

PROVIDENCE TOWNSHIP COMPREHENSIVE PLAN 2008

LANCASTER COUNTY, PENNSYLVANIA



July 18, 2008

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First Monday of Month, 7:00 p.m.

Planning Commission

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Chapter 1

INTRODUCTION

Welcome to the Providence Township Comprehensive Plan!

PURPOSE OF THE COMPREHENSIVE PLAN

Like any business, local governments need to chart future plans so that they can assure an efficient use of resources, protect public welfare and deliver public services. The preparation of a comprehensive plan provides a framework of information that can be used to make future decisions regarding local government functions.

The Comprehensive Plan further provides a sound legal basis for specific implementing measures, such as zoning and subdivision regulations, designed to carry out the intent of the Comprehensive Plan.

A common definition of comprehensive planning is “the allocation of municipal resources towards municipal goals and objectives.” This definition describes the essence of this work

THE COMPREHENSIVE PLAN

This Plan will guide Providence Township’s decisions on a wide array of issues over the next 10 years, but also has an eye on a much broader horizon.

No single document can pose solutions to all community needs, and the Comprehensive Plan must be a flexible, continuous and changing activity that is periodically updated based on changing conditions, the shifting of resources, and the alteration of goals.

Formulation of text and maps is not the ultimate objective. Use of the Comprehensive Plan is what is important, and a comprehensive plan is only as good as the measures used to implement the plan.

In 1974 and 1991, Providence Township prepared a Comprehensive Plan with the assistance of Local Government Research Corporation and Rettew Associates, Inc. This Comprehensive Plan is an update to provide a framework within which the Township’s historic land use policies can continue, with special attention to issues that were not fully analyzed or present in the prior Comprehensive Plans.

Providence Township has a strong tradition of planning for the future. This thriving community, unparalleled agricultural and natural resources, and the high quality of life long enjoyed by its residents are the result of an unwavering commitment to planning over many decades. A rural township in Lancaster County, Providence Township is now home to over 6,600 people.

This Comprehensive Plan:

- Catalogs, maps and describes the Township's resources. These resources include many things, such as land, streams, roads, utilities, parks, neighborhoods, schools, municipal staff, police and fire services, businesses, people, and so on. Analyses are performed to determine the capabilities of these resources to serve or accommodate particular land uses.
- Sets community goals and formulates objectives. Community goals and objectives are applied to the municipal resources, yielding a future land use scheme. These goals include:
 - General health and welfare-type objectives, like the provision of adequate housing and employment opportunities, or the protection of the environment.
 - Community-wide goals which are also important and could look to preserve the Township's diverse character or improve recreation facilities.
 - Neighborhood goals which can improve a local imbalance of public services, or preserve the historical architecture of a given area.
 - Problem-solving goals to correct existing or foreseeable deficiencies or problems, such as improving the design of a particular road intersection or preventing the construction of a use that threatens compatibility with adjoining land uses.
- Identifies guidelines for the future delivery of public services.
- Provides implementation strategies that enable the Township to set in motion the analyses and information presented in the Comprehensive Plan.

It is important to note that the time frame for this Comprehensive Plan is to the year 2018. All recommendations made within this Plan are structured around a 10-year time frame. Local officials will need to update this Plan by the year 2018, or sooner if conditions change more rapidly. Future U. S. Census Bureau reports on population are good sources of data by which to document the change of conditions within the Township.

REGIONAL RELATIONSHIP OF PROVIDENCE TOWNSHIP

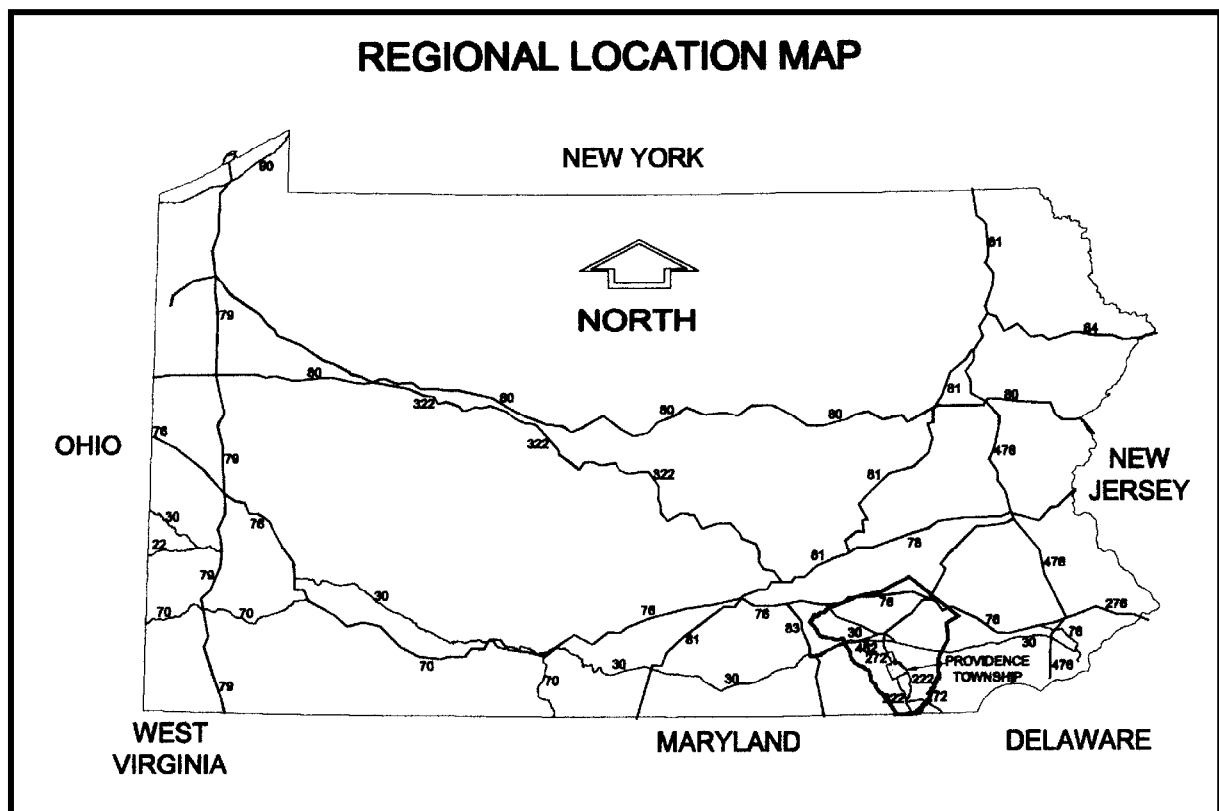
Providence Township is situated in the south-central portion of Lancaster County in southeastern Pennsylvania. The Township is approximately 9 miles southeast of the City of Lancaster, which serves as the County seat of government.

Providence Township contains approximately 20 square miles, or 12,805 acres. Township boundaries consist of Pequea Creek, Big Beaver Creek and man-made lines. It is bounded by Pequea Township and Strasburg Township on the north, by Strasburg Township and Eden Township on the east, by East Drumore and Drumore Townships on the south, and by Martic Township on the west.

Providence Township is linked both geographically and economically to the urbanized areas of Quarryville Borough and Lancaster City.

As part of the larger Lancaster region, Providence Township residents enjoy excellent access to many of the large metropolitan areas of the eastern United States. Pennsylvania Routes 272, 283, and 222, US Routes 30 and 322, and Interstate Routes 1 and 76 provide convenient access that links Lancaster County with Baltimore, New York, Philadelphia, Pittsburgh, Washington D.C., and Wilmington. In addition, regional roadways directly connect with the nearby cities of York, Harrisburg, Reading and Lebanon in less than an hour's driving time.

The Regional Location Map illustrates the site of Providence Township.



HISTORICAL SKETCH

The following historical sketch is excerpted in total from the Providence Township Comprehensive Development Plan, April, 1974.

The octopus-shaped intersection near Harrisburg which joins the Pennsylvania Turnpike with Routes 322, 81, 83, and 283, is the principal crossroad connecting Philadelphia to Pittsburgh. In pre-colonial days, only Susquehannock, Pequea, and Conestoga Indians lived in this territory of hills, streams and marshes. The principal crossroad connecting Pittsburgh to Philadelphia, east and west; and Lancaster to Charlestown, north and south, was in the present-day village of New Providence. This postal crossroad was in use before the first white settlers arrived in 1720, long before the Revolutionary War of Independence. The crossroad is visible if one thinks of Main Street in New Providence as the north-south road, and Pennsy Road to the west connecting White Oak Road to the east of modern Route 222. These intersected near the old railroad tracks which cross between Wiggins Store and "Blairs" store, now an apartment house. Horsemen forded the stream named the Big Beaver Creek for the Indian Chief, Beaver.

The first owner of the land now encompassing New Providence was a surveyor for the provincial government, who became the first in a series of absentee landlords. John Taylor purchased 1,100 acres in 1736 for the purpose of speculation, but did not live here.

The first known structure in Providence Township was a 1½ story log tavern which travelers called the Black Horse, or "at the sign of the Black Horse Tavern," now New Providence. The tavern was located at the crossing between Philadelphia-Pittsburgh, and Lancaster-Charlestown. The Black Horse Tavern was distinctive for its two cellars, a foundation cellar on which "Blair's" store now stands, and an arched, stone wine cellar beneath that.

In 1702, Michael Shenk came from Switzerland and purchased 1,200 acres from a James Musgrave. The Shenk family has lived on part of that tract from then until now, a period of 254 years. J. Fred Shenk and Frances K. Shenk, son and daughter of John F. Shenk, now live on 143 acres of that original purchase, one-quarter mile southeast of Archery Road and Route 222. Fred, a Township Planning Commissioner, has many of the old deeds, including one on sheepskin as a grant from William Penn.

Michael Graft (Groff) also arrived in 1720 from Germany and settled on a tract adjacent to the Shenks. John Groff, now 85, was born and reared on part of the 1,300 acres deeded to his forefathers by William Penn.

Other early settlers included John Miller, John Hart (who owned a tannery), Frank Bowman, Henry Bowman (a bishop in the Mennonite Church), Christopher Winters (d. 1810), and Ulrich Everly, all arriving in the 1730s. Henry McFalls came in 1782, as did George Hess, who owned the hotel. In 1757, Sam Irwin was the area tax collector.

GOVERNMENT

Our community was one of the first townships organized in Lancaster County. It was mapped the same year as Lancaster City, 1730, and as Martic Township. In 1853, Martic was further subdivided to create Providence.

According to the 1875 Atlas by Everts & Stewart, the newly-created township of Providence had a population of 1,766 (44 colored) in 1860; which grew to 1,906 by 1870 (1,856 native-born, 50 foreign, 57 colored). That was a growth of 12 percent in a decade, compared with a growth of 24 percent from 1960-1970. The 1970 Census count of 2,842 indicated only one black family living here in modern times, as contrasted with the post-Civil War period.

John Strohm was probably the Township's most illustrious political person, serving as a Pennsylvania Representative and Senator (1831-42), and a U. S. Congressman for two terms (1845-49). His son, John Jr., became County Commissioner. Hiram Peoples also served two terms in the Legislature.

INDUSTRY

The most important natural asset of Providence Township was its water courses: Big Beaver, Pequea Creek, and Butler's Spring Creek, which rises in the center of the Township and flows north to Pequea Creek. These were important initially for their motive power. In the 1700s, a grist mill, sawmill and chopping mill all stood near New Providence. These were log structures which were either burned or destroyed by flood. In 1816, David Miller built a woolen mill, and in 1825, a grist mill.

By 1875, there were two woolen mills, four grist mills, and four sawmills on the Providence Township creeks. There were eight hotels, seven stores and eight common schools throughout the Township, with post offices in New Providence and Smithville.

Farming has been the predominant source of income from 1720 to the present. The Lancaster County Atlas reported 100 years ago that Providence Township "excells in agriculture because of the clay soil with limestone substratum which is very fertile and productive." Farm products a century ago included corn, wheat, oats, and a fair yield of tobacco. A list of the most prominent farmers included names still found on farms in the township: Bowman, Book, Witmer, Shenk, Peoples, Johnson, Hess, Huber, Herr, Breneman, and Smith. The farmers a hundred years ago were mostly German or Swiss Mennonite or Reformed, English Methodists, or Scots-Irish Presbyterians. By 1900, there may have been four Amish families. Today, there are an estimated 20 Amish families in the Township.

The chief nonfarming industry from 1776 to 1900 was iron ore mining, with several mines just south of New Providence yielding a large amount of quality ore annually. The ore was taken by Conestoga wagon to Lancaster, thence by rail or canal to Pittsburgh for extraction and refining.

A story is told that in the 1760s, ore was taken from the Molar Bank mine to a furnace in the central part of the Township. It was in operation one day during provincial times, producing cannon balls used by the Patriots against the Redcoats, when an alarm went out that the British were approaching. The furnace was filled with molten iron, but the Patriots cooled the batch in the furnace to render it worthless to the

enemy. The furnace was never used again--or so the story goes. The location of that historic furnace is not known to us today.

The historians Everts & Stewart predicted 100 years ago that a new industrial growth would soon develop in Providence Township. "The recently completed Lancaster to Quarryville railroad runs through New Providence with a depot adjoining the hotel. It is anticipated that this much-needed improvement will lend an impetus to the general business of the village and the surrounding country." They had no way of knowing that the rich iron deposits in Minnesota would replace the limited resources of this ore, nor that the Conestoga Traction Company would construct a passenger trolley line about 1904 that would replace the railroad's passenger service.

John Groff, born in 1889, recalls that the passenger train began at a roundhouse in Quarryville, with a steam engine, tender, baggage car, and three coaches. There was a smoker car (complete with spittoon) for men only and a ladies car. The train stopped at 7 a.m. at Hess's Station (now Elmer Shreiner's Feed Mill) and at the New Providence Station (near Wiggins Store). The fare was sixty cents and there were a dozen stops during the one-hour trip to Lancaster. The train stopped at the hotel and depot at the corner of King and Water Streets (now the Stevens House). It returned to New Providence at 5 p.m. The trolley ran often, for less fare, from 5 a.m. until midnight, until the now-prolific auto put it out of business in 1932. The abandoned track bed became the modern concrete Beaver Valley Pike, Route 222, running on the east edge of the Township. A trolley line was constructed in 1904 from Lancaster to Martic Forge, Mt. Nebo, and Rawlinsville through the western edge of Providence Township to the Buck. Citizens who invested in the Rawlinsville Trolley allegedly lost their investment in that stock the day it closed down, January 2, 1916. Except for the thousands who rode the trolley to Rawlinsville Camp Meting, the line evidently had too little sustaining use.

The Lancaster to Quarryville rail line was put out of business in June, 1972, by the disastrous flood produced by Hurricane Agnes.

Space does not permit a catalog of the many entrepreneurs of the Township's 200-year history. The ore mines, rail lines (including the "low grade" freight line constructed from 1898 to 1903) were owned or controlled by nonresidents, as are some of the principal businesses like the mobile home parks, iron works and radio stations today.

CHURCHES

The ore mines became useless as they filled with water fed by underground streams. The Blue Mine became useful as a baptismal pool for the Winebrenners at the Greenbriar Church. (The Fairview Church, named the New Providence Church of God in 1927, corner of Church Road and Cinder Road). The Winebrenners were followers of a German Reformed evangelist, John Winebrenner, in 1825, in Harrisburg. In 1878, a "woods meeting" was held on the farm of Witmer Barge, about one mile south of the Greenbriar Church on Church Road. Starting with five converts from that first meeting, a sanctuary was constructed that year, enlarged or remodeled in 1907, 1931, 1941, 1944, and 1950. The present sanctuary and educational building, the largest "Bethel" in the Township, were constructed in 1968.

The Smithville Church of God was part of a circuit including Fairview. It was organized by J. C. Owens in 1849. The first house of worship was a stone building completed in 1853. The present sanctuary on Pennsy Road, one-quarter mile east of Route 272, is a frame building constructed in 1893, brick veneered in 1956, and renovated in 1967.

The Clearfield Methodist Church on Rawlinsville Road was begun in 1835. The first building was constructed a year later, enlarged in 1853, and replaced by the present brick sanctuary in 1876. Clearfield Methodist was instrumental in the origin of the nearby Rawlinsville Camp Meeting., begun in 1885, just west of the Providence Township line. There are many (14) Methodist church in southern Lancaster County, yet there is only one (Clearfield) in Providence Township.

During the summer of 1766, a wooden meeting house was erected by the Mennonites in New Providence (then Black Horse). It was a log structure and served in its early days for both school and church. This was later used to shelter Revolutionary War soldiers posted to guard the interest of the Colonies in that section.

The first log church was located about 40 feet north of the present church with a 12-foot square cemetery adjoining. The original cemetery had a cedar tree planted at each corner. (Three are still standing.) The first church was on a 205-acre farm owned by a David Miller. It was first deeded to the church on April 5, 1825. A new church was built in 1855 (the main part of the present structure). It was remodeled and the anteroom portion added on the east end in 1895-96. Remodeling took place again in 1961, with an addition on the west end. Some land was deeded from the Noah K. Zook woolen mill for cemetery use in 1856, and the church bought the remainder of the woolen mill property after the mill burned in the late 1920s.

The New Providence Church had a mission Sunday School in the area for a brief time on what is now known as "The Devil's Half Acre."

The Beaver Valley Baptist Chapel began in 1971 as a home Bible study group. In 1972, they began meeting in a mobile home chapel on Route 222 at the Ponderosa. The pastor, Philip Byler, broke ground March 10, 1974, for the construction of a modular building on Route 222, one-quarter mile north of Quarryville. Beaver Valley was begun by the Wrightsdales Baptist Church as a mission church. Both are affiliated with the Southern Baptist Convention.

The "Deutsche Reformirte Kirche" congregation began in 1730 in Strasburg Township. The present Zion Reformed Church of New Providence was constructed in 1928. The first building in the Colonial period was a log church also used as a school house. The second was a stone church, with a schoolhouse nearby.

The Colored United Brethren Church is also shown in the 1875 Atlas, but not in the 1864 Atlas. The building no longer exists but was located on the Rawlinsville Road about two miles north of the village.

Bowman's "New Mennonite" Church was one of several Reformed Mennonite congregations founded in 1812 by John Herr, Abraham Landis and Abraham Groff. A church house seating 200 was torn down around 1900. The cemetery is located at the corner of Byerland Church Road and Smithville Road north

of Smithville, according to the 1864 and 1975 Atlases. There were also congregations and buildings in Strasburg, Lampeter, and Pequea, none of them standing today.

In the 1830s, the Mt. Hope Methodist Episcopal Church was organized near the Buck. In 1863, their frame building was sold and moved to the corner of Mt. Airy and Scotts Roads. The hill south of Smithville, where four-lane Route 272 now ends, was called Mount Carmel. A few rugged individualists began the Mount Carmel United Brethren Church there, but the building burned eight years later. Money was collected to build a new church, but the money disappeared as mysteriously as the church had burned. A building was constructed in 1872 but splits, fights and mischief caused the congregation to disband. Thereafter, it was called The Devil's Half Acre.

During the history of Providence Township, the churches provided the principal social organization, as well as spiritual and educational. A pattern emerges in church structures, the oldest being log, then stone, now red brick. The earliest denominations in the area were Presbyterian (Chestnut Lenge - 1711), Mennonite (Hans Herr - 1718) and German Reformed (Zion - 1730). The Methodist and Church of God began in the 19th century; Beaver Valley Baptist and a congregation of 200 Amish in the 20th century.

VILLAGES

Smithville was originally named Spread Eagle. John Blair built the Spread Eagle Inn in 1810. In 1818, George Smith bought the hotel, which in turn was passed down to his son, John C. Smith. John became the first Postmaster of the Post Office begun in 1840, after which the village of 250 people, the hotel, two general stores, a mill, and lumber yard became known as Smithville.

Blue Bell was a tavern on the road from Lancaster to Port Deposit, begun about 1800 by Jane Sargen. Blue Bell is located in the middle of Providence Township. The elections and principal business of the Township were held at Blue Bell from 1853 until the polling place was moved to Ollie Martin's store near the Smithville railroad underpass. Voting is now conducted at the municipal building, formerly the Mt. Airy elementary school.

Hickory Grove Inn, built in 1858, stood on the crossroad of Route 272 and Rawlinsville Avenue, around which the village of Truce developed.

New Providence was known as Black Horse until March 23, 1836, when Postmaster General Amos Kendell changed the name.

Chapter 2

GOALS AND OBJECTIVES

In order for the Comprehensive Plan to be effective and to receive both public and private sector support, goals and objectives are paramount and a critical focus for action.

Goals are the end result desired by the community for an element of the Comprehensive Plan. Goals range from universal human and societal needs to the resolution of particular problems.

Objectives are more specific, and more clearly identify an expected result. Essentially, the Township's objectives formulate an agenda or list of priorities that are used in allocating municipal resources.

The Goals and Objectives of this Comprehensive Plan were prepared from a 36-question survey of Providence Township officials and considered the goals and objectives from the 1974 and 1991 Comprehensive Plans.

The 1974 Comprehensive Plan included Goals and Objectives to balance progress with the preservation of natural beauty and the rural-agricultural atmosphere (pp. 3-4). The Goals and Objectives of the 1991 Comprehensive Plan provided objectives that reinforced the earlier Comprehensive Plan (pp. 7).

This Comprehensive Plan was developed and evaluated according to the following Goals and Objectives. The Township should review future plans and policies against these goals and objectives, to assess impact on the public health, safety and welfare.

LAND USE

Goals

Retain and enhance the rural and agricultural character of the Township.

Provide for reasonable amounts and distribution of residential and nonresidential land use in attractive and well-located settings.

Sustain a rural way of life by maintaining the integrity of agricultural, natural, and historic resources and the viability of the rural economy for future generations.

Objectives

1. Direct the more dense land uses, public infrastructure and services within an Urban Growth Area.
2. Discourage development in areas that are not served or planned to be served by public utilities.
3. Discourage development in areas where high nitrate levels exist.
4. Prevent meaningless “strip development” patterns along road frontage.
5. Locate development according to the opportunities and constraints presented by environmental characteristics.
6. Adopt development criteria, which preserve as much of the original land form and tree cover as possible, and enhance the quality and character of the development.
7. Provide for an effective transition between land use, through creative design and buffering standards.
8. Locate industrial and commercial activities in currently designated areas along Lancaster Pike and Beaver Valley Pike where vehicular access is adequate.
9. Discourage big business, shopping centers, big box stores, and chain stores, but encourage small local business.
10. Adopt industrial and commercial development criteria that minimize traffic, noise and visual impacts on residential areas.
11. Determine the level of need for medium density and multifamily housing units, and provide such units accordingly.
12. Encourage rural occupations at a limited scale and relate to the rural resources of the area as a means to accommodate industry while aiding the rural lifestyle and local farm operators.
13. Remain sensitive to the special land use needs of the Township's Plain Sect residents.
14. Promote continuation of agricultural activities on prime farmland soils by permitting a wide variety of farm-related land uses, supplemental farm businesses, and other compatible activities.
15. Control development of intensive agricultural operations, such as concentrated animal feeding operations (CAFOs) and limit their location to agricultural districts.

HOUSING

Goals

Provide safe and sanitary housing for current and future residents of the Township.

Provide housing structures and patterns that strengthen the sense of community identity.

Objectives

1. Determine the level of need for medium density and multifamily housing units, and provide such units according to local need and preference.
2. Provide adequate public facilities and services concurrent with new housing.
3. Provide housing that is harmonious with the landscape, and preserve tree cover and other important natural amenities.
4. Separate and buffer residential areas from commercial and industrial districts.
5. Assure that future housing is designed and located to provide protection from floods, storm water damage, erosion, unstable soil conditions, noise, vibration, and other incompatibilities.
6. Preserve and, where necessary, upgrade existing housing and neighborhoods.
7. Support public and private efforts to ensure high standards of construction.

TRANSPORTATION

Goal

Develop and maintain safe and efficient transportation system.

Objectives

1. Coordinate future land use and roadway functions to maximize efficient use of the Township's existing major roads.
2. Prepare appropriate design standards based on roadway function.
3. Coordinate future road improvements with projected roadway functions and adjoining planned land uses.
4. Assure that future land uses provide for proper access designs and locations that minimize any traffic congestion and safety problems.
5. Prepare a data base on the condition and characteristics of Township roads.

6. Review Township roadway data base and, when necessary, prepare proposals for road redesign or change in use to alleviate critical traffic conditions.
7. Prepare a capital improvement plan for maintenance and repair of roads.
8. Update road signage and install traffic signal controls where needed.

ENVIRONMENTAL AND CULTURAL RESOURCES

Goals

Protect and enhance natural resources.

Maintain the Township's rural, safe and attractive living environment.

Protect cultural resources in the Township.

Objectives

1. Preserve and enhance farmland, open space and scenic rural qualities to the extent feasible.
2. Protect sensitive, scenic and important natural features (e.g., floodplains, wetlands, steep slopes, marshes, caves, hazardous or unique geology, woodlands, important wildlife habitats, etc.) from indiscriminate development.
3. Promote natural stream buffers as a means to enhance and maintain water quality, and protect fish and wildlife.
4. Protect areas with slopes of 20% or greater.
5. Implement sound planning strategies that promote the conservation of energy resources.
6. Properly plan for storm water management to enhance water quality, prevent loss of life, minimize property damage, and avoid interruption of utility and municipal services.
7. Encourage nutrient management and agricultural soil conservation planning, to aid in the protection of surface water and groundwater resources.
8. Support the identification and designation of properties with national, state and local historic significance.

COMMUNITY FACILITIES AND SERVICES

Goals

Maintain and enhance high-quality and cost-effective community services.

Assure the general welfare of all residents, employees and properties within the Township.

Objectives

1. Limit extension of public utilities to only within the Urban Growth Area.
2. Promote the use of gravity-flow sewage systems over pressurized systems.
3. Investigate establishment of a joint municipal or Township sewer authority.
4. Prepare a comprehensive revision to the Act 537 Plan.
5. Require adequate storm water management measures that prevent adverse impact to surrounding properties and watercourses.
6. Cooperate with Lancaster County Solid Waste Management Authority in solid waste disposal.
7. Support centralized recycling and hazardous waste collection centers in rural areas.
8. Encourage cooperation and coordination of Township and School District facilities and services.
9. Provide for improved recreational opportunities, with an emphasis on developer-provided and homeowner association-maintained neighborhood parks.
10. Encourage cooperation with Quarryville Borough in providing joint recreation projects.
11. Assure adequate police, fire and ambulance service.
12. Improve access to health and human services.

PLANNING

Goal

Establish a program for effective and continuous planning.

Objectives

1. Follow the implementation strategy of the Comprehensive Plan.

2. Update this Comprehensive Plan by the year 2018 or sooner if conditions warrant.
3. Prepare revision to the Zoning Ordinance and Subdivision and Land Development Ordinance, in order to better accomplish the goals stated in the Comprehensive Plan.
4. Prepare a comprehensive revision to the Act 537 Plan.
5. Maintain a Township-wide geographic information system.

Chapter 3

ENVIRONMENTAL AND CULTURAL FEATURES

An inventory of Providence Township's environmental and cultural features is essential to the preparation of the Comprehensive Plan, and important to citizens of the Township as well. These features and their positive impacts to the overall quality of life has been cited as one of the primary values that attract people to Providence Township.

Natural resources provide us with essentials for living, however, excessive use of land and natural resources may adversely affect the ecological functions and values they provide. For the community's long-term health and quality of life, the Township needs to collectively balance use and conservation of natural resources.

