Land

Federal Land

There is no federal land in Union Township.

State Land

Department of Corrections

The Department of Corrections owns 328.35 acres in Union Township. The property, located off Route 513 (*Class 15C in the Appendix*), contains the Edna Mahon Correctional Facility, a women’s prison containing 1,164 inmates.

Department of Human Services

The Department of Human Services owns less than 1 acre in Union Township, adjacent to the Department of Corrections holding. The Hunterdon County Developmental Center is located on the complex that contains the above Correctional Center (*Class 15c in the Appendix*). The Developmental Center has 609 residents.

New Jersey Natural Lands Trust

New Jersey Natural Lands Trust owns one **16-acre** parcel in Union Township. The property, known as the Mulhockaway Creek Preserve, is located off of Strotz Road, between vacant property and Union Township open space (*Class 15F in the Appendix*).

A tributary of the Mulhockaway Creek flows through the southwest portion of the site. The Mulhockaway Creek Preserve features wood turtle and bog turtle habitat. Natural Lands Trust acquired the preserve in 1995 through a donation.

New Jersey Department of Environmental Protection

The Department of Environmental Protection owns **3,178 acres** in Union Township. This acreage is split almost in half between the Spruce Run Recreation Area and the Clinton Wildlife Management Area. These state preserves are adjacent to one another, and are located in the northeast section of Union Township (*Class 15C in the Appendix*). Spruce Run Recreation Area and the Clinton Wildlife Management Area are a significant part of Union Township's preserved open space, and Union Township as a whole. These state preserves cover over 20% of the total land area in the Township. (*Union Township Master Plan, p. A3A-5*).

County of Hunterdon Land

The County of Hunterdon owns **100 acres** in Union Township (*Class 15C in the Appendix*). Hunterdon County land is contained in one holding: the Union Furnace Nature Preserve. This county park is located off Van Syckel's Corner Road. The Highlands Trail runs through the Preserve.

Township of Union Land

Union Township owns a total of 268 acres throughout the municipality (*Class 15A, 15C, and 15F in the Appendix*). Of that total, **128** acres are preserved as part of Union Township's Recreation and Open Space Inventory (ROSI) filed with the Green Acres program (*Appendix*). Union Township's ROSI property is contained in two holdings: 109 acres at Finn Road Park and 19 acres located adjacent to a subdivision off Strotz Road.

Union Township owns 149 acres that are not on the ROSI. Of this remaining land 96 acres are held in a farmland parcel on Perryville Road; the farm was purchased to preserve the agricultural potential of the land. However, the property is currently not protected in any form. An additional 28 acres are held as part of Finn Road Park. The remaining two parcels are the Municipal Building and the headquarters of the Union Township Historical Society in Jutland.

County of Hunterdon and Township of Union Land

Hunterdon County and Union Township own **354-acre** Hoffman Park. The Park was acquired in a joint venture between the two entities. The entire parcel is included on Union's Recreation and Open Space Inventory (ROSI).

Other Publicly Owned Property in Union Township

Union Township Board of Education

The Union Township Board of Education owns 15 acres (*Class 15A and 15B in the Appendix*). The holdings comprise the Union Township School on Perryville Road. The Union Township School, which serves grades K through 8, is the only school in the Township.

Township of Union Fire and First Aid Services

There are a total of 5 acres of land devoted to Fire and First Aid services in Union Township. These are split between the Pattenburg Rescue Squad and the Pattenburg Volunteer Fire Company (*Class 15F in the Appendix*).

Private Land

Vacant Land – Land with no structural improvements

Union Township has a total of 816 acres of vacant land on 155 lots (*Class 1 in the Appendix*). The majority of the 155 vacant lots in Union Township are between 2 and 10 acres. However, there are several lots greater than 10 acres. The largest single vacant lot is 50 acres.

In Union **48 acres** of vacant land have been preserved as two farmettes (Block 15, Lot 8.05 and Block 14, Lot 22) (*Definitions section; Class 1 Parcel Data Table in the Appendix*). The remaining unprotected vacant land amounts to 768 acres.

Farmland Assessed Property

There are a total of 4,579 acres of farmland assessed property in Union Township (*Class 3 in the Appendix*).

There are **600 acres** of preserved farm assessed property throughout Union Township (*Class 3 Parcel Data Table in the Appendix*). Preservation has occurred on the county, state and local level. Unprotected farmland amounts to 3,979 acres.

Residential Property – Lots three acres and greater

There are a total of 234 residential lots greater than 3 acres in Union Township (*Class 2 in the Appendix*). These lots total 1,303 acres. Over $\frac{3}{4}$ of residential lots greater than 3 acres are between 3 and 7 acres.

One parcel of residential property has been preserved as a farmette (Block 29.03, Lot 18). This parcel totals **39 acres** (*Definitions Section; Class 2 Parcel Data Table in the Appendix*). Unprotected residential property amounts to 1,264 acres.

