

4.1 LAND USE REGULATIONS AND PLANNING

4.1.1 Halifax Township Comprehensive Plan.

The Halifax Township Planning Commission completed its Comprehensive Plan in 1996. The Comprehensive Plan was adopted by the Halifax Township Board of Supervisors based on the importance of a comprehensive approach to guiding future development and more effectively managing municipal services to provide for the health, safety, convenience, and general welfare of its citizens. As required by Section 301.2 of the PA Municipalities Planning Code, "basic studies" were performed including surveys, studies, and analyses of housing, demographic and economic characteristics and trends; amount, type, and general location of interrelationships of different categories of land use; general location and extent of transportation and community facilities; natural features affecting development; natural, historic, and cultural resources; and the prospect for future growth in the municipality. These basic studies elements also inventory select characteristics of neighboring communities.

The individual sections of the 1996 Comprehensive Plan, when taken as a whole, outline a consistent theme for Halifax's future growth and development. Halifax's abundant natural resources are cataloged and recommend which of those resources should be preserved. These recommendations describe innovative approaches to preserve the Township's natural areas and open spaces. Halifax's population and housing trends are identified, with specific recommendations to encourage construction of a greater variety of housing types for varied income levels in the future. If new residential housing developments are constructed in denser development patterns in growth areas, more affordable housing opportunities will be provided in the Township. Transportation and infrastructure design policies described in the plan recommend that future development projects be more "pedestrian" friendly by incorporating footpaths, bikeways, sidewalks, and green spaces into the design of new commercial and residential developments. This plan envisions these pedestrian pathways eventually forming a network linking commercial areas with the dense growth areas proposed in the plan's land use section. By identifying areas intended for growth, and areas for limited growth, it was possible to outline specific recommendations and strategies for future community facilities and services.

In general, the purpose of this plan is to:

- "Serve as the guide for determining all Township decisions related to future growth and development."
- "Promote the health, safety, convenience, and general welfare of its citizens."
- "Organize and coordinate the interrelated collection of people, ideas, land facilities, services, land uses, and environmental elements which comprise the Township as a whole."

Community Policies:

Growth and development pressures to convert farmland into scattered residential and commercial development is slow and persistent in the Township. If left unmanaged and out of control, negative impacts of growth will erode the Township's rural character and the potential for agriculture production in the future. As a result, agricultural areas and farmlands shall be protected as a vital resource for agricultural uses and to retain the Township's unique rural character.

The Township recognizes the interrelationships of its natural resources and their unique systems (i.e. watersheds, wetlands, floodplains, etc.) with the health, safety and general welfare of the community. These resources have a major role in the quality of life within the community and must be protected, maintained and preserved for future generations. As a result, natural and scenic resources of the Township shall be protected, conserved and preserved in an effort to create an environmentally healthy and visually attractive place for current and future residents.

Development that fits into the community's natural and cultural setting and character while fostering economic development shall be encouraged. Halifax Township intends to preserve and enhance the community cultural, historical and aesthetic resources that make the Township distinctive.

Halifax Township recognizes that lands located in the path of growth and development along major corridors; lands adjacent to already established residential and commercial areas; and, lands planned for full sewage service, water and road infrastructure are areas appropriate for growth. The Township also recognizes that areas containing productive farmland, environmentally sensitive features, culturally significant structures and sites, and open and scenic landscapes are not suitable for extensive growth. The Township will focus its efforts to provide for growth and development in the most appropriate areas. Lands appropriate for growth are served by, or planned to be served by public facilities (roads, sewers, water, etc.), lands located near established commercial centers and villages that may be serviced with community facilities, and lands located at strategic crossroads.

The potential for new housing opportunities in established growth areas currently available is recognized and are anticipated for sewage facility service. Considering the numerous policies and recommendations advocating controlled and focused growth around the community facilities, and preservation of natural and agricultural resources, Halifax Township can realistically provide for the development of a variety of housing types to meet the residential living needs of all segments of the population. Housing needs in Halifax Township include the need for opportunity to choose from a variety of housing types, densities, and areas of residential use that is not exclusionary; the need for available housing at a wide variety of costs for all income levels; and the need for housing that meets, at least, the minimum standard for health, safety and energy efficiency.

The construction and expansion of facilities and services should be coordinated with existing and proposed land uses. Needs should be based on Township resident desires and wishes, public safety requirements, and the character of the area of the Township (growth area, rural area) where the expansion of facilities and services to support higher development densities should be provided. In rural areas, community facilities and services should be provided at adequate levels to service rural uses, but not excessive to stimulate pressure for development in agricultural areas and promote sprawl.

Several intersections and road segments have been identified as being the source of frequent traffic problems. Other poorly aligned intersections and road locations are also in need of improvement. As residential and commercial development proceeds, and dependence of the automobile grows, Halifax Township expects even more increases in trips and deterioration of highway capacity, efficiency, roadways, and intersections. In general, effective planning, funding and action toward transportation improvements will be essential to ensure a safe and effective transportation system for the Township.

Halifax Township shall actively pursue programs of economic development which will conserve open space and farmlands, allow for growth, and maintain an adequate tax base for providing public services. The incentives for farmland conservation are eroding the tax base. Residential growth increases the cost of public service. Economic development, therefore, must take on a variety of strategies and add additional offsetting elements to the formula.

Parks and recreation facilities are important assets that contribute to the Township's quality of life. While it is the responsibility of Halifax Township to provide safe and adequate recreation facilities and services for the citizens to enjoy, new ways of integrating private, semi-public and public facilities and sharing recreational responsibilities may need to be initiated to ensure recreational needs of the community will be met now and in the future.

While the Township has recognized the importance of protecting and conserving its valuable resources, it also sees a need to identify some of the important ways to efficiently utilize energy resources. Future development in the Township needs to be energy conscious and efficient. Energy shall be conserved in all aspects of community life, and the Township should encourage the development and use of energy saving techniques.

Halifax Township is committed to developing a coordinated, cooperative approach to planning and administering its affairs. The power to shape Halifax Township's future rests with residents, elected officials, and appointed volunteers and staff. Higher levels of regulatory and administrative influence originate from mandates at the County, State and Federal levels. Whether funding is provided, or not, it is the Township's responsibility to incorporate these rules and regulations in order to meet the welfare needs of the community.

Land Use Plan:

The Halifax Township Land Use Plan formally establishes the desired land uses, real estate orientations, and development design guidelines for Halifax Township. The Land Use Plan also outlines in more detail the location of land use planning districts and describes how the Township should be developed in the future. Parallel to County and Regional population and economic growth, the Comprehensive Plan anticipates continued increases in population, housing units, and other economic activity within Halifax Township. After experiencing significant increases in population from 1950 to 1980, the 1990 Census reflected continued increases in Halifax Township's population over the following decade (17.2 percent).

A generalized classification of the Township's land base was determined following a review and analysis of the physical features maps, environmental limitations maps, Dauphin County Sewage Plan text and maps, basic studies, Planning Commission input and other community input. Six generalized regions were delineated representing the core physical descriptions of the Township Land Use Plan. In essence, this map provides a graphic representation of areas currently developed, suitable for development, suitable for future development, rural core agriculture lands to be managed and land with the most obvious environmental limitations.

The Township's future Land Use planning areas provide a more detailed delineation and description of the types of land uses and real estate orientations proposed in Halifax Township. It is important that the community identify and organize the Township's proposed land patterns and articulate the Township's expectations for these areas. Based on public review and endorsement, these areas will represent the optimal and reasonable range of land uses for Halifax Township.

Following final adoption, these land use districts will be translated and applied to zoning ordinances or other land management ordinances.