This chapter describes the Township's environmental and cultural features. Action-oriented recommendations are provided in ***bold italics*** at the end of selected sections.

GEOLOGY

Comprehensive planning requires serious consideration of the relationship of geology to groundwater resources, excavation costs, foundation stability, drainage, sewage disposal, and soil fertility for agriculture

Providence Township's basic geology consists of schist, quartzite, phyllite, and Conestoga limestone.

Schist - The central and southwestern sections of the Township are located in what is known as the "Southern or Piedmont Uplands," an area covering approximately 30% of Lancaster County and underlain by extensive formations of schist, a metamorphic form of ancient erosion, as compared to the "softer" quality of the limestone formations to the north. The bedrock in the southwest has tended to weather into higher elevations and steeper slopes than much of the rest of the Township or the County.

This rock formation, known as Wissahickon Schist, consists of albite-chlorite schist and oligoclase-mica schist. When considering development utilizing on-lot septic systems in Wissahickon Schist areas, an important factor to consider is groundwater contamination.

According to *Summary of Groundwater Resources of Lancaster County, Pennsylvania* (1977), groundwater quality is generally good in Wissahickon Schist, although high iron content has been known to be a problem in certain areas. In Providence Township, water quality is degraded by the high levels of nitrate present in many of the regions underlain by Wissahickon Schist.

According to *Engineering Characteristics of the Rocks of Pennsylvania* (1977), excavation in the Wissahickon Formation is moderately easy, except in unweathered rock areas where it is difficult (p. 289).

In other parts of Lancaster County, Wissahickon Schist has well yields which are higher than yields reported in the Township, where well yields have been documented to be significantly below average due to high runoff and low recharge rates. Limited availability of water in the schist area is exacerbated by the fact that fracture joints which store water are few and randomly located, resulting in no definable pattern to guide the placement of wells. Many wells south of the "Providence line" have less than 2 gallons per minute (gpm) yield.

Lancaster County Sewer and Water Resources Study (1987) states that Wissahickon schist formation has "delivered low yields (under 5 gallons per minute) in 50% or more of the wells drilled since 1978" (p. 120).

Quartzite and Phyllite - A narrow corridor of quartzite and phyllite is located within the Conestoga Limestone. This geology weathers slowly and is covered with deep to moderately-deep, well-drained soils. The soils have moderate to low natural fertility and moderate moisture-holding capacity.

Conestoga Limestone - The north and east sections of the Township are located in the Conestoga Limestone formation which covers central Lancaster County. Conestoga Limestone is composed of thin-bedded limestone, closely-folded beds of dark graphitic shale or slate, and thicker beds of grey granular limestone consisting of mica and iron pyrite crystals. Deep and well-drained soils that are easily worked, highly productive and high in moisture-holding capacity, have formed from the limestone.

Conestoga Limestone is characterized by its weak resistance to erosive forces. As a result, as groundwater passes through limestone, it creates subsurface solution channels. These channels continually become larger, thereby increasing their capacity to carry additional groundwater. While this condition provides a ready source of water for wells that are drilled into the solution channel, the formation of such large solution channels and caverns can create sinkhole problems that pose significant safety hazards for land uses located on the surface.

Another characteristic associated with limestone geology deals with the suitability for on-site sewage disposal systems. On-site sewage disposal fields rely upon the subsurface soil and rock particles to filter impurities from the effluent entering the groundwater. In limestone geology, solution channels can intercept effluent and agricultural fertilizers before the soil and rock

particles have had a chance to purify them; then, the polluted groundwater can travel along the solution channel and degrade other water sources downstream.

The Geology Map, provided on page A-1 of the Appendix, and following table identify four important geologic land use planning considerations. This table is intended for reference use only and should be utilized to determine general characteristics of the formation types. Key terms are defined at the base of the table.

GEOLOGIC FORMATION CHARACTERISTICS					
Formation Name (Composition)	Symbol	Porosity & Permeability	Groundwater	Ease of Excavation	Foundation Stability
CONESTOGA Medium gray, impure limestone having black, graphitic shale partings; conglomeratic at base.	OCc	Joint- and some solution-channel openings provide a secondary porosity of low magnitude; moderate to low permeability.	Median groundwater yield is 25 gpm; some wells encounter solution openings for very large yields; water may be very hard.	Difficult; bedrock pinnacles and numerous quartz veins are special problems; fast drilling rate; quartz veins slow the drilling rate.	Good; thorough investigation for possible collapse areas should be undertaken.
ANTIETAM Light gray, buff-weathering quartzite and quartz schist; some ferruginous quartzite; fine-grained; maximum thickness is about 300 feet.	Ca; Cah; Cul	Joint- and cleavage-plane openings provide a secondary porosity of low magnitude; low permeability.	Median yield is 24 gal./min. Yields are usually obtained from the fractured, weathered zone at the top of the bedrock; water is mostly soft and of good quality; iron may be a problem.	Weathered zone is moderately easy to excavate; unweathered rock is difficult; quartz boulders are a special problem; fast to moderate drilling rate.	Good; should be excavated to sound material.
VINTAGE Largely gray, thick-bedded to massive, finely crystalline dolomite; upper part is primarily pure, fine-grained limestone.	Cv	Joint- and solution openings provide a secondary porosity of moderate magnitude; low permeability.	Median yield is 30 gpm; water is relatively hard.	Difficult; bedrock pinnacles are a special problem; fast drilling rate.	Good; solution cavities and bedrock pinnacles should be thoroughly investigated.
WISSAHICKON Albite-chlorite schist - typically a phyllite, composed chiefly of quartz, feldspar, muscovite, and chlorite. Oligoclase-mica schist - more coarsely crystalline than albite-chlorite schist and excessively micaceous, feldspar is more abundant in the oligoclase-mica schist. Marburg schist - gray-green mica-chlorite-quartzite schist; metovolcanics - altered basaltic flows, green schistose. Wakefield Marble - light gray and coarsely crystalline, containing scattered flakes of graphite. The estimated thickness is 8,000 to 10,000 feet.	Xwc; Xwm; Xww; Xwv; Xw	Joint- and cleavage openings provide a low secondary porosity; low permeability.	Median yield is 20 gpm, most water is obtained from the fractured, weathered zone at the top of bedrock; water levels show strong seasonal influence, water is usually soft and of good quality; iron can sometimes be a problem.	Moderately easy; difficult in unweathered rock; moderate drilling rate.	Good; should be excavated to sound material.
<p><u>Porosity and permeability</u> of a geologic formation refers to how quickly and easily water, air, and other substances pass through the rock. A classification of moderate refers to a permeability of about 14 feet per day. A high permeability means that substances may pass through the rock at a rate of somewhere between 14 feet per day and 847 feet per day.¹</p> <p><u>Ease of excavation</u> refers to how pliable the rock is when moving it or drilling it. The classifications range as follows:</p> <ul style="list-style-type: none"> • Easy - Can be excavated with hand tools or lightweight power equipment. • Moderately Easy - Rippable by heavyweight power equipment at least to weathered rock/fresh rock interface and locally to greater depths. • Intermediate - Rippable by heavyweight power equipment to depths chiefly limited by the maneuverability of the equipment. Hard rock layers or zones of hard rock may require drilling or blasting. • Moderately Difficult - Requires drilling and blasting for most deep excavations, but locally may be ripped to depths of several feet due to closely spaced joints, bedding, or weathered rock. • Difficult - Requires drilling and blasting in most excavations, except where extensively fractured or weathered.² <p><u>Foundation Stability</u></p> <ul style="list-style-type: none"> • Good foundation stability means that the bearing capacity of the rock is sufficient for the heaviest classes of construction, except where located on intensely fractured zones or solution openings. • Fair foundation stability is determined by the presence of the water table, the type of rock composition, and weathering depth. • Poor foundation stability means the foundation must be artificially stabilized to allow sufficient bearing capacity for light or moderate construction.³ 					

¹Alan R. Geyer and J. Peter Wilshusen, *Engineering Characteristics of the Rocks of Pennsylvania* (Harrisburg, PA: Pennsylvania Geologic Survey, 1982), p. 14.

²Ibid.

³Ibid.

Action-Oriented Recommendation

Development in areas underlain by significant amounts of limestone should be cautious of the unstable nature of limestone, aware of particular groundwater quantity and quality characteristics, protective of the agricultural richness of the resultant soils, and wary of the reliance upon on-lot sewage disposal methods.

Any drilling of domestic or public water supplies within those areas of the Township underlain by limestone should be thoroughly and routinely tested for contamination.

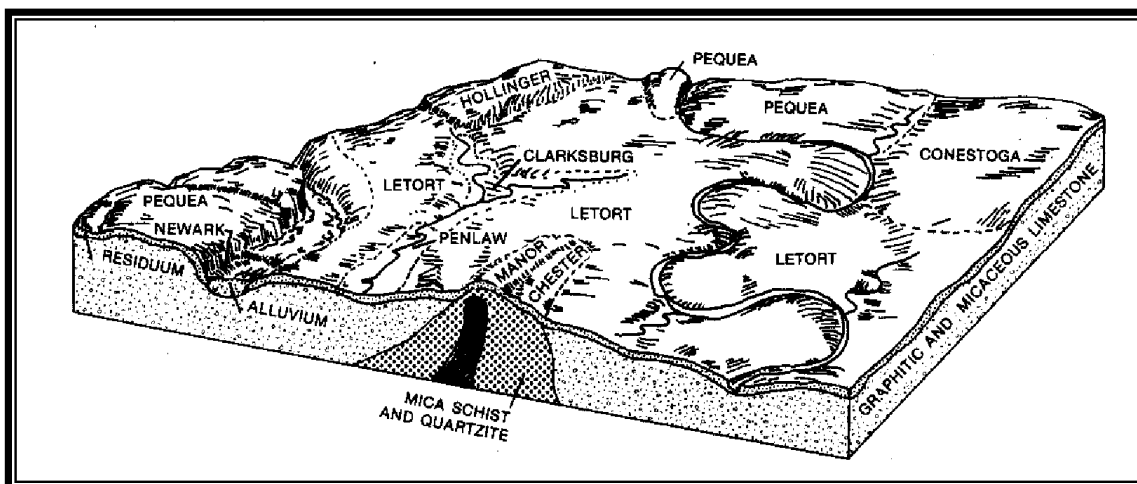
SOILS

A soils analysis is essential in a comprehensive plan in order to place land uses on soils that have complementary characteristics for particular land uses.

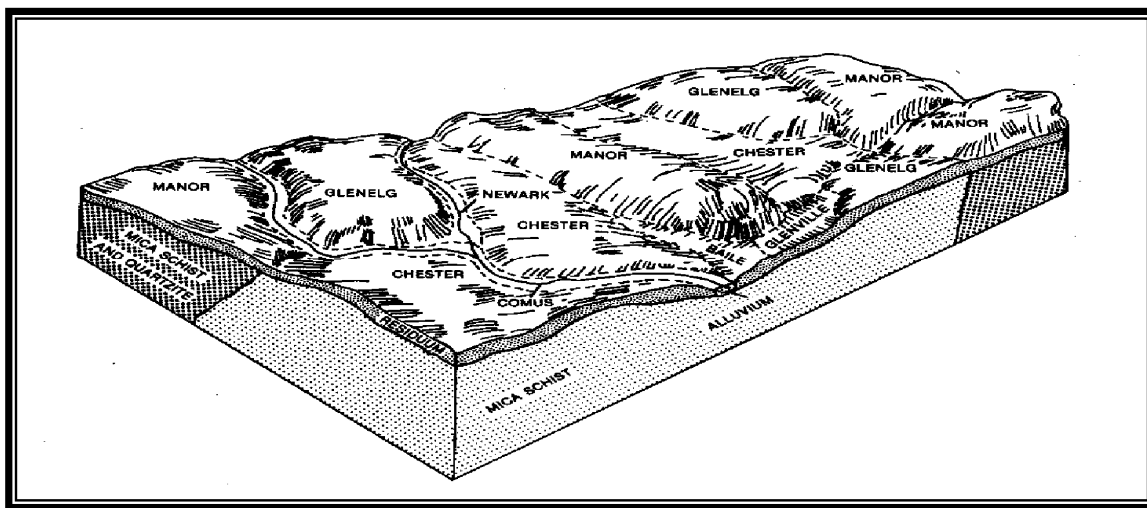
For example, cultivated agricultural land uses are usually found where soils are level, well-drained and fertile. Residential land uses can be suitably located where soils are sufficiently above bedrock and the water table to significantly reduce the costs associated with excavating a foundation, as well as an on-lot sewage disposal system. Industrial uses favor soils that are relatively flat and sturdy so as to withstand the weights associated with large industrial plants.

The *Soil Survey of Lancaster County, Pennsylvania* (1985) depicts the Township with two of the County's six general soil groups. The formation of these varying soil groups is a result of the combination of several geologic formations and their physical and chemical weathering.

A narrow corridor located along the northern boundary is comprised of the Letort-Pequea-Conestoga soil group which is characterized by nearly level to very steep, well-drained soils on the side slopes of ridges. The underlying geologic formations that have contributed to the evolution of this soil group include the residuum from graphitic and micaceous limestone and schist. The illustration below depicts the typical pattern of soils and underlying geologic parent material in the Letort-Pequea-Conestoga soil group.



The majority of the Township is within the Manor-Chester-Glenelg soil group. This general soil group is typically characterized by nearly level to very steep, well-drained soils located on broad ridgetops and side slopes. The underlying geologic formations that have contributed to the production of this soil group include the residuum from mica schist, granitized schist, quartzite, and gneiss. The following illustration depicts the typical pattern of soil types and underlying geologic parent material in the Manor-Chester-Glenelg soil group.



The Soils Map, provided on page A-2 of the Appendix, and following table list all of the individual soil units found within the Township.

Soil Symbol	Soil Name
Ba	Baile silt loam
CbA	Chester silt loam
CbB	Chester silt loam
CbC	Chester silt loam
CkA	Clarksburg silt loam
Cm	Comus silt loam
CnB	Conestoga silt loam
EcB	Elk silt loam
EcC	Elk silt loam
GbB	Glenelg silt loam
GbC	Glenelg silt loam
GbD	Glenelg silt loam
GdB	Glenville silt loam
HfC	Hollinger silt loam
HfD	Hollinger silt loam
Hg	Holly silt loam
LaB	Lansdale loam
LaC	Lansdale loam

Soil Symbol	Soil Name
LdB	Letort silt loam
LdC	Letort silt loam
MaB	Manor silt loam
MaC	Manor silt loam
MaD	Manor silt loam
MbB	Manor very stony silt loam
MbD	Manor very stony silt loam
MbF	Manor very stony silt loam
Nc	Newark silt loam
Nd	Newark silt loam
Ne	Nolin silt loam
PeC	Pequea silt loam
PeD	Pequea silt loam
PeE	Pequea silt loam
Qu	Pits, Quarry
Uc	Urban land
W	Water

PRIME FARMLAND

A primary consideration of soils mapping is the identification of prime farmlands. The U. S. Department of Agriculture (USDA) describes prime farmland as:

“The land that is best suited to producing food, feed, forage, fiber, and oilseed crops. It has the soil quality, growing season, and water supply needed to economically produce a sustained high yield of crops when it is treated and managed using acceptable farming methods. Prime farmland produces the highest yields with minimal inputs of energy and economic resources, and farming it results in the least damage to the environment.”⁴

Prime farmland is characterized by an adequate source of water supply, favorable climatic conditions, proper chemical properties, good permeability to air and water with few or no rocks, resistance to erosion, and level of fairly level topography.⁵

The USDA soil classifications for Providence Township are as follows:

Soil Symbol	Soil Name	Agricultural Rating	Soil Symbol	Soil Name	Agricultural Rating
Ba	Baile silt loam	Vw	LaB	Lansdale loam	Ile
CbA	Chester silt loam	I	LaC	Lansdale loam	IIle
CbB	Chester silt loam	Ile	LdB	Letort silt loam	Ile
CbC	Chester silt loam	IIle	LdC	Letort silt loam	IIle
CkA	Clarksburg silt loam	IIw	MaB	Manor silt loam	Ile
Cm	Comus silt loam	I	MaC	Manor silt loam	IIle
CnB	Conestoga silt loam	Ile	MaD	Manor silt loam	IVe
EcB	Elk silt loam	Ile	MbB	Manor very stony silt loam	VIIs
EcC	Elk silt loam	IIle	MbD	Manor very stony silt loam	VIIs
GbB	Glenelg silt loam	Ile	MbF	Manor very stony silt loam	VIIs
GbC	Glenelg silt loam	IIle	Nc	Newark silt loam	IIw
GbD	Glenelg silt loam	IVe	Nd	Newark silt loam	IIw
GdB	Glenville silt loam	Ile	Ne	Nolin silt loam	I
HfC	Hollinger silt loam	IIle	PeC	Pequea silt loam	IIle
HfD	Hollinger silt loam	IVe	PeD	Pequea silt loam	IVe
Hg	Holly silt loam	Ile	PeE	Pequea silt loam	VIe

⁴Soil Conservation Service, *Soil Survey of Lancaster County* (Washington, DC: United States Department of Agriculture, April, 1986), p. 83.

⁵Ibid.

The USDA encourages all levels of government and private individuals to effectively use these valuable resources to meet the nation's short- and long-range food and fiber needs.

According to the *Soil Survey of Lancaster County* (1985), about 55% of the soils within Lancaster County are classified as prime agricultural land. Prime agricultural soils are officially classified as those soils with an agricultural rating of Class I or II.

The Lancaster County Conservation District, among many other agencies across the State, recognizes that some soil units possess characteristics that make them highly productive for crop cultivation and production, but at a slightly lower rate than prime agricultural soils. These soils have been classified as farmland soils of Statewide importance. The Township should consider the protection of these farmland soils of Statewide importance through agricultural and/or conservation-based zoning designations.

The loss of prime farmland to industrial and urban land uses puts pressure on marginally productive lands, which are generally more difficult to cultivate.

The Prime Farmland Soils Map, provided on page A-3 of the Appendix, plots prime farmland soils within Providence Township. The Pennsylvania Municipalities Planning Code (MPC) specifically enables a municipality to plan for the preservation of prime agricultural farmlands.

Action-Oriented Recommendation

Enact agricultural zoning provisions and/or encourage deed restrictions to preserve those areas of the Township which are in productive agricultural use. One of the primary goals of the Comprehensive Plan is the preservation of prime agricultural soils areas and the continuation of agriculture as a sound economic activity in the Township. The Township Supervisors have enacted strict agricultural zoning in portions of the Township. They should continue to work with the agricultural community to explore other means to preserve as much agricultural land as possible.

DEVELOPMENT CONSTRAINTS

Another soils consideration relates to development constraints. Such constraints can include a wide range of soil characteristics, including steep slopes, wetness, depth to bedrock, frost action, shrink-swell, low strength and cohesiveness, and flooding.

Other soil related constraints become important if on-site sewage disposal methods are contemplated. Those types of constraints associated with the installation and operation of on-site disposal methods include steep slopes, wetness, flooding, slow percolation rates, poor filtration characteristics, and high secondary porosity due to the presence of fractures and solution channels.

Soil types that possess severe development limitations represent areas where future development should not occur in order to minimize degradation of the inherent environmental integrity and the threat to public health, safety and welfare.

The *Soil Survey of Lancaster County, Pennsylvania* (1985) identifies the following development constraints associated with soil types found in Providence Township.

SOILS WITH SEVERE DEVELOPMENT CONSTRAINTS			
Soil Symbol	Soil Name	Severe Building Development Constraint	Severe On-Lot Sewage Disposal Constraint
Ba	Baile silt loam	wetness	wetness & percs slowly
CkA	Clarksburg silt loam	wetness	wetness
Cm	Comus silt loam	flooding	flooding
GbD	Glenelg silt loam	slope	slope
GdB	Glenville silt loam	wetness	wetness & percs slowly
HfD	Hollinger silt loam	slope	slope
Hg	Holly silt loam	flooding & wetness	flooding, wetness & percs slowly
MaD	Manor silt loam	slope	slope
MbD	Manor very stony silt loam	slope	slope
MbF	Manor very stony silt loam	slope	slope
Nc	Newark silt loam	flooding & wetness	flooding & wetness
Nd	Newark silt loam	flooding & wetness	Flooding & wetness
Ne	Nolin silt loam	flooding	flooding
PeD	Pequea silt loam	slope	slope
PeE	Pequea silt loam	slope	slope

The Development Constraints Map, provided on page A-4 of the Appendix, identifies soils that possess building development and on-site sewage disposal.

Action-Oriented Recommendation

Soil units that possess severe development limitations represent areas where future development should not occur, in order to minimize degradation of the inherent environmental integrity and the threat to public health, safety and welfare.

Providence Township utilizes the Zoning Ordinance, Subdivision and Land Development Ordinance and Storm Water Management Ordinance to require development complements constrained lands. The Township should continue to keep these ordinances up-to-date and fully enforced.

TOPOGRAPHY

Topography contributes to the selection of the uses to which land is used. In gently sloping areas, a wide range of uses, including farmed, grazed or developed for residential, commercial or industrial use are possible. Areas where slopes are greater than 10% are usually sparsely populated and contain very few industrial or commercial uses, due to their need for large, level floor areas and parking facilities. In areas with slopes exceeding 20%, it is extremely difficult to develop and they are usually left in their natural state.

Providence Township is composed of a generous variety of topographic patterns, from the “highlands” in the central and southwestern portions of the Township where elevations reach 880 feet, to the lower lands on the northern border of the Township along the Big Beaver and Pequea Creeks where elevations are as low as 300 feet. While the higher elevations in the central and southwestern portions of the Township are characterized by steeper slopes, the northern and eastern areas of the Township are characterized by rolling land.

The *Soil Survey of Lancaster County, Pennsylvania* (1985) identifies the following percentage of slope to each soil type found in Providence Township.

Soil Symbol	Soil Name	Slope Percentage
Ba	Baile silt loam	0-5
CbA	Chester silt loam	0-3
CbB	Chester silt loam	3-8
CbC	Chester silt loam	8-15
CkA	Clarksburg silt loam	0-5
Cm	Comus silt loam	0-3
CnB	Conestoga silt loam	3-8
EcB	Elk silt loam	3-8
EcC	Elk silt loam	8-15
GbB	Glenelg silt loam	3-8
GbC	Glenelg silt loam	8-15
GbD	Glenelg silt loam	15-25
GdB	Glenville silt loam	3-8
HfC	Hollinger silt loam	8-15
HfD	Hollinger silt loam	15-25
Hg	Holly silt loam	0-3

Soil Symbol	Soil Name	Slope Percentage
LaB	Lansdale loam	3-8
LaC	Lansdale loam	8-15
LdB	Letort silt loam	3-8
LdC	Letort silt loam	8-15
MaB	Manor silt loam	0-3
MaC	Manor silt loam	8-15
MaD	Manor silt loam	15-25
MbB	Manor very stony silt loam	3-8
MbD	Manor very stony silt loam	8-25
MbF	Manor very stony silt loam	25-60
Nc	Newark silt loam	0-3
Nd	Newark silt loam	0-3
Ne	Nolin silt loam	0-3
PeC	Pequea silt loam	8-15
PeD	Pequea silt loam	15-25
PeE	Pequea silt loam	25-50

The Slope Map, provided on page A-5 of the Appendix, plots soil survey slope delineations.

Action-Oriented Recommendation

Require all applications for disturbance of land cover to delineate slope of 15% or greater. Establish slope management techniques, such as:

- *Limit on percentage of impervious surface and area of disturbance.*
- *Limit vegetation removal to minimize erosion; include both ultimate limits.*

- *Establish construction management controls for erosion and sedimentation.*
- *Provide adequate setback for the structure to the top of the slope.*

ECOLOGICAL RESOURCES

In the past, attitudes toward preservation, protection and conservation of our ecological resources have not been a driving issue in comprehensive planning. As a result of education, and in response to the growing perception of the negative impacts of certain land use forms and practices, the preservation of wildlife and wild habitats has become a priority conservation objective.

The Department of Conservation and Natural Resources maintains a data system known as the *Pennsylvania Natural Diversity Inventory* (PNDI) which identifies plant and animal species which are either endangered or threatened. PNDI records were consulted during the preparation of the *Natural Areas Inventory of Lancaster County, Pennsylvania*, conducted by the Lancaster County Planning Commission and the Pennsylvania Science Office of The Nature Conservancy in 1989 and 1990.

It is the policy of PNDI not to release detailed site specific information about significant natural features for general exposure to the public. This protects the features from persons who become curious and attempt to locate and collect such features. Instead, PNDI will provide generalized locations of known or historical natural features occurrences.

Natural Areas Inventory of Lancaster County, Pennsylvania acknowledges the Quarryville USGS Quadrangle contains one area with a natural community, four areas with special plants, three areas with special animals, and numerous small wetlands.

The report notes the importance of maintaining the supply and quality of groundwater in the watersheds of Big Beaver and Pequea Creeks, for the survival of Refton Cave (a Solution Aquatic Cave) and species of concern. The report recommends that groundwater hydrology within the area be studied and mapped before any new major developments are located there.

The report notes that many springs and seepage swamps occur in the hills of the south. Several of the seepage swamps have been known to harbor rare plants in the past. Unfortunately, most of these have been degraded or destroyed. Gleisner's Swamp has undergone serious degradation recently, but appears to still retain three plant species of special concern (SP506, SP517, SP525). Plant specie SP506, a State-endangered species, is viable at this site but is very tenuous.

A second seepage swamp has not undergone any serious changes and the population of SP518 appears to be in good shape. The major threats to this site are logging and decreases in the amount of water reaching the wetland.

One of the most important sites for conservation in the State occurs in a location near the Providence Township and Strasburg Township boundary. Refton Cave is a Solution Aquatic Cave community formed in limestone bedrock. This cave is home to excellent populations of three cave-dwelling invertebrates. Two of the species are being considered for protection under the Federal Endangered Species Act. Protection of Refton Cave and the animals occurring there is of great concern. The preservation of these species and the integrity of the cave depend to a great extent on the quality of the water that enters the cave. There appears to be some connection between the hydrology of Pequea Creek and the cave's waters but the exact source is unknown. Great care should be taken to ensure protection of the aquifer in this region. Pollution of the aquifer, drawdown by wells, and improper use of the cave appear to be the major threats to the species that inhabit the cave.

Refton Cave - Refton Cave is located one mile northwest of Refton along the Pequea Creek. The earliest known reference to Refton Cave is an article that appeared in the *Lancaster Intelligencer* newspaper, circa 1880.

The entrance to the cave is located in the bottom of a sinkhole, 30 feet in diameter and 20 feet deep. Beneath the entrance, a shaft, 4 feet in diameter, drops 25 feet to the top of a 15-foot high mound of debris which has fallen into the entrance shaft.

The cave consists of one large chamber 85 feet long and 40 to 70 feet wide. The ceiling of this room soars as much as 30 feet from the floor. A small opening off the southwest corner of the chamber was excavated by Bruce Herr in 1959. His digging revealed a small cell, 10 feet in diameter and 4 feet high.

A large pond of water, up to 10 feet deep, occupies the northern half of the chamber. Scuba divers, in 1966, discovered two small underwater pockets on the north wall. Tests have shown the water level in the cave pond to be roughly correspondent to the level of the nearby Pequea Creek. The rising and falling of water levels in the cave lags a day or two behind the corresponding rise and fall of water levels in Pequea Creek. Obviously, no opening of any size exists between the cave and the creek, water is traveling back and forth through very small fissures and pores in the rock.