Church and Charitable Properties

There are a number of church and charitable properties in Union Township, the majority of which are small and actively used. The United Methodist Church in Pattenburg, Norton United Methodist Church, Our Savior Lutheran Church, Bethlehem Presbyterian Church, and Congregation of Jehovah Witnesses comprise 20.49 acres of Township property (*Class 15D and 15E*). There is very little open space potential on these properties.

Preserved land in Union Township

Union Township consists of a total of 13,526 acres. Of this total, 4,463 acres, or **33%**, are permanently preserved. Union Township’s protected lands are described below:

Union Township property listed on the ROSI	128 acres
Hunterdon County Parkland	100 acres
Hunterdon County/Union Township (Hoffman Park)	354 acres
Department of Environmental Protection property	3,178 acres
New Jersey Natural Lands Trust property	16 acres
Preserved farm assessed property	600 acres
Preserved vacant land (farmette)	48 acres
Preserved residential property (farmette)	39 acres
TOTAL PRESERVED LAND	4,463 acres

Union Township Open Space Inventory

The Open Space Inventory is the list of lands in the municipality that Union Township should look towards when planning for open space preservation. This list is comprehensive and includes some property that is not traditionally thought of as “open space.”

In order to increase the amount of preserved land within the Township, the Open Space and Recreation Plan recommends that Union Township utilize a diverse inventory of lands to begin to prioritize properties for acquisition. This inventory* includes:

Vacant land (less preserved land)	768 acres
Municipally owned properties not included on the ROSI*	149 acres
Farmland assessed property (less preserved land)*	3,979 acres
Residential properties greater than or equal to 3 acres (less preserved land)*	1,264 acres
TOTAL ON INVENTORY	6,160 acres

Of the 13,526 acres in Union Township, 6,160 are included on the inventory of available open space. Thus **46%** of Township land is potentially available for open space preservation.

**Note: These parcels may have structures on them.*

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Outdoor Needs in the Township of Union

“There’s nothing in the entire remainder of the solar system as precious as one acre on earth.”

-- George Wald

The needs described in this section stem largely from the goals of the Open Space Program section of this Plan. Many of a community’s goals for environmental protection and conservation can be achieved through open space preservation. Several of the open space needs can be achieved simultaneously; combining resources on projects that achieve multiple goals can be of great advantage to Union Township’s open space program.

Union’s agricultural heritage needs safeguarding

Union Township’s roots are agricultural. The area of the Township south of Interstate 78—the Piedmont—is especially suited for farming. The rail line in this area of the Township was well situated to offer an important service—transportation—to the numerous producers from the countryside around Pattenburg, Jutland and Rockhill.

Although the hustle and bustle of the rail line, and the commercial hubs within the Township, have receded to the annals of a bygone era, the importance of agriculture has not. Today agriculture still plays an important role in defining Union Township and its residents. The enterprise represents over 4,600 acres of Union Township. The southeast corner of the Township is the location of the Rockhill National Agricultural Historic District, which was designated to commemorate the important legacy of Rockhill. Here the soils are fertile, the hills are rolling and the land is well suited for farming. The majority of preserved farmland in Union Township is located within the Rockhill District, but there are other parcels throughout the Township.

Residential growth is infringing on the rural landscape of Union Township. Subdivisions exist on farmland throughout the Township. The views of ridgelines that used to yield open fields and forested hills, now offer glimpses of the residential influx into Union. The Township established farmettes to counter the problem of losing prime farmland and its rural quality. By allowing clustering in Agricultural Production Areas, they were able to deed restrict at least 25 acres of prime farmland for future use. The farmette program has experienced some problems, mostly involving a lack of stipulations on the land use that could occur on the protected land. Land that should have been farmed was converted to 25-acre estates, with the owner possessing no intention of ever working the land.

Union has reworked the ordinance, making the definitions much stricter, which should lead to greater compliance. Other methods of farmland preservation exist as well: the state, county and non-profit organizations are all working towards farmland preservation. Preservation of prime agricultural land ensures not only the continued

existence of an agricultural economy, but also the preservation of agriculture's cultural significance and a nexus to its historical importance.

Preserved land needs “green” connection for humans and wildlife

The Union Township Environmental Commission looked into the feasibility of connecting Finn Road and Hoffman Parks with a trail system, or greenway. They found that development between the two had limited the possibility of achieving that goal. Mechlin Corner Road, running between the two parks has received a majority of the development in the area. However, with careful planning and a utilization of all the tools at its disposal, a connection could be made. Connections within the community would benefit not only the Township's human residents, but also its wildlife. Connectors would provide migration corridors for Union's wildlife.