GENERALIZED LAND CLASSIFICATIONS
Halifax Township - 1995

Land Classification	Estimated % of Twp. Land Area	Estimated Total Acreage
Developed Land	8.4	1683.6
Land Available for Development	3.5	702.1
Land for Future Development	4.1	822.2
Rural Residential Lands for Development	6.4	1273.9
Agricultural Core Lands	37.3	7431.1
Land to be Preserved	32.1	6383.6

SOURCE: Halifax Township Planning Commission, Tri-County Regional Planning Commission, Atlas GIS, 1995

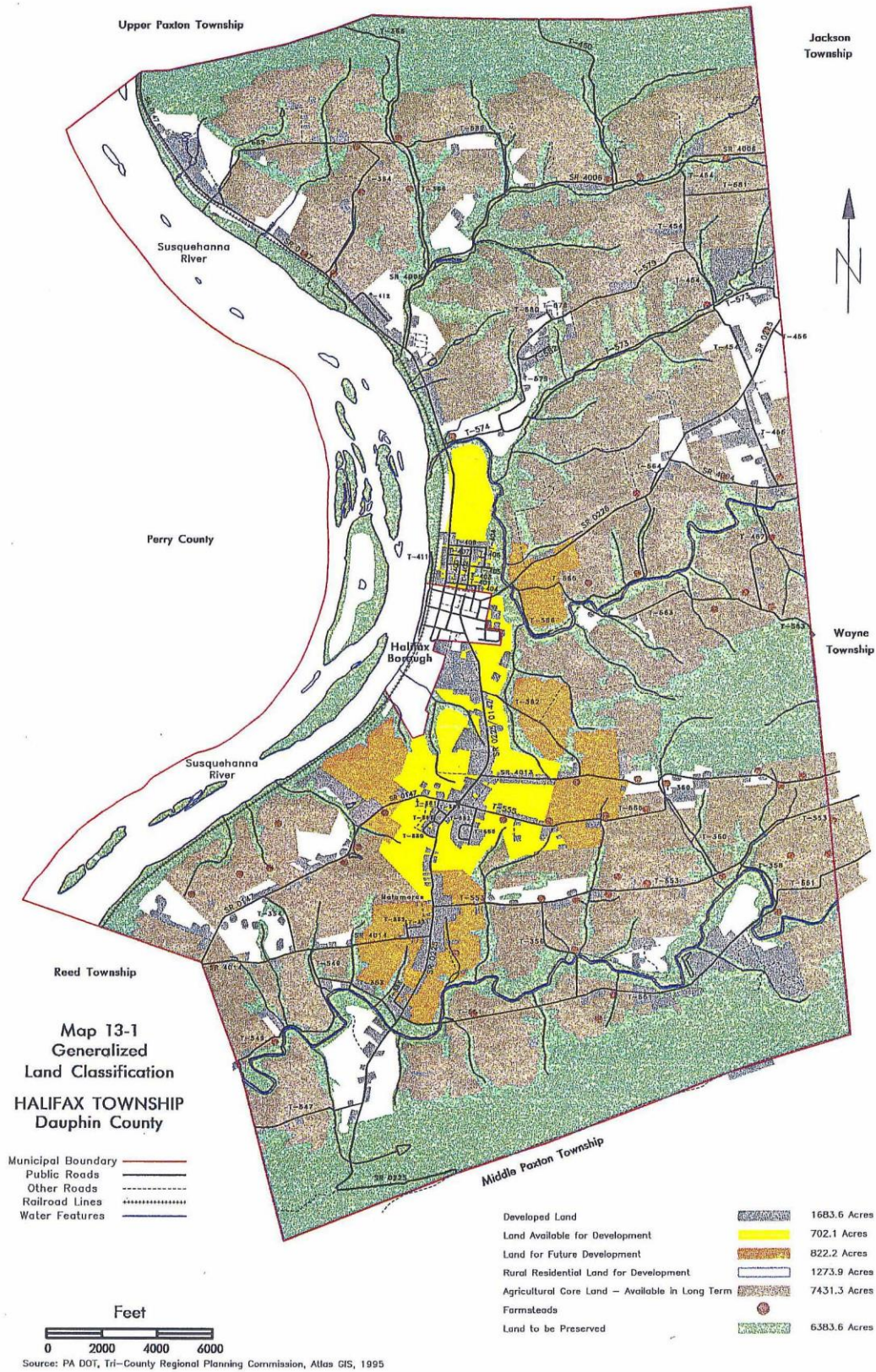
LAND USE PLANNING DISTRICTS
Halifax Township

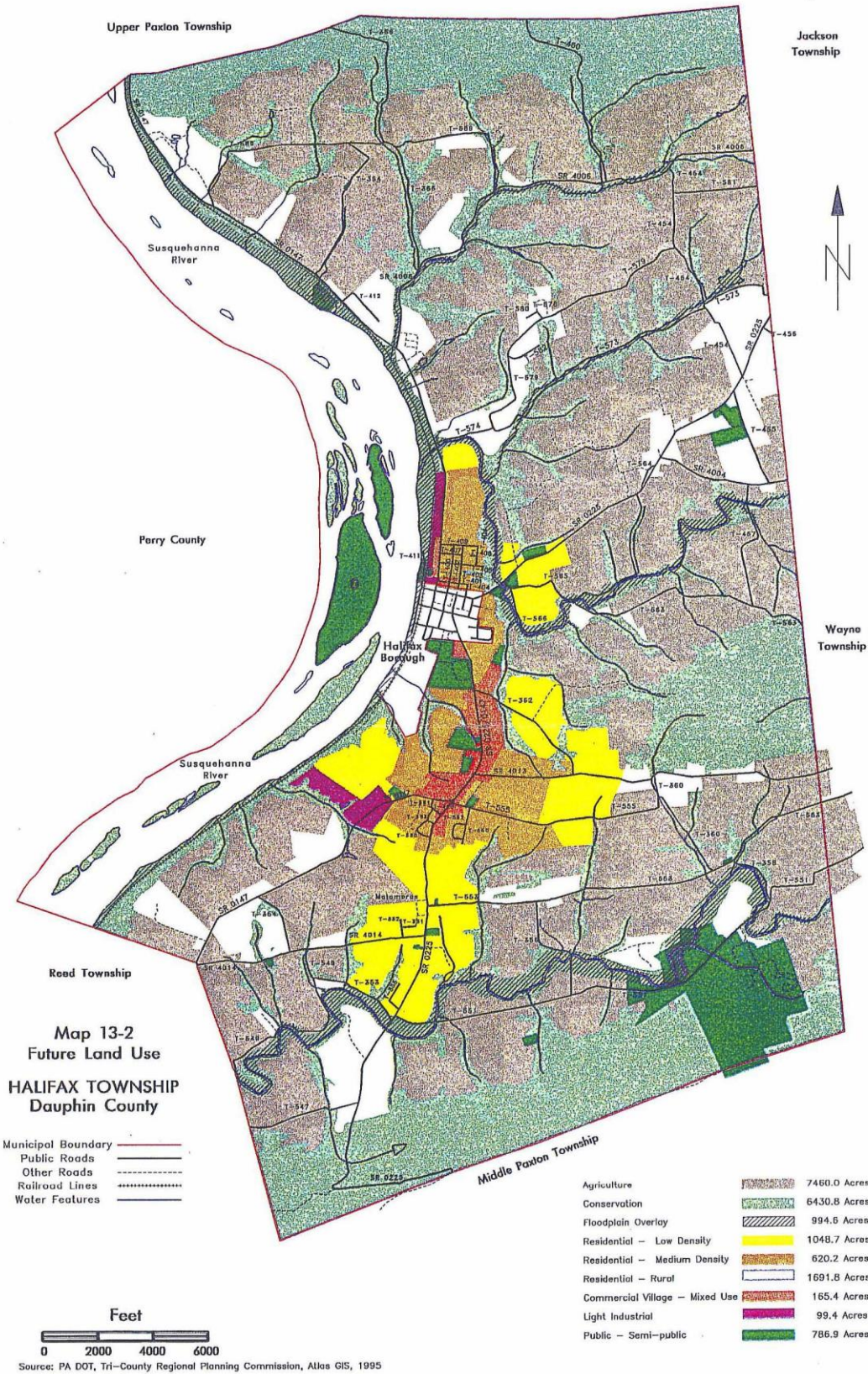
Planning Area	Estimated % of Total Twp. Area*	Estimated Total Acreage**
Agriculture	37.2	7460.0
Conservation	33.0	6430.8
Floodplain Overlay	5.0	994.6
Residential - Low Density	5.3	1048.7
Residential - Medium Density	3.1	620.2
Residential - Rural	8.5	1691.8
Commercial Village - Mixed Use	0.8	165.4
Light Industrial	0.5	99.4
Public - Semi-Public	3.9	786.9

* - Total Area of the Township, including the Susquehanna River is 19,904 acres or approximately 31.1 square miles.

** - This number represents the total acreage for each planning area. Because of overlap between the Floodplain and Conservation planning areas and the some Public - Semi/Public and Conservation, a total planned area cannot be generated.