Refton Cave contains within the ponds, isopods, amphipods and planaria. The air-bound portions of the cave abound in all varieties of the Arthropod phylum, spiders, mosquitoes, and select species of the Collembolan family can be found by the hundreds.⁶

Action-Oriented Recommendation

Caves offer very little recreational opportunities due to their relatively small sizes and lack of accessibility. As a result, caves should not be promoted for general recreational use. Furthermore, the environmentally sensitive habitat of the Refton Cave would not fare well if

⁶ J. P. Reich, Jr., *Caves of Southeastern Pennsylvania* (Harrisburg, PA: 1994), p. 65-67.

the cave was accessible to the general public. The Township should protect unique natural habitats and features by preventing development from getting too close.

WETLAND

Wetland is an area that is inundated or saturated by surface or groundwater at a frequency and duration to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

A wetland possesses three essential characteristics: (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology, which is the driving force creating a wetland. For the purposes of the unified federal methodology, hydrophytic vegetation is defined as macrophytic plant life growing in water, soil or substrate that is at least periodically deficient in oxygen as a result of excessive water content. Hydric soils are defined as soils that are saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions in the upper part (USDA Soil Conservation Service 1987). In general, hydric soils are flooded, ponded or saturated for usually one week or more during the period when soil temperatures are above biologic zero 4 IF as defined by "Soil Taxonomy" (USDA Soil Survey Staff 1975).

The driving force of wetland formation is saturation of soils at least seasonally. The presence of water for a week or more during the growing season typically creates anaerobic conditions in the soil, which affect the types of plants that can grow and the types of soil that develop. Numerous factors influence the wetness of an area, including precipitation, stratigraphy, topography, soil permeability, and plant cover.

Wetland has become recognized as a uniquely important component of the landscape by scientists, engineers, public interest groups, and governmental agencies. Its importance lies both on the traditional values of wetland as an area of fish and wildlife protection, as well as in newly-found values of wetland as an area of water management and conservation.

Some of the values of wetlands are:

- Fish and wildlife habitat
- Water quality maintenance
- Pollution filter
- Sedimentation removal oxygen production
- Nutrient recycling
- Chemical and nutrient absorption
- Aquatic productivity
- Microclimate regulator
- World climate (Ozone layer)
- Flood control
- Erosion control
- Groundwater recharge and water supply
- Timber and other natural products
- Energy source (peat)
- Recreation
- Aesthetics

The only true way to identify wetlands is a field investigation by a trained expert. However, two resources, the National Wetlands Inventory Map (NWI) and the U.S. Soil Conservation's Soil Surveys, allow for a quick "desk-top" evaluation of wetlands in an area. The National Wetlands Inventory Map used infrared aerial photos to determine wetness and thus, wetlands. The quality of the maps vary greatly depending on the quality of the photos, the time the photos were taken, and the type of wetlands being identified. The soil survey is a better indication of wetlands. The soil survey gives a rough delineation of soil groups in an area. Soil surveys can be used to locate soils which are typically considered hydric. Hydric soils are a key indicator of wetlands. The Lancaster County Conservation District provides the following listing of hydric soil units and soil units having inclusions of hydric components.

Ba	Baile silt loam	GdB	Glenville silt loam
CbB	Chester silt loam	Nc	Newark silt loam
CkA	Clarksburg silt loam	Nd	Newark silt loam
Cm	Comus silt loam	Ne	Nolin silt loam

Neither a mapped wetland on the NWI map or a mapped hydric soil group necessarily indicate that an area is a wetland, but they do provide a rough basis for inquiry. In the same respect, the absence of a wetland on the NWI Map or hydric soil on the Soils Map, provided on page A-2 of the Appendix, does not give one an assurance that a wetland is not present.

Sewerage planning modules in Providence Township will review all potential construction sites for the presence of wetlands. All Planning Modules for Land Development are required by DEP to address the impact to known wetlands.

The issue of wetlands will exert an important effect on potential development in Providence Township. In general, wetlands are protected areas, and cannot be destroyed or filled in without first securing permits from the State Department of Environmental Protection and the United States Army Corps of Engineers. These permits usually require the demonstration of a "public good" resulting from the destruction of a wetland and its subsequent development, as well as a demonstration that there is no reasonable alternative to the destruction of the wetland.

Action-Oriented Recommendation

Require wetland delineations with all applications for disturbance of land cover. Procedures may be added to the Zoning Ordinance, Subdivision and Land Development Ordinance, and Storm Water Management Ordinance.

SURFACE WATERS

DRAINAGE BASIN DESCRIPTIONS

The way in which water moves through our environment has land use implications. Streams and their floodplains present hazards to intensive development. Areas that are created by erosion are often uneconomical to develop, yet offer high quality conservation and recreational

experiences. Watersheds or drainage basins are basic geographic units used to design sanitary and storm sewer systems that make use of gravity-fed lines to reduce the capital cost and long-range operation/maintenance costs.

Providence Township is located in the Susquehanna River Basin. The Township is dissected by two major watersheds. The Pequea Creek Watershed drains approximately 92% of the Township. Minor streams that drain into the Pequea Creek are Trout Run, Huber Run and Big Beaver Creek. A small area located in the southwest corner of the Township drains into the Lower Susquehanna via Fishing Creek and Conowingo Creek drainage basins. The Drainage Basin Map, provided on page A-6 of the Appendix, identifies the drainage basins.

The Surface Water Investigation chapter of the 1966 publication entitled *Water Resources Study, Lancaster County, Pennsylvania*, prepared for the Lancaster County Planning Commission by E. H. Bourquard and Associates, describes the Pequea Creek watershed as follows:

The Pequea Creek drains an area of 154 square miles, which extends like a band across southcentral Lancaster County. This band is roughly 26 miles long and six miles wide. The majority of the watershed is comprised of rolling agricultural land; however, near the headwaters of the creek, and along the southern periphery of the watershed, the landscape can be described as broken and hilly with narrow valleys containing steep side slopes. The source of Pequea Creek originates on Welsh Mountain in the northern portion of Salisbury Township. The stream flows from the mountain in a southerly direction for about 4.5 miles with a bottom gradient of 100 feet per mile of flow. The stream then turns in a westerly direction for about 22 miles, then southwesterly for another 22 miles where it enters the Susquehanna River. The average rate of flow for all in the 44 miles is 6.7 feet per mile, and the main stream channel follows a very tortuous course for most of the distance.

The main tributary to the Pequea Creek is Big Beaver Creek. The headwaters of Big Beaver Creek originate on the western slope of Mine Ridge in the north-central portion of Eden Township. The total drainage area of Big Beaver Creek is 24.5 square miles. Big Beaver Creek flows in a southerly direction of Mine Ridge, then encounters the limestone geology of the Conestoga Formation where it turns abruptly to flow in a west-to-northwesterly direction toward the Pequea Creek.

STORM WATER MANAGEMENT

A frequent concern of the residents is the impact from storm water runoff. As development occurs, the patterns, volumes and velocities of storm water runoff are likely to change. These changes can create severe impacts that were not anticipated by residents living downstream. Storm water runoff can and should be managed; however, this management involves complicated engineering studies and, often, costly physical improvements. The Township has storm water drainage provisions within its Storm Water Management Ordinance (1989).

Action-Oriented Recommendation

In an effort to further improve storm water management standards, these regulations should include Best Management Practices (BMP's) to protect and improve water quality.

An example of ways to reduce the level of pollutants in storm water runoff are:

- 1. Minimize impervious areas and preserve natural wooded cover and drainage-ways.*
- 2. Use semi-pervious surfaces, such as porous pavement and gravel, as ways to minimize runoff.*
- 3. Minimize the potential for concentrating pollutants and concentrating storm water runoff by:*
 - a. utilizing grass swales and filter strips*
 - b. utilizing infiltration trenches, where applicable*
- 4. Direct runoff from impervious area to pervious. For example:*
 - a. roof downspouts to lawns*
 - b. driveways to lawns*
 - c. parking areas to lawns or grassed swales*
- 5. Eliminate the opportunity for pollutants to mix with storm water runoff by:*
 - a. covering chemical storage areas*
 - b. diking potential spill areas*
 - c. scheduling regular sediment removal from drainage system*

HIGH QUALITY WATERS

The Pennsylvania Department of Environmental Protection, Title 25, Rules and Regulations; Part 1. Department of Environmental Protection; Subpart C. Protection of Natural Resources; Article II. Water Resources; Chapter 93, sets forth water quality standards for streams in the Commonwealth of Pennsylvania.

The Water-Use classifications are State-designated protected water uses from which the State bases its water quality standards.

Activities affecting a stream should take into account the impact of the development on that stream using the applicable water quality standards. The following water use classifications apply to the streams in Providence Township:

CWF Cold Water Fisheries

Maintenance and/or propagation of fish species, including the family Salmonidae and additional flora and fauna which are indigenous to a cold water habitat.

WWF Warm Water Fisheries

Maintenance and propagation of fish species and additional flora and fauna which are indigenous to a warm water habitat.

MF Migratory Fisheries

Passage, maintenance and propagation of anadromous and catadromous fishes and other fish species which ascend to flowing waters to complete their life cycle

TSF Trout Stocking

Maintenance of stocked trout from February 15 to July 31 and maintenance and propagation of fish species and additional flora and fauna which are indigenous to a warm water habitat.

HQ High Quality Waters

A stream or watershed which has excellent quality waters and environmental or other features that require special water quality protection.

Providence Township contains four prominent waterways - Pequea Creek, Big Beaver Creek, Fishing Creek, and Conowingo Creek. The following is an assessment of their classification and the tributaries that flow into them.

Pequea Creek

Drains into the Susquehanna River
Zone - Main stem, PA Rt. 897 to mouth
Water Uses - WWF

Big Beaver Creek

Drains into Pequea Creek
Zone - Basin
Water Uses - TSF

Huber Run

Drains into Pequea Creek
Zone - Basin Water Uses - CWF

South Fork Creek

Drains into Big Beaver Creek
Zone - Basin
Water Uses - TSF
Tributaries - several unnamed

Trout Run

Drains into Climbers Run, outside of the Township and then into Big Beaver Creek
Pequea Zone - Basin
Water Uses - HQ-CWF

Fishing Creek

Drains into Susquehanna River
Zone - Basin
Water Uses - HQ-CWF

Conowingo Creek

Drains into the Susquehanna River
Zone - Main stem, Source to PA/MD border
Water Uses - CWF

Trout Run and Fishing Creek are listed as High Quality (HQ) - Cold Water Fisheries (CWF) in Providence Township. Special attention should be made when assessing activities within the watersheds and, especially the banks of Trout Run and Fishing Creek.

Action-Oriented Recommendation

Every attempt should be made to preserve the water quality of these streams by prohibiting intensive development that is not served by public utilities and reducing harmful pollutants in storm water runoff through the use of riparian buffers.

PENNSYLVANIA SCENIC RIVERS PROGRAM

In 1972 under Act 283, and as amended in Act 110 in 1982, Pennsylvania established the Scenic Rivers System, which is administered by DEP. An inventory of drainage basins was completed and reviewed to rank waterways for protection status. First priority waterways are considered to be of Statewide, and in some instances, even national significance. Second and third priority waterways, primarily locally and regionally significant, exhibit some outstanding values, yet not enough in

quantity or quality to merit Statewide recognition. These are primarily locally and regionally significant.

The segment of Pequea Creek which comprises the northeast border of Providence Township is a candidate third priority. Pequea Creek is designated Class "R," which is a recreation river that is readily accessible, has some development along its shoreline, and undergone some impoundment or diversion in the past. Pequea Creek is also designated Water Quality 2, which is a stream that does not presently meet State water quality standards, but will within 10 years.

FLOODPLAINS

Historically, Providence Township has not been plagued with widespread major flooding. The main storm season for the area is during the spring and summer. During these times, intensive rainfall associated with thunderstorms may occur within short periods of time. This sometimes produces a quick rise in the water-surface elevation of a stream. This situation may cause some flooding on roads or areas with poor drainage, but major flood damage has not typically been reported.

According to the Flood Insurance Study for Providence Township, prepared by the Federal Insurance Administration, the lack of severe flooding conditions in Providence Township is attributable to the physical features of the watersheds and stream channels. Of equal importance is the fact that local residents have generally not attempted to develop the low-lying stream banks and floodplains.

Flooding on roads adjacent to streams in the Township is primarily caused by poor drainage. At some locations, flood levels are increased due to the limited carrying capacity of stream culverts. During storm events, trees, trash and other debris may be washed away and carried downstream, collecting on bridges and obstructing stream flows. The accumulation of debris greatly reduces the limited capacity of bridges and culverts, which increases flooding into unpredictable areas, increases velocity of flow immediately down-stream and erodes culvert entrances and bridge approach embankments.⁷

In order to further prevent flooding and flooding related hazards, Providence Township has regulated development within its floodplains and has enacted provisions aimed at preserving the natural integrity of those floodplains. Specifically, the Providence Township Zoning Ordinance severely limits development activity within the floodplain. With these regulations, the Township has made the appropriate efforts to preserve its various floodplains. In addition, the Township also participates in the State and Federal floodplain protection program; this participation should continue, to ensure eligibility for landowners' participation in the National Flood Insurance Program. The floodplain regulations and provisions currently enacted within the Township should continue to be strictly enforced so as to restrict encroachment onto the floodplain, thereby reducing

⁷Federal Insurance Administration, *Flood Insurance Study, Providence Township, Lancaster County, Pennsylvania* (Washington, D.C.: March 30, 1981), pp. 5.

the threat of any undue destruction of property. The Flood Insurance Rate Map, as produced by the Federal Emergency Management Agency, is shown on page A-7 of the Appendix.

Action-Oriented Recommendation

The Township should continue to participate in State and Federal floodplain protection programs. The floodplain regulations currently enacted should be kept up-to-date and fully enforced so as to restrict encroachment onto the floodplain, thereby reducing the threat of undue destruction of property.

HYDROGEOLOGICAL ANALYSIS

During the summer of 1990, 173 wells were tested in Providence Township to assess groundwater for the presence of pathogenic organisms and nitrates.

Pathogenic organisms originate with fecal discharges of infected warm-blooded animals (including humans), and may enter the groundwater if disposal is improper or treatment of such wastes is incomplete. Detection of such pathogenic organisms is sometimes difficult because these organisms do not survive for long periods in cold water, and may be present in groundwater only sporadically.

Tests for contaminants included testing for the following indicators:

Total Coliform. The coliform bacteria is normally found in the intestines of humans, but is also found in birds and animals, as well as in soil. This bacteria is used as an indication that other pathogenic organisms are probably present also. Total Coliform is measured in terms of colonies per 100 milliliters (ml). The Pennsylvania Department of Environmental Protection's Total Coliform limit is 2.2 colonies/100 ml. Of the samples collected, 58 (33.5%) were above the maximum level.

Fecal Coliform. This is a sub-group of the coliform bacteria, and is more closely associated with humans and warm-blooded animals. Fecal coliform is also an indicator organism. DEP's limit is 2.2 colonies/100 ml. Of the samples collected, 8 (4.6)% were above the maximum level.

Fecal Streptococcus. This bacteria is found in human and animal waste, but is not usually pathogenic. Fecal streptococcus is a relatively fragile organism and does not survive long in a cold water environment. Presence of fecal streptococcus usually indicates that the source of contamination is relatively close to the water source, otherwise, the organism would probably have died. Fecal Streptococcus was performed on 43 of the 173 samples. Of the 43 samples, 9 (20.9%) had values exceeding DEP limits.

Nitrates. Nitrates are chemical compounds containing nitrogen and oxygen, and are sometimes associated with excessive or inappropriate land applications of manure. Ingestion of large amounts of nitrate can cause blood to be less able to carry oxygen. This condition is usually

dangerous only to infants up to 6 months of age, as well as to pregnant or nursing mothers. High nitrate levels can also poison livestock. The U.S. Environmental Protection Agency and DEP limit nitrate levels to not more than 10 mg/1 for drinking water. They also recommend that infants, pregnant women, and nursing mothers be provided with alternate sources of safe drinking water if their domestic water exceeds 10 mg/1 of nitrate. The following are the results of the testing.

HYDROGEOLOGICAL STUDY RESULTS				
	Total Coliform (/100 ml)	Fecal Streptococcus (/100 ml)	Nitrate (ppm)	Fecal Coliform (/100 ml)
Total Samples	173	43	173	173
Average Results	---	---	6.26	---
Maximum Value	200	170	38.4	200
Total Unacceptable	58 (33.5%)	9 (20.9%)	35 (20.2%)	8 (4.64%)
Total Marginal	---	---	52 (30.1%)	---
Total Acceptable	116 (67.1%)	34 (79.1%)	87 (50.3%)	165 (95.4%)
DEP Minimum Acceptable Standards for Drinking Water: Total Coliform Not greater than 0/100 ml (membrane filtration) Fecal Streptococcus Not greater than 0/100 ml (membrane filtration) Nitrate Less than or equal to 10 ppm (EPA 122) Fecal Coliform Not greater than 0/100 ml (membrane filtration)				

In summary, of 173 sampled wells, 110 wells (63.6%) exceeded DEP limits for one or more contaminants. The data shows the quality of groundwater in the Township is degraded in places.

The hydrogeologic analysis suggests there may be a problem with older, improperly installed, wells causing some local contamination of groundwater. Additionally, some areas with elevated nitrates suggest excessive application of manure and fertilizer in agricultural areas.

The maps on pages A-8 and A-9 of the Appendix identify generalized nitrate values and malfunctioning on-lot septic systems.

Action-Oriented Recommendation

The Township should continue to monitor nitrate levels and malfunctioning on-lot septic systems through data collected in the permit process.

HISTORIC SITES

Providence Township is rich in historic resources; however, a comprehensive survey of those resources has never been done. In 1972, the Lancaster County Planning Commission published *Lancaster's Heritage*, in which a few historic resources from each municipality in the County were cited. Nine resources from Providence Township were included in the publication.

In 1985, the Historic Preservation Trust of Lancaster County (HPT) published *Our Present Past*. The publication is the result of architectural surveys of Lancaster County completed by HPT from 1978 to 1985, and served as an update to *Lancaster's Heritage*. Between 1978 and 1985 each site was photographed, architecturally described, and historically researched.

The following sites are listed alphabetically according to the street or road upon which they are located. If a site has an historical name, that name is given in all capital letters, followed by the present name of the site in parentheses, the location, the approximate date of construction, an architectural description, and any significant historical facts about the structure. The Historic Sites Map, provided on page A-10 of the Appendix, locates the sites.

1. JOHN SHENK HOUSE, Archery Road, south side, west of Route 222; c. 1812; two and one-half story, five-bay Georgian/Federal stone house; gable roof with end chimneys; stone flashing course; built for John Shenk about the time of the War of 1812; alterations include kitchen wing, loss of original piazzas, and balcony with porch, and sash.
2. FAIRVIEW SCHOOL #1, Cinder Road, southeast corner of Fairview School Road; c. 1908; two and one-half story, three-bay frame school; gable roof; alterations include asphalt shingle siding, sash and outside chimney; originally there was an early school on this site.
3. THOMAS GROFF HOUSE, Cinder Road, west side, south of Main Street; c. 1825; two and one-half story, four-bay Federal stone house with gable roof; plastered keystones over windows; quoins; recessed and paneled entry with aspidal-sided pediment; alterations include frame addition and sash.
4. Cinder Road, west side, south of Main Street; c. 1840; two and one-half story, five-bay stone farmhouse with gable roof; central recessed, paneled entry having four-light transom; keystoned flat arch lintels on second story; corner blocks on molding around windows and door; later additions include two over two sash and piazza with turned posts.
5. Clearfield Road, east side, north of Truce Road; c. 1850; two and one-half story, four-bay stone farmhouse; cross gable roof with end chimneys; six over six sash; alternations include porches and stoned-in original openings.

6. SEIZHOLTZ HOUSE, Hollow Road, east side, south of Sawmill Road; c. 1850; two and one-half story, six-bay farmhouse; stone building covered with stucco; two recessed paneled entries having transoms; alterations include sash and frame additions.
7. HENRY HERR HOUSE (Holly Hill Farm), Hollow Road, east side, south of Pennsy Road; c. 1815; two and one-half story stone farmhouse with gable roof; nine over six and six over six sash; paneled and louvered shutters; alterations include two-story portico, pedimented entry and chimney.
8. Hollow Road, west side, north of Truce Road; c. 1800; one-story, three-bay log farmhouse with gable roof; side entry and chimney.
9. Main Street, both sides, north of Truce Road; c. 1825; farmstead having frame bank barn with vertical board siding; outbuildings; many alterations; possibility that this barn was associated with the woolen mill from the early nineteenth century which stood near this site.
10. (New Providence Mennonite Church), Main Street, east side, opposite Rawlinsville Avenue; 1855; one and one-half story, four-bay brick meetinghouse; central paired entry with transom; datestone; alterations include brickface covering.
11. JOHN HILDEBRANDT STORE (Bair Store), Main Street, east side, opposite Pennsy Road; 1846; was one of the leading stores in New Providence in the nineteenth century; built for John Hildebrandt in 1846; two and one-half story, six-bay frame store; altered windows, entries, pent roof and siding.
12. NOAH ZOOK HOUSE, Main Street, northwest corner at Truce Road; c. 1850; two and one-half story, four-bay brick house; double entry; gable roof with returns, six over six sash; sandblasted; this house once accompanied the stone woolen mill that once stood to the west, built in 1816 by David Miller; Noah K. Zook operated the mill from 1836 to 1879.
13. GEORGE WITMER HOUSE, Main Street, south side, west of Route 222; c. 1845; two and one-half story, three-bay brick Federal farmhouse; gable roof with wooden cornice; six over six and nine over six sash; end chimney; later porch and addition.
14. MYLIN HOUSE, Main Street, south side, west of Route 222; c. 1850; two and one-half story, seven-bay brick house; double bracketed cornice; pointed arch windows in attic; two over two sash; named for the Mylin family which operated a now-lost mill to the north.
15. LEESBURG (New Providence); c. 1834; original site of the town of New Providence; one of the more important towns and center of industries and localized commerce in southern Lancaster County in nineteenth century; situated on part of a tract of 1,100

acres acquired by John Taylor in 1736; known as Black Horse in the 1700's, Leesburg in the early 1800's and officially named New Providence after 1834.

16. HENRY AND CHARLOTTE LEFEVER HOUSE, Main Street, west side, south of Route 222; 1849; two and one-half story, five-bay brick house with central entry; wooden cornice with dentils; gable roof with returns; lunette windows in gable peaks; pedimented portico with modillions and Tuscan columns, c. 1900; frame carriage house.
17. JOHN AND SUSANNAH PEOPLES HOUSE, Main Street, west side, south of Pennsy Road; 1847; two and one-half story, seven-bay brick house; paired fanlights in attic; datestone; six over six sash with wooden lintels; home of John Peoples, leading citizen and proprietor of New Providence Township for more than 40 years.
18. JOHN AND SUSANNA PEOPLES HOUSE, Main Street, west side, south of Pennsy Road; 1862; two and one-half story, four-bay brick house; twin entries; wooden lintels and sills; corbelled cornice; six over one sash; double end chimneys; shaped columns on later porch; datestone.
19. MARTIC FURNACE HOUSE, Miller Road, south side, west of Route 272; c. 1800; one and one-half story, three-bay stone house with gable roof; central recessed, paneled entry; believed to be worker's housing for Martic Furnace, located on this site in the 1750's for Thomas and William Smith; kiln across road.
20. MOUNT AIRY SCHOOL, Mount Airy Road, south side, west of Truce Road; c. 1900; one story with gable roof; recessed panels with corbelled brick details; altered front door and porch; round ventilator in gable peak; one of five one-room brick schoolhouses remaining in Providence Township.
21. (Smithville Church of God), Pennsy Road, north side, east of Route 272; 1893; one-story, two-bay brick First Gothic Revival church; gable end facade; three bays deep with entrance to building on front side; interlaced Gothic windows; erected in 1893 at the cost of \$1,425.
22. HARMONY SCHOOL (Laurel Hill School), Pennsy Road, north side, west of Smithville Road; c. 1900; one-story brick school house with gable roof; recessed panels with corbelled detailing; octagon window in gable peak; original porch with replacement posts; belfry.
23. RISING SUN SCHOOL, Pennsy Road, south side, east of Kreider Road; c. 1900; one-story; three-bay brick school with gable roof; four bays deep; round window in gable peak; recessed panels with corbelled details; two panel shutters; two over two sash; brick outhouse in rear.

24. NEW PROVIDENCE SCHOOL, Pennsy Road, southeast corner of Sawmill Road; c. 1905; two-story, two-bay brick school (house); gable roof with end chimneys; gable end facade; triangular window in gable peak; recessed panels with corbelled detailing; two over two sash; originally intended to accommodate grades 1 to 4 on the first floor and grades 5 to 8 on the second floor.
25. (Clearfield United Methodist Church), Rawlinsville Road, east side, south of Miller Road; 1876; one-story, three-bay brick church, covered with brickface; stained glass windows; projecting entry; datestone; built on site of earlier church.
26. JOHN AND AMANDA TWEED House, Rawlinsville Road, northeast corner at Clearfield Road; c. 1900; one-story, three-bay brick school; central entry; round window in gable peak; two over two sash; original four paneled shutters; recessed bays with corbelled detailing; porch with iron posts; brick outhouses in rear.
27. CLEARFIELD SCHOOL, Rawlinsville Road, northeast corner at Clearfield Road; c. 1900; one-story, three-bay brick school; central entry; round window in gable peak; two over two sash; original four paneled shutters; recessed bays with corbelled detailing; porch with iron posts; brick outhouses in rear.
28. Rawlinsville Road, northwest corner at Clearfield Road; c. 1850; two and one-half story, four-bay frame farmhouse; twin central entries; elaborate bracketed turned porch posts; two over two sash; alterations, vinyl siding.
29. RISING SUN TAVERN, Rawlinsville Road, northwest corner, opposite Miller Road; c. 1845; two and one-half story, four-bay frame tavern with gable roof; single entry; six over six sash; piazza with shaped posts and chimneys; alterations, asphalt shingle siding, and side porch.
30. ISAAC HERR HOUSE, Refton Road, northwest corner at Pennsy Road; c. 1810; two and one-half story, three-bay stuccoed stone farmhouse; central entry; gable roof with end chimneys; alterations include sash, porch, and frame addition.
31. JOHN STROHM HOUSE, Refton Road, west side, opposite Krantz Mill Road; c. 1800; Germanic-style stone farmhouse; built in two sections; one and one-half story, three-bay section has central chimney and six over three sash; two and one-half story, two-bay section has gable end chimney; home of John Strohm, state and federal legislator; LH #5.
32. JOHN HESS HOUSE, Route 222, east side, south of Camargo Road; c. 1800; two and one-half story, four-bay stone Georgian farmhouse; six over six sash; stone arches over some windows; one gable end is clapboarded; later added porch; buttered joints; altered porch and entry.