Parkland in the north of Union consists of Spruce Run Recreation Area and Clinton Wildlife Management Area. Also on the north side of the Township is Union Township's Strotz Road holding and the adjacent New Jersey Natural Land Trust's Mulhockaway Preserve. Both of these areas are cut off from Finn Road and Hoffman Parks by the Interstate 78; they are also separated from each other by farmland and residential areas. Their common connector, however, is the Mulhockaway Creek and its tributaries, which run easterly between the two.

Connections between the Pattenburg area, the Natural Lands Trust property and the Spruce Run Recreation Area offer opportunities for greenways. Other opportunities lie within the southern section of Union Township, where the preserved farmland of the Rockhill District could be connected to Finn Road Park, the Union Township School and on to the Spruce Run Recreation Area. The *Greenways Map* in the maps section explores these options in greater depth.

Increasing development will impact stream water quality

With the exception of Sidney Brook, all of Union Township's waters drain to Spruce Run Reservoir. The streams that drain to the Reservoir are of exceptional quality, having been given a Category One trout production designation by the New Jersey Department of Environmental Protection. The Mulhockaway Creek, which forms the largest drainage area in the Township, flows into Spruce Run from the western half of the Township.

Land use change in a watershed affects water quality. In the case of residential development the impact is often a negative one. Development brings with it new sources of pollutants, including pesticides, fertilizers, motor oil, exhaust, and effluents from septic systems.

Development also increases the amount of impervious surface cover. This limits the ability of storm water to infiltrate into the ground as it falls. Storm water that cannot be absorbed by the ground runs off to drainage systems. Drainage systems are a direct

link between runoff and surface water bodies, such as lakes and streams. As water drains from roads and driveways directly to streams and lakes, it carries with it the pollutants mentioned above, which have been gathered by the water on its course to the water body (*Environmental Defense Fund 1994*).

The lack of water entering the ground also has consequences on a stream's water quantity. Groundwater provides streams with their base level of flow. If less water is being absorbed into the ground, stream flow tends to be more erratic: it will surge almost instantaneously after a storm, and then recede just as quickly. Conversely in times of drought, stream flow will tend to be lower than normal, since the amount of ground water available to feed the streams will have diminished (*New Jersey Department of Environmental Protection 1996*).

Groundwater recharge areas refill aquifers

Union Township is entirely dependent on groundwater for its drinking water supply. Furthermore, residents rely on private wells to obtain their water. A major goal of the Open Space Sub-Committee was the protection of ground water supplies to ensure the availability of water to Township residents. As development continues in Union, the demand placed on the aquifers serving Union residents will increase. It will become more important for groundwater recharge areas to remain undeveloped in order that they may continue to be productive. According to the Department of Environmental Protection, "Groundwater availability can . . . be reduced by substantial development over aquifer recharge areas" (*New Jersey Department of Environmental Protection 1996, p. 27*). Union Township's growth is primarily residential, and will likely continue to occur in areas adjacent, or easily accessible, to Interstate 78.

The Union Township governing body, with the goal of maintaining Union's rural character, does not want to provide municipal water and sewer services. Thus, development will continue to rely on private on-site wells. To achieve the goal of accommodating growth in Union while remaining dependent on ground water, critical recharge areas will need protection.

Forested land buffers residential development and prevents erosion of steep slopes

Forest cover in Union Township has decreased significantly since the early 1970s. There is a correlation between the loss of forests and the increase in residential areas: The major losses in forest cover have been the result of new housing developments in the community. Union Township's recently enacted tree ordinance will help mitigate the loss of trees, but permanent protection of already-mature stands of trees will further safeguard these natural treasures.

With new residences encroaching upon farmland and older residential areas, a greater need arises to retain the sense of community and character of more established

areas of the Township. Union Township's land cover was about 37% forested in 1995, the most recent date of publication.

Forest preservation will aid in maintaining stream water quality and quantity, which will help safeguard water quality in Spruce Run Reservoir, and further downstream. Forested areas slow runoff, allowing more water to seep into the ground. This in turn limits the amount of water that will drain overland directly to surface water, often carrying with it residential pollutants and other degrading substances.

Water allowed to seep into the ground will eventually be discharged into streams and rivers, but it will be more slowly and over time. Forest preservation will ensure that the base flow of the Township's waterways, such as Mulhockaway Creek, will be better safeguarded in times of drought. Shaded stream corridors also keep water cool, which is an important condition for trout habitat.

Wildlife depends on the forest resources of Union Township for their survival. Wildlife requires large continuous patches of habitat; as forested land disappears habitat becomes fragmented, causing the loss of species in that area that require large unbroken habitat.

Forested areas prevent erosion. This is an important consideration in the steeper sections of the Township, on ridges and in the Highlands. Tree roots prevent erosion by stabilizing the soil on the fragile hillsides. Erosion prone areas also benefit from tree cover by receiving much less direct precipitation. The tree canopy breaks the impact of the precipitation, allowing it to fall softly to the ground, with less intensity. A dual benefit is that ridgeline vistas are preserved while at the same time environmental goals are being realized.