SOURCE: Halifax Township Planning Commission, Tri-County Regional Planning Commission, Atlas GIS, 1995





4.1.2 The Valleys Regional Comprehensive Plan

Halifax Township, Halifax Borough, Jefferson Township, Rush Township, and Wayne Township completed a regional Comprehensive Plan in 2011. The Valleys Regional Comprehensive Plan (VRCP) was adopted by the aforementioned municipalities and includes a Future Land Use Plan, a Natural Resource/Historic Preservation Plan, a Transportation Plan, a Housing Plan, Community Facilities Plan and Utilities, and a Halifax Neighborhood Center Plan. This Comprehensive Plan was based on the importance of not substantially changing the region's existing development patterns but rather build upon those patterns and investments as well as to protect and enhance important and unique manmade and natural features. The key approach to the plan was to implement the following objectives: redevelop first, provide efficient infrastructure, concentrate development, increase job opportunities, foster sustainable businesses, restore and enhance the environment, enhance recreational and heritage resources, expand housing opportunities, plan regionally/implement locally, and to be fair.

Future Land Use Plan

For the Valleys Region it is not the intent to substantially change the region's existing development patterns but rather build upon those patterns and investments as well as to protect and enhance important and unique manmade and natural features. This approach, coupled with the input received from the residents of the region and the Keystone Principles, forms the foundation of this plan. The background information, mission and vision statements, and the community development goals set the direction of this Plan through the future land use plan. Unique to this region, the future land use plan will be developed around Character Areas and not traditional land use categories. Character Areas are areas of the community that have achieved a unique, recognizable character that is different from neighboring areas. These differences may be the result of topography, age and style of housing, built environment, land use patterns, landscaping, street patterns, open space, or streetscapes.

The following Character Areas have been developed for the Valleys Region:

- Conservation
- Linear (Appalachian Train, Mountain Ridges, and Susquehanna River)
- Rural Resource
- Agriculture
- Rural Area – Developing
- In-Town Core Corridor
- Traditional Neighborhood – Stable
- Traditional Neighborhood – New
- Neighborhood Center (Downtown)

A map identifying the location of these Character Areas within the VRCP planning area is included in Appendix C. The following is a description of the Character Areas along with supporting information, such as description, suggested development strategy, density of development, and community facilities and utilities needs.

Conservation Area

- **Description:** Primarily undeveloped natural lands and environmentally sensitive areas such as heavily wooded forests, steep slopes, wetlands, floodplains, streams and surface waters, important watersheds, and the islands located in the Susquehanna River. These areas are typically not suitable for intense development, but very low density residential

development, recreational uses, and conservation areas may be suitable.

- **Suggested Development Strategy:** Maintain the natural and rural character of the region by allowing development to occur on lots ranging between five (5) to twenty (20) acres, and require the use of best management practices, such as stormwater infiltration, for development that is permitted, develop single purpose timbering, natural gas and mineral extraction ordinances that support both uses but also protects the natural beauty of the area. Recreation and tourism should also be promoted in this area.
- **Suggested Density of Development:** A range of five (5) to twenty (20) acres per unit. Each municipality will determine the best density factor when developing appropriate ordinances to implement this Plan.
- **Community Facilities and Utilities:** Communication towers, electric supply improvements, public potable water supply sources, and on-lot wells and septic systems.

Linear Area (Appalachian Trail, Mountain Ridges, and Susquehanna River)

- **Description:** Area of protected open space that follows natural linear features for recreation, conservation, and ecological and cultural amenities.
- **Suggested Development Strategy:** Very limited development. Mountain ridge tops are reserved primarily for trails, greenways, conservation areas, bird watching, and other ecological and cultural amenities. Development occurring on the mountain ridges should be done in such a way as not to adversely impact scenic views. Best management practices, such as stormwater infiltration, shall be used for development that is permitted. Implementation of Act 24 of 2008, which requires municipalities within which the Appalachian Trail passes to adopt and enforce zoning ordinances that preserve the "natural, scenic, historic and esthetic values of the trail and to conserve and maintain it as a public resource"
- **Suggested Density of Development:** Twenty (20) acres minimum lot area for all uses.
- **Community Facilities and Utilities:** Community and municipal services, electric supply improvements, and on-lot wells and septic systems.

Rural Resource Area

- **Description:** Rural, undeveloped land likely to face development pressures for lower density residential development. Development in this Character Area will typically have low pedestrian orientation and access, larger lots, open space, pastoral views, and high degree of building separation. This Character Area also includes areas of existing concentrations of single-family residential homes.
- **Suggested Development Strategy:** Maintain the region's rural character, while accommodating new residential development, by:

1. Where appropriate encourage rural conservation subdivision design that incorporates open space.
 2. Wherever possible connect to a regional network of green space available to pedestrians, bicyclists, and equestrians for both tourism and recreational purposes.
 3. Require extensive use of landscaping and buffer yards, and other performance standards to soften conflicts between residential and non-residential uses.
 4. Require the use of best management practices, such as stormwater infiltration for development that is permitted.
- **Suggested Density of Development:** Two (2) acres minimum lot area for all uses.
 - **Community Facilities and Utilities:** Community and municipal services, communication towers, electric supply improvements, public water supply sources, on-lot wells and septic systems, community water and sewage systems, green energy uses, high speed internet service, and churches and schools.

Agriculture Area

- **Description:** Lands in open or cultivated state or sparsely settled, including concentrated animal feeding operations.
- **Suggested Development Strategy:** Maintain the region's agricultural character by:
 1. Strictly limit new non-agricultural related development.
 2. Protect farmland by maintaining large lot sizes through effective agricultural land use regulations.
 3. Encourage development on non-tillable land or on soils not classified as prime agricultural soils.
 4. Support the use of agricultural security areas and conservation easements (public and private).
 5. Require the use of best management practices, such as stormwater infiltration, for development that is permitted.
- **Suggested Density of Development:** A minimum of ten (10) acres for all uses, except when a single-family residential dwelling is not part of a farm a minimum lot size of two (2) acres with a maximum of three (3) acres is suggested.
- **Community Facilities and Utilities:** Community and municipal services, communication towers, electric supply improvements, public water supply resources, on-lot wells and septic systems, green energy uses, reliable internet service, churches and schools, and cemeteries.

Rural Area – Developing Area

- **Description:** Areas of the region where pressures for the typical types of rural/suburban development are the greatest and most likely will occur in the future due to availability of public water and future access to public sewer. Without intervention this area is likely to evolve with low pedestrian orientation, variety of lot sizes, accessibility issues, high to moderate degree of building separation, and scattered public/semi-public uses.
- **Suggested Development Strategy:** Maintain the rural, but developing, atmosphere while accommodating new residential development by:
 1. This area should not be developed until the In-Town Core Corridor area is built out.
 2. Promote moderate density, conservation subdivisions.
 3. New development should be master-planned with mixed uses, blending residential development with parks, retail businesses and services, compact pattern that encourages walking.
 4. Encouraging a strong connectivity between this area and the In-Town Core Corridor, by connecting both by sidewalk, trails, or a combination of both.
 5. Developing a regional network of greenspace and trails, available to pedestrians, bicyclists, and equestrians for both tourism and recreational purposes.
 6. Requiring the use of landscaping and buffer yards, and other performance standards to soften conflicts between residential and non-residential uses.
 7. Require the use of best management practices, such as stormwater infiltration, for development that is permitted.
- **Suggested Density of Development:** Two (2) acres minimum lot area for all uses utilizing both on-lot water and septic systems, or on-lot septic system and public water. If public water and public sewer are both available, or a community water and sewer system is utilized the minimum lot area for residential uses is recommended at 15,000 square feet per unit. The minimum lot area for non-residential uses where both public water and sewer, or community water and sewer are available is the minimum area needed to meet site development requirements such as building setback, off-street parking, impervious coverage, etc.
- **Community Facilities and Utilities:** Community and municipal services, on-lot wells and septic systems, public water and/or public sewage system, community water and sewage systems, green energy uses, high speed internet service, and churches and schools.

In-Town Core Corridor Area

- **Description:** Developed or undeveloped land on both sides of designated high-volume transportation corridor. It acts as the main commercial corridor and uses include a mix of residential, commercial, and light industrial uses.