33. PLEASANT VALLEY SCHOOL, Route 222, east side, south of Camargo Road; 1904; one-story, three-bay brick school; pedimented corbelling between gable returns; central entry; two over two sash with original shutters; porch with shaped posts; datestone.
34. Route 222, east side, south of Camargo Road, c. 1850; two and one-half story, four-bay brick farmhouse; twin central entries; six over six sash with original two panel shutters; gable roof; veranda with shaped and bracketed posts.
35. JOSEPH SHENK HOUSE, Route 222, east side, north of railroad tracks; four-bay facade with twin entries; end chimney; piazza with shaped posts; frame barn with stone foundation; farm originally owned by Shenk family.
36. MARTIC FURNACE HOUSE, Route 272, northbound, west side, south of railroad; c. 1750; two-story, three-bay stone bank house; six over six sash; central entry; later porches; believed to be worker's house for the lost Martic Furnace.
37. Route 272, northbound, west side, south of Miller Road; c. 1750; two-story, three-bay stone bank house; recessed entry; roof extends over porch which has turned posts; replacement sash; believed to be worker's house for the lost Martic Furnace.
38. Sawmill Road, northwest corner at Hollow Road; c. 1825; two and one-half story, four-bay stone farmhouse; twin central entries; brick dentilled cornice; alterations include sash and frame addition.
39. THOMAS MAURER HOUSE, Sawmill Road, south side, east of Hollow Road; c. 1830; two and one-half story, four-bay stone Late Federal bank house; single recessed, paneled entry; six over six sash; flat arches with keystones made of stucco; stone quoining; stone springhouse to rear.
40. SNYDER HOUSE, Scheller Road, west side, south of Sawmill Road; c. 1747; one and one-half story, three-bay stone farmhouse; gabled roof and end chimneys; end entries; two dormers; stuccoed first floor facade; roof extends over front porch; six over six sash.
41. Byerland Church Road Bridge, Byerland Church Road crossing Pequea Creek, PHMC Inventory Identification No. 97362.
42. JOHN THOMAS BLACKSMITH SHOP, Pennsy Road, south side, west of Smithville Road, one-story building, gable roof with the ends brought together at the same pitch as the rest of the roof built with bricks from the Hickory Grove schoolhouse in about 1900.

Action-Oriented Recommendation

Support the Historic Preservation Trust of Lancaster County in their efforts relating to historic preservation in the Township. The Historic Preservation Trust, along with the Lancaster County Historic Society, has expended considerable effort in the areas of research, public

education and field location of historic sites or areas. Private citizens, as well as the Township, can support these activities through financial support and/or active participation.

Currently, Providence Township does not employ protective measures for historic resources. Recent amendments to the Pennsylvania Municipalities Planning Code enable local governments to plan and zone for the protection of historic resources; therefore it is recommended that consideration be given to adoption of an ordinance for this purpose. Such an ordinance should require developers to design and construct future buildings that are congruous with any adjacent important historic structures. It is also important that the Township maintain an up-to-date record of these inventoried historic properties, including a general description of their significant attributes, so that prospective developers can properly plan and design their projects. The list provided in this section is a good resource to start compiling a permanent list of historic properties.

The Lancaster County Planning Commission is available to assist the Township in preparation of a new historic resources inventory. The County Planning Commission staff includes a historic preservation specialist who is ready to assist the Township on preservation issues, education, regulations, design guidelines for infill development, etc.

Chapter 4

POPULATION AND HOUSING

In order to establish guidelines for planning involving the physical, economic and social development of Providence Township, it is important to study the characteristics of the Township's population. A quantitative analysis of population trends and a qualitative analysis of population composition enables reasonable projections for future population levels and needs.

Analysis and projections provided in this chapter are basic prerequisites for the preparation of a sound comprehensive plan. For example, land area requirements for future residential and non-residential uses need to directly relate to the amount and type of population which is being served. Future population levels will also determine the amount and scope of future public services (e.g., transportation network, schools, utilities, recreation facilities). All of these elements are important to create the most suitable environment for the current and future residents of Providence Township.

Unless otherwise indicated, the source for data in this chapter is the United States Census Bureau.

This chapter is organized in the following manner:

- Population Trends (page 4-1)
- Socioeconomic Trends (page 4-4)
- Housing Trends (page 4-8)
- Housing Affordability (page 4-10)
- Population and Housing Projections (page 4-13)

Action-oriented recommendations are provided in ***bold italics*** at the end of selected sections.

POPULATION TRENDS

The historical growth pattern of a municipality provides insight as to the growth which might be expected in the future.

Like many suburban and rural townships in Lancaster County, Providence Township experienced substantial population growth during the past 50 years. The following table illustrates a 50-year population growth for Providence Township of approximately 352%.

PROVIDENCE TOWNSHIP POPULATION GROWTH			
Year	Total Population	Net Change	Percent Increase
1950	1,888	--	--
1960	2,288	400	21.2%
1970	2,842	554	24.2%
1980	4,781	1,939	68.2%
1990	6,071	1,290	26.9%
2000	6,651	580	9.5%

Through a 50-year period, Providence Township led in the percentage of population growth in the Solanco School District.

A comparison of Providence Township's growth with municipalities comprising the School District is identified in the following table. The municipalities are listed in progression of their percentage of change.

POPULATION GROWTH COMPARISON OF MUNICIPALITIES IN SOLANCO SCHOOL DISTRICT							
Municipality	1950	1960	1970	1980	1990	2000	% Change
Providence Township	1,888	2,288	2,842	4,781	6,071	6,651	352%
East Drumore Township	1,124	1,406	1,716	2,496	3,225	3,535	315%
Colerain Township	1,098	1,503	1,641	2,118	2,867	3,261	297%
Eden Township	650	745	986	1,498	1,857	1,856	286%
Little Britain Township	1,293	1,449	1,633	2,131	2,701	3,514	272%
Bart Township	1,354	1,543	1,838	2,235	2,774	3,003	222%
Fulton Township	1,323	1,586	1,793	2,229	2,688	2,826	214%
Drumore Township	1,129	1,192	1,253	1,682	2,114	2,243	199%
Quarryville Borough	1,187	1,427	1,571	1,558	1,642	1,994	168%
Total	11,046	13,139	15,273	20,728	25,939	28,883	262%

Providence Township leads in the net population growth in the Solanco School District. Providence Township accounts for 26.7% of the total growth which has occurred in the School District. Providence Township received almost twice as much growth as the second-ranked municipality (East Drumore Township).

A comparison of Providence Township's net population increase with municipalities comprising the Solanco School District is identified in the following table. The municipalities are listed in progression of their net population increase.

NET POPULATION GROWTH COMPARISON OF MUNICIPALITIES IN SOLANCO SCHOOL DISTRICT		
Municipality	1950 - 2000	
	Net Population Increase	% of School District's Growth
Providence Township	4,763	26.7%
East Drumore Township	2,411	13.5%
Little Britain Township	2,221	12.4%
Colerain Township	2,163	12.1%
Bart Township	1,649	9.3%
Fulton Township	1,503	8.4%
Eden Township	1,206	6.8%
Drumore Township	1,114	6.3%
Quarryville Borough	807	4.5%
Total	17,837	100%

It is also important to analyze the population distribution within the Solanco School District and determine what percentage of the Township's total population is located in each municipality.

Providence Township leads in the percentage of population in the Solanco School District. Providence Township accounts for 23% of the population in the School District, just less than twice the second-ranked municipality (East Drumore Township). The municipalities are listed in progression of their percentage of the Solanco School District population.

POPULATION DISTRIBUTION COMPARISON OF MUNICIPALITIES IN SOLANCO SCHOOL DISTRICT		
Municipality	2000 Population	Percent of District Population
Providence Township	6,651	23%
East Drumore Township	3,535	13%
Little Britain Township	3,514	12%
Colerain Township	3,261	11%
Bart Township	3,003	10%
Fulton Township	2,826	10%
Drumore Township	2,243	8%
Eden Township	1,856	6%
Quarryville Borough	1,994	7%
Total	28,883	100%

Finally, as population increases so does density. The density of Providence Township is greater than that of the County's (density of 274 persons per square mile) and more than twice the density of the average for all Solanco School District.

A comparison of the densities of each municipality within the Solanco School District is provided in the following table. The municipalities are listed in progression of their density.

POPULATION DENSITY COMPARISON OF MUNICIPALITIES IN SOLANCO SCHOOL DISTRICT			
Municipality	2000 Population	Area in Sq. Mi.	Density Per Square Mile
Quarryville Borough	1,994	1.31	1,522.1
Providence Township	6,651	20.14	330.2
Bart Township	3,003	16.21	185.3
East Drumore Township	3,535	23.22	152.2
Eden Township	1,856	12.42	149.4
Colerain Township	3,261	29.40	110.9
Little Britain Township	3,514	27.54	127.6
Fulton Township	2,826	29.31	96.4
Drumore Township	2,243	28.92	77.6
Total	28,883	188.47	153.3

SOCIOECONOMIC TRENDS

Population characteristics of the Township have important bearing upon the types and quantities of public services that may be needed. A brief summary of these characteristics are provided as follows:

POPULATION BY AGE

Various age groups have different public service requirements that need to be specifically addressed. Age composition data has long been recognized as supplying important input for school and recreation planning analyses, with projections of age composition being of special concern in determining long-range facility needs and land requirements for school and recreation sites.

Age data is also important in defining stages of the life cycle that, in turn, are used in studies gauging and analyzing activity patterns, household moving behavior, housing, and various kinds of community facilities and services. For example:

Ages 0 to 4	Predict future elementary school classroom space needs and recreation programs geared for preschool-aged children.
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Ages 5 to 17	Comprise the school-aged population which poses distinct planning implications regarding school and recreation facilities and programs.
Ages 18 to 24	Represent the young adults who are just entering the labor force and who may have a heavy reliance on the need for rental housing.
Ages 25 to 44	Comprise the young labor force and tend to produce the most children. This group, like those aged 18 to 24, are also highly mobile and active in community functions.
Ages 45 to 64	Tend to be more settled and at the height of their earning power.
Ages 65 & Older	Comprise the senior sector of the population; this sector is generally characterized by limited purchasing power and an increased demand for health and public transit services, and special recreation services.

Providence Township has a slightly smaller percentage of school-age children population than Lancaster County. The following table presents the age characteristics for Providence Township and Lancaster County.

POPULATION BY AGE COMPARISON OF PROVIDENCE TOWNSHIP WITH COUNTYWIDE AVERAGE			
Age Group	Population	Providence Township Proportion	Lancaster County Proportion
0 - 4	423	6.4%	6.9%
5 - 17	1,422	21.4%	26.6%
18 - 24	549	8.3%	2.3%
25 - 44	1,925	28.8%	28.3%
45 - 64	1,597	24.0%	21.9%
65+	735	11.1%	14.0%
Total	6,651	100%	100%

Next, it is important to look at other socioeconomic data that help to better describe the demographic composition of Providence Township. Such data include population by sex, racial composition, household statistics, education levels, employment statistics, and income. The following tables illustrate this set of data.

POPULATION BY SEX COMPARISON OF PROVIDENCE TOWNSHIP WITH COUNTYWIDE AVERAGE		
Sex	Providence Township	Lancaster County
Total Females	3,330 (50.1%)	240,852 (51.2%)
Total Males	3,321 (49.9%)	229,806 (48.8%)
Total Persons	6,651 (100%)	470,658 (100%)

POPULATION BY RACE AND ETHNICITY COMPARISON OF PROVIDENCE TOWNSHIP WITH COUNTYWIDE AVERAGE				
Composition	Providence Township		Lancaster County	
White	6,437	97.40%	420,994	94.77%
Black, African American	52	.79%	11,421	2.58%
American Indian, Alaska Native	15	.22%	463	.10%
Asian	57	.86%	6,515	1.47%
Native Hawaiian, Other Pacific Islander	0	0%	53	.01%
Other	0	0%	399	.09%
Two or More Races	48	.73%	4,362	.98%
Total	6,609	100%	444,207	100%
Hispanic or Latino	42	.63%	26,451	5.62%
Non-Hispanic or Latino	6,609	99.37%	444,207	94.38%
Total	6,651	100%	470,658	100%

HOUSEHOLD STATISTICS COMPARISON OF PROVIDENCE TOWNSHIP WITH COUNTYWIDE AVERAGE				
Household	Providence Township		Lancaster County	
Family Households	1,848	77.4% of total	124,129	71.9% of total
Married Couple		66.1%		59.9%
Female Householder (no husband)		7.5%		8.6%
Non-Family Households	539	22.6% of total	48,431	28.1% of total
Living Alone		18.7%		23.1%
Age 65 and Over		7.1%		9.3%
Total Households	2,387		172,560	
Average Household Size		2.78		2.64
Average Family Size		3.19		3.14
Occupied Units		96%		95.9%

EDUCATION ATTAINMENT COMPARISON OF PROVIDENCE TOWNSHIP WITH COUNTYWIDE AVERAGE		
Education	Providence Township	Lancaster County
Persons 25+ With High School Diploma	76.7%	77.4%
Persons 25+ With Bachelor's Degree	9.0%	20.5%

EMPLOYED CIVILIAN PERSONS 16 YEARS AND OVER COMPARISON OF PROVIDENCE TOWNSHIP WITH COUNTYWIDE AVERAGE				
Labor Force	Providence Township		Lancaster County	
Not in Labor Force	1,467	29.2%	115,114	32.1%
Management, Professional, and Related	401	11.8%	66,270	28.1%
Service Occupations	581	17.0%	32,747	13.9%
Sales and Office	999	29.3%	58,704	24.9%
Farming and Forestry	43	1.3%	2,520	1.1%
Construction, Extraction and Maintenance	506	14.8%	23,653	10.0%
Production, Transportation and Material Moving	879	25.8%	51,792	22.0%

INCOME - 1999 COMPARISON OF PROVIDENCE TOWNSHIP WITH COUNTYWIDE AVERAGE		
Income	Providence Township	Lancaster County
Per Capita	\$17,912	\$20,398
Median Household	\$45,018	\$45,507
Median Family	\$49,738	\$52,513
Individuals Below Poverty Level	393 (6%)	35,553 (7.8%)

Providence Township presents no glaring peculiarities when compared with Countywide figures.

Within Lancaster County, there are 2.4% more females than males; however, in Providence Township, there are .6% more females. Racially, Providence Township is extremely homogeneous with only 2.2% of the population comprised of all minority groups. Similarly, 2.8% of the population is of Hispanic origin. Within Lancaster County, 8.6% of the population consists of minority races and 10.6% are of Hispanic origin.

The rural, agricultural lifestyle of the Solanco School District region produces the need for family-oriented households. Providence Township has a substantially higher ratio of married couple families than does the County as a whole. Consequently, single-parent family numbers and non-family households are comparatively few.

Providence Township lags behind the County in terms of high school and college graduates. Providence Township has 24.8% fewer high school and 14.4% fewer college graduates than Lancaster County.

Labor force and employment statistics indicate that Providence Township's unemployment rate is 2.9% less than that of the County. Private businesses employ the largest number of workers (83.4%), followed by those who are self-employed (10.9%), and government workers (5.7%). The two highest employment categories are sales and office at 29.3%, and production, transportation and material moving at 25.8%.

Providence Township's median family income is 5.3% less than the Countywide average.

HOUSING TRENDS

The number of occupied housing units by type for Providence Township is compared to the municipalities in the Solanco School District, and the average Lancaster County municipality, to relate the current mix of housing types to the typical mix of the area.

HOUSING TYPES COMPARISON OF MUNICIPALITIES IN SOLANCO SCHOOL DISTRICT								
Area	Total Units	Single Family Detached		One-Unit Attached		Multi-Family		Mobile Homes
Providence Township	2,486	1,579	(64%)	82	(3%)	26	(1%)	799 (32%)
Little Britain Township	1,156	946	(82%)	32	(2%)	3	(--)	175 (16%)
East Drumore Township	1,079	899	(84%)	21	(1%)	78	(7%)	81 (8%)
Fulton Township	1,043	787	(76%)	9	(1%)	18	(2%)	225 (21%)
Colerain Township	989	810	(81%)	71	(7%)	55	(6%)	53 (6%)
Quarryville Borough	864	432	(50%)	133	(15%)	296	(35%)	3 (--)
Bart Township	840	631	(75%)	115	(14%)	53	(6%)	41 (5%)
Drumore Township	819	626	(76%)	20	(3%)	35	(5%)	134 (16%)
Eden Township	606	453	(75%)	39	(6%)	18	(3%)	96 (16%)
Solanco School District	9,882	7,163	(72%)	522	(5%)	582	(6%)	1,607 (17%)
Lancaster County	179,990	100,952	(56%)	34,044	(19%)	36,457	(20%)	8,502 (5%)

SINGLE-FAMILY DETACHED DWELLINGS

Single-family detached dwellings are the most common type of housing in Providence Township, accounting for over 64% of the Township's total housing stock in 2000. When comparing the Township's level of single-family detached dwellings in the overall housing mix, it ranks proportionately slightly lower than the School District and slightly higher than the Countywide average.

The percentage of single-family dwellings provides the residents with a balanced opportunity for this type of dwelling.

ONE-UNIT ATTACHED DWELLINGS

One-unit attached dwellings are defined as row houses, double houses or houses attached to nonresidential structures which are separate one-unit attached structures if the dividing or common wall goes from ground to roof. In Providence Township, there are only 82 such units, which account for 3% of the total housing stock. Proportionately, Providence Township contains slightly less of these types of housing units than does the average in Solanco School District. However, when compared to the average Lancaster County housing, Providence Township falls well short of providing comparable numbers of these types of units.

Action-Oriented Recommendation

The percentage of one-unit attached dwellings within the Township suggests that residents do not have a balanced opportunity for this type of housing. In the future, Providence Township will need to ensure that zoning policies do not prohibit this housing type in suitable areas.

MULTI-FAMILY DWELLINGS

Multi-family dwellings are residential development of higher densities, such as apartment complexes, townhouses and conversion apartments. Of the Township's entire housing stock, only 1% consists of multi-family dwellings. This housing type is less than in the Solanco School District, significantly less than other Lancaster County townships, and significantly less than the County as a whole. In the future, Providence Township will need to adjust its development policies to accommodate its fair share of this housing type.

Action-Oriented Recommendation

The percentage of multi-family dwellings within the Township suggests that residents do not have a balanced opportunity for this type of housing. In the future, Providence Township will need to ensure that zoning policies do not prohibit this housing type.

MOBILE HOMES

In the past, mobile homes were included in the single-family detached dwellings count because they generally fit the description. However, for the purpose of this analysis, they have been placed in a separate category and counted separately in order to provide insight into the composition of the Township's overall housing stock.

As the above table reveals, 32% of the Township's housing stock is made up of mobile homes. This is the largest proportion of mobile homes in Solanco School District, and well above the average for Lancaster County.

Action-Oriented Recommendation

In terms of the fair share allocation of mobile homes, Providence Township has far exceeded its necessary provision, when comparing it to Solanco School District and other Lancaster County

townships. Additional land use allocation for mobile homes in Providence Township is not necessary.

BUILDING PERMIT DATA

Providence Township building permit data for the past 25 years indicates an annual housing growth of 26.72 units per year. The chart below identifies new housing permits for each year.

HOUSING TREND BASED ON BUILDING PERMIT DATA										
Year	Housing Permits		Year	Housing Permits		Year	Housing Permits		Year	Housing Permits
1983	41		1990	22		1997	15		2004	19
1984	44		1991	27		1998	30		2005	12
1985	50		1992	27		1999	17		2006	9
1986	59		1993	40		2000	16		2007	8
1987	50		1994	28		2001	17		Total	668
1988	50		1995	27		2002	34			
1989	23		1996	24		2003	39			

HOUSING AFFORDABILITY

The 2000 median values of owner-occupied housing units and median rents for renter-occupied units for Providence Township are compared with the municipalities in the Solanco School District and Lancaster County. The municipalities are listed with the highest value first.

OWNER-OCCUPIED MEDIAN 2000 HOUSING VALUE COMPARISON OF MUNICIPALITIES IN SOLANCO SCHOOL DISTRICT	
Area	Housing Value
Colerain Township	\$145,900
Little Britain Township	\$138,300
East Drumore Township	\$135,300
Bart Township	\$132,500
Drumore Township	\$129,000
Eden Township	\$125,300
Providence Township	\$119,000
Quarryville Borough	\$118,400
Fulton Township	\$118,800
Solanco School District	\$129,166
Lancaster County	\$119,300

RENTER-OCCUPIED MEDIAN RENTAL HOUSING VALUE COMPARISON OF MUNICIPALITIES IN SOLANCO SCHOOL DISTRICT	
Area	Renter-Occupied Median Rent/Month
Little Britain Township	\$673
Providence Township	\$649
East Drumore Township	\$577
Eden Township	\$554
Drumore Township	\$540
Colerain Township	\$531
Quarryville Borough	\$511
Fulton Township	\$496
Bart Township	\$490
Solanco School District	\$558
Lancaster County	\$572

The 2000 median owner-occupied housing value in Providence Township was \$119,000, which ranked it seventh among all municipalities in the Solanco School District, and \$300 below the average for Lancaster County.

Median monthly rent for the Township was \$649, which was the highest within the Solanco School District, and \$77 higher per month than the average for Lancaster County.

In 2007, the Lancaster County Planning Commission developed an analysis of single-family housing affordability for each municipality in Lancaster County. The Planning Commission's analysis compared the monthly costs of owning a median-priced, single-family home purchased during the year 2006.

The Planning Commission's analysis included (1) *The Housing Affordability Index* (a traditional approach that considers 30% or less of a households monthly budget as affordable housing) and (2) *The Housing and Transportation Affordability Index* (considers both living expenses and transportation factors at 30% and 15%, respectively).

The Housing and Transportation Affordability Index provides a more comprehensive analysis of housing cost. The results of the analysis for municipalities within the Solanco School District are provided in the following table.

**HOUSING AND TRANSPORTATION AFFORDABILITY INDEX 2006
COMPARISONS OF MUNICIPALITIES IN SOLANCO SCHOOL DISTRICT**

	Median Sales Price	Monthly Power & Light Cost	Monthly Property Taxes	Monthly Insurance cost	Monthly Transportation	Monthly Housing Cost	Monthly Housing & Transportation Cost	Housing Affordability Index
Eden Township	\$164,750	\$990	\$176	\$27	\$644	\$1,194	\$1,838	1.06
Bart Township	\$175,000	\$1,052	\$187	\$29	\$634	\$1,268	\$1,902	1.03
Fulton Township	\$179,900	\$1,081	\$187	\$30	\$676	\$1,298	\$1,974	0.99
Quarryville Borough	\$199,900	\$1,201	\$250	\$33	\$529	\$1,484	\$2,013	0.97
Providence Township	\$192,500	\$1,157	\$199	\$32	\$659	\$1,388	\$2,047	0.95
Little Britain Township	\$200,000	\$1,202	\$210	\$33	\$700	\$1,446	\$2,146	0.91
Drumore Township	\$202,000	\$1,214	\$223	\$34	\$689	\$1,470	\$2,159	0.90
East Drumore Township	\$207,500	\$1,247	\$218	\$35	\$698	\$1,500	\$2,198	0.89
Colerain Township	\$227,000	\$1,364	\$243	\$38	\$653	\$1,645	\$2,298	0.85
Region	\$175,996	\$1,167	\$210	\$32	\$654	\$1,410	\$2,064	.95

Assumptions used in the study:

1. Current mortgage interest rate-6.5%, with 5% down-payment, and 30-year term.
2. Property insurance is at the rate of \$2.00 per \$1,000 insured amount.

Pre-defined terms:

1. National average percentage of housing cost accounts for 30% of median household income.
2. National average percentage of transportation cost accounts for 15% of median household income.
3. Affordability index middle point is 45%, which combined both housing and transportation national averages.
4. Housing expenditure includes power and light, real estate tax, and property insurance.
5. Transportation expenditure includes automotive maintenance and repair, gasoline, diesel fuel, vehicle purchases & leases, rented vehicles, towing charges, and bots/outboard motor, etc
6. Affordability index: based on 45% of median household income as dividing point, the percentage is converted to 1.00.
7. An index of 1.00 or greater indicated that a median-income household could afford the monthly costs associated with owning a median-priced housing unit in a given municipality. An index below 1.00 show lacking affordable housing.

Data source:

1. Lancaster County Property Assessment Office: Cama data 2007-2008
2. American Community Service 2006: Median Household income
3. Lancaster County Property Assessment Office - Tax Millage 2007-2008
City Annex Property - City Ward Tax Millage
Mount Joy Twp - Average Millage of 20.9487
4. Claritas IExpress 2006

Providence Township had a 0.95 housing affordability index for 2007. This index is just slightly below the affordability index (1.00) which is the level where a median-income household could afford the monthly costs associated with owning a median-priced housing unit. Providence Township, with a median house sale price of \$192,500 and a monthly housing and transportation cost of \$2,047, requires a monthly income of \$3,722. The 2006 median income for

Lancaster County of \$52,064 is about \$95 less than the recommended median Countywide annual income to purchase a median-priced home in the Township. Providence Township housing affordability is equal to the average of municipalities in the Solanco School District.

Action-oriented Recommendation

In order for Providence Township to promote more affordable housing for the future, several planning guidelines should be utilized. First, rental housing and other higher density housing units should be encouraged within areas with public sewer and water service. Second, limit or waive land development regulations which increase the cost of housing without jeopardizing public safety and/or function of the development. However, careful review of such limits and reductions in regulations is necessary to determine the actual reduction in housing costs that may be produced. Third, inclusionary zoning provisions can be implemented to assist in the availability of affordable housing. By requiring developers to include with their developments a prescribed percentage of homes built for low and middle income households, additional affordable housing can be provided.

These few suggestions aim to promote affordable housing; however, the use of such recommendations is at the discretion of the Township.

POPULATION AND HOUSING PROJECTIONS

Planning involves the allocation of resources to accommodate growth and development. Growth and development are most often determined through the use of population projections. Typically, population projections rely upon extrapolation of previous trends to forecast an amount and rate of growth. Extrapolation principles, by nature, tend to be self-perpetuating and repetitive. For example, a municipality with a low growth rate will yield projections at a comparatively low rate, while faster-growing communities tend to project accelerating growth trends. While extrapolation is certainly useful in many planning functions, it has a tendency to “repeat an undesirable trend of the past.”

This condition is particularly applicable within Providence Township when relying upon US Census data between 1970 and 1980. During this time period, the US Census reported a large population increase within Providence Township. It is believed that the reported higher population numbers are the result of (1) better census data collection in rural areas, (2) a large influx of development due to permissive land use regulations, and (3) less regulations for on-lot water supply/sanitary sewage disposal.

The Lancaster County Planning Commission’s population projections appear to be influenced by the population trend between 1970 and 1990. According to the following Lancaster County Planning Commission’s population projections for 2010 and 2020, the growth rate for Providence Township is dramatically higher than other municipalities in the Solanco School District.

Municipality	1970 - 1980 US Census	1980 - 1990 US Census	1990-2000 US Census	2000 - 2010 Projection	2010 - 2020 Projection
Bart Township	397	539	229	285	281
Colerain Township	477	749	394	431	440
Drumore Township	429	432	129	241	243
East Drumore Township	780	729	310	467	484
Eden Township	512	354	-1	206	211
Fulton Township	436	459	138	241	237
Little Britain Township	498	570	813	520	538
Providence Township	1,939	1,290	580	1,006	1,083
Quarryville Borough	-13	84	352	115	108

Recognizing the projected spiraling population trend and its threat to the agricultural and rural characteristics of Providence Township, this Comprehensive Plan seeks to reverse the projected accelerated suburbanization, by relating the Providence Township projected growth to the historic housing trend reflected in the Township building permit records.

The Housing Trend Based on Building Permit Data presented earlier in this chapter provides a base for projections. A view of the individual years identifies an annual average of 49 housing permits prior to 1989. Since 1989, the annual housing permits ranged from a low of 8 (2007) and a high of 40 (1993), with an annual average of 22 housing permits.

The following chart identifies the housing permit trend and 10-year projections based on the prior 25-year, 19-year and 10-year period.