Development pressures jeopardize scenic views

Union Township straddles the Highlands and the Piedmont Physiographic Provinces. From several locations throughout the Township looking north, Musconetcong Mountain and the first ridges of the Highlands offer spectacular vistas of the dynamic landscape. The view north from Hoffman Park is especially dramatic. These ridges and viewsheds all lay within Union's boundaries. The identity provided by vistas throughout the Township is an important preservation objective for Union.

The Union Township Planning Board undertook a Scenic Vista Analysis to determine what areas of the Township contain scenic resources. The Open Space Subcommittee's goal of preserving viewsheds throughout the Township is consistent with the efforts of the Planning Board and the Master Plan. Consultation of the Scenic Vista Analysis, and coordination with the Planning Board on their zoning and other regulatory efforts, will further the protection of scenic vistas in the Township.

Saving land in the high elevations preserves the environment as well. Streams that originate in higher points throughout Union, of which there are several, would do well to have a clean, cool beginning run.

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A System of Open Space in the Township of Union

*“When we see land as a community to which we belong,
we may begin to use it with love and respect.”*

-- Aldo Leopold, A Sand County Almanac

This section flows from the Outdoor Needs Section and builds upon the goals established by the Open Space Sub-Committee. When planned as an interconnected system, open space provides several environmental and cultural benefits to a community, such as drinking water protection, historic preservation, riparian protection, forest preservation, and others. The System of Open Space section outlines a Union Township whose open space goals have been realized, and whose preserved open spaces work effectively to increase the quality of life enjoyed by Township residents, and to promote a healthy natural environment.

Historic landmarks maintain Union’s sense of community

Historically, Union Township sat at a crossroads. Lenape trails to and from the sea gave way to wagon trails, used to haul produce to nearby markets. The paths of British and colonial soldiers passed through the Township, en route to what each hoped would be a victory. The Union Forge was situated to take advantage of the clear, cool streams flowing out of the Highlands that provided hydropower for the iron works. The railroad’s existence enabled a more efficient transport of produce, and gave rise to the bustling town centers that remain as communities, in part due to a new transportation innovation: the interstate highway.

Throughout the Township remnants of Union’s rich history abound. From taverns to inns, and from mountaintops to the bottom of a lake, there remain a large number of individual structures and regional areas where important historical events took place. Historic preservation can be a cost effective means of retaining important aspects of Union’s heritage while accommodating growth in less historically sensitive areas.

The registration of historic districts, as well as individual sites, will help preserve the Township’s rich history. Within the four historic districts of the Township individual sites can also be listed on the state and national register.

Greenways link preserved parkland, providing healthy wildlife habitat and buffers for residences

The establishment of greenways connecting preserved open space in Union provides several benefits (*Greenways Map* in Maps Section). Greenways provide land that could be used to construct trails, and other recreational amenities between the open space areas in the Township. Greenways also provide pathways for wildlife. There are many areas of suitable wildlife habitat throughout Union, but development is increasingly

fragmenting them. Greenways will provide a permanently preserved corridor of open land through which populations can travel.

Greenways will also provide a buffer between areas of residential development, helping to maintain the rural quality of the Township. Residents who live near greenways in Union will have a woods path at their back door, able to take advantage of the opportunities offered by the connectivity of preserved lands in the Township.

Preserved groundwater recharge areas support the anticipated growth of the community

With the identification and preservation of the prime groundwater recharge areas in the Township, Union will take steps towards ensuring a continued water supply for the anticipated growth of the Township. The goals of continued growth and the reliance on on-site wells will require the Township to safeguard those areas that provide the greatest infiltration of precipitation into the drinking water supply.

Agriculture remains a viable enterprise in Union Township and a visual reminder of its heritage

Farmland preservation will ensure the existence of agriculture within Union Township's borders. The Master Plan has laid out a plan for the preservation of agriculture as an economically productive enterprise. These include deed restrictions and farmettes (*Definitions Section*). The Master Plan noted the importance of being flexible with farm owners. In cases where the farm owner has deed restricted his land, Union permits other innovative economic uses of the parcel, such as wineries, bed and breakfasts and roadside stands.

The area of Union Township with the richest agricultural legacy is the Rockhill District, located in the southern part of the Township. In Rockhill farming dates back nearly 300 years. Farmland preservation is being directed to this area because the soil is of exceptional quality.

Throughout Union Township there are over 500 acres of preserved farmland. The Township recently acquired a 102-acre piece of farmland that it intends to keep in agriculture, although it is not yet preserved. The Township farm (Block 29, Lot 13) is in the Rockhill District. The *Greenways Map (Maps Section)* details the connection of preserved farmland in the Rockhill District to other preserved open space areas throughout the community. The Rockhill District serves as an endpoint in a greenway through the southern section of the Township.