- **Suggested Development Strategy:**
 1. Primary growth area of the region.
 2. Promote higher density subdivisions and land development.
 3. New development should be master-planned with mixed uses, blending residential development with parks, retail businesses and services, compact pattern that encourages walking.
 4. There should be a strong connectivity between this area and the Rural Area - Developing, Traditional Neighborhood – New, Traditional – Stable, and Halifax Neighborhood Center by connecting both by sidewalk, trails, or a combination of both.
 5. Should be connected to a regional network of greenspace and trails, available to pedestrians, bicyclists, and equestrians for both tourism and recreational purposes.
 6. Extensive use of landscaping and buffer yards, and other performance standards to soften conflicts between residential and non-residential uses.
 7. Require the use of best management practices, such as stormwater infiltration, for development that is permitted.

- **Suggested Density of Development:** Uses within this area are required to be connected to public water and sewer. The minimum lot area for a single-family detached dwelling is 15,000 square feet. The minimum lot area for all other residential uses is 7,500 square feet per unit. The minimum lot area for non-residential uses where both public water and sewer is the minimum area needed to meet site development requirements such as building setback, off-street parking, impervious coverage, etc.

- **Community Facilities and Utilities:** Community and municipal services, public water and public sewage systems, green energy uses, high speed internet service, churches and schools, and medical clinics and pharmacies.

Traditional Neighborhood – Stable Area

- **Description:** Residential areas located in mature developed areas of the community. Characteristics include high pedestrian orientation, sidewalks, street trees, on street parking, small, regular lots, limited open space, buildings are close to the front property line, predominance of alleys, low degree of building separation, and neighborhood-scale businesses scattered throughout the area.

- **Suggested Development Strategy:** Maintain the Traditional Neighborhood character by:
 1. Focus on reinforcing stability by encouraging more homeownership and maintenance of or upgrade of existing properties.
 2. Vacant properties offer an opportunity for infill development of new, architecturally compatible housing.

3. Strong pedestrian and bicycle connections should be provided to encourage residents to walk or bike to the In-Town Core Corridor, school, parks, and other destinations in the immediate area.
 4. Require the use of best management practices, such as stormwater infiltration, for development that is permitted.
- **Suggested Density of Development:** Uses within this area are required to be connected to public water and sewer. The minimum lot area for a single-family detached dwelling is 15,000 square feet. The minimum lot area for all other residential uses is 7,500 square feet per unit. The minimum lot area for non-residential uses where both public water and sewer is the minimum area needed to meet site development requirements such as building setback, off-street parking, impervious coverage, etc.
 - **Community Facilities and Utilities:** Community and municipal services, public water and public sewage systems, library, public/semi-public uses, green energy uses, high speed internet service, and churches and schools.

Traditional Neighborhood – New Area

- **Description:** An area where pressures for the typical types of rural/suburban development are the greatest and most likely will occur in the future due to availability of public water and public sewer.
- **Suggested Development Strategy:** Maintain the atmosphere by:
 1. Develop in unison with the uses in the In-Town Core Corridor.
 2. Must be master-planned with mixed uses, blending residential development with retail businesses and services, and compact pattern that encourages walking.
 3. Have a strong connectivity between this area and the In-Town Core Corridor and Neighborhood Center by sidewalk, trails, or a combination of both.
 4. Connect to a regional network of greenspace and trails, available to pedestrians, bicyclists, and equestrians for both tourism and recreational purposes.
 5. Use landscaping and buffer yards, and other performance standards to soften conflicts between residential and non-residential uses.
 6. Require the use of best management practices, such as stormwater infiltration, for development that is permitted.
- **Suggested Density of Development:** Uses within this area are required to be connected to public water and sewer. The minimum lot area for a single-detached dwelling is 15,000 square feet. The minimum lot area for all other residential uses is 7,500 square feet per unit. The minimum lot area for non-residential uses where both public water and sewer is the minimum area needed to meet site development requirements such as building setback, off-street parking, impervious coverage, etc.
- **Community Facilities and Utilities:** Community and municipal services, public water and

public sewage system, library, public/semi-public uses, green energy uses, high speed internet service, and churches.

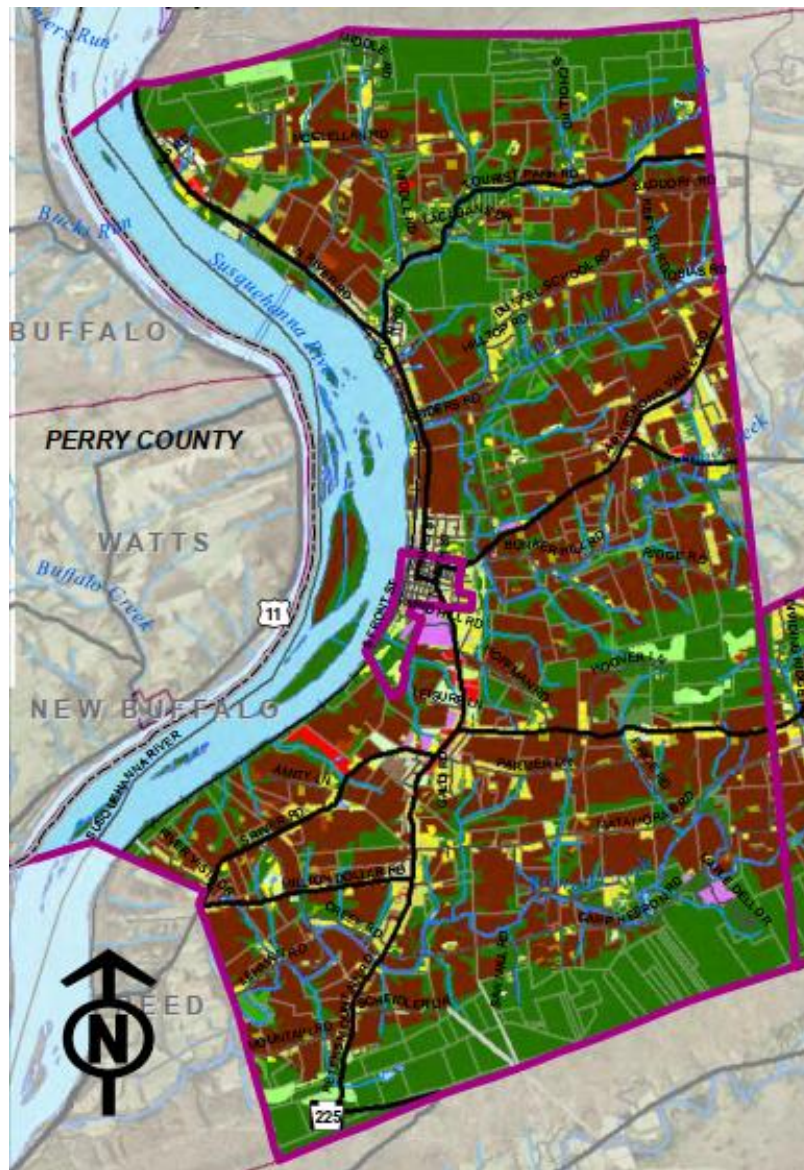
Halifax Neighborhood Center (Downtown) Area

- **Description:** A neighborhood focal point with a concentration of activities such as general retail, service commercial, professional office, higher density housing, and appropriate public and open space uses easily accessible by pedestrians.
- **Suggested Development Strategy:** Maintain the atmosphere by:
 1. Include a mix of retail, office, service uses to serve the immediate region of Halifax Borough and surrounding Halifax Township.
 2. Design should be very pedestrian-oriented, with strong walkable connections between different uses.
 3. Enhance the pedestrian friendly environment by adding sidewalks and creating other pedestrian friendly trail/bike routes linking to major destinations such as libraries, health facilities, parks, and schools.
 4. Period signage.
 5. Building façade improvements.
 6. Cross walks.
 7. Rain gardens and other best management practices to control stormwater.
- **Suggested Density of Development:** Uses within this area are required to be connected to public water and sewer. The minimum lot area for a single-family detached dwelling is 7,500 square feet. The minimum lot area for all other residential uses is 2,500 square feet per unit. The minimum lot area for non-residential uses where both public water and sewer is the minimum area needed to meet site development requirements such as building setback, off-street parking, impervious coverage, etc.
- **Community Facilities and Utilities:** Community and municipal services, public water and public sewage system, library, public/semi-public uses, green energy uses, high speed internet service, and churches and schools.