Data Base	Average Housing Permits per Year	10-Year Projected Population (persons per household - 2.78)	10-Year Projected Housing Need
1983 to 2007	26.72	742	267
1989 to 2007	19.68	547	197
1998 to 2007	18.20	506	182

The period between 1989 and 2007 (prior 19 years) reflects a reasonable representation of the trend on which to base projected population and housing for the next 10 years. With this projection, Providence Township officials can objectively determine demands for public services, roads and land use based upon anticipated growth.

Action-oriented Recommendation

- 1. Upon release of the 2010 U.S. Census data, the population projections should be analyzed and adjusted accordingly.*
- 2. Provide for a range of housing types and densities to meet the needs of different household ages, sizes and income levels.*

Chapter 5

EXISTING LAND USE

An important element of comprehensive planning is the inventorying of existing land uses. Identification of land use activities provides periodic gauging of development trends within the Township. The character of existing land uses provides insight as to the quantities and types of land uses that are desired or have particular market demand. Existing land use also provides assistance in identification of future land development areas. All of these considerations are fundamental to the preparation of a future land use scheme, and regulatory policies that respond to the Township's goals and objectives.

This land use inventory is based on several information sources. The Lancaster County Geographic Information (GIS) Systems Department prepared a property-by-property inventory and mapping based on their summer 2007 records. This was followed by a windshield survey, conducted in November, 2007, to verify the findings revealed by the GIS records. The Existing Land Use Map, provided on page A-11 of the Appendix, depicts the results of this process.

GENERAL DESCRIPTION OF EXISTING LAND USE

The overall landscape and land uses found within Providence Township embody the distinctive agricultural and rural character prevalent in the composition of southern Lancaster County. The Township is composed of a series of ridges and valleys where agricultural uses dominate the valleys, and woodlands cluster along the uplands and ridge tops. This type of landscape has produced a very rural environment with few urban type land uses.

The majority of the developed land uses within the Township consist of a combination of rural and "suburban" residences. Generally, the rural residential land uses are characterized by large, well-maintained wooded lots, primarily located amid the upland areas and on the ridge tops. Many of these properties possess scenic vistas of the surrounding countryside. The "suburban" residential properties are typically found on half-acre to one-acre lots, subdivided along street frontage. Like the rural properties, these residential lots and dwelling units are also well maintained.

Much of the wooded uplands and ridge tops are maintained as privately-owned forests and thus comprise a significant conservation resource within the Township. Woodlands help to purify the air and groundwater. They help to reduce erosion and stabilize steep terrain and also provide a habitat to a host of wildlife. It is the combination of these woodlands, in contrast to

the intensive agricultural activity found within the valleys, which truly characterizes the landscape and lifestyle of Providence Township.

The following is a summary of the existing land uses in Providence Township

EXISTING LAND USE SUMMARY		
Land Use	Land Area (acres)	Percentage of Township
Agricultural	6,659	52.0%
Low Density Residential	1,860	14.4%
High Density Residential	154	1.3%
Commercial, Service, Industrial	193	1.5%
Transportation, Utilities	85	.7%
Quarry, Junkyard, Landfill	21	.2%
Institutional	42	.4%
Woodland	3,791	29.5%
Total	12,805	100%

EXISTING LAND USE CATEGORIES

AGRICULTURE

Providence Township is dominated by agricultural uses in various type, size and location. Agricultural land accounts for 6,659 acres, or 52%, of the Township. Agricultural areas include cropland, pasture, orchard, grove, vine land, nurseries, confined feed operations, un-grazed or uncontrolled grass land, and vacant land associated with other land uses.

Cropland accounts for the largest use in the agricultural area with 4,748 acres, or 71.3%. Pasture is the second largest category of agricultural use at 1,392 acres, or 20.9%. Together, these uses account for 92.2% of the agricultural use.

The agricultural land located west of Hollow Road has greater intrusions of other land uses. This area is characterized by a quilt pattern of agricultural, woodland, residential, and a minor amount of commercial land uses.

In some cases, particularly the operation of the large confined feeding operations, agricultural activity can be intense. However, regardless of the intensity, this type of agricultural activity remains relatively small (27 acres) and unobtrusive.

Much of the farming that occurs within the Township is engaged by members of the Old Order Amish religious sect. Agricultural activity is the mainstay industry and a critical component of this unique culture.

Another aspect of agricultural activity in the Township is scattered agricultural-related businesses. The windshield survey revealed several farm-based businesses; however, few, if any, were noticeably incompatible with surrounding properties and/or local roads. Overall, the significant agricultural element within the Township has produced a very rural land use environment which will continue to play an important role in shaping the Township's overall character.

LOW DENSITY RESIDENTIAL

This category contains single-family detached dwellings (including mobile homes on individual lots) with a density of less than 4 dwellings per acre. Low density residential accounts for 1,860 acres, or 14.4%, of the Township.

Low density residential areas are both widely scattered and clustered around “crossroad” intersections.

The areas around Rawlinsville Road, Scheller Road, School House Road, Pennsy Road, Mount Airy Road, Lancaster Pike, Truce Road, Church Road, and Main Street are examples of clusters of single-family residential development. Many of the housing units located in these clusters are of recent construction and situated on one-acre lots. The type and construction of these units are characteristically “suburban” and appear to encroach on the overall rural nature of the Township. The remaining rural housing units vary in age, but are generally located close to the street right-of-way.

Many of the housing units located in these areas were constructed in the past 25 years and are situated on lots of less than one acre. The type and construction of these units are characteristically “suburban” and appear to be changing the rural character of the Township.

HIGH DENSITY RESIDENTIAL

This category includes residential development of 4 dwellings per acre to 7 dwellings or more per acre and includes mobile home parks. High density residential accounts for 154 acres, or 1.3%, of the Township.

Larger mobile home parks in Providence Township include Smithville, Spread Eagle, Tamarack, Heritage, Sunset Estates, and Beaver Valley.

The mobile home parks provide an important affordable housing source for Township residents. The mobile home parks appear to be populated by a mix of ages and family sizes. In general, the mobile homes are well-maintained.

The extent of the remaining multi-family uses includes a few conversion rental units. This type of use is sparse and scattered throughout the Township. Conversions are often the result of adaptive reuse of large, older farmsteads that have become less practical, given the population trends toward smaller family sizes, and increased energy costs.

COMMERCIAL AND INDUSTRIAL

Similar to high density residential uses, commercial and industrial uses within the Township are sparse and scattered. Commercial and industrial land account for a combined 193 acres, or 1.55, of the Township. Active Commercial land uses represent approximately 100 acres and active Industrial land uses represent approximately 70 acres.

The majority of commercial uses are located along Lancaster Pike and Beaver Valley Pike. Commercial uses include small retail and service establishments and a few regional sales and service operations such as auto dealership, appliance sales/service.

Except for Buck Iron, Inc. and a few small-scale employers, industrial land uses (e.g., manufacturing, warehousing and wholesale trade establishments) are nonexistent within the Township. While the Township does not possess much in the way of industrial land uses, it does contain a significant amount of agricultural industries; however, such facilities are depicted under the general agricultural land use category and, as a result, are not specifically identified.

TRANSPORTATION AND UTILITIES

Transportation and utilities include highway corridors, highway maintenance facilities, power transmission stations, rail lines, water supply facilities, and sewage facilities. This land use covers 85 acres, or .7%, of the Township.

INSTITUTIONAL

Institutional and recreational uses include schools, churches, cemeteries, athletic fields, and campgrounds. This land use covers 42 acres, or .4 %, of the Township.

WOODLAND

Woodland includes deciduous forest, coniferous forest, mixed forest, and areas with a mix of small trees and shrub/brush. This land use covers 3,791 acres, or 29.5%, of the Township. The majority of this area is deciduous forest which accounts for 95% of the woodland.

ADJACENT AND REGIONAL PLANNING

The preparation of a comprehensive plan considers planning policies in adjoining municipalities and the region. The highest level of consideration includes a cooperative planning effort. Such efforts can lead to regional allocation of land uses and multi-municipal systems for the delivery of public services. At a minimum, consideration should assure that future land use designations located along municipal boundaries are compatible.

This chapter describes the proposed land use planning along the boundaries of Providence Township and regional planning of the Lancaster County Planning Commission.

EDEN TOWNSHIP

Eden Township is located along the eastern boundary of Providence Township, north of Quarryville Borough.

The *Eden Township Comprehensive Plan* was adopted on December 12, 1994. The lands adjacent to Providence Township are designated Agriculture and Conservation. Areas planned agriculture are those with large concentrations of prime farmland, and existing, or historically-farmed lands. Areas designated conservation correspond to sensitive natural features that either should not be developed, or supports only a very limited development. These areas are comprised of steep slope, wetland and floodplain.

QUARRYVILLE BOROUGH

Quarryville Borough is located at the southeast corner of Providence Township.

The *Comprehensive Plan Report for Borough of Quarryville*, July 1, 2002, designates three land use categories along its border with Providence Township.

Commercial/Industrial is located north of the Atglen-Susquehanna rail line. This designation encourages commercial and industrial development fronting along North Church Street. This area is a water-filled quarry.

South of the Atglen-Susquehanna rail line is designated for Low Density Residential. This designation encourages one to three residential units per acre. This area is a single-family detached development known as Quarry Ridge.

South of Quarry Ridge and west of Groffdale Road is designated High Density Residential. This designation accommodates semi-detached, townhouse and apartment units at densities greater than eight units per acre. This area is the multi-family development of Oak Hollow Village.

EAST DRUMORE TOWNSHIP

East Drumore Township abuts the southern border of Providence Township, adjacent to Quarryville Borough.

The *East Drumore Township Comprehensive Plan*, adopted in February, 1980, designates five land use categories along its border with Providence Township.

A Commercial designation is located along PA Route 372, immediately west of Quarryville Borough. The Commercial designation accommodates the existing commercial businesses located outside of the Borough.

An Industrial designation is located in the area north of PA Route 372, and approximately 3,000 feet west of Quarryville Borough. The gentle slope and access to public utilities were cited as desirable conditions for industrial use.

A Low Density Residential designation is located west of Lancaster Pike and along the north side of PA Route 372, in the vicinity of Hollow Road and Cinder Road. This designation acknowledges the existing residential development and allows an expansion on lots of one-half to one acre, depending on the property's capability to meet DEP requirements.

The remaining adjacent area is designated Agriculture and Conservation. Areas planned agriculture are those with large concentrations of prime farmland. Areas designated Conservation correspond to sensitive natural features that should not be developed. These areas are comprised of steep slope, wetland and floodplain.

DRUMORE TOWNSHIP

Drumore Township abuts the southern border of Providence Township, west of East Drumore Township.

The *Solanco Regional Comprehensive Plan*, adopted May 5, 1994, designates the adjacent area Agriculture and Conservation. Areas planned for agriculture are large concentrations of prime farmlands, existing or historically-farmed lands, enrolled in Agricultural Security Areas, and

permanently preserved farms. Areas planned for conservation correspond to those sensitive features that either should not be developed, or which can support only very limited development.

MARTIC TOWNSHIP

Martic Township lies along the western boundary line of Providence Township.

The *Martic Township Comprehensive Plan*, adopted on February 18, 1991, designates the adjacent area Agriculture and Conservation. Areas planned for agriculture include land enrolled in Agricultural Security Areas and permanently preserved farms, as well as large concentrations of prime farmlands, and existing or historically-farmed lands. Areas planned for conservation are dominated by steep slopes, wetlands, high quality stream buffers, or other significant environment resources.

PEQUEA TOWNSHIP

Pequea Township adjoins Providence Township along Providence Township's northwest corner.

The *Pequea Township, Lancaster County Comprehensive Plan*, adopted on March 16, 2005, designates the adjacent area Agriculture. Areas designated Agriculture are almost entirely prime farmland soils and soils of Statewide importance for agricultural productivity.

STRASBURG TOWNSHIP

Strasburg Township abuts Providence Township along the northeastern borders.

Strasburg Township, together with Strasburg Borough, developed the *Strasburg Region Comprehensive Plan of 2006*. This plan identifies those land areas of Strasburg Township, adjacent to Providence Township, as Conservation along Big Beaver Creek and Agriculture beyond the stream corridor.

The Conservation areas are where development will be strictly controlled in order to address specific environmental conditions. These areas are appropriate for use as passive recreational space, background open space, and open yard areas.

The objective of the Agriculture designation is to discourage development in Class I, II and III soils and other historically-farmed areas, protect agriculture from incompatible uses, and encourage Agricultural Security Areas and tax deferral programs that benefit farmers.

LANCASTER COUNTY COMPREHENSIVE PLAN

The Lancaster County Planning Commission, with the assistance of its Growth Management Update Task Force, prepared an update of the Growth Management Element of the Lancaster County Comprehensive Plan, entitled *Balance*, April 2006. *Balance* guides growth in Lancaster County through the year 2030.

Balance establishes a framework for future land use and development in the County and its municipalities consistent with the Vision and Key Focus Areas set forth in *ReVisions*, the Policy Element of the Lancaster County Comprehensive Plan. The Growth Management Element establishes the overall direction, tools, and an agenda for action by municipalities and the County to work together to realize the future to which Lancasterians aspire.

Balance reaffirmed the Growth Area Designations and set the following new directions for managing the County's Urban Growth Areas:

1. Increase the proportion, density and intensity of development in the Growth Areas as a companion to a new strategy to preserve the integrity of Rural Areas.
2. Place a new emphasis on reinvestment in Lancaster City, boroughs and urbanized areas of townships.
3. Improve development patterns and forms in designated Growth Areas in order to enhance quality of life for current and new residents.
4. Increase housing affordability and employment opportunities to improve the well-being of all citizens.

Growth Areas are considered appropriate for future development and include Lancaster City, boroughs and villages. The SOLANCO Urban Growth Area has been designated around Quarryville Borough. In Providence Township, the SOLANCO Urban Growth Area extends north to the Heritage Estates Mobile Home Park, west along a tributary of the Big Beaver Creek, and south along Ridge Road to the East Drumore Township boundary.

The SOLANCO Urban Growth Area has been adopted by Eden Township. The other affected municipalities (East Drumore Township and Providence Township) have not adopted the SOLANCO Urban Growth Area.

Growth Areas are planned for residential, mixed-use, commercial, industrial, and institutional development. Public infrastructure and services are planned with sufficient capacity for the intensity of development.

Areas located outside the Urban Growth Area are designated Rural Areas. Designated Rural Areas are areas within which rural resources, rural character, and a rural way of life are to be sustained.

The Rural Area strategy is complex and founded on three basic principles:

1. Reduce the amount of new residential development and employment growth in rural areas. New development in rural areas not directly tied to traditional land-based economic activities must be minimized and directed to existing areas of rural development (Rural Centers), to maintain the integrity of the rural economy and landscape while preserving the traditional role and character of rural settlements.
2. In addition to farmland preservation, the viability of the rural economy (agriculture and other economic activities based upon links to rural resources) must be maintained.
3. Municipalities, the County, and providers of public infrastructure and services must coordinate policies, regulations, and capital investment decisions to protect rural resources in designated Rural Areas.

Rural Areas have the following characteristics:

1. The predominant land uses relate to rural land, including agriculture; other resource-based economic activities such as timbering, mining, and hydro-electric power generation; and outdoor recreation and tourism based on natural, scenic, historic, and cultural resources.
2. Development that is compatible with or supportive of such uses is permitted. Examples of compatible uses include traditional Crossroads Communities and businesses and infrastructure required to support the agricultural industry.
3. Public infrastructure services (water and sewer) are not provided except in designated Villages, certain Rural Neighborhoods and Rural Business Areas.

Rural Area designations include Agricultural Areas, Agricultural with Natural Areas, Natural Areas, and Rural Centers. The purpose of Rural Centers is to provide locations for compact growth patterns as a substitute for scattered, low-density development that consumes large amounts of land and creates conflicts with agriculture and other rural uses.

Rural Centers include Crossroads Communities, Rural Business Areas and Rural Neighborhoods. New Providence and Truce have been designated as Crossroads Communities.

Crossroads Communities are only appropriate for development that is compatible with the traditional character and small scale of these communities and which are supported with infrastructure. Crossroads Communities are not expected to have public water and sewer.

Rural Crossroads Communities and Rural Neighborhoods are the lowest priority for accommodating residential development in rural areas. Townships are advised to first eliminate as much rural residential zoning as is feasible based on existing land use patterns, and designate what remains as Rural Neighborhoods.

Rural Business Areas and Rural Neighborhoods are areas of existing residential development, existing undeveloped lots, or adjacent land that would be appropriate to accommodate a portion of the Township's future land use needs. The purpose of Rural Business Areas and Rural Neighborhoods is to focus future development in areas where it already exists, on land that is currently subdivided, or on land adjacent to existing development. Rural Neighborhoods should be limited in scope and in a compact pattern with a defined edge.

Rural Business areas and Rural Neighborhoods are not intended to attract growth, but to accommodate growth that would otherwise occur in rural sprawl.

Rural Business Areas and Rural Neighborhoods should be designated, and land use targets set on a case-by-case basis.

PENNSYLVANIA AGRICULTURAL SECURITY AREA

In Act 43 of 1981, the Pennsylvania legislature authorized townships to create "agricultural security areas," similar to agricultural districts formed in other states, such as New York. Agricultural security areas are voluntary; the creation, modification, or termination of a security area is a matter of landowner initiative and township approval or denial.

An agricultural security area must be at least 250 acres in size, but the land does not have to be contiguous. The security area offers landowners three benefits:

1. A strengthened right-to-farm. Township supervisors agree not to enact nuisance ordinances which would restrict normal farming practices within the security area;
2. Greater protection against eminent domain. Government bodies seeking to condemn land in a security area must receive approval from the State Agricultural Lands Condemnation Acceptance Board and the township; and
3. Landowners in a security area have the option to apply to sell their development rights to the County Agricultural Preserve Board. As of March 1997, there were 30 security areas in Lancaster County comprising over 120,000 acres. Over 2.5 million acres have been enrolled in security areas throughout Pennsylvania.

The creation of a security area or additions of land to a security area may occur at any time, but a landowner or group of landowners must submit a petition to the township supervisors requesting the creation of a security area or addition of their land to an existing security area. Every seven

years, a township will conduct a review of the security area to determine whether to reestablish the security area for another seven years, terminate the security area, or make modifications to it. During the review, landowners may apply to the supervisors to remove land from the security area.

The agricultural security areas have helped to stabilize the farmland base. Although a security area does not impose any land use restrictions on a farmland owner, it does provide some important protection from nuisance suits and condemnation actions by government agencies. Relatively little land in security areas has been developed. The ability to sell development rights has not been the most significant part of the success of agricultural security areas, simply because of limited public funds to buy development rights. But interest in selling development rights has compelled many farmers to apply to join security areas.

The continued productivity of Providence Township's agricultural lands is an important element in maintaining the rural character of the Township. One way to achieve this goal is to create agricultural security areas. In doing so, the Township can set aside agriculturally-productive areas for their continued use as farms, hence maintaining the agricultural landscape, which is so critical to the preservation of the Township's rural character.

Providence Township contains approximately 1,618 acres of farmland designated as part of the Agricultural Security Area. Approximately 695 acres of Providence Township located within and outside of the Agricultural Security Area have opted to sell or donate their development rights through an agricultural conservation easement. The Agricultural Security Map, provided on page A-12 of the Appendix, identifies the current location of the Agricultural Security Area and agricultural security easements.

COMMUNITY FACILITIES AND SERVICES

Community facilities are the public and quasi-public properties that accommodate municipal operations or provide some service to the public that contributes to governmental functions or to the quality of life generally. Examples include the municipal buildings and the services provided directly by the municipalities, schools, emergency services (police and fire protection, ambulance service), parks and other recreational facilities, libraries, and hospitals. Providence Township benefits from community facilities located within the Township and in adjacent Quarryville Borough.

In Pennsylvania, the original purpose of most local units of government was to build and maintain roads. While this remains a significant responsibility, many other duties are now included. Increasingly, local governments are finding that they are able to provide municipal services more efficiently by joining with surrounding communities in multi-municipal associations.

This chapter is organized by type of service, with special notice of ownership and access where applicable. Action-oriented recommendations are provided in ***bold italics*** at the end of selected sections.

EDUCATIONAL FACILITIES

A high-quality education is a widely-held objective for most of our society. The land use activities within a school district directly affect the operation and scale of a particular educational program. Historically, school districts have engaged a planning process to, among other things, forecast short-term future demands for school facilities. This planning enables the school district to program changes to staff and facilities to accommodate the forecast.

Solanco School District is the primary education facility that serves Providence Township. Private schools account for a minor percent of students in Providence Township. These private schools are Plain Sect schools.

The following description of the educational programs and facilities available to Providence Township was compiled from the Solanco School District web site.

The Solanco School District is nestled in the southern portion of Lancaster County amidst the rolling hills of south-central Pennsylvania. The name Solanco is an abbreviated form of

Southern Lancaster County, the territory covered by the school district. The component municipalities of the school district are Bart, Colerain, Drumore, East Drumore, Eden, Fulton, Little Britain, and Providence Townships, as well as Quarryville Borough.

The district consists of approximately 186 square miles, comprising an area from about seven miles south of the City of Lancaster to the Maryland State line (north to south) and the Susquehanna River to the Chester County line (west to east). This makes for an intricate busing system between the homes of the students and the seven schools in the district. Of the 22 school districts served by the Lancaster-Lebanon Intermediate Unit 13, Solanco is the largest district in terms of land, representing nearly 20% of the total County in land mass.

Education in the Southern End began in one-room schoolhouses in the early 1700s. Private academies soon developed. One of the better known, Chestnut Level Academy, opened in 1852. Higher schooling was also available for those who wished to continue beyond the eight grades offered in the one-room schoolhouses. There was a four-year high school built in Quarryville in 1881. Students from all over the district completed their twelfth year of education at the facility. In 1915, the Quarryville Junior-Senior High School building was erected on South State Street, and it still plays an important role as the central offices for the school district.

During this same time period, there were other schools in southern Lancaster County. However, they were all three-year schools or second-class high schools. On September 23, 1947, eight townships surrounding Quarryville joined the borough to form and define Solanco School District. The nine municipalities included Bart, Colerain, Drumore, East Drumore, Eden, Fulton, Little Britain, and Providence Townships, and Quarryville Borough. Official district status was achieved in 1966. During this time, the one-room schoolhouses were phased out and elementary schools were built. Solanco Junior-Senior High School was opened in 1962 on the same site where Solanco High School now stands. Today, the Solanco School District includes four elementary buildings serving 1,687 students, two middle school facilities serving 935 students, and one high school serving 1,381 students.

The following elementary schools serve students in kindergarten through fifth grade:

Providence - 378 students	Bart-Colerain - 269 students
Quarryville - 499 students	Clermont - 541 students

Two middle schools (Swift with 468 students and Smith with 467 students) provide grades six through eight. Solanco High School, with 1,381 students, provides grades nine through 12. The total enrollment for the seven schools for the 2007-2008 school year is projected at 4,003.

In addition to the normal curricula, the School District provides facilities, programs and services for its learning-disabled and handicapped students. The School District participates in the Lancaster-Lebanon Intermediate Unit 13, Lancaster County Career and Technology Center, and Solanco Virtual Academy (SVA). SVA provides an on-line learning experience for selected

students. SVA utilizes BlendedSchools.net curriculum that is made available from the BlendedSchools consortium of school districts. The District's web site is www.solanco.k12.pa.us

Overall, the Solanco School District has proactively planned for population growth and development within its boundaries and has been able to allocate classroom space and District resources to accommodate the shifting trends in grade sizes and overall enrollments at each of its facilities. Local officials should feel confident that the School District is constantly monitoring population changes to assure that schools are not overcrowded and that curricula meets the needs of the Township's students.

In addition to primary and secondary education facilities, several trade schools, colleges and universities are located within a short commute of Providence Township.

Action-Oriented Recommendation

1. *Providence Township should continue to assist the School District in projecting future population changes, by providing information on development plans that are received by the Township, and maintain an open dialogue on changes in land use.*
2. *Locate future school facilities in rural centers, not agricultural areas. Future school facilities should be located in the Urban Growth Area or rural centers and not agricultural areas.*

PARKS AND RECREATION

The planning for both passive and active recreation opportunities is an important component of comprehensive planning. Proper recreation planning seeks to determine the level of demand and, where needed, facilities should be located to best meet that demand.

Recreation planners often classify parks into four distinct categories based on their size, population served, and intended use. These categories are regional parks, community parks, neighborhood parks, and lineal parks.

Regional parks, generally over 100 acres in size, are meant to serve a large geographic area, such as a county jurisdiction. Regional parks are located within a 1/2 to 1 hour driving time from the residents being served. These parks often have natural orientation, with hiking, hunting, camping, and picnicking facilities.

Within Lancaster County, several organizations are involved in the provision of regional recreational facilities. These include:

Lancaster County Parks - 1,081 acres

Pennsylvania Department of Conservation and Natural Resources (DCNR), Bureau of State Parks - 224 acres

Pennsylvania Department of Conservation and Natural Resources (DCNR), Bureau of Forestry
- 10 acres
Pennsylvania Fish Commission - 148 acres
Pennsylvania Game Commission - 8,031 acres
Quasi-Public Organizations (utilities, Lancaster County Conservancy) - 3,005 acres

Source: Lancaster County Outdoor Recreation Inventory, 1986

Presently, Providence Township includes portions of the Lancaster County Conservancy property (described in later portions of this chapter) and the potential lineal recreational facility associated with the Atglen-Susquehanna rail line (discussed below).

Community parks generally contain 25 or more acres and serve at a rate of 5 to 6 acres for each 1,000 residents. The recommended travel distance to a community park is 1 to 2 miles. These parks generally involve a fairly high level of improvement, with athletic fields and courts. Sometimes, swimming pools and indoor recreational features are included in community parks. Community parks may also include natural or environmental characteristics for passive outdoor recreation. Large school sites have facilities that are identified with community parks. Providence Township includes facilities at Providence Elementary School, located on Truce Road. Memorial Park in Quarryville Borough is another example of community parks located near Providence Township.

The National Recreation and Parks Association (NRPA) recommends 5 to 8 acres of land be devoted to community parks for each 1,000 residents. However, local officials must decide on an appropriate amount of community parkland based on features such as public input, types of parks needed/desired, land area targeted for park acquisition/development, and desired recreational improvements. The standards described by NRPA are only guidelines to illustrate general requirements to satisfy public recreational needs in a national context.

Neighborhood parks are generally between 1 and 10 acres and serve a population of up to 5,000 residents. Neighborhood parks serve residents located in a 1/2 mile radius. These parks provide close-to-home areas for limited athletic activities, playgrounds, and passive pursuits. The NRPA recommends 1 to 2 acres of neighborhood parks for each 1,000 residents. Local officials must decide on the appropriate amount of neighborhood parks based on recreational preferences and maintenance capabilities.

Linear parks involve a wide variety of shapes, sizes and uses. Generally, linear parks are narrow strips of land, and run for miles. Hiking, biking and jogging are the primary orientation of such parks; however, other uses could include snowmobiling, cross-country skiing, horseback riding, canoeing, etc.

The National Recreation and Parks Association does not suggest a minimum size per population for linear parks. Instead, it recognizes that these facilities are more dependent upon natural or built corridors that can be easily transformed for such use. For example, stream valleys and their floodplains, abandoned railroad lines, and major utility rights-of-way provide ideal opportunities for the creation of effective linear parks.