A system of multi-use hiking, biking and horse trails will expand recreational amenities in the Township

A system of trails throughout the Township would provide enhanced recreation opportunities for Township residents. Pathways offering a multitude of uses could link major Township parks, such as Hoffman and Finn Road. Both parks currently have trails and walkways that support bike riding, jogging, cross-country skiing, and horseback riding, but these trails are limited to the Park boundaries. A system that links these areas with other preserved open space in the Township, and with those that become preserved open space, will provide a more expansive opportunity for trail users.

The Union Township Trails Association, a member-based, private group, is planning a system of trails throughout the Township. Coordination between the Horse Trails Association and Union Township may result in the realization of common goals.

Union Township is of a size that would permit bike, horse, or pedestrian transportation to and from recreational facilities—for games, picnics and other events. Finn Road and Hoffman Parks are located near a large percentage of Union residents.

The trails could be linked to the northern half of the Township, to the Spruce Run Recreation Area and Clinton Wildlife Management Area. Through Clinton Management Area runs the Highlands Trail, which, when completed, will run from Phillipsburg to the Hudson River north of Bear Mountain. The Highlands Trail in turn links with the Appalachian Trail, a national scenic trail spanning 2,200 miles in 14 states.

The recreational possibilities of a system of trails through Union are numerous. A hardy Union resident, for example, could one day step onto a trail system that stretches from Maine to Georgia and points west.

Protection of riparian areas will ensure the vitality of Spruce Run Reservoir

The streams that flow into Spruce Run are of exceptional quality. They have the cool, clean water necessary to support trout reproduction. These streams—the Mulhockaway Creek, Spruce Run and Black Brook—originate in the forested hills of the Highlands before tumbling into Union Township, where they converge in Spruce Run Reservoir. The Department of Environmental Protection has classified the two streams as having trout production waters. Protecting the surface water quality can be realized by implementing measures to protect forest cover throughout the streams' watersheds, acquiring land in sensitive areas and developing areas that will not adversely affect the streams' water quality.

New Jersey Water Supply Authority is involved in a project whose goals are to safeguard the water quality of the Spruce Run Reservoir, which provides nearly 2 million people with drinking water. To that end, the Authority is looking toward land acquisition as a component of a program designed to provide cost-effective, clean water to its customers.

Protection of the Township's waterways will keep them healthy and supportive of fish and wildlife, such as trout and the land animals that depend on the stream corridors for migration. Clean, well shaded waterways will also protect the Spruce Run Reservoir, an important consideration not only for the nearly 2 million New Jersey residents that depend on the Reservoir for drinking water, but also for those that use the Reservoir for recreational purposes.

Regional coordination protects resources

In northern Hunterdon County the forested hills of the Highlands meet the rolling farmland of the Piedmont. Union Township straddles the interface of the two regions. Within the broader region encompassing neighboring municipalities, several groups are active in land conservation.

Bethlehem Township, to Union's northwest, has a very active Environmental Commission. Between the two municipalities lies the entire Mulhockaway Creek watershed. Mulhockaway Creek is a high quality trout production stream. Coordination of regional efforts is the one way to ensure the Creek's protection. Franklin Township, to Union's east, contains stretches of Cakepoulin Creek and Sidney Brook, both of which originate in Union Township. An inter-municipal coalition can achieve broader goals than can individual towns when trying to preserve a regional resource. .

State agencies make good partners. They often have projects that overlap with those of the municipalities in which they are located. In Union, Clinton Wildlife Management Area has indicated that they are interested in expanding the size of their holding to further protect the Mulhockaway Creek. New Jersey Water Supply Authority is involved in a land acquisition project that encompasses the whole Spruce Run Watershed, which includes parts of Union Township. Finally New Jersey Natural Lands Trust has a preserve in Union, and is also interested protecting Mulhockaway Creek.

Hunterdon Land Trust Alliance, The Nature Conservancy, Morris Land Conservancy, and Musconetcong Mountain Conservancy are all non-profit groups working in the region. Non-profit land trusts are good partners to work with for several reasons. First, they have access to funding sources that may be unavailable to municipal governments. They also have professional staffs that are skilled in creating conservation solutions with landowners. Finally, non-profit land trusts are knowledgeable on a variety of land conservation techniques that can be of assistance to local land conservation efforts.

Coordination of several, often disparate, efforts will maximize the opportunity for land conservation in Union Township.

Action Program and Recommendations

The Action Program suggests projects for Union Township to pursue in the implementation of the Open Space and Recreation Plan. The activities listed for the first year are the most urgent and will advance Union's open space program immediately. The three-year recommendations are also very important, but they will take longer to complete. The five-year projects should take place in the appropriate time frame, as opportunities arise. The Open Space and Recreation Plan is a dynamic document. It should be updated every year as progress is made, and that progress should be communicated to the governing body.