The following two pages are selections from the Existing Land Use Plan and the Character Areas Plan provided in the Valleys Regional Comprehensive Plan. These maps have been included in their entirety in Appendix C.

As you will notice, conflicts between proposed land use exist. In general, future development will be managed to more closely reflect the Valleys Regional Comprehensive Plan's Character Map; however, location of future development will also be in part determined by availability of community facilities and utilities, environmental needs and constraints, and ability to sustain projected growth while being mindful of those principles important to the residents of the Township.

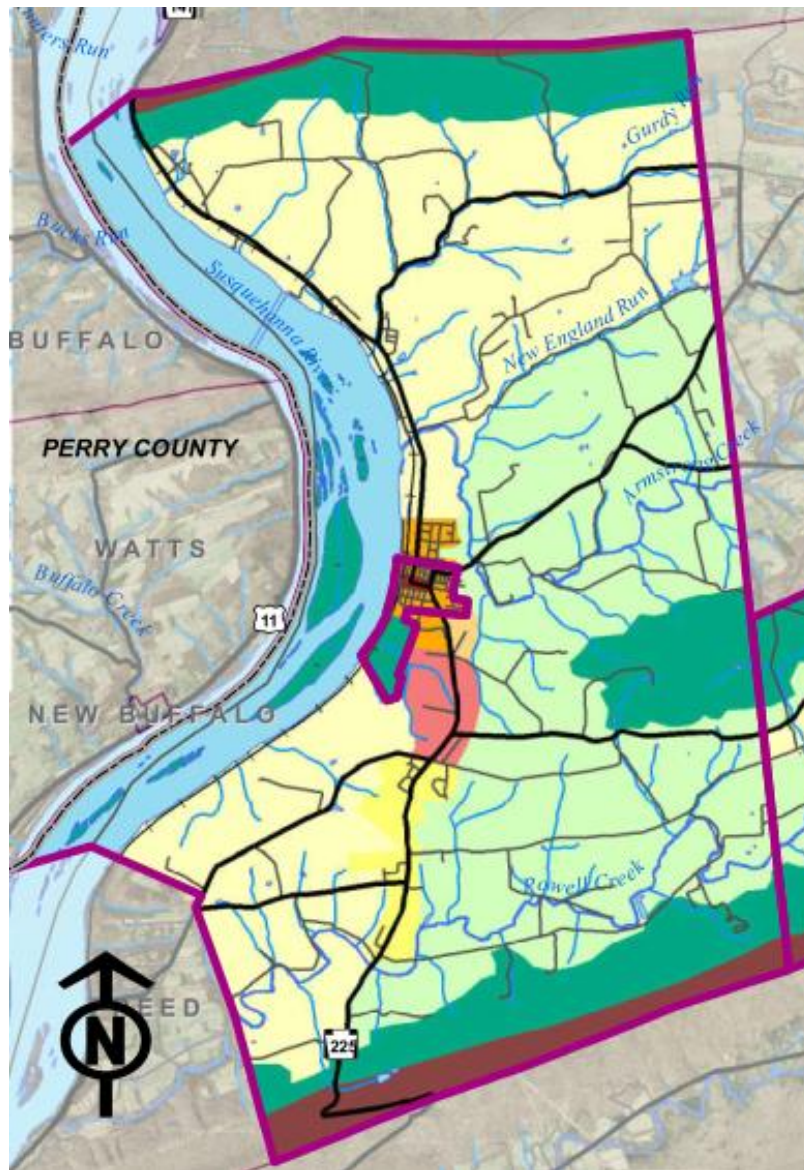
The Valleys Regional Comprehensive Plan: Existing Land Use Map (Halifax Township)



















Legend

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| County Boundary | Farmsteads | Herbaceous - Open, grassy areas with few trees or shrubs |
| Municipal Boundary | Commercial and services | Shrub/brush |
| State Road/Highway | Industrial | Mixed cover |
| Local Road | Transportation and utilities | Deciduous forest |
| Railroad | Mixed urban or built-up land | Coniferous forest |
| Water Feature | Institutional | Mixed forest |
| Stream | Recreational | Open water |
| Parcel | Agriculture: cropland | Forested wetlands |
| Anderson Land Use and Land Cover | Agriculture: pasture | Mines/quarries/pits and junk yards/land fills |
| Residential - less than 2 units per acre | Agriculture: other unclassified agriculture land | Transitional (under construction) |
| Residential - 2.1 to 7 units per acre | Orchards/groves/vineyards/nurseries/other | |
| Residential - more than 7 units per acre | Large Confined Feeding Operations | |

The Valleys Regional Comprehensive Plan: Character Areas Map (Halifax Township)



Legend

 County Boundary	Character Area	 Rural Area - Developing
 Municipal Boundary	 Linear Feature (Including Susquehanna River)	 In-Town Corridor
 State Road/Highway	 Conservation	 Neighborhood Center
 Local Road	 Agricultural	 Traditional Neighborhood - Stable
 Railroad	 Rural Resource	 Traditional Neighborhood - New
 Water Feature		
 Stream		

Public Water and Sewer Infrastructure

Currently, Halifax Borough and Halifax Township are the only municipalities within the VRCP region with existing public water and sewer systems. In order to continue to deliver quality service to residents of the borough and township, the VRCP states that it is imperative that this system be maintained to ensure functional adequacy. The VRCP also states that extensions of public sewer to the Matamoras area correlates with the future land use plan.

The extension of public sewer correlates with the Rural Area – Developing and In-Town Corridor Character areas. Any extensions that do occur to Matamoras will most likely be to address failing on-lot disposal systems in these areas and not to open additional area to development. As described in the Rural Area – Developing Character area the Matamoras area is a secondary growth area to the In-Town Corridor area. To address the sewage needs of Halifax Township, the VRCP suggests that the Halifax Township Act 537 Plan should be adopted.

On-Lot Sewage Disposal

Much of the Region relies on on-lot sewage disposal systems. Unfortunately, the soils of the region are not optimal for such systems and as a result, additional steps may need to be taken to install and maintain such systems to ensure continued functionality and to minimize malfunctions. Municipal officials need to be proactive in addressing problems related to on-lot disposal systems by taking a first step to educate residents on the importance of proper management.

- As new residential properties are developed, municipalities need to ensure that adequate space is set aside for a primary and alternate on-lot system.
- Municipal officials should develop and implement a sewage management ordinance that requires regular pumping and inspection of all on-lot systems. Proper maintenance of on-lot systems is essential to mitigate potential pollution of the ground and surface water.
- Any malfunctions or problem areas that have been identified should be attended to and monitored after the problem is addressed.

Natural Resource Preservation

Natural features and open space have been recognized throughout the plan as being important to the region's environmental health, diversity, character, and overall quality of life. The conservation, rural resource and agricultural character areas account for the majority of open space and rural type development in the region; however, floodplains, steep slopes, wetlands, and surface water are located throughout the region and demand recognition as sensitive natural resources. The municipalities of the Valleys recognize the interrelationship between their natural resources and the health, safety, and general welfare of the region and their local community. Because these natural resources play a major role in the quality of life in the region, they must be protected, maintained and preserved for future generations.

Stream Protection

The comprehensive plan identifies and recognizes streams and the natural areas around them as important hydrological assets that support sensitive ecological habitats. It is the intent of this plan to preserve natural and man-made waterways. By protecting this asset, the municipalities of the Region intend to:

- Protect wildlife
- Reduce exposure to high water and flood hazards
- Preserve existing vegetation along waterways
- Minimize the negative effects on waterways from agriculture and development related erosion
- Minimize scenic degradation
- Protect water quality by reducing stormwater runoff

Wetland Protection

The comprehensive plan recognizes wetland areas as indispensable and fragile hydrological natural resources that provide:

- Habitat for fish, wildlife and vegetation
- Water-quality maintenance and pollution control
- Groundwater recharge and filtration
- Flood control
- Erosion control
- Open space
- Scientific study opportunities
- Recreational opportunities

Damaging or destroying wetlands threatens public safety and the general welfare. Because of their importance, wetlands are to be protected from negative impacts of development and other activities. It is the intent of this plan to:

- Require planning to avoid and minimize damage of wetlands whenever prudent or feasible
- Require that activities not dependent upon wetlands be located on other sites
- Allow wetland losses only where all practical or legal measures have been applied to reduce these losses that are unavoidable and in the public interest

Surface Water Protection

The comprehensive plan identifies and recognizes lakes and ponds and the natural areas around them as important hydrological and environmental assets. It is the intent of this plan to preserve these natural and man-made assets. By protecting this asset, the municipalities of the Valley Region intend to:

- Protect wildlife
- Preserve existing vegetation along lakes or ponds
- Minimize the negative effects on lakes or ponds from agriculture and development related erosion
- Minimize scenic degradation
- Protect the integrity of ponds and lakes as functioning wetland areas
- Protect the integrity of the DeHart Reservoir as a source of potable water for the City of Harrisburg

Floodplain Protection

Preserving floodplain areas from development is crucial in minimizing potential damages to property and the risk of injury caused by flooding. Allowing floodplain areas to remain in their natural state will also minimize any major changes to the balance of the hydrologic system and allow for groundwater recharge. Areas identified as being in the 100-year floodplain have been included in the conservation overlay.