There is a potential for a linear recreational facility associated with the Atglen-Susquehanna rail line (also referred to as the Enola Branch Line). This linear park can enhance the recreational opportunities of local residents and visitors alike through the abandoned Atglen-Susquehanna rail line which runs east to west across the Township. This rail line has been specifically recommended for linear park development by the Lancaster County Regional Open Space Plan. The following is an excerpt from this plan describing the potential greenway development of this rail line:

“Atglen-Susquehanna Line

The proposed greenway runs from the Susquehanna River, east through the Borough of Quarryville, and continues to the border of Chester County - just south of the Borough of Christiana. Possible extensions to the greenway include a seven mile stretch adjacent to the Susquehanna River running north and ending at Turkey Hill. The potential of utilizing lands owned by the Solid Waste Authority for the creation of a trailhead at the closed Creswell Landfill does exist. Also, there is a possibility of connecting the greenway with the proposed Octoraro Creek regional park, the proposed Susquehanna River greenway, and numerous other important open space resources throughout the area.

“This greenway offers the best opportunity for the County to acquire a multi-use, long distance passive recreation trail. The greenway could potentially offer outdoor recreation experiences similar to the two rail-trails currently owned by the County—but on a much larger scale. The greenway offers opportunities for views of a variety of scenic landscapes, including the forested river hills and the Plain Sect farmland. Coordination with the municipalities along the corridor as well as conservation organization is essential. Volunteer groups should be formed to assist in maintenance, trail monitoring and improvement projects, as well as fund raising for the development of facilities.”

Because of the rural characteristics of Providence Township, the issue of parks and recreation has not been a priority. To date, the Township owns one recreational property consisting of approximately 14,000 square feet, at the intersection of Pennsy Road and Main Street. Recognizing Providence Township residents’ reliance on the Southern End Community Association for recreational resources, an annual financial contribution is made by the Township. Additionally, conservation of natural lands and open space is provided within Providence Township by the Lancaster County Conservancy. These facilities are discussed in greater detail later in the chapter.

Other recreational opportunities consist of facilities located at Providence Elementary, existing regional, County and State recreational facilities, as well as private, for fee commercial facilities.

Action-Oriented Recommendation

- 1. The Township should seek to create a cooperative program with the School District, to utilize School District and Township resources for recreation facilities. A cooperative program could result in recreation programs at the Providence Elementary School, particularly during the summer. Township and School District officials should first determine the level of need and opportunity for services.***
- 2. Norfolk Southern is in the process of conveying a portion of the Atglen-Susquehanna rail line to five municipalities that are under the jurisdiction of the County Subdivision and Land***

Development Ordinance. It is assumed that offers of conveyances to other municipalities will transpire in the near future. Providence Township, in Ordinance No. 04-03, expressed the intent to enter intermunicipal agreements for the preservation of an open space corridor along the rail line. Each municipality in the intermunicipal agreement (Conestoga, Martic, Providence, Eden, Bart, Sadsbury, and West Sadsbury Townships) has agreed to provide a minimum 30-foot wide open corridor along the rail line. Providence Township should continue to evaluate opportunities that are made available by the rail line and, when possible, coordinate this effort with other municipalities.

POLICE PROTECTION

Police protection is an obvious public service that benefits the Township's residents and businesses. The traditional role of the police involves:

- Law Enforcement - Application of legal sanctions, usually arrest, to persons who injure or deprive innocent victims of life or property.
- Order Maintenance - Handling of disputes, or of behavior which threatens to produce disputes.
- Community Service - The one most likely to occupy the major portion of an officer's time, is not necessarily related to criminal acts, and include such tasks as traffic control, rescue operations, animal control, and ambulance and first-aid services.

One measure of the adequacy of police protection is the number of officers per 1,000 population. The Pennsylvania Department of Community Development recommends 1.9 officers per 1,000 population, although variables such as land use patterns, density and intensity of land use, population characteristics, and the history of the number and type of police reports can alter such standards. If the Township applies the projected population for 2010 to the Pennsylvania average, 14 full-time officers will be warranted.

Because of the rural characteristics of Providence Township, the issue of local police protection has not been a priority. To date, the Township is provided with police protection from the State, County and a limited speed enforcement agreement with Quarryville Borough.

PENNSYLVANIA STATE POLICE

Providence Township relies on the Pennsylvania State Police, stationed in East Lampeter Township barracks, to provide police protection and service. This barracks is headquarters for the larger Lancaster County-Chester County Troop J.

The State Police provides police service to those municipalities that do not have police departments of their own or that operate police departments on a part-time basis. Secondary duties required of the State Police include, but are not limited to, patrol, crime investigation, accident investigation,

truck safety inspection, fire investigation, narcotic investigation, laboratory facilities, aviation assistance, SWAT teams, and safety education in schools.

Providence Township is part of a multi-municipal State Police coverage area. Although shifts and manpower often varies, the typical schedule includes a patrol car coverage of the Township 24/7.

The East Lampeter Township barracks of State Police Troop J is the dispatch building directly serving Providence Township. Equipment and personnel include vehicles, crime lab, polygraph machine, criminal investigation unit, narcotics investigation unit, Special Emergency Response Team (SERT, aka SWAT), and underwater service unit.

There are approximately 70 enlisted officers stationed at the East Lampeter headquarters of Troop J. This number includes supervisors and policemen on special assignment. Also included are criminal investigators, patrol officers, and administrative staff.

QUARRYVILLE BOROUGH POLICE DEPARTMENT

Providence Township has contracted, on an annual basis, with Quarryville Borough for police assistance with vehicle speed along major streets.

LANCASTER COUNTY SHERIFF'S DEPARTMENT

The Lancaster County Sheriff's Department is primarily responsible to:

- Service and enforce all orders of the Lancaster County Court of Common Pleas.
- Provide security and protection for the Court of Common Pleas and court-related functions.
- Provide security for the Courthouse complex.
- Transport prisoners to and from County, State and Federal institutions for court appearances.
- Assist other law enforcement agencies in the County as requested or in periods of emergency.
- Serve bench warrants and civil writs.
- Serve protection from abuse orders.
- Serve garnishments.
- Enforce child custody orders.
- Conduct levies, sales of personal property and real estate.
- Issue concealed weapons permits and licenses to sell firearms.
- Perform duties as requested by the Court of Common Pleas and the County Commissioners.

The Lancaster County Sheriff's Department has 45 full-time and 25 part-time uniformed and armed deputies. Part-time deputies are usually members of other law enforcement agencies who serve the Sheriff's Department on an as-needed basis for court security and prisoner transportation.

Action-Oriented Recommendation

The Township should continue to monitor the demand for police protection and provide supplementary services as needed. When considering police services, the Township should consider a cooperative agreement with nearby service providers.

FIRE PROTECTION

Fire protection is a basic public safety service that is vitally important to Providence Township. Fire protection is aimed at minimizing the loss of life and property due to fire and other hazards. The level of fire protection also affects the rate at which Township residents and business owners pay for insurance.

No fire stations are located within Providence Township. Four fire stations are assigned primary service area in Providence Township. The primary service area represents that area that an individual fire station has “first-call” responsibility for providing fire protection services. In addition to the primary service area, nearby fire companies provide mutual-aid assistance service. Mutual-aid assistance is established between neighboring fire companies to provide secondary support to the primary service company. This practice enables neighboring companies to augment their sometimes limited equipment stock to offer a wide range of firefighting capabilities.

Four fire companies service Providence Township. The Fire Service Areas Map, provided on page A-13 of the Appendix, identifies the service area.

A brief description of the fire companies is provided below.

WILLOW STREET FIRE COMPANY 5-12

The Willow Street Fire Company, organized in 1924, is located at 2901 Willow Street Pike.

Willow Street Fire Company provides first-due service to portions of Martic, Pequea and West Lampeter Townships. Personnel include 34 firefighters, 4 fire police and 9 line officers. Equipment includes:

Engine 5-12-1 - 1992 Sausbury Simon/Duplex featuring a 1,500 gpm Hale single stage pump, and 1,250 gallon water tank on board.

Engine 5-12-2 - 1997 Saulsbury Simon/Duplex featuring a 1,500 gpm Hale single stage pump, and 900 gallon water tank on board.

Truck 5-12 - 1987/2002 Pierce Arrow 110' platform featuring 1,500 gpm Waterous pump and a 200 gallon water tank on board.

Rescue 5-12 - 2003 Pierce Lance 10-person heavy rescue. The rescue has a 20-foot, non-walk in body, and a 10-ton A-frame derrick off the front. The rescue has permanent mounted winches. Amkus system, air cylinders fill station, and a light tower.

Squad 5-12-2 - 1989 Ford/P.L. custom ambulance used for fire police as a traffic control/crowd control vehicle.

Duty Vehicle - 1998 Ford Explorer 4X4 used for incident command at emergencies.

RAWLINSVILLE VOLUNTEER FIRE COMPANY 5-8

Founded in 1952, the Rawlinsville Volunteer Fire Company is located at 33 Martic Heights Drive, across the street from Clement's General Store.

For over 55 years, the Rawlinsville Volunteer Fire Company has served portions of Martic, Drumore, Providence, and East Drumore Townships, which accounts for over 65 square miles of first-due service area. The Rawlinsville Volunteer Fire Company has the third largest primary service area in Lancaster County.

Personnel include 47 firefighters, and 7 fire police. Equipment includes:

Engine 5-8-1 - 1998 Seagrave, featuring a 2000 gpm pump and carrying 1,000 gallons water. This piece includes push-button automatic transmission, traction-control, and an 8-man enclosed, stainless steel body and cab.

Engine 5-8-2 - A 1992 Pierce Dash featuring a 1,500 gpm top-mount pump, 500 gallon tank, and a raised roof, 6-man cab with 5 SCBA seats.

Tanker 5-8 - A 2000 Firecab, featuring 1,750 gpm single-stage Hale pump, 3,000 gallon poly tank, foam pro around the pump foam system, and a 475 hp Detroit 60 series with Allison transmission.

Squad 5-8 - A Ford Van utilized to transport Rescue Boat 58 to emergencies, and to transport additional personnel to the fire-ground, auxiliary use and training.

Command Car 5-8 - A Ford car utilized by line officers and for company business.

QUARRYVILLE FIRE COMPANY 5-7

Founded in 1903, the Quarryville Fire Company is located at 217 East State Street, Quarryville.

For over 104 years, the Quarryville Fire Company has served portions of Eden, Colerain, East Drumore, Providence, Little Britain, and Strasburg Townships, which accounts for over 98 square miles of primary service area. Quarryville Fire Company has the largest protection area in Lancaster County.

The Quarryville Fire Company station was built in 1935 and an addition was constructed in 1978. The station contains 6 vehicle bays. Personnel include 52 firefighters and 8 junior firefighters. Equipment includes:

Pumper 5-7-4 - A 1994 E-One Century Pumper equipped with a 1,250 gpm pump and a 1,000 gallon tank.

Truck 5-7-2 - A 1986 Mack CF LTI equipped with a 750 gallon tank and a 1,000 gpm pump.

Rescue 5-7 - A 1983 (refurbished in 1996) Mack MC Swab Rescue equipped with a 16-foot walk-in box and a full line of Hurst Rescue Tools.

Truck 5-7 - A 2003 Pierce Dash 2000 Chassis seating 6 firefighters includes a 500 HP Detroit Motor with Allison 5-speed automatic transmission, 95-foot Mid-Mount Pierce Aerial Platform, 4 Outriggers, 10 KW Onan Generator, 1,000 lb. tip load with water flowing at any angle, 2,000 gpm waterway with automatic fog and smooth-bore nozzles, bucket attachment for stokes basket, and parapet ladder.

Tanker 5-7 - A 2000 Mack CL / S&S - Tanker with 3,500 gallon tank and a 2,000 gpm pump. The tanker has two 10-inch side dumps and one 12-inch rear dump that can be operated from the cab or on the outside of the tanker.

Squad 5-7 - A 1994 Ford F-350 4-door pickup truck used to transport manpower and portable equipment to fires, rescues, public service calls, and trainings. The squad carries a Honda portable generator for lighting, small trash pump for public services, and Heart Start A.E.D. This unit also provides four-wheel drive.

Engine 5-7-5 - A 1992 GMC 3500 4X4 / Reading Utility body has a 360 gpm pump and a 225 gallon tank. It also carries a 400 gpm floatable pump for drafting water.

Command 5-7 - A 1992 Ford Crown Victoria for transport.

REFTON COMMUNITY FIRE COMPANY 5-9

Founded on October 4, 1920, the Refton Community Fire Company is located at 99 Church Street, Refton.

Originally the Big Four Fire Company, Refton Community Fire Company was formed along with Lampeter, New Danville and West Willow Fire Companies until February 27, 1929, when it was decided that each company become one of its own and so the Big Four Fire Company was disbanded. On September 11, 1942, the members decided to get chartered and be known as the Refton Community Fire Company. This became official October 23, 1942, when the charter was recorded in the Lancaster County Courthouse.

In 1999, Refton Fire Company expanded into a 2,900 square foot, three-bay wide, two-bay deep engine room. Refton Community Fire Company serves portions of Strasburg Township, Providence Township, Pequea Township, and West Lampeter Township.

Personnel include 23 firefighters. Equipment includes:

Engine 5-9-1 - 2004 HME Rescue Pumper, 1,750 gallon pump, 750 gallon tank.

Engine 5-9-2 - 1990 E-One, 1989 Ford, 325 HP Caterpillar Turbo Diesel, 5-speed automatic Allison, 1,250 gallon tank, 1250 gpm Hale mid-ship, single-stage pump, and Elkhart Stinger Deck Gun.

Engine 5-9-5 - 1973 International Loadstar 1700 All Wheel Drive, 4-speed automatic Allison, 500 gallon tank, 750 gpm and Hale front mount, single-stage pump.

Tamler 5-9 - 1998 New Lexington, 1998 Peterbilt 357, 435 HP Caterpillar Turbo Diesel, 5-speed automatic HD4060D, 3,500 gallon tank, 10-inch side and rear dump valves, 1,750 gpm Darley LDM single-stage pump, 6-inch inlets driver side, passenger side and front bumper. All have internal electric butterfly valves and Akron Appolo deck gun.

Action-Oriented Recommendation

The efficient provision of firefighting service in Providence Township is affected by the occasional lack of water. Since the Township does not have a municipal water supply, the fire companies must rely on tankers, ponds, cisterns, and creeks scattered throughout the Township for water to fight fires. Sometimes these water source sites are not easily accessible or are too far away from the fire scene. As a result, the fire company must truck water in via its pumper/tanker vehicles. The Township can facilitate water access and assist the fire company by the installation of dry fire hydrants at some of the existing drafting sites. The Township can also assist the fire company by creating small dams under bridges throughout the Township, thereby creating easily accessible reliable water sources. New drafting sites will require engineering, land acquisition, and permitting. Water access should be located uniformly throughout the Township so that all three fire companies do not have to travel far to draft water.

Within the proposed Urban Growth Boundary, located in the southeast corner of the Township adjacent to Quarryville, public water is anticipated to serve future development there. Public water systems should be designed to include fire hydrants which provide a highly accessible and effective source of water for fighting fires.

AMBULANCE SERVICE AND EMS

Ambulance service in Providence Township is provided in a similar manner to fire protection. Quarryville Community Ambulance recently merged into Susquehanna Valley Emergency Medical Services (Park Avenue, Quarryville Borough) and Providence Township Ambulance

Association (14 Pennsy Road, New Providence) provide primary response within Providence Township. Additionally, mutual-aid assistance is established between neighboring services to provide secondary support to the primary service company. This practice enables neighboring companies to augment their sometimes limited equipment stock to offer a wide range of capabilities.

Susquehanna Valley EMS serves an area of the Township located south of the Atglen-Susquehanna rail line (also referred to as the Enola Branch Line). The remainder of the Township is served by Providence Township Ambulance Association.

Susquehanna Valley EMS provides Advance Life Support throughout the Township from their regional stations.

HOSPITALS

Providence Township residents have easy access to hospitals in the vicinity of Lancaster City. Lancaster General Hospital is the largest hospital in the County, with 563 in-patient beds and 470 physicians and surgeons on active staff. The hospital's main facility is at 555 North Duke Street, in the City of Lancaster.

Located at 317 South Chestnut Street, Quarryville Borough, is the Walter L. Aument Family Health Center. The Health Center is a division of the Lancaster General Hospital and is staffed by medical doctors. The Health Center is a family practice center for the Lancaster General Hospital's family practice residency program. The Health Center offers a variety of services, including family practice, maternity care, emergency care, laboratory, x-rays, social worker, and licensed clinical psychologist.

In addition to a wide variety of diagnostic and therapeutic procedures, including EKGs, breathing test, hearing test, treadmill testing, sigmoidoscopy, and tympanometry are done at the Health Center. Minor surgical procedures are performed frequently and fractures can be casted if necessary.

LIBRARY

All public schools have libraries for their students. Quarryville Library Service, located at 357 Buck Road, Quarryville, serves Bart, Colerain, East Drumore, Eden, Fulton, Little Britain, Martic, and Providence Townships, and Quarryville Borough. The library, in addition to books, features tapes, videos and computers with internet access. Library services are also available at the colleges and universities located within a short distance of Providence Township.

MUNICIPAL OFFICES AND ADMINISTRATION

Providence Township was founded in 1853. Its name came from the village post office named New Providence, which first appeared in February 26, 1825.

Today, Providence Township operates under the Pennsylvania Second Class Township Code. A three-member Board of Supervisors are elected officials who each serve six-year terms. The Board of Supervisors serve both a legislative and executive manner and has the power to create semi-autonomous bodies of various sorts to implement a number of specified functions. The Board of Supervisors holds an annual organizational meeting the first Monday in January. At that meeting, they elect a chairperson and vice-chairperson among themselves. They also appoint residents to other municipal boards and community committees. The Board of Supervisors holds monthly meetings on the first Monday of each month at 7:30 p.m., unless rescheduled due to a conflict or holiday. Rescheduled meetings are advertised in the Lancaster newspapers.

In 1973, the Board of Supervisors appointed a Planning Commission. Five Township Planning Commission members serve four-year terms. The Planning Commission makes recommendations to the Board of Supervisors regarding policies that govern the development of land within the Township. The Planning Commission reviews all subdivision and land development plans submitted to the Township. The Planning Commission holds its meetings on the third Monday of every month at 7:30 p.m.

Providence Township staff consists of a municipal secretary, Zoning Officer and a six-member road maintenance crew. Providence Township also contracts annually for accountants, solicitor, engineer, and sewage enforcement officer.

Providence Township owns three properties. Property located at 200 Mount Airy Road contains the municipal building and maintenance facility on 7.15 acres. The municipal building is a 1,245 square foot conversion of the historic Mount Airy School (described as Historic Site No. 20, page 3-22). Also on the property are garage structures totaling 6,050 square feet.

Township property located at 38 Main Street, New Providence, is a 14,000 square foot park (described as Parks and Recreation in Chapter 7, page 7-3). Township property located at the rear of 2318 Beaver Valley Pike is 5.1 acres of woodland.

By Ordinance No. 04-03, Providence Township authorized intergovernmental cooperation by establishing membership in the Southern Lancaster County Municipal Council (SLCMC). The SLCMC consists of Bart Township, Christiana Borough, Colerain Township, Drumore Township, East Drumore Township, Eden Township, Fulton Township, Little Britain Township, Martic Township, Providence Township, Quarryville Borough, and Sadsbury Township. The primary purpose of SLCMC is for the administration and enforcement of the Uniform Construction Code.

Action-Oriented Recommendation

Providence Township should explore opportunities for a cooperative approach with other municipalities as future initiatives are being planned. The economics to be gained through cooperation and coordination of efforts with other municipalities have convinced many communities throughout Pennsylvania that an independent approach to some problems is clearly an unwise practice. Townships and boroughs in changing rural-suburban areas have recently become aware of the great savings and added efficiencies involved when forces and resources are united.

There are a number of cooperative and coordinated efforts taking place in Lancaster County and the greater region in which Providence Township is involved. Such a list includes the following:

Fire Protection

Mutual agreements have been made between Providence Township and volunteer fire companies in Rawlinsville, Quarryville and Refton for fire protection services.

Police Protection

In the absence of local law enforcement agencies, the Township relies on the cooperation of the Pennsylvania State Police and contracts for services from Quarryville Borough.

Communication

All calls for fire, police and ambulance assistance are channeled through the Countywide Communications system base in Lancaster.

School

The Solanco School District, encompassing Bart, Colerain, Drumore, East Drumore, Eden, Fulton, Little Britain, and Providence Townships, and Quarryville Borough, provides efficient and high quality education.

SANITARY SEWER AND WATER SYSTEMS

SANITARY SEWER

Public sanitary sewer service is provided in Providence Township by Quarryville Borough Authority. The area of service is limited to residential dwellings located along Groffdale Road and Evans Drive; and several other properties that front the Authority's convenience line to the treatment plant (located along PA Route 222 and Old Road). No additional capacity is reserved for use in Providence Township.

Providence Township contains a couple of private community treatment systems associated with specific developments. The remainder of Providence Township relies on individual on-lot sewer systems.

According to the Township’s Act 537 Sewage Facilities Plan, a fragmented development pattern and variable topography limit the design of a centralized sewage treatment plant for Providence Township.

Chapter 3, Environmental and Cultural Features, discusses land characteristics associated with on-lot sanitary sewer systems.

Quarryville Borough Authority - Sanitary Sewer System

Quarryville Borough Authority serves Quarryville Borough, and portions of Eden Township and East Drumore Township. Although the Quarryville Borough Authority system could service the northern portion of Colerain Township, no connections are anticipated.

The Quarryville Borough Authority system consists of collection, conveyance and treatment. The Authority bills for service directly to the property owners.

The Quarryville Borough Authority treatment facility is located in Providence Township, at Beaver Valley Pike and Old Road. The wastewater treatment system went into operation in 1961. Treatment plant expansion and modification has increased treatment capacity to the current 400,000 gallons of sewage per day. The treatment plant discharges into an unnamed tributary of South Fork, which is a tributary of Big Beaver Creek. In 2006, the plant treated an average of 311,000 gallons per day. The treatment plant has about 300 more connections available before reaching the maximum permitted gallons per day.

Quarryville Borough Authority is currently evaluating an expansion to the treatment plant. At the request of the Authority, Quarryville Borough, East Drumore Township, and Providence Township requested the following additional capacities:

East Drumore Township	60 EDU ¹
Providence Township	450 EDU
Quarryville Borough	300 EDU

Eden Township and Colerain Township do not anticipate a need for additional connections in the future beyond their current commitment.

The total requested capacity of the treatment plant expansion is approximately 190,000 gallons of sewage per day. The Authority intends to consider design options for expansion to the treatment capability for between 150,000 and 250,000 gallons per day.

After selection of the treatment plant expansion design, the Authority will evaluate construction funding options and seek financial commitments.

¹An EDU, or Estimated Daily Use, is the estimated amount of sewage a household produces in one day. Each EDU accounts for 237 gallons of sewage per day.

It can be anticipated that a per EDU cost associated with the expansion will be applied to the requested service from Providence Township and East Drumore Township.

Action-Oriented Recommendation

1. *Providence Township should continue to evaluate sanitary sewer service options with Quarryville Borough Authority.*
2. *Providence Township should direct the bulk of its future growth into an area which can be most efficiently provided with public sewer. This approach will offer efficiency to all public services efficiencies that are not available under suburban and rural sprawl.*
3. *The Township should provide higher density within the public sewer area to encourage the provision of public sewer.*
4. *Should development be proposed in planned sanitary sewer areas prior to the provision of public sewer, such uses should be required to have extra-wide lots, with side yard setbacks large enough to infill when public sewer becomes available. These areas should also be subject to a capped sewer ordinance, to facilitate the later connection to public sewer.*
5. *The Township should not allow new, large-scale developments outside of the sewer area, as they would contribute to groundwater degradation. While some limited rural uses must be accommodated, such uses should be scrutinized regarding their effects on groundwater quality; this would be accomplished through the preliminary hydrogeological requirements of the PA DEP module review process.*
6. *All non-sewer areas of the Township should be subject to an on-lot disposal system (OLDS) ordinance that requires routine maintenance of systems to include the pumping out of subsurface septic tanks.*

Chapter 3, Environmental and Cultural Features, identifies a significant number of malfunctioning on-lot systems located across the entire Township. The OLDS Malfunctions Map, provided on page A-9 of the Appendix, identifies these areas which tend to follow the linear development along existing roadways. Three common causes of malfunctioning systems are aged systems, hydraulic overloading, and failure to maintain systems. Strict enforcement of the OLDS program needs to occur if existing and future on-lot disposal systems are to function properly. Administratively, an OLDS program would require property owners to furnish a receipt by a licensed septic hauler once every three years, upon the request of the sewage enforcement officer.

7. *Residential units that rely upon on-lot disposal techniques should be provided with a minimum lot size of between one and two acres. This generally provides sufficient lot area for one on-lot disposal system and another, should the initial system fail. It is also advised that each lot be required to specifically test for, and reserve, an on-site location for the second drain field as part of its sewage permit compliance. Such alternate drain field should*

then be protected from all grading and construction activities, in the event it is activated due to malfunction of the initial system.

WATER SYSTEMS

Public water service is provided in Providence Township by Quarryville Borough. The area of service is limited to residential dwellings located along Groffdale Road, Evans Drive and Sunset Estates.

Water service to the remainder of Providence Township is dependent on groundwater secured by means of individual pumping from wells. Intensive agricultural production and malfunctioning on-lot sewer systems are two likely causes for area water quality problems. At such time as the Township prepares a 537 Sewage Facilities Plan, it is recommended that a hydrological analysis of groundwater quality be done.

Quarryville Borough Water - Water System

The Quarryville Borough system was built in the 1920's, at which time the Authority provided its own source water from springs. In 1959, the Borough became a customer of the Octorara Water Company, which is now Pennsylvania America Water Company (PAWC). The PAWC conveyed water through a 3.5 mile, 10-inch gravity, transmission main from the Mars Hill Reservoir. Currently, the Borough maintains a service contract with PAWC for reserve capacity, and typically purchases approximately 33,000 to 35,000 gallons per day from a meter pit located at along State Road.

The primary water source for the Quarryville Borough system is a well located along North Church Street. Water is pumped to a 648,000 gallon standpipe located along South Church Street. The Quarryville Borough system serves approximately 175,000 gallons per day. There is approximately three days' reserve capacity of water available in storage for system users.

The distribution network that conveys water throughout the system consists of approximately 10 miles of mains, with diameters ranging from 4 to 10 inches. Pipe material is transite pipe, cast iron, ductile iron, and PVC. The system has over 700 metered users, 81% of them residential.

Currently, there are no plans for expansion of the public water system.

Action-Oriented Recommendation

- 1. Providence Township should evaluate water service options with Quarryville Borough if new development is planned in an area that is serviceable from their system.*
- 2. At such time as the Township prepares a 537 Sewage Facilities Plan, it is recommended that a hydrological analysis of groundwater quality be done.*

CONSERVATION OF NATURAL LANDS AND OPEN SPACE

Lancaster County Conservancy (117 South West End Avenue, P. O. Box 716, Lancaster, PA 17608 (717) 392-7891, conserve@lancasterconservancy.org) is dedicated to permanently protecting natural lands and open space in Lancaster County for the health of the ecosystem, the enjoyment of the public, and the benefit of Lancaster County.

Established in 1969, the Conservancy is a private, membership-supported, nonprofit organization dedicated to the preservation of Lancaster County's (PA) rapidly diminishing supply of open land. The Conservancy focuses its energy and financial resources toward preserving open-space areas for continuing public recreation and educational use, and in providing methods and assistance by which concerned citizens can help protect these precious community assets through a variety of conservation tools.