First Year

- Adopt the Open Space Plan as an amendment to the Township of Union Master Plan.
- Submit the final Open Space and Recreation Plan to Green Acres for enrollment in the Planning Incentive Program.
- Coordinate efforts with New Jersey Water Supply Authority regarding their Spruce Run Initiative land acquisition project.
- Review and prioritize the properties highlighted in the Open Space and Recreation Plan.
- Begin research on the existence of conservation easements throughout the Township.
- Pursue the protection by acquisition or easement of land along stream corridors in the Township.
- Research the placement of Jutland and Pattenburg on the State and National Registers of Historic Districts.
- Begin an outreach program geared toward farmland owners on the benefits of farmland preservation.
- Place an easement or other development restriction on the recently acquired Township farm (Block 29, Lot 13).
- Review municipally held land for inclusion on the Township's ROSI.
- Prepare at least one application per year to the Hunterdon County Open Space Trust.

- Approach Foster Wheeler regarding the placement of a conservation easement on their farm assessed property that contains threatened bird species habitat.
- Revisit the open space tax to determine if the funding level is adequate for current land values.

Within Three Years

- Contact the Department of Environmental Protection's Bureau of Land Management to discuss joint acquisition projects with the Clinton Wildlife Management Area.
- Meet with neighboring towns in Hunterdon County to discuss common objectives, goals and priorities, and undertake projects in partnership.
- Coordinate preservation efforts with the Historic Preservation Committee.
- Acquire, or otherwise protect, land that provides good groundwater recharge for Township wells.
- Acquire, or otherwise protect, land adjacent to the Mulhockaway Creek and its tributaries, Sidney Brook and other Township waterways.
- Pursue the preservation of historically significant parcels throughout the Township.
- Contact private landowners to discuss conservation easements on wooded areas of their properties. Examine properties for potential links in greenways envisioned on the *Greenways Map*.
- Develop a plan for a system of trails throughout Union Township, with the intent of linking preserved open spaces and providing recreation opportunities.
- Meet with regional and neighboring environmental groups to discuss priorities and partnership opportunities.
- Review the Open Space and Recreation Plan annually to update the properties and information, and submit the update to Green Acres.
- Enact, or enhance existing, critical areas ordinances to protect, at a minimum, wetlands, stream corridors, ridgelines, steep slopes, and groundwater recharge areas.

- Continue to work with New Jersey Water Supply Authority on land acquisition projects.

Within Five Years

- Develop and implement the comprehensive trail plan that includes bike paths and pedestrian trails that link preserved public open space.
- Celebrate open space achievements with community events.

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Preservation Tools and Funding Sources

This section is a listing of the tools and funding sources available for open space preservation. It is not meant to be exhaustive or a complete listing. It is a list of the most commonly used and successful techniques.

Preservation Tools

Fee Simple Acquisition

Usually, the most expensive way to preserve property is direct acquisition through fee simple purchase. The title to the property changes hands from one owner to another. A disadvantage to this approach is the need to have the full purchase price available at the closing. Government agencies may not be able to raise the funds in time before an owner decides to sell the property to another buyer.

Municipal Preservation Tools

One preservation tool at the disposal of the municipality is tax foreclosure. If a parcel falls under Union Township's ownership through tax foreclosure, the municipality may want to consider holding the property as part of its inventory of lands for recreation and conservation purposes. Periodic examination of properties with tax liens upon them may also yield opportunities for the Township to purchase the lien and preserve the land for environmental or recreational uses.

Union Township may want to develop educational materials that target property owners to describe various financial approaches to preserving land. For example, some owners may want to work out an arrangement where they sell their land over time to the Township or some other preservation partner. Other landowners may sell their land to the Township at a bargain sale to receive deductions for a charitable contribution on their federal income tax. Donations of property may also be considered charitable contributions.

Union Township can establish a relationship with a nonprofit land trust, such as Morris Land Conservancy or Hunterdon Land Trust Alliance, to help reach out to inform property owners of preservation options.

Less Direct Acquisition: Easements

Another effective tool for preserving land is an easement. An easement grants an individual the right to use another's property for a specific purpose. There are many kinds of easements designed for many purposes. Easements most appropriate for land conservation include:

- trail easements: the right to traverse a specific path through a property
- scenic easements: the right to maintain a view and ensure that view is maintained

- conservation easement: purchases the development rights to a property to preserve the natural landscape of the site
- agricultural easement: purchases the development rights to the property to preserve the agricultural use of the site

The advantages of easements include the lower costs to the buyer to acquire a particular use on a piece of property. Conservation easements generally cost from 70% to 80% of the fair market value of the land. Trail easements may be used appropriately to create greenways through private property.

Another advantage of easements is that the land remains in private ownership. Therefore Union will still collect property taxes from the owner. The amount and type of easement that is acquired will determine the owner's tax liability.

Written into the deed, an easement will be associated with a tract of land despite an ownership change. Public access is not necessarily a condition for an easement.