Potable Water Protection

Developing a potable water protection overlay would protect potable water and improve the quality of potable water resources in the Valley Region. Permitted uses within this land classification would include undeveloped land, cabins, and very low density residential development. Certain tools that mitigate the impacts associated with development, such as riparian buffers, will be required to act as primary filters.

State Game Lands

The Valley Region is fortunate to have access to the state game lands that exist in Jefferson and Rush Townships. This natural resource has appeal to both residents and visitors as a recreational destination. State Game Lands should be protected from development, and when possible, be expanded by acquiring additional land through fair market purchases or donations.

Critical Aquifer Recharge Area Identification (CARA)

Groundwater recharge refers to areas where water is added to the groundwater. These are areas where precipitation sinks into the ground, or a stream dives underground, sometimes called a swallow. Recharge occurs wherever the land surface is pervious and the water table is below the surface. However, some areas are characterized by features that provide an exceptional amount of recharge to the aquifer per unit area. These are termed critical aquifer recharge areas (CARAs). These areas are more vulnerable to contamination that could affect the potability of the water.

One indication of a high recharge area is a watershed containing a low tributary density. The high permeability results in a water table with a low gradient under the land surface, thus fewer perennial streams. Other features are very deep soils or weathered zones that lie above bedrock aquifers. These areas are high volume storage areas that allow slow percolation of water from the shallow groundwater zone into the deeper aquifer. Groundwater aquifers associated with high recharge areas are also at a higher risk of becoming contaminated.

Identifying and maintaining CARAs will maximize recharge and the amount of groundwater available for utilization. The following steps can be followed in identifying and protecting CARAs:

1. Identify where groundwater resources are located
2. Analyze the susceptibility of the natural setting where groundwater occurs
3. Inventory existing potential sources of groundwater contamination
4. Classify the relative vulnerability of groundwater to contamination events
5. Designate areas that are most at risk to contamination events
6. Protect by minimizing activities and conditions that pose contamination risks

7. Ensure that contamination prevention plans and best management practices are followed
8. Manage groundwater withdrawals and recharge impacts to:
 - a. Maintain availability for drinking water sources
 - b. Maintain stream base flow from groundwater to support in-stream flows, especially for salmon-bearing streams.

Identification of Historic Resources

A community's history is contained in its historic resources. These resources may take many forms, including architecturally and historically significant buildings, sites, structures, objects, and districts. A comprehensive historic preservation program begins with the identification and evaluation of historic resources. Once this step is performed, programs can be developed for their preservation and enhancement. Halifax Township is home to several properties either eligible or listed on the National Register of Historic Places, as identified in the excerpted table below:

National Register Listed and Eligible Properties

Property Name	Municipality	Address	Status	Date
Clemson Island Prehistoric District	Halifax Township		Listed	09/17/1981
John Meech House	Halifax Township	3059 Peter's Mountain Road	Eligible	09/18/1989
Legislative Route 1 Sycamore Allee	Halifax Township		Listed	02/07/2007

Source: Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation, 2007; Halifax Township

In addition, the following local cultural and historic resources were identified:

- **Fort Halifax** - A historic marker is located in Halifax Township on PA 147, approximately 0.5 miles north of Halifax Borough. The marker contains the following text, "Just west of this point stood Fort Halifax. It was built in 1756 by Col. William Clapham, and was one of the chain of frontier forts built to protect settlers in this region during French and Indian War days."
- **Sycamore Trees along SR 147** - Planted in the early 1920s as a living memorial to the World War I veterans, these trees remain as a reminder of people who served in the United States in wartime.

Agriculture and Land Preservation Initiatives

Agriculture has historically been, and continues to be a key industry in much of the Valleys Region. There are several tools available to municipalities and farmers to encourage the continuance and sustainability of farming in the region.

Agricultural Security Areas

Act 43 of 1981 allows any owner or owners of land used for agricultural production totaling at least 500 acres to submit a petition to the municipal governing body for the creation of an Agricultural Security Area. If the petition is approved, the participating land owners agree to keep their lands in agriculture in return for certain benefits that the municipality will give. Benefits of an Agricultural Security Area are:

- Local governments are not to pass ordinances that unreasonably restrict farm structures or properties.
- Prevents local governments from prohibiting agricultural activities and operations within the security area as a public nuisance.
- Protects farm operations by discouraging condemnation of agricultural land through eminent domain.
- Acreage in the security area can participate in the Agricultural Easement Program. Participation in the Agricultural Security Area is purely voluntary. There are no penalty provisions for an individual who changes land use while in a security area. The term of an Agricultural Security Area is seven years, followed by a recertification process. According to the Tri-County Regional Planning Commission's GIS data, in December of 2008, there were 407 parcels or portions of parcels in the Valleys Region enrolled in an Agricultural Security Area. This amounts to approximately 13,470 acres of land. A map identifying the Properties in the Valleys Region that are included in an Agricultural Security Area is included in Appendix C.

Agricultural Easements

The Agricultural Conservation Easement Purchase Program was developed to strengthen Pennsylvania's agricultural economy and to protect prime farmland through the purchase of agricultural conservation easements, i.e. development rights, on prime agricultural land from willing land owners with the use of federal, state, county, and local funds. The program is administered by the State Agricultural Land Preservation Board and the Pennsylvania Department of Agriculture, Bureau of Farmland Preservation.

The Dauphin County Conservation District administers Dauphin County's Agricultural Land Preservation (ALP) Program. The program is voluntary and there are several requirements that must be met to participate in the program including a minimum size of 50 acres and enrollment in an Agricultural Security Area. The farm is then given a numerical score through a land evaluation and site assessment and is ranked against other eligible farms. The numerical score determines which properties will be granted easements, based on available funds. Farms are ranked based on the following criteria:

- Quality of farmland – size of the farm and type of soil
- Stewardship – the use of conservation practices and best management practices of nutrient management and control of soil erosion and sedimentation
- Likelihood of conservation
- Potential for development – extent of non-agricultural land use in an area; road frontage; availability of public water and public sewer

- Cluster potential – proximity to other preserved farms; proximity to Agricultural Security Areas

Farmers that enroll their land in the program receive a stipend for agreeing to place certain restrictions upon the land to maintain and permanently preserve high quality, functional farmland. In Dauphin County, the maximum payment that a land owner may receive through the program is \$1,500 per acre. The land continues to be the farmer's private property and the farmer retains all privileges of land ownership, except the ability to sell the land for non-agricultural development or to develop the land for non-agricultural purposes. An agricultural conservation easement is permanent and transferable; if the landowner sells the property, the new landowner is subject to the same restrictions and must continue to use the property exclusively for agriculture.

Conservation Easements

A conservation easement is a legal agreement between a land owner and a nonprofit land trust or government agency that permanently limits uses of the land in order to protect important conservation values. Property owners may receive federal tax incentives to conserve land. There is one conservation easement in Halifax Township. The Central Pennsylvania Conservancy holds a conservation easement of approximately 142 acres on the property that is the future site of Fort Halifax Park in Halifax Township. A map identifying this property as a Historic Marker is included in Appendix C.

Environmental Limitations

The Valleys Region is fortunate in that it has an abundance of natural resources, as described in detail in this chapter. Information presented in this chapter may be helpful in making future decisions regarding the location of development, to ensure that these vital resources are not compromised. Identification of sensitive natural features is the first step in identifying areas for preservation and limited development. A map depicting environmental constraints, that is to say, sensitive natural features that may pose constraints to development is included in Appendix C. Such features include steep slopes, floodplains, wetlands, prime agricultural soils, farmland of statewide importance, forest cover, and water features. The areas shown on this map to be covered with one or more environmental constraints should be avoided when considering future locations for development.