With thousands of acres being lost each year to development, it is the Conservancy's purpose to maintain carefully selected portions of the County's open areas in their natural state. The Conservancy currently has over 3,340 acres already under protection.

Ray's Woods and a portion of Trout Run Nature Preserve (approximately 23 acres) are located in Providence Township. Ray's Woods is a 52.7-acre nature preserve comprised of mature forested areas, early succesional forested areas, and the stream corridor for a tributary of Trout Run. It is also an excellent habitat for a variety of wildlife. A trail starts at the parking lot by Laurel Drive and continues down the hillside before it loops back. There is a geocache box hidden on this preserve.

Trout Run Nature Preserve is a 123.59-acre nature preserve comprised of mature forested areas and the Trout Run stream corridor. There is a large variety of wildflowers that bloom in the spring. This property is a known nesting area for Louisiana water thrush. A trail overlooks the stream for the entire length of the property. There is also a trail that branches right along with the branching of the stream. A geocache is hidden on this property.

Chapter 8

ROADS AND HIGHWAYS

This chapter reports on available roadway characteristics, defines roadway function, and identifies roadway design standards. The contents of this chapter are limited by the amount of information currently available on the Township's roadways. An extensive field inventory of the roadway system would provide a clearer understanding of traffic volume, roadway geometric design, cartway conditions, and roadway function.

In an effort to better define the roadway capacities and safety issues, a detailed roadway inventory should be prepared for all public streets located within Providence Township. This inventory can serve as a means to prioritize roadway enhancements and project future road improvement cost.

This chapter describes the existing roads and highways, design standards and funding sources. Action-oriented recommendations are provided in ***bold, italics*** at the end of selected sections.

EXISTING ROADWAY NETWORK

Providence Township is composed of 69.44 miles of public roadways. The Pennsylvania Department of Transportation (PennDOT) owns and maintains 15.95 miles of the roadways, and the remaining 53.49 miles of roadways are owned and maintained by Providence Township. The Second Class Township Map, provided on page A-14 of the Appendix, identifies the roadways and mile segments

Providence Township is served by two major north-south highways (Lancaster Pike - PA Route 272 and Beaver Valley Pike - US Route 222). According to the Lancaster County Functional Classification Map, Lancaster Pike - PA Route 272 is classified as a Principal Arterial, and Beaver Valley Pike (US Route 222) is classified as a Minor Arterial. PennDOT reports the average daily trips (ADT) for Lancaster Pike at 12,000 to 18,000 ADT, and Beaver Valley Pike at 9,900 to 12,000 ADT. These highways experience the Township's highest ADT.

PA Route 372 (Holtwood Road, Buck Road, State Street, Valley Road) is the second highest traveled highway in the area. Located south of Providence Township, PA Route 372 provides regional east-west movements. According to the Lancaster County Functional Classification Map, PA Route 372 is classified as a Minor Arterial. The trip count for segments of PA Route 372 ranges from 4,900 to 5,400 ADT.

The remaining Township roadway network is a mix of collectors and local streets, with the more significant roadways being Pennsy Road, Rawlinsville Road, Clearfield Road, Truce Road, and Camargo Road.

BRIDGE REPORT

An important element of the transportation system is the physical condition of the bridges. Pennsylvania has the third largest number of bridges in the nation (approximately 25,000), but leads the nation in the number of bridges classified as “structurally deficient.” Despite a record level of investment since 2003, Pennsylvania has 6,400 structurally deficient bridges. A structurally deficient bridge is safe, but in need of costly repairs or replacement to bring it to current standards.

PennDOT has an aggressive bridge inspection program that regularly inspects all of Pennsylvania’s bridges at least once every two years. Structurally deficient bridges are inspected more frequently if their condition warrants. Weight restrictions and bridge closures are issued if deterioration causes safety concerns.

The following is the current PennDOT bridge report for Providence Township:

Location	Owner	Condition Rating
Pennsy Road, 1.7 miles east of Smithville, crossing a tributary of Big Beaver Creek	Township	<u>Deck & Superstructure</u> - Satisfactory; structural elements showing minor deterioration. <u>Substructure</u> - Good; some minor repairs.
Sawmill Road, 1 mile west of New Providence, crossing the NSRC Railroad	Railroad	<u>Deck, Superstructure & Substructure</u> - Good, some minor repairs.
Snyder Hollow Road, 0.1 miles west of Smithville, crossing Huber Run	Township	<u>Deck & Superstructure</u> - Very good. <u>Substructure</u> - Satisfactory; structural elements showing minor deterioration.
Mount Hope School Road, crossing Huber Run	Township	<u>Culvert</u> - Satisfactory; structural elements showing minor deterioration.
Sawmill Road, 0.8 miles east of PA 373, crossing Conrail Railroad	Railroad	<u>Deck & Substructure</u> - Good; some minor repairs. <u>Superstructure</u> - Very good.
Refton Road, at Providence and Strasburg Township line, crossing Beaver Creek	County	<u>Deck</u> - Excellent. <u>Superstructure & Substructure</u> - Satisfactory; structural elements showing minor deterioration.
Hollow Road, 1.6 miles west of New Providence, crossing a tributary of Big Beaver Creek	Township	<u>Culvert</u> - Satisfactory; structural elements showing minor deterioration.
Miller Road, crossing Huber Run	Township	<u>Culvert</u> - Satisfactory; structural elements showing minor deterioration.

ROADWAY SHOULDERS

A consistent issue with many of the roadways in Providence Township is the lack of shoulders. The Township should secure adequate street rights-of-way to accommodate roadway shoulders and lobby the State and County governments to obtain funding for the construction of these shoulders. New or increased widths of shoulders along arterial and collector roadways will help relieve some of the safety hazards that result from conflicts which occur between automobiles and non-motorized vehicles, such as Plain Sect communities' use of buggies, scooters and bicycles.

The Lancaster County Planning Commission specifically addresses the issue of shoulders in a Non-Motorized Vehicle Study. In this study, the Planning Commission identifies the elements that cause the conflict between automobiles and non-motorized vehicles.

The County Planning Commission's study analyzed cartway and shoulder widths, traffic volumes, and traffic accident data on many roads within the eastern half of Lancaster County. The study also held several meetings with representatives from the Old Order Amish and Mennonite sects to determine which roads were difficult to travel. Based upon the technical analysis and the concerns expressed by the Old Order Amish and Mennonite communities, the study recommends road improvements and signage to remind motorists that they share the road with non-motorized vehicles. Shoulders should be eight feet wide in order to safely carry Amish buggies and wagons.

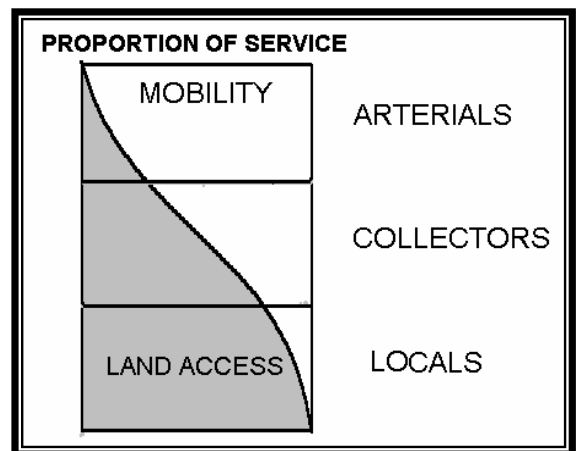
ROADWAY CLASSIFICATIONS AND DESIGN STANDARDS

Roadway classification refers to a system by which roads are described in terms of their function. In theory, roads provide for two separate functions. First, roads provide for the ability to go from one place to the next. Second, roads provide a measure of access to adjoining properties.

Transportation planners use these two roadway characteristics to determine a road's functional classification. The adjacent diagram depicts the relationship between roadway mobility and roadway land access for three general road types.

As the diagram reflects, roads that provide for greater mobility have a reduced access to adjacent land and vice versa. This important relationship should always be considered when planning for roadways or allocating future land uses.

According to the U. S. Department of Transportation, Federal Highway Administration, roadway classifications are first characterized by the type of community in which they are



located. Urban and rural areas have fundamentally different characteristics as to density of development, types of land use, density of roadway networks, nature of travel patterns, and the way in which all these elements are related in the roadway function.

Roadway classifications in Providence Township are based on a rural area designation. The Roadway Classification Map, provided on page A-15 in the Appendix, and the following written descriptions delineate roadway classifications.

RURAL PRINCIPAL ARTERIAL

Lancaster Pike - PA Route 272 is classified as a Rural Principal Arterial. This roadway classification represents a network of continuous routes having the following characteristics:

1. Serve corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel.
2. Serve urban areas with a population of 50,000 or more and a large number of areas with a population of 25,000 and over.
3. Provide an integrated network without stub connections only where geographic or traffic flow conditions dictate.

RURAL MINOR ARTERIAL

Beaver Valley Pike (US Route 222) and PA Route 372, located south of the Providence Township boundary, is classified as a Rural Minor Arterial. This roadway classification, in conjunction with the Rural Principal Arterial system, forms a roadway network having the following characteristics:

1. Link cities, larger towns and other major traffic generators that are capable of attracting travel over long distances and form an integrated network providing interstate and inter-county service.
2. Spaced at such intervals, consistent with population density, so that all developed areas are within a reasonable distance of an arterial highway.
3. Provide service to corridors with trip lengths and travel density greater than those predominantly served by rural collector or local systems.

Minor arterials therefore constitute routes whose design should be expected to provide for relatively high overall travel speeds, with minimum interference to through movement.

The following are design standards associated with arterial roads:

ARTERIAL ROAD DESIGN STANDARDS						
Design Standards	No. of Lanes and Width	Shoulders and Width	Border Areas and Width	Median Width	Right-of-Way Width	Design Speed (mph)
Maximum	5 x 12 ft.	2 x 10 ft.	2 x 20 ft.	6 ft.	126 ft.	50
Minimum	2 x 11 ft.	2 x 8 ft.	2 x 2 ft.	-	42 ft.	40

RURAL COLLECTOR

The Rural Collector routes primarily serve intra-county rather than Statewide, and constitute routes on which predominant travel distances are shorter than on arterial routes. Consequently, more moderate speeds are typical. Rural Collectors are sub-classified into the following categories:

Rural Major Collector - Providence Township roadways do not include Rural Major Collectors. These routes link places with nearby larger towns or cities, or with routes of higher classification, and serve the more important intra-county travel corridors.

Rural Minor Collector - Rawlinsville Road, Miller Road, Cinder Road, Hollow Road, Buck Heights Road, Camargo Road and Smithville road are classified Rural Minor Collectors. These routes are spaced at intervals, consistent with population density, to collect traffic from local roads and bring all developed areas within a reasonable distance of a collector road.

Rural Local Collector - Pennsy Road, Clearfield Road, Byerland Church Road (west of PA Route 272), Refton Road, and Camargo Road are classified Rural Local Collectors.

Similar to Rural Minor Collector roadways, these routes are spaced at intervals, consistent with population density, to collect traffic from local roads and bring all developed areas within a reasonable distance of a collector road. As a Rural Local Collector, these routes provide service to the crossroad communities and link the locally important traffic generators with their rural hinterland.

The following lists design standards for local collector roads:

RURAL LOCAL COLLECTOR ROAD DESIGN STANDARDS					
Design Standards	No. of Lanes and Width	Shoulders and Width	Border Areas and Width	Right-of-Way Width	Design Speed (mph)
Maximum	2 x 11 ft.	2 x 10 ft.	2 x 20 ft.	86 ft.	30
Minimum	2 x 10 ft.	2 x 4 ft.	2 x 2 ft.	32 ft.	30

RURAL LOCAL

All of the roads not previously classified as arterials or collectors are considered local roads.

The Rural Local roadways primarily serve as access to adjacent land and travel over relatively short distances, as compared to collectors or other higher roadway systems. These roads are intended to serve generally short trip lengths within neighborhoods. In outlying rural areas, local roads may run for greater distances and serve more individual properties; however, the sparsely-developed character of these areas prevents congestion problems.

The following describes the design standards for rural local streets:

LOCAL ROAD DESIGN STANDARDS					
Design Standards	No. of Lanes and Width	Shoulders and Width	Border Areas and Width	Right-of-Way Width	Design Speed (mph)
Maximum	2 x 11 ft.	2 x 8 ft.	2 x 8 ft.	54 ft.	25
Minimum	2 x 10 ft.	2 x 4 ft.	2 x 2 ft.	28 ft.	25

ROADWAY FUNDING

When local governments are faced with making roadway improvements, the first thing that comes to their mind is funding. Financing roadway improvement projects is a big dilemma. Projects on State road corridors are funded and built by PennDOT; however, these types of projects compete on a Statewide basis and funding levels are often low. Projects on PennDOT roadways may require joint PennDOT and County or Township financial participation.

Roadway funding also includes joint efforts between public and private sources. An example of a public/private-funded roadway improvement is the signalization at the intersection of Truce Road and State Route 272. Funding for the intersection improvement included a traffic and engineering study commissioned by local businesses. The Truce Road and State Route 272 intersection improvement received a first place award in the 26th Annual Road and Bridge Safety Improvement Contest, at the 86th Annual Educational Conference of the Pennsylvania State Association of Township Supervisors.

Some of the various funding programs available to help offset some of the costs associated with roadway improvements are described below:

HIGHWAY ACCESS OR CAPITAL IMPROVEMENTS FUND

This fund can be established as a special fund set aside for Township capital improvements. Funds could come from a special tax or the use of excess revenues or both. For instance, a specified amount of the Township's millage could be set aside for this fund. When this fund reaches

a certain size, it could then be utilized to contribute to a variety of capital improvement demands.

BORROWING

The Township could use its borrowing powers to raise funds for any specific project.

HIGHWAY TRANSFER OR ROAD TURN-BACK PROGRAM

This program has been sponsored by PennDOT since 1981. Under this program, PennDOT will bring a roadway up to current specifications and then dedicate or “turn it over” to the participating municipality. Annual maintenance fees may also be included by PennDOT. This is one method of restoring and improving aging and deficient roadways within the Township. This program can be pursued by contacting PennDOT's District 8-0 Engineer's Office in Harrisburg, PA.

IMPACT FEES

Some municipalities in Lancaster County have developed impact fees. Under this arrangement, the developer pays a set fee to the municipality for roadway improvements. Improvements can then be made to roadways and intersections impacted by the proposed development. Fees are established by a formula based upon the development impact using the number of trips generated during the peak hour.

TRANSPORTATION PARTNERSHIPS

Act 47 of 1985, as amended, provides for the formation of “partnerships” between municipalities and, in most cases, local developers and businesses. A formal partnership requires the designation of a transportation development district in which all improvements will take place and which assessments may be charged. PennDOT's office of planning is available for more information on transportation partnerships.

PENNDOT FUNDING

There is a great deal of competition among Pennsylvania municipalities for the limited funds available from PennDOT for highway improvements. Providence Township will need to actively work with the PennDOT District Office to make them aware of the specific problems and concerns identified within the Township.

LOCAL SHARE OF LIQUID FUELS TAX

This provides a permanent allocation of a part of the liquid fuels tax collected by the State for municipalities. Liquid fuels tax allocations may be used for any road-related activity including maintenance, repair, construction, or reconstruction of public roads or streets. The funding source for this program is the Bureau of Municipal Services, PennDOT; distribution of the funds is administered by Lancaster County.

LANCASTER COUNTY TRANSPORTATION GRANT FUND

The Lancaster County Planning Commission has established a Transportation Grant Fund for projects that will reduce congestion, increase safety, or provide matching funds for other grant

programs. The funding for this program is from the Liquid Fuels Tax revenues. Municipalities must submit their project requests by March 31 of each year to be eligible for consideration. It should be noted that municipalities can only apply for either the Liquid Fuels Tax revenues or the Transportation Grant Fund, but not both. Additional information is available from the Lancaster County Planning Commission.

FEDERALLY-FUNDED BRIDGE, CONGESTION, AND SAFETY PROJECTS

Through the Lancaster Metropolitan Planning Organization (MPO) and the Lancaster County Transportation Coordinating Committee, municipalities can seek federal funding for bridge, congestion mitigation and safety projects. Lancaster County Planning Commission staff serves as staff for the MPO, and typically projects are solicited from municipalities every two years when the Transportation Improvement Program (TIP) is updated.

Current existing and draft TIP projects are:

- SR 2019 - Main Street over Beaver Creek – replace 2 bridges
- SR 3016 - Fairview Road over abandoned railroad – replace bridge
- PA 272 - Resurfacing from Mt. Airy Road southward through Township

Action-Oriented Recommendation

1. *In an effort to better define the current roadway capacities and safety issues, the Township should prepare a detailed report on the physical roadway characteristics for all public streets located within its region. The report should also identify high traffic accident intersections and segments with analysis to determine if inadequate roadway or intersection design is causing repeated accident occurrences or whether some other element or combination of elements is causing these accidents. This report should serve as a means to prioritize roadway enhancements and project future road improvement cost.*
2. *The Township should consider the preparation of a plan and regulations for the management of access to streets classified as arterials and collectors. Access management is a process for providing access to land, while preserving traffic flow in terms of safety, capacity and speed. This is achieved by managing the location, design and operation of driveways, median openings, and connections to a roadway. It also involves use of auxiliary lanes, such as turn lanes or bypass lanes, to remove turning vehicles from through-traffic movement.*

Access management improves safe travel, preserves roadway level of service, and enhances community character. By preserving roadway level of service, access management helps protect the substantial public investment in transportation and reduces the need for expensive improvements.

3. *Future allocation of land uses along the various road types is another means for access management. Higher volume arterial and major collector roadways should be assigned land uses that take full advantage of the higher traffic volumes, without contributing to unnecessary congestion or safety problems. More intensive commercial, industrial and/or*

residential developments are obvious land uses that benefit from the improved mobility provided by arterial and collector classifications; however, these more intensive uses must be designed in a manner that minimizes driveway cuts, so that conflicting traffic movements are reduced and/or eliminated.

Chapter 9

FUTURE LAND USE PLAN

An important result of the Comprehensive Plan is identification of appropriate growth areas. This task utilizes all of the background information collected on natural features, public facilities, existing land use, population studies, and traffic patterns. Land uses are then allocated in a manner that responds to this information and the community's desires, as expressed in Chapter 2 - Goals and Objectives. The result is a future land use map that guides the Zoning Ordinance and helps properly prioritize future investment in infrastructures to maximize efficiency.

The Future Land Use Plan chapter was prepared according to several “ground rules.” An understanding of the following ground rules will lead to a better comprehension of the future land use recommendations.

FUTURE LAND USE PLAN GROUND RULES

1. Future land use is intended to address development until the year 2018. Future growth areas have been located and sized to accommodate growth that is projected during this time frame, consistent with the expressed Chapter 2 - Goals and Objectives. This staged future land use scheme:
 - A. Reduces the loss of productive farmlands,
 - B. Identifies development areas so that public improvements and services can be provided efficiently to a compact area, and
 - C. Focuses on infill development in and around existing settlements.
2. The Future Land Use Map, provided on page A-16 of the Appendix, acknowledges the majority of existing land uses while specifically omitting many scattered residences, small businesses, and industries that are widely dispersed throughout the Township. This deliberate omission portrays a future vision that halts the previous land use policies in favor of the new land use plan. The omitted land uses will rely on the Zoning Ordinance's nonconforming use provisions.
3. Areas of the Township that are dependent on on-lot sanitary sewer systems will be subject to an on-lot disposal system (OLDS) management program. This program requires, by ordinance, routine maintenance of systems to include the “pumping out” of subsurface septic

tanks. Strict enforcement of the OLDS program needs to occur if existing and future on-lot disposal systems are to function properly. An OLDS program should require property owners to furnish a receipt by a licensed septic hauler once every three years upon the request of the sewage enforcement officer.

4. The Future Land Use Map utilizes specific land use categories that are intended to specifically guide the Zoning Ordinance designations. Each land use category is intended to be implemented by a specific zone in the Zoning Ordinance.

However, certain land uses like public facilities and conservation areas (floodplain, wetland, woodland, etc.) are not normally implemented by a separate zone. These land uses are generally allowed within another compatible zone.

URBAN GROWTH AREAS

As noted in Chapter 6, Lancaster County encourages the use of cooperatively-established Urban Growth Areas (UGA), within which the majority of future growth is encouraged to be directed. These are areas within which a full range of public facilities and services are possible, thus enabling more compact and efficient development patterns.

A major purpose of the UGA is to discourage the premature rezoning of land for development, through a formalized UGA adoption and amendment process. When lands outside an adopted UGA are proposed for rezoning, it should first be demonstrated that no lands planned and zoned for that use are available for development within the UGA, or that a mistake has been made which compels the rezoning. Only then should the Comprehensive Plan be amended to add land within the UGA and an appropriate plan designation on the Future Land Use Map. If the amendment is adopted, the lands would then be rezoned consistent with the plan designation.

The Future Land Use Plan, provided on page A-16 of the Appendix, delineates a UGA of approximately 827 acres (6.4% of the Township) adjacent to Quarryville Borough. A portion of the UGA contains a mix of existing residential and commercial land uses.

Future land uses that are located within the UGA anticipate a higher intensity when served by public sanitary sewer and water facilities. Lower intensity future land uses are located outside the UGA.

The process of delineating the UGA is complementary and reinforces the Lancaster County Comprehensive Plan. The UGA provides twice the projected 10-year growth area based on the projections in Chapter 4 of the Comprehensive Plan.

Action-Oriented Recommendation

The Township should adopt an Urban Growth Area and re-examine the UGA together with Lancaster County every five years, utilizing updated criteria employed in the establishment of the current area.

FUTURE LAND USES

AGRICULTURE

Four specific objectives related to future agricultural land use were expressed by the Township.

1. Discourage development of Class I, II and III soils and other historically-farmed areas of Providence Township.
2. Protect agricultural areas from incompatible adjacent uses.
3. Permit farm occupations and farm-based businesses to supplement farm income.
4. Promote the enrollment of farms in Agricultural Security Areas.

Chapter 3 identifies the areas of the Township that are comprised of prime agricultural soils. Chapter 5 identifies 52% of the Township that is comprised of agricultural uses. Like much of Lancaster County, Providence Township is planned to include a large component of agriculture over the term of the Comprehensive Plan. The Future Land Use Plan delineates an agricultural area of approximately 8,890 acres (69.3% of the Township). Areas designated Agriculture possess concentrations of prime farmlands or are existing farmed lands. Planned agricultural areas specifically complement most of the adjoining municipalities' agricultural planning and zoning designations.

As for much of Lancaster County, farming is Providence Township's primary industry. Areas appropriate for continued agricultural use have been designated Agriculture. The Agriculture designation will protect and promote agriculture as an important sector of the economy and minimize potential conflicting uses. In addition, the Agriculture designation will accommodate farm-related businesses and other farm-related commercial and industrial uses as agriculture support uses.

All farming is not alike. In recent years, intensive livestock and poultry operations have sprung up within Lancaster County. Often, these operations involve several massive buildings on relatively small farms. Lot coverage of these operations is extensive and has storm water management implications. Furthermore, the acute odor impacts associated with these operations can be greater than those associated with typical tilling operations. Uncontrolled livestock stream crossings and grazing can create acute, localized surface water degradation. Finally, the management of farm animal waste is of critical concern in these high animal density farms. Intensive livestock and poultry operations should be regulated with specific criteria imposed to minimize adverse impacts.

While farming dominates the land use within this classification, other limited uses provide benefits to the farming community. First, a number of rural nonfarm residences have been included in lands planned Agriculture. This reflects the fact that many of these residences were, and will continue to be, permitted under applicable agricultural zoning. Other existing residences and uses in the agricultural areas will become nonconforming, to minimize the potential for further subdivision and to promote compatibility with adjacent farming operations.

A limited amount of new residences should continue to be permitted in agricultural areas tied to parcel size and effective agricultural zoning provisions. Such residences should be:

1. Sufficiently sized to accommodate one approved on-lot sewage disposal system, and one replacement system,
2. Located to minimize loss of valuable farmland,
3. Grouped with other adjoining residences, and
4. Designed to minimize property lines shared by active farmland.

Farm occupations should continue to be permitted in the Agriculture area as an accessory to agriculture when impacts on the environment, municipal services, adjacent landowners, and traffic are minimal. The limited number and isolated occurrences in the Agriculture Zone should minimize the loss of valuable farmland.

To reduce local groundwater and regional surface water pollution, farmers should be encouraged to use sound conservation practices, including streambank protection. Soil conservation keeps productive topsoils in place, thereby reducing sediment load in surface water and minimizing the need for fertilizers. In May, 1993, the Pennsylvania State Legislature enacted a Statewide Nutrient Management Law. This law is administered by the State Conservation Commission through the Lancaster County Conservation District. Farm operators are required to develop and implement a nutrient management plan if animal density exceeds 2,000 pounds of livestock or poultry for every acre of land suitable to receive animal manure.

Areas planned Agriculture include less productive farmland and woodland that are not currently needed for development. As such, they should be kept relatively free of rural development, to provide potential paths for expansion of the UGA. To this end, the designation areas are intended to implement the provisions of the Agriculture Zone.

Action-Oriented Recommendation

1. *Areas planned for Agriculture should be subject to effective agricultural zoning that limits speculative development in favor of continued farming.*
2. *Intensive livestock and poultry operations should be regulated with specific criteria imposed to minimize adverse impact.*

3. *To reduce local groundwater and regional surface water pollution, farmers should be encouraged to use sound conservation practices, including streambank protection.*
4. *Residential lots in the agricultural area should be sufficiently sized to accommodate one approved on-lot sewage disposal system, and one alternative system. Additionally, local maintenance procedures should be established to require the periodic pumping-out of septic tanks so that on-lot systems might be less apt to fail.*
5. *Farm occupations should be permitted in the agricultural area, but subject to strict zoning regulations that assure their compatibility within a rural context.*

RESIDENTIAL

Before specific recommendations are provided for each of the residential land use categories, some general recommendations regarding residential land use are offered.

1. Chapter 4 of the Comprehensive Plan projects a 10-year housing need of 197 dwellings.
2. It is recommended that 80% of future residential growth occur within the Urban Growth Area. This is consistent with the expressed Chapter 2 - Goals and Objectives of the Comprehensive Plan, as well as the County Comprehensive Plan and Department of Environmental Protection's (DEP) increased reliance on the use of public utilities for planned growth areas, and greater restrictions on the use of on-lot disposal systems in rural areas.
3. Providence Township, as with every municipality, is responsible to provide a variety of housing types. It is important that the proper amount and location of these various housing types be compatible with adjoining, existing development, planned uses and infrastructure.

Residential land uses have been divided into Rural Residential, Suburban Residential and Mobile Home Park. The Future Land Use Plan designates approximately 1,091 acres of developed and undeveloped lands (8.5% of the Township) to Residential, and approximately 580.5 developed and undeveloped lands (4.5% of the Township) to Suburban Residential.

The following table identifies needed residential units and acreages for each residential category:

10-YEAR RESIDENTIAL LAND NEEDS			
Residential Category	Density	New DU's (%)	Needed Vacant Land
Rural Residential ¹	1 or Less DU/AC	40 (20%)	85 Acres
Suburban Residential	4 to 7 DU/AC ²	157 (80%)	80 Acres
Mobile Home Park	4 to 7 DU/AC ²	0	0
Totals		197 (100%)	165 Acres
¹ An additional small portion of the Rural Residential development is expected in the agricultural areas of the Township. ² The development density assumes public sanitary sewer and water facilities. Development that occurs with on-lot utilities should be limited to the Rural Residential density of 1 or less DU/AC.			