Easements can provide a conservation solution for the municipality and the private landowner. They represent a flexible tool that can be written to satisfy public uses as well as private landowners' needs.

Bonding

The municipality can issue bonds to borrow money to pay for acquisitions. The funds from the Open Space Trust could be used for the 5% down payment to issue the bonds as well as the debt service over time. General obligation bonds require voter approval and can impair the tax credit of the municipality. The consistent, dedicated revenue from the Open Space Trust makes revenue bonds an attractive alternative, but these bonds typically have a higher interest rate than the general obligation bonds.

Installment Purchases

The municipality may work out an arrangement with a landowner that allows an incremental purchase over a number of years. The property owner receives the purchase price over time, as well as interest on the unpaid, negotiated balance. Funds from the Open Space Trust can be committed for this payment. This arrangement may result in tax benefits for the seller, and the Township is not obligated to pay the full price of the land in one payment.

Lease-Back Agreement

If the land is not needed for immediate use, the Township can purchase a piece of property and lease it back to the owner or another entity for use. Owners who want to remain on their property can sell a life estate.

Partial reimbursement of the purchase price can be repaid through rental fees, and maintenance costs are reduced. This technique is most useful when the Township identifies an important tract and wants to ensure its availability for future use. The landowner may realize estate tax advantages through these methods.

Donation/Bargain Sale

Donating or selling land to a nonprofit organization or to a municipality may provide tax advantages to the owner. Landowners who own property that has escalated in value may reduce their capital gains liabilities through donating the property or selling it at a bargain sale or less than the appraised value. Estate taxes may also be reduced with proper planning. Conservation easements are effective tools for estate planning. Union may want to discuss land priorities with a non-profit land trust. The land trust will contact owners to discuss general tax advantages of donations and bargain sales. This is a cost effective method of obtaining open space.

Long-term Lease

Union may be able to negotiate a long-term lease with a landowner unwilling to transfer complete ownership. This method may be a useful option for trail easements. The Township will have to weigh the cost advantages of long-term rental payments to outright acquisition costs.

Eminent Domain

Union Township has the right to condemn and acquire privately owned property for a public purpose. This technique should be considered only when negotiation options have been exhausted. The cost of the property is likely to be considerably higher than a negotiated price because of increased legal fees and the uncertain court determination of the land value.

Zoning

Open space benefits may be achieved through the use of municipal tools, such as cluster zoning. This technique allows the same density on a tract of land but reduces individual lot sizes. It can be an attractive incentive to developers since they will spend less on construction and infrastructure costs. Union has utilized this technique in establishing its farmettes.

The remaining land becomes dedicated open space at no cost to the municipality. The dedicated open space resulting from cluster zoning should be monitored to ensure the open space values are maintained. If these lands are not under conservation easement restrictions, the Township should consider that action. However, any preserved open space dedicated as part of a developer's agreement should be placed under a conservation easement. Union may also want to require the establishment of an endowment or trust supplied with funds to be used to monitor and maintain the easement.

Protective zoning is a tool used to limit development in environmentally sensitive areas, such as well head protection areas, aquifer recharge areas, wetlands, steep slopes, stream corridors, and natural and historic sites.

Funding Sources

To accomplish all of its open space goals, Union Township will have to seek funding support from a variety of sources.

Non-profit Land Conservation Organizations

The Morris Land Conservancy and other nonprofit land conservation organizations such as New Jersey Conservation Foundation, Musconetcong Mountain Conservancy and Hunterdon Land Trust Alliance are eligible for nonprofit grants from the State Green Acres program. Nonprofit grants may total up to \$500,000 and require a dollar for dollar match. Land trusts are good partners for acquiring lands within the sensitive natural areas of Union Township. These organizations also have experienced staff knowledgeable about benefits to a landowner interested in preserving property, as well as strategies for open space preservation. Nonprofit land trusts can also “sign on” to Union’s Open Space Plan registered with Green Acres. This process makes non-profit organizations eligible for Green Acres’ funding to acquire land identified in the Township’s Open Space Plan.

Historic Preservation

Funding is available from the State Green Acres program for historic preservation projects. Matching historic preservation and open space goals promotes access to this funding.

The Crossroads of the American Revolution project is another State initiative to identify, preserve and document Revolutionary War sites. This is applicable to Union, which has a number of sites of Revolutionary War significance. With the help of the Historic Preservation Commission, the identification and submission to the State of appropriate historic sites may result in resources available to the Township for preservation. The National Park Service is developing the Crossroads of the American Revolution Project and can aid Union in identifying other sites of Revolutionary War significance in the Township.

New Jersey Green Acres and State Agricultural Development Committee

The state is under a 1998 mandate to protect one million acres of open space and farmland over a period of ten years. The Green Acres program provides funding assistance for the acquisition of municipal park and recreation areas listed in the Open Space and Recreation Plan. Through its Planning Incentive Program, Green Acres will provide a grant that will cover up to 50% of the land acquisition costs of a particular tract.