4.1.3 Halifax Township Subdivision and Land Development Ordinance.

Halifax Township's Subdivision and Land Development Ordinance (SALDO) was adopted in 2012 and regulates the subdivision of land and land development within the Township, providing for the preparation of preliminary and final plans for such purpose; requiring certain improvements to be made or guaranteed to be made by the subdivider; regulating mobile / manufactured home parks, sale of lots, erection of buildings, layout out, construction, and opening and dedication of streets, sewers, other facilities, and public improvements in connection with subdivision and land development, and prescribing penalties for the violation thereof.

Section 505 of the SALDO pertains to minimum lot requirements predicated on sewage disposal methods. An excerpted table with general requirements is provided below.

Use	Lot Requirements			Minimum (FT)	Building Setback	Building Height	
	Min. Lot Areas*	Min. Lot Width (FT)	Max. Lot Coverage %				Front
ON-LOT SEWER & WATER							
Any use with <u>ON-LOT SEWER & WATER</u>	1.5 acres	150 FT	30%	40/35/30	20	25	35
Any use with Either Public Water or Public Sewer	1.0 acres	150 FT	30%	40/35/30	20	25	35
PUBLIC WATER AND SEWER							
Single Family Detached Dwelling	.15,000 SF	100 FT	30%	40/35/30	20	25	35
Single Family Semi-Detached Dwelling (per DU)	7,500 SF	50 FT	30%	40/35/30	20	25	35
Single Family Attached Townhouse	2,500 SF Per unit/6 Units per Ac	20 FT	35%	40/35/30	20	25	35
Two Family Detached Duplex	15,000 SF	100 FT	50%	40/35/30	20	25	35
Two Family Semi-Detached	7,500 SF	60 FT	50%	40/35/30	20	25	35
Multi Family Apartments	1,000 SF Per unit/10 Units per Ac	100 FT	50%	40/35/30	20	25	35
Non-Residential	.15,000 SF	100 FT	30%	40/35/30	20	25	35
* Lot size subject to PA DEP approval for on-lot sewage disposal systems SF = square feet; FT = feet; Ac = acre							

On land laid out as a recreational vehicle park or campground, lots shall be not less than sixty (60') feet wide at the street line, nor less than five thousand (5,000 SF) square feet in area for each recreational vehicle or campground lot, exclusive of streets and other public areas, provided that water and sewer are provided in accordance with standards of and approved by the Pennsylvania Department of Environmental Protection.

It states that in a mobile / manufactured home park, recreational vehicle park, or campground, setback lines of private roads shall be not less than twenty (20') feet from the cartway. Side and rear building setback lines shall not be less than ten (10') feet from the lot line on each side and rear lot line of each recreation vehicle or campground lot and not less than twenty-five (25') feet from the recreational vehicle park or campground property line on the sides and rear not adjacent to a dedicated public street right-of-way.

Section 506 of the SALDO pertains to design standards of identified floodplain areas. It states that within the floodway, any encroachment that would cause any increase in flood heights shall be prohibited. No new construction or development shall be allowed, unless a permit is obtained from the Department of Environmental Protection Regional Office.

This section also states that within the special floodplain area, no new construction or development shall be located within the area measured fifty (50') feet landward from the top-of-bank of any watercourse, unless a permit is obtained from the Department of Environmental Protection Regional Office. In special floodplain areas without a designated floodway, no new development shall be permitted unless it can be demonstrated that the cumulative effect of all

past and projected development will not increase the BFE by more than one (1') foot.

Section 508 of the SALDO pertains to stormwater management and establishes the scope of Regulated Activities. "Regulated Activities" under this section are any earth disturbance activities or any activities that involve the alteration or development of land in a manner that may affect stormwater runoff. "Regulated Activities" include, but are not limited to, the following listed items:

- a. Earth disturbing activity involving one (1) acre or more, except agricultural activity, provided such activity conforms to USDA Soil Conservation guidelines;
- b. Diversion or piping of any natural or manmade stream channel;
- c. Installation of stormwater management facilities or appurtenances thereto;
- d. Installation of stormwater BMPs;
- e. Movement or alteration to an existing stormwater management system, included but not limited to pipes, swales, basins, infiltration trenches, etc.;
- f. Placement of fill, structures or pipes in the floodplain as designated on the official floodplain map, and as may be documented by other pertinent sources of floodplain information used by the Township;
- g. Land development;
- h. Land subdivisions; or
- i. Construction of new or additional impervious or semi-pervious surfaces;
- j. Construction of new buildings or additions to existing buildings

Section 509 of the SALDO pertains to stormwater management districts and states that the boundaries of the stormwater management districts are shown on an official map, which is available for inspections at the municipal office.

Section 510 of the SALDO pertains to stormwater management design criteria. This section provides design information and requirements for managing stormwater associated with regulated activities.

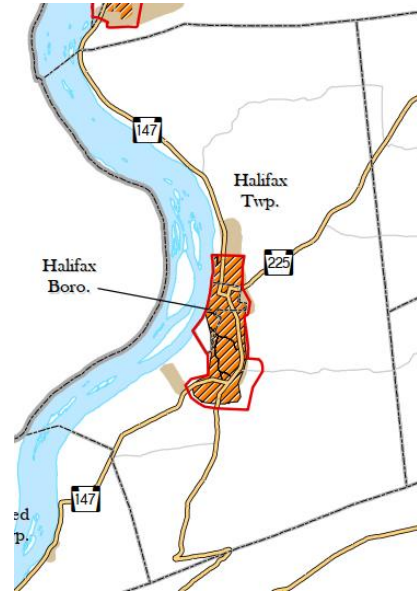
Section 609 of the SALDO pertains to natural features preservation and states that the design and development of all subdivision and land development plans shall preserve, whenever possible, natural features which will aid in providing open space for recreation and conditions generally favorable to the health, safety and welfare of the residents of the Township. These natural features include: the natural terrain of the site, woodland areas, large trees, natural watercourses and bodies of water, wetlands, rock outcropping and scenic views. It states the following:

- a. A maintenance easement for the Township or its designee, with a minimum width of twenty-five (25') feet, shall be provided along all stream and river banks and lake edges. Such easement, in all cases, shall be of sufficient width to provide proper maintenance.
- b. Lake, stream, stabilizing vegetation and river frontage shall be preserved as open space whenever possible.

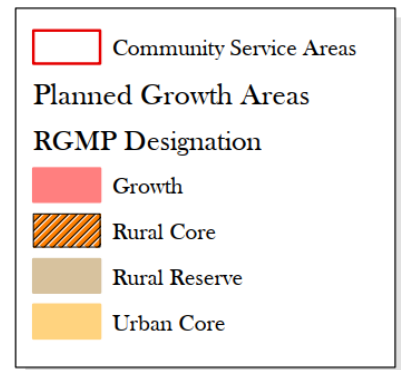
- c. Access shall be provided to the water and maintenance easement area. The width of such access points shall not be less than fifty (50') feet.

4.1.4 Dauphin County Comprehensive Plan.

Adopted July 12, 2017, the Dauphin County Comprehensive Plan sets the direction and identifies the goals for the County's community, environmental and economic initiatives. But, beyond stating the goals, this Comprehensive Plan seeks to be an "Implementable Plan" by outlining and establishing the methods, actions and accounting for progress toward meeting the goals. To assist in attaining these goals, the Comprehensive Plan states key action items and delineates specific areas requiring these key actions. These key action items were categorized into sustainable development, housing, public facilities & services, water quality & stormwater management, floodplain & riparian area preservation, agriculture and resource protection, programs & policies, transportation network, and water & wastewater infrastructure.



Select regions of Halifax Township, specifically surrounding the Halifax Borough, were identified as Rural Core and Rural Reserve Areas in the Dauphin County Comprehensive Plan. These descriptors are based on the Regional Growth Management Plan (RGMP), included here by reference, which goes into significant detail for a wide range of action items to provide for sustainable growth and development. Key goals and implementation measures from the RGMP were included as they relate to future development in Dauphin County. The RGMP contains growth projections that have been reviewed with all of the region's municipalities, and defines Community Service Areas (CSA) to provide for managed growth through in-fill and reasonable expansion adjacent to existing developed areas. The goal is to have the majority of development take place within the CSA boundaries as a means of reducing the cost and complexity of providing public facilities and services and reducing the burdens on public infrastructure.