Given the above figures, Providence Township needs to provide 165 acres for residential development to the year 2018. The Future Land Use Map allocates approximately 120 acres of undeveloped Rural Residential and approximately 300 acres of undeveloped land for Suburban Residential land uses. A small portion of residential development will be accommodated in the Agriculture areas.

The 10-year Residential land use needs do not include mobile home parks. According to the housing trends identified in Chapter 4, Population and Housing, the current percentage of mobile home units in the Township greatly exceeds the regional or Countywide average.

Action-Oriented Recommendation

1. *Provide for the number of residential uses according to the 10-year growth projections.*
2. *Areas planned for residential use should be largely developed before additional farmlands are planned and rezoned for development.*

RURAL RESIDENTIAL

The Rural Residential designation is intended to be applied to those areas characterized by existing rural development, minimal amount of prime agricultural soils, significant amount of development constraints, and/or environmental features of concern. The Rural Residential designation reflects the same category of land use as Rural Neighborhoods in *Balance, The Growth Management Element, April 2006, A Comprehensive Plan for Lancaster County, Pennsylvania*. These areas are intended to receive infill development only, as they do not offer any significant level of public or private facilities or services that support intense growth.

Rural Residential includes Truce and New Providence as Crossroads Communities. Crossroads Communities are only appropriate for development that is compatible with the traditional character and small scale of these communities and which is supported with infrastructure. Crossroads Communities are not expected to have public water and sewer.

Appropriate uses in Rural Residential areas include single-family dwellings, individual mobile homes, and other accessory and compatible uses. Lots located in the Rural Residential designated areas should be sufficiently sized to accommodate one approved on-lot sewage disposal system, and one alternative system. Minimum lot sizes should be between one and two acres per dwelling unit, or larger if needed to accommodate the on-lot systems.

Rural Residential areas currently rely upon on-lot sewage disposal systems and on-lot wells that are experiencing problems with water quality, water quantity, or malfunctioning on-lot septic systems.

At some point in the future, it may be necessary to examine the desirability of developing alternative wastewater and community water systems in these areas. Such systems could support the limited expansion of these areas. Without such systems, these areas should not be expanded. At such time as the Township prepares a 537 Plan, it is recommended that a hydrological analysis

of groundwater quality be done as a guide to determine where any such systems might be appropriate.

Standards in the Rural Residential areas should encourage the placement of rural homes in small groupings so as to promote neighborliness and social interaction, and facilitate the protection of environmental features. This will also aid in the collection of trash, facilitate the delivery of mail, and assist in the pick-up of students by school buses, as these functions can be carried out at one point rather than at scattered locations. The use of shared roadway access can also be particularly useful in accomplishing the above.

Action-Oriented Recommendation

1. *Zoning requirements for the Rural Residential district should specifically indicate that minimum lot area requirements are subject to PA DEP approval, and may be increased where necessary to facilitate an on-lot disposal system that does not degrade local groundwater.*
2. *Lots located in non-sewered areas should be required to specifically test for and reserve an on-site location for a second drain field as part of its sewer permit compliance.*
3. *Non-sewered areas of the Township should be subject to an on-lot disposal system (OLDS) management program.*

SUBURBAN RESIDENTIAL

Suburban Residential is intended to encourage a greater density of residential development and a variety of housing types within the Urban Growth Area, to take advantage of the opportunity for a full range of public services and facilities. However, more dense residential development can only be accommodated with public sanitary sewer and water facilities. Density should therefore be on a sliding scale related to the method of utility service.

Appropriate uses in the Suburban Residential area include single-family dwellings, duplexes, townhouses, and multiple-family dwellings. The area designation for Suburban Residential is adequate to accommodate these housing types.

It is very important to encourage a healthy mix of housing types within the Suburban Residential area, to assure that the Township provides for its fair share of low and moderate income housing. It is recommended that all dwelling types be permitted either outright or subject to clear and objective approval standards, and that incentives be provided to encourage a mix of housing. It is also recommended that single-family dwellings be permitted on relatively small lots, to avoid allegations of exclusionary zoning practices.

With large properties located within the Suburban Residential area, the Township has an excellent opportunity to promote innovative development patterns by encouraging cluster development and/or “livable community.” In either case, the Township should require approval of a

conditional use for such development types with slight density bonuses awarded for the inclusion of desired recreation, civic, and other amenities.

Cluster developments involve the grouping of dwellings on a portion of the site and reserving the remainder for open space, usually that area characterized by natural features or development constraints. The open space area could comprise between 30% and 50% of the site, and is usually maintained by a homeowners association, or dedicated to the Township. This results in an increased density on the portion of the tract that is developed, and can result in cost savings to developers because of the compact provision of utilities and services. An additional density bonus of one to two dwellings per acre would provide a good incentive for the use of a cluster development provision. A cluster development should require a mixture of needed housing types.

In return for allowing higher development densities, the Township could receive yet additional amenities from developers through the development of a “livable community.” Such a development seeks to recreate village settings that:

1. Incorporate important natural and cultural features.
2. Provide a diversity of housing types, sizes, and costs.
3. Increase reliance upon pedestrian movements.
4. Efficiently use infrastructure and services.
5. Reflect historic and traditional building styles of the area.
6. Feature civic uses and open spaces as community focal points.
7. Provide safe, efficient, and compatible linkages with land uses, streets, sidewalks, etc.
8. Invite regular and frequent social interaction among its residents.
9. Blend all of the above-described features in a way that promotes community identification.

To accomplish the above-described objectives, innovative approaches to development regulations will be required along with bonus density provisions.

Action-Oriented Recommendation

1. *In areas served by public utilities, all types of dwellings should be permitted, incentives be provided to encourage a mix of housing, and single-family dwellings be permitted on relatively small lots.*
2. *Areas not served by public utilities should specifically indicate that minimum lot area requirements are subject to PA DEP approval, and may be increased where necessary to*

facilitate an on-lot disposal system that does not degrade local groundwater. It is also advised that each lot be required to specifically test for and reserve an on-site location for a second drain field as part of its sewer permit compliance.

3. *Areas not served by public utilities should be subject to an on-lot disposal system (OLDS) management program.*

MOBILE HOME VILLAGE

The Future Land Use Map delineates existing, large mobile home villages located throughout the Township. This land use provides an important opportunity for higher density and affordable housing in the Township. The Mobile Home Village designation accounts for approximately 180 acres.

According to the 2000 Census, mobile home units account for 32% of the total housing in the Township. The average percentage of mobile homes in the Solanco School District is 17%. The Township's current mobile home housing stock significantly exceeds the region; therefore, no new land use designation is provided on the Future Land Use Map.

The existing mobile home villages are, for the most part, well-designed and aesthetically pleasing. As the mobile home villages age, care must be taken to ensure that their occupants have access to an appropriate, safe, sanitary, and attractive living environment.

Action-Oriented Recommendation

Review mobile home park regulations to maintain safe, sanitary, and attractive housing conditions for the benefit of the residents.

COMMERCIAL

Chapter 5 identifies the concentration of existing commercial land uses located along Lancaster Pike (PA 272) and Beaver Valley Pike (US 222). The Future Land Use Map confines the location of commercial uses to areas with existing commercial uses. The Commercial designation reflects the same category of land use as Rural Commercial in *Balance, The Growth Management Element, April 2006, A Comprehensive Plan for Lancaster County, Pennsylvania*.

The Future Land Use Map designates approximately 339 acres (2.6% of Township) of developed and undeveloped Commercial land. Planned Commercial uses are local commercial, office and highway commercial uses. Commercial regulations should limit the types and sizes of such uses to ensure their local orientation, as opposed to big business, shopping centers, and big box stores.

Regulations implementing the Commercial use should limit the number of driveway cuts to preserve the primary function of highways for mobility. Outdoor storage, off-street loading, and parking should be managed. Design standards should encourage functional, yet attractive sites when viewed from adjoining properties and roads. This would involve required landscaping, screening, buffering, and a limitation on freestanding signs.

Action-Oriented Recommendation

1. *Overall size of commercial uses should be limited so as not to exceed its local orientation, nor provide an incentive for the demolition of existing, and in many cases historical, buildings in favor of more modern, commercial building styles.*
2. *Requirements should be established to preserve the "rural" character of the area.*
3. *A coordinated development scheme should be encouraged by promoting shared use of parking, access drive, loading, and signage so as to reduce the visual clutter which is common to commercial areas.*
4. *In order to enhance the character of the area, outdoor storage should be prohibited and screening/landscaping be required.*

INDUSTRIAL

Chapter 5 identifies a concentration of existing industrial land use located along Lancaster Pike (PA 272), at the southern boundary of the Township. The Future Land Use Map confines the location of industrial uses to the area where industry exists and is permitted by current Zoning Ordinance provisions. The Future Land Use Map allocates approximately 114 acres (0.009% of Township) of developed and undeveloped Industrial uses.

As noted under Agriculture use, farming is Providence Township's primary industry. The Agriculture designation will protect and promote agriculture as the important sector of the economy.

The Industrial designation is suitable for a variety of light and heavy industrial uses. Regulations for industrial uses should allow for small, start-up businesses and light industry as permitted uses. Other heavier and potentially more objectionable industries should require the obtainment of a conditional use. The benefits of the conditional use are:

1. Complete description of the nature of the proposed uses.
2. Opportunity for residents to express comments on the use.
3. Professional review assistance to the Township on the impacts of the use.
4. Imposition of reasonable conditions of approval to mitigate any negative effects of the use.

Regulations implementing the Industrial designation should limit the number of driveway cuts and manage signage, outdoor storage, off-street loading, and parking. Design standards should encourage functional, yet attractive, sites when viewed from adjoining properties and roads. This would involve required landscaping, screening and buffering. Prospective industries should demonstrate compliance with all applicable Federal and State operations standards.

Action-Oriented Recommendation

1. *Industrial uses should allow for small, start-up business and light industry as permitted uses. Other heavier and potentially more objectionable industries should be regulated with specific criteria imposed to minimize adverse impact.*
2. *Industrial regulations should (1) limit the number of driveway cuts and freestanding signs, (2) manage outdoor storage, off-street loading and parking, (3) encourage functional and attractive properties when viewed from adjoining properties and roads, and (4) require landscaping, screening and buffering.*
3. *Prospective industries should demonstrate compliance with all applicable Federal and State operations standards.*

CONSERVATION

The conservation area designation is assigned to the Atglen-Susquehanna Rail Line, Lancaster County Conservancy properties (Ray's Woods Nature Preserve and Trout Run Nature Preserve), and the Snyder Hollow Road corridor that exhibits a unique and valued environmental feature. The Conservation designation accounts for approximately 1,639 acres (12.7% of the Township).

The Atglen-Susquehanna Rail Line and Lancaster County Conservancy properties are described in Chapter 7, Community Facilities and Services. These areas are permanently protected natural lands and open space for the health of the ecosystem and benefit of the public.

The Snyder Hollow Road corridor is the Township's largest area that is composed of sensitive natural features and severe development constraints that either should not be developed, or which can support only very limited development without a detrimental effect to the environment. This corridor includes woodland, steep slopes, wetlands, and floodplains. The corridor provides an excellent opportunity to preserve a unique natural and scenic feature of the Township. Protection of the Snyder Hollow Road corridor could be provided by a specific conservation zone.

Other, smaller locations throughout the Township contain sensitive natural features with severe development constraints such as steep slopes, wetlands, and floodplains. Providence Township has floodplain and steep slope protection as an overlay zone in the Zoning Ordinance. State and Federal wetlands laws should protect these areas. Chapter 3, Environmental and Cultural Features, does not identify these areas in sufficient detail to become the basis for design controls. It is recommended that areas identified in Chapter 3 be used as a triggering mechanism for detailed investigations through Township development regulations. The proper administration of these regulations will result in the protection of sensitive environmental features.

Action-Oriented Recommendation

Limit development in areas with sensitive environmental features by either directing development away from the areas, as depicted on the Future Land Use Map, or by creating an overlay zone that prescribes specific guidelines for use of environmentally sensitive lands.

WOODLAND

The Future Land Use Map delineates approximately 4,222 acres (32.9% of the Township) as significant stands of woodland. Woodlands are areas of land that are dominated by trees, including tree lines. Woodland areas also contain other sensitive, natural features with severe development constraints, such as steep slopes and floodplains.

Woodlands reduce storm water runoff, prevent erosion, aid aquifer recharge areas, provide valuable wildlife habitat, reduce the effect of air pollution, and enhance the natural and scenic character of the Township. Woodland areas are a valuable resource that should be protected from indiscriminate cutting, particularly on steep slopes, floodplains, and along streams.

Because of extensive agriculture and development in the Township, woodlands throughout the Township are spotty. The Future Land Use Map does not identify these areas in sufficient detail to become the basis for design controls. It is recommended that these areas be used as a triggering mechanism for detailed investigations through Township development regulations.

Woodlands can be protected in an overlay zone where the environmental feature is protected, while allowing the land use designation in the underlying zone. Thus, agriculture or development in woodland areas will minimize impacts on sensitive environmental features.

Action-Oriented Recommendation

1. *Use the Future Land Use Map as a triggering mechanism to the identified woodland areas for detailed investigation.*
2. *Limit development in woodland areas by an overlay zone that prescribes specific guidelines for preservation of woodlands.*

IMPLEMENTATION STRATEGY

The prior chapters of the Comprehensive Plan outline a future direction for Providence Township over the next 12 years. In order to move forward with the Comprehensive Plan, an implementation strategy is provided in this chapter.

The following table identifies a specific task for each action-oriented recommendation in the Comprehensive Plan.

Chapter 3 - Environmental and Cultural Features	
Action-Oriented Recommendation	Task
<p>Geology (page 3-4) - Future development in areas that are underlain by significant amounts of limestone should be cautious of the unstable nature of limestone, aware of particular groundwater quantity and quality characteristics, protective of the agricultural richness of the resultant soils, and wary of the reliance upon on-lot sewage disposal methods.</p> <p>Drilling for domestic or public water supply within areas underlain with limestone should be thoroughly and routinely tested for contamination.</p>	<p>Review and if necessary revise Subdivision and Land Development Ordinance provisions for development in limestone areas.</p>
<p>Prime Farmland (page 3-7) - Preserve areas with prime agricultural soils and the continuation of agriculture as a sound economic activity in the Township.</p>	<p>Review and if necessary revise Zoning Ordinance provisions for the preservation of productive farmland.</p> <p>Maintain an Agricultural Security Area within the Township.</p> <p>Continue a coordinated effort to preserve prime farmland with the Lancaster County Agricultural Preserve Board and Lancaster Farmland Trust.</p> <p>Continue to work with the agricultural community to explore other means to preserve as much agricultural land as possible.</p>
<p>Development Constraints (page 3-8) - Prohibit or minimize disturbance of areas with development constraints.</p>	<p>Review and if necessary revise Zoning Ordinance, Subdivision and Land Development Ordinance and Storm Water Management Ordinance to require that development complement constrained lands.</p>
<p>Topography (page 3-9) - Establish slope management techniques for disturbance of land cover in areas with slope of 15% or greater.</p>	<p>Review and if necessary revise steep slope provisions of the Zoning Ordinance, and Subdivision and Land Development Ordinance to require that development complement constrained lands.</p>

Chapter 3 - Environmental and Cultural Features	
Action-Oriented Recommendation	Task
<u>Ecological Resources (page 3-11)</u> - Protect unique natural habitats and features by preventing development from getting too close.	Review and if necessary revise the Zoning Ordinance, and Subdivision and Land Development Ordinance to require that development complement constrained lands.
<u>Wetland (page 3-13)</u> - Protect wetlands by preventing disturbance of land cover in areas delineated as wetland.	Review and if necessary revise Zoning Ordinance, Subdivision and Land Development Ordinance and Storm Water Management Ordinance to require that development complement constrained lands.
<u>Storm Water Management (page 3-14)</u> - In an effort to further improve storm water management standards, regulations should include Best Management Practices to protect and improve water quality.	Review and if necessary revise Storm Water Management Ordinance to require development complement constrained lands.
<u>High-Quality Waters (page 3-16)</u> - Every attempt should be made to preserve the water quality of these streams, by prohibiting intensive development that is not served by public utilities and reducing harmful pollutants in storm water runoff through the use of riparian buffers.	Review and if necessary revise Zoning Ordinance, and Subdivision, Land Development Ordinance and Storm Water Management Ordinance to require disturbance of land preserve water quality.
<u>Floodplains (page 3-18)</u> - Restrict encroachment onto the floodplain, thereby reducing the threat of undue destruction of property.	The Township should continue to participate in State and Federal floodplain protection programs. Review and if necessary revise Zoning Ordinance, Subdivision and Land Development Ordinance and Storm Water Management Ordinance to require development complement constrained lands.
<u>Hydrogeological Analysis (page 3-19)</u> - Continue to monitor nitrate levels and malfunctioning on-lot septic systems through data collected in the permit process.	Prepare a revised Official Sewage Plan (Act 537 Plan). Consider adoption of an on-lot disposal system (OLDS) management program.
<u>Historic Sites (page 3-25)</u> - Employ protective measures for preservation of historic resources.	Support the Historic Preservation Trust of Lancaster County in their efforts relating to historic preservation in the Township and the identification of historic sites. Maintain an up-to-date inventory of historic properties, including a general description of their significant attributes. Consider Zoning Ordinance and Subdivision and Land Development Ordinance provisions that complement historic sites.

Chapter 4 - Population and Housing	
Action-Oriented Recommendation	Task
<u>Housing Trends (page 4-9)</u> <u>Population and Housing Projections (4-14)</u> - Assure that residents have a balanced opportunity for one-unit attached and multi-family dwellings.	Review and if necessary revise the Zoning Ordinance to ensure that a range of housing types and densities are provided to meet the needs of different household ages, sizes and income levels. Upon release of the 2010 U.S. Census data, the population projections should be revised and the housing analysis adjusted to reflect current data.

Chapter 4 - Population and Housing	
Action-Oriented Recommendation	Task
<p>Housing Affordability (page 4-13) - Consider provisions that encourage affordable housing and removes unnecessary expenses that increase housing cost.</p>	<p>Rental housing and other higher density housing units should be encouraged within areas with public sewer and water service.</p> <p>Review and if necessary revise development regulations that increase the cost of housing without jeopardizing public safety and/or function of the development.</p> <p>Review and if necessary revise Zoning Ordinance provisions to assist in the availability of affordable housing.</p>

Chapter 7 - Community Facilities and Services	
Action-Oriented Recommendation	Task
<p>Educational Facilities (page 7-3) - Continue open dialogue with the School District on population changes, optional use of school facilities, and location of future school sites.</p>	<p>Continue to assist the School District in projecting future population changes, by providing information on development plans that are received by the Township, and maintain an open dialogue on changes in land use.</p> <p>Locate future school facilities within the Urban Growth Area or Rural Centers, not agricultural areas.</p>
<p>Parks and Recreation (page 7-5) - Explore a cooperative program with the School District to provide recreational programs at school facilities.</p> <p>Explore the Atglen-Susquehanna rail line potential for a park and recreational facility.</p>	<p>Continue open dialogue with the School District regarding optional use of school facilities.</p> <p>Continue an open dialogue with Norfolk Southern regarding the final disposition of the Atglen-Susquehanna rail line and, when possible, coordinate this effort with other municipalities.</p>
<p>Police Protection (page 7-8) - Continue to balance the demand for police protection with the level of service.</p>	<p>Continue to evaluate the adequacy of police protection and, when possible, coordinate this service with other municipalities.</p>
<p>Fire Protection (page 7-11) - Support the fire companies in their efforts to minimize the loss of life and property due to fire and other hazards.</p>	<p>Implement a study to locate needed “dry” fire hydrant locations and other potential drafting sites outside of public water service area.</p> <p>Design public water systems to include fire hydrants which provide a highly accessible and effective source of water for fighting fires.</p> <p>Support the fire companies in their efforts to fund their services.</p>
<p>Municipal Offices and Administration (page 7-14) - Explore opportunities for a cooperative approach with other municipalities as future initiatives are being planned.</p>	<p>Maintain a cooperative and coordinated effort within the region for services that are best provided within the context of a cooperative approach with agencies within the region.</p>

Chapter 7 - Community Facilities and Services

Action-Oriented Recommendation	Task
<p>Sanitary Sewer Systems (page 7-16) - Provide or promote the orderly expansion of sanitary sewer systems to meet the existing and planned development while taking into account the impact on cost, public health, surrounding land use and environmental condition.</p>	<p>Prepare a revised Official Sewage Plan (Act 537 Plan).</p> <p>Continue an open dialogue with Quarryville Borough regarding potential service from their public sanitary sewer system.</p> <p>Consider adoption of an on-lot disposal system (OLDS) management program.</p> <p>Evaluate the effect of new development on ground-water quality.</p> <p>Review and if necessary revise Zoning Ordinance provisions to:</p> <ol style="list-style-type: none"> 1. Provide higher density of development within the public sewer area. 2. Direct the bulk of future growth into an area which can be most efficiently provided with public sewer. 3. Require lots with on-site sanitary sewer facilities to be wide enough to infill when public sewer becomes available and subject to a capped sanitary sewer ordinance. 4. Require lots with on-site disposal to be of sufficient lot area for the disposal system and a replacement system.
<p>Water Systems (page 7-17) - Provide or promote the orderly expansion of water systems to meet the existing and planned development while taking into account the impact on cost, public health, surrounding land use and environmental condition.</p>	<p>Prepare a revised Official Sewage Plan (Act 537 Plan).</p> <p>Continue an open dialogue with Quarryville Borough regarding potential service from their public water system.</p> <p>Review and if necessary revise Zoning Ordinance provisions to relate the location and intensity of development with public utility service.</p>

Chapter 8 - Roads and Highways

Action-Oriented Recommendation	Task
<p>Roads and Highways (page 8-8) - Provide safe, efficient and adequate roads and highways within the Township.</p>	<p>Prepare a detailed report on the physical characteristics for all public streets.</p> <p>Prepare a plan and regulations for the management of access to streets classified as arterials and collectors.</p> <p>Review and if necessary revise Zoning Ordinance to allocate future land uses with consideration for access management.</p>

Chapter 9 - Future Land Use Plan	
Action-Oriented Recommendation	Task
<u>Urban Growth Areas (page 9-3)</u> - Direct future growth into Urban Growth Areas and discourage sprawl.	Adopt an Urban Growth Area and re-examine the UGA together with Lancaster County every five years, utilizing updated criteria employed in the establishment of the current area.
<u>Agriculture (page 9-4)</u> - Protect and promote agricultural land uses.	<ol style="list-style-type: none"> 1. Areas planned for Agriculture should be subject to effective agricultural zoning that limits speculative development in favor of continued farming. 2. Intensive livestock and poultry operations should be regulated with specific criteria imposed to minimize adverse impact. 3. To reduce local groundwater and regional surface water pollution, farmers should be encouraged to use sound conservation practices, including streambank protection. 4. Residential lots in the agricultural area should be sufficiently sized to accommodate one approved on-lot sewage disposal system, and one alternative system. Additionally, local maintenance procedures should be established to require the periodic pumping-out of septic tanks so that on-lot systems might be less apt to fail. 5. Farm occupations should be permitted in the agricultural area, but subject to strict zoning regulations that assure their compatibility within a rural context.
<u>Residential (page 9-6)</u> - Provide for the residential needs of the Township.	<ol style="list-style-type: none"> 1. Provide for the number of residential uses according to the 10-year growth projections. 2. Areas planned for residential use should be largely developed before additional farmlands are planned and rezoned for development.
<u>Rural Residential (page 9-7)</u> - Provide for the residential needs of the Township.	<ol style="list-style-type: none"> 1. Zoning requirements for the Rural Residential district should specifically indicate that minimum lot area requirements are subject to PA DEP approval, and may be increased where necessary to facilitate an on-lot disposal system that does not degrade local groundwater. 2. Lots located in non-sewered areas should be required to specifically test for and reserve an on-site location for a second drain field as part of its sewer permit compliance. 3. Non-sewered areas of the Township should be subject to an on-lot disposal system (OLDS) management program.
<u>Suburban Residential (page 9-8)</u> - Provide for the residential needs of the Township.	<ol style="list-style-type: none"> 1. In areas served by public utilities, all types of dwellings should be permitted, incentives be provided to encourage a mix of housing, and single-family dwellings be permitted on relatively small lots. 2. Areas not served by public utilities should specifically indicate that minimum lot area requirements are subject to PA DEP approval, and may be increased where necessary to facilitate an on-lot disposal system that does not degrade local groundwater. It is also advised that each lot be required to specifically test for and reserve an on-

Chapter 9 - Future Land Use Plan	
Action-Oriented Recommendation	Task
	<p>site location for a second drain field as part of its sewer permit compliance.</p> <p>3. Areas not served by public utilities should be subject to an on-lot disposal system (OLDS) management program.</p>
<u>Mobile Home Village (page 9-9)</u> - Provide for the mobile home village needs of the Township.	Review mobile home park regulations to maintain safe, sanitary, and attractive housing conditions for the benefit of the residents.
<u>Commercial (page 9-9)</u> - Provide for the commercial needs of the Township.	<p>1. Overall size of commercial uses should be limited so as not to exceed its local orientation, nor provide an incentive for the demolition of existing, and in many cases historical, buildings in favor of more modern, commercial building styles.</p> <p>2. Requirements should be established to preserve the "rural" character of the area.</p> <p>3. A coordinated development scheme should be encouraged by promoting shared use of parking, access drive, loading, and signage so as to reduce the visual clutter which is common to commercial areas.</p> <p>4. In order to enhance the character of the area, outdoor storage should be prohibited and screening/landscaping be required.</p>
<u>Industrial (page 9-10)</u> - Provide for the industrial needs of the Township.	<p>1. Industrial uses should allow for small, start-up business and light industry as permitted uses. Other heavier and potentially more objectionable industries should be regulated with specific criteria imposed to minimize adverse impact.</p> <p>2. Industrial regulations should (1) limit the number of driveway cuts and freestanding signs, (2) manage outdoor storage, off-street loading and parking, (3) encourage functional and attractive properties when viewed from adjoining properties and roads, and (4) require landscaping, screening and buffering.</p> <p>3. Prospective industries should demonstrate compliance with all applicable Federal and State operations standards.</p>
<u>Conservation (page 9-11)</u> - Protect sensitive natural features.	Limit development in areas with sensitive environmental features by directing development away from the areas, as depicted on the Future Land Use Map, or by creating an overlay zone that prescribes specific guidelines for use of environmentally sensitive lands.
<u>Woodland (page 9-12)</u> - Protect woodland features.	<p>1. Use the Future Land Use Map as a triggering mechanism to the identified woodland areas for detailed investigations.</p> <p>2. Limit development in woodland areas by an overlay zone that prescribes specific guidelines for preservation of woodlands.</p>

The Implementation Strategy is an ambitious list of tasks. These tasks are vital if the Township intends to follow the recommendations of the Comprehensive Plan. The completion of many of

these tasks should result in an improved quality of life, and help to avoid problems that are plaguing other developing areas.

Township officials are responsible to monitor and evaluate implementation of the Comprehensive Plan. Cooperation among various administrative bodies and levels of government is an essential component to a successful implementation strategy. Public participation is also very important to implement.

If recommendations outlined in the Comprehensive Plan do not appear to address current conditions, the Township should not hesitate to amend portions of this Plan or any other policy to rectify those deficiencies.