The State Agricultural Development Committee (SADC) provides funding for farmland preservation, and farmland enhancement projects. SADC coordinates its operations with the County Agricultural Development Board (CADB), and also at the municipal level.

Hunterdon County Open Space Trust

Hunterdon County residents passed an open space tax in November 1999, a year after Union established its municipal open space tax. The county tax is funded by an amount of 3 cents per 100 dollars of assessed property value.

The trust is expected to bring in 4.7 million dollars in 2002, with 70% earmarked for farmland preservation and county parkland expansion.

10% is dedicated for restoration and rehabilitation projects on county owned facilities. Another 10% is set available for non-profit land acquisition grants.

The remaining 10% is for municipal grants for land acquisition, planning, farmland preservation, and debt service (*Kevin Richardson, personal communication*).

Morris Land Conservancy

Morris Land Conservancy is a nonprofit, membership organization working to preserve open space in northern New Jersey. The Conservancy is helping twelve municipalities in Morris County, one in Somerset County, and three in Sussex County implement their open space program and acquire land. The Conservancy produced the Open Space and Recreation Plan for Union Township. The Conservancy has also completed numerous Open Space and Recreation Plans throughout Morris, Somerset, Sussex and Gloucester Counties. The Conservancy does not have a source of funding for land acquisition but has staff skilled in the art of land negotiations and crafting successful conservation strategies.

Transportation Enhancement Act (TEA-21)

The U.S. Department of Transportation has established that funding for trail development and enhancement is an eligible expenditure from the Federal Transportation Trust. The amount of funding for these purposes is substantial, and funds for land acquisition are available. A special category of funding is dedicated to enhancement of National Recreation Trails. An eligible project must show that the trail is part of the community's overall transportation system. Funds can be used for facilities such as signage, bike racks, surfacing as well as acquisition of land through easement or fee simple. TEA-21 funding can jumpstart a community's bikeway and walking trail system.

Environmental Infrastructure Trust

The New Jersey Environmental Infrastructure Financing Program administered by the New Jersey Department of Environmental Protection provides low cost loans to acquire open space that will preserve water quality. This program is a partnership between the New Jersey Environmental Infrastructure Trust and Green Acres. The mission of the Trust is to assist in achieving a cleaner and healthier environment by providing low-cost financing for projects that enhance and protect ground and surface water resources, and ensure the safety of drinking water supplies.

Forest Legacy Program

The Forest Legacy Program is administered by the United States Forest Service and may be an additional source of funding for the Union. Large, forested wood lots are eligible under this program. Traditionally, Forest Legacy funding in New Jersey has been focused within the Highlands region, which encompasses the northern third of Union Township. Forest Legacy funding in coordination with traditional farmland preservation money may create a significant source of preservation dollars for the Township to preserve large parcels. Municipalities obtain access to these funds through the Green Acres program. Union Township has some large, undeveloped tracts of forested land that provide critical groundwater recharge and habitat protection. Management of the wildlife, fish, soils, water resources and aesthetic values of its forest lands will enhance the Township's forest resources and keep these lands in a productive and healthy condition.

Federal Land & Water Conservation Fund

Federal funding from the Land & Water Conservation Fund is channeled through the Conservation and Reinvestment Act (CARA). This is a comprehensive, bipartisan effort to provide money to New Jersey for a variety of purposes including open space acquisition, wildlife conservation, historic preservation, payment in lieu of taxes, and conservation easement/species recovery efforts. Large, environmentally significant areas will be likely candidates for funding and will most likely be distributed through the Green Acres program.

The Nature Conservancy

The Nature Conservancy's mission is to preserve plants, animals and natural communities by protecting the lands and waters they need to survive. The Nature Conservancy has been awarded funds from the Duke Foundation to acquire and preserve endangered species habitat in New Jersey.

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Land Acquisition Recommendations

Included in this Open Space and Recreation Plan is a map detailing the Land Acquisition Recommendations listed in this section of the document. The *Township of Union Greenways Map* illustrates the extended greenways connecting the preserved open space, natural areas and waterways of the Township. The map provides a vision for Union Township's open space preservation program.

Properties included in the *Land Acquisition Recommendations Section* will not necessarily be purchased for preservation. Inclusion on the *Land Acquisition Recommendations* list indicates that the specific property falls within one of the designated greenways *and* that the property has been identified on the Open Space Inventory (*Parcel Data Tables in the Appendix*).

There are properties that fall within the identified greenway, but which are not listed on the Open Space Inventory. Although these properties are not included on the following lists they are potential candidates for some form of open space preservation.

The following pages outline the blocks and lots of parcels in the open space inventory that would create the several greenways envisioned on the *Greenways Map*. Accompanying the list of specific properties is a summary of the open space significance of the individual greenways as well as funding sources that could be used to preserve the properties.