4.1.5 Dauphin County Stormwater Management Plan.

In compliance with Act 167, the Pennsylvania Stormwater Management Act, the Dauphin County Conservation District (DCCD) prepared a Stormwater Management Plan in April 2010 for all watersheds of Dauphin County. This Stormwater Management Plan serves as a framework and information source to assist all municipalities within Dauphin County in planning for and managing the increased runoff associated with development and future population growth. The Mid-Dauphin Basin Act 167 Plan predates the existing Dauphin County Stormwater Management Plan which addressed watersheds located within Halifax Township and was incorporated in and is now part of the county-wide plan.

Mid-Dauphin Basins

The Mid-Dauphin Basin Act 167 Plan covers six (6) major watersheds covering a total of 174-square miles. These watersheds include: Armstrong Creek, Clark Creek, Fishing Creek, Powell Creek, Stony Creek, and Gurdy Run. A total of 12 municipalities had all or part of their jurisdictions in these watersheds. They included: Dauphin and Halifax Boroughs, and East Hanover, Halifax, Jackson, Jefferson, Middle Paxton, Reed, Rush, Susquehanna, Wayne, and West Hanover Townships.

Land use in these watersheds is mostly rural with a significant amount of agriculture and mountain area. All six (6) watersheds were modeled using the Penn State Runoff Model (PSRM) to simulate both existing and potential future stormwater runoff. Both present and future land use scenarios were modeled for the 2-year, 10-year, and 25-year storm events. The maximum standards and criteria established in the plan were developed to meet stated plan objectives. These standards and criteria were based on the requirements of Act 167, the hydrologic model of existing and future land use conditions, and the perceived abilities of the municipalities and developers to implement the criteria.

The plan also contains standards addressing water quality, groundwater recharge and channel protection. Other elements included in the plan are a description of the watersheds, an analysis of existing municipal regulations related to stormwater management, a discussion of watershed level stormwater management planning, economic impacts of management criteria, a listing of current stormwater management techniques, additional recommended municipal stormwater management actions, and a listing of plan update procedures. A model municipal stormwater management ordinance was also included in the plan.

No additional hydrologic analyses no been conducted on the Mid Dauphin Basins as part of this Plan, and release rates for the 2-year, 10-year, and 25-year storms shall remain in effect.

4.1.6 Dauphin County Subdivision and Land Development Ordinance.

Adopted by the Dauphin County Board of Commissioners on April 27, 2011, the Dauphin County Subdivision and Land Development Ordinance (SALDO) to provide uniform standards and procedures for the regulation of subdivision and land development within Dauphin County.

Halifax Township has adopted their own SALDO, and therefore is exempt from this regulation per Section 203 of the Dauphin County SALDO. All subdivision and land development applications within the Township must still be forwarded upon receipt to the Dauphin County Planning Commission for review and report.

4.1.7 Dauphin County Parks, Recreation, Open Space and Greenways Study.

Approved by the Dauphin County Commissioners on April 15, 2009, the Dauphin County Parks, Recreation, Open Space and Greenways Study was developed to aid in the enhancement of existing and future communities in Dauphin County by preserving and, where appropriate, creating various types of greenways.

4.1.8 Tri-County Regional Growth Management Plan.

In September 2017, the Tri-County Regional Planning Commission formally adopted the 2040 Update of the Regional Growth Management Plan (RGMP). The RGMP is a broad plan intended to serve as a foundation for county comprehensive plans, regional transportation plans, and other planning activities to ensure consistency between land use planning and transportation planning.

4.1.9 Comprehensive Plan for the Water Resources of the Susquehanna River Basin.

In June 2017, the Susquehanna River Basin Commission formally adopted the Comprehensive Plan for the Water Resources of the Susquehanna River Basin (SRBC Comprehensive Plan). The SRBC Comprehensive Plan provides an overarching framework for the Commission in regard to management and development of the water resources of the Susquehanna River Basin, and serves as a guide for all Commission programs and activities, thus facilitating the achievement of its mission to enhance the public welfare through comprehensive planning, water supply allocation, and management of the water resources of the basin. The SRBC Comprehensive Plan supports the broad goals set forth by the commission and provides a basis for achieving desired results, meeting specific goals, and taking actions necessary to meet the goals. The SRBC Comprehensive Plan is further intended to be a useful resource for the Commission's member jurisdictions, water resource managers in the basin, private sector interests, and others. It can serve as a guide for resource planning done by local interests and the states.

4.2 GROWTH AREAS IDENTIFIED BY PREVIOUS PLANNING

The 1996 Halifax Township Comprehensive Plan mapped in general four (4) planned growth areas (PGA), as well as several rural focus areas (RFA) scattered throughout the Township. The first PGA – planned for low density residential – is a community known as Matamoras and is generally located between the Powell Creek and Parmer Drive along S.R. 225. The second PGA – planned for low and medium density residential, commercial village-mixed use, light industrial, and public/semi-public space – is located immediately north of Matamoras and surrounds the Township's primary commercial and light industrial districts generally spanning from Parmer Drive north to the northern end of Halifax Borough between the Susquehanna River to the west and Price Road to the east. The third PGA is located between Halifax Borough and the community of Tourist Park along the Susquehanna River and is planned for low to medium density residential. The fourth PGA – planned for low density residential – is located immediately northeast of Halifax Borough along S.R. 225. A copy of the Generalized Land Classification and Future Land Use Maps included in the Halifax Township Comprehensive Plan were provided in Section 4.1.1.

The Future Land Use Plan included within the 2011 Valleys Regional Comprehensive Plan (VRCP) was developed around eight (8) character areas (CA) mapped throughout the Township. The intent of the CA is not to substantially change the region's existing development patterns but rather build upon those patterns and investments as well as protect and enhance important and unique manmade and natural features. Of those CA located within the Township, three (3) – Rural Area (Developing), In-Town Corridor, and Traditional Neighborhood (New) – identified areas where pressures for development are the greatest and most likely to occur in the future due to availability of public water and public sewer and fall within the footprint of the first and second PGAs identified in the 1996 Halifax Township Comprehensive Plan. An excerpt of the Character Areas Map (VRCP Map 1) is provided in Section 4.1.2 and the full version has been included in Appendix C.

4.3 EXISTING AND FUTURE GROWTH AREAS

Most of the recent development in Halifax Township has occurred in the Planned Growth Areas. Proposed and approved land developments in the PGA have been limited in size and density due to the lack of public sewer and water infrastructure.

There is currently one large residential subdivision (Lenker Estates) under construction within the Township which is slated for 160 homes. This subdivision is currently served by public water and a private wastewater treatment facility. At the time that this plan was prepared, approximately 58 homes have been constructed within the subdivision. Other recent commercial and industrial development within Halifax Township has been concentrated along S.R. 225 and S.R. 147.

Future growth within the Township is expected to occur within the PGA. Undeveloped lots are located throughout the Township and are indicative of areas where development may occur within the next 5-15 years. Although public infrastructure services are not provided, future development at greater densities is planned to accompany the orderly construction and provision of public infrastructure services. Lots that have water and sewer service are most likely to develop sooner as pressure for development increases. See the Generalized Land Classification and Future Land Use Maps in Section 4.1.1 and excerpt of the Character Areas Map (VRCP Map 1) in Section 4.1.2 (full version included in Appendix C) for areas of existing and projected future development.

4.4 GROWTH PROJECTIONS

Table 4-4 presents population information by census year as documented in the *Regional Growth Management Plan* and by the United States Census Bureau. The third row has been added to illustrate the percent change from the previous decade. The average of the percent changes from 1970 to 2010 is approximately 15.7% per ten-year period. Since 1970, Halifax Township has seen both substantial growth in the 1980's and 1990's and somewhat steady population increases since then.

Population projections for each municipality in Dauphin County were compiled by United States Census Bureau. Those projections were used by Tri-County Regional Planning Commission in its forecasts contained in its *Regional Growth Management Plan*. According to the projections, Halifax Township is anticipated to continue increasing in population with a projected total population of 3,956 by the year 2040.

Table 4-4 Population History and Projections

Actual Population					Projected Population		
1970	1980	1990	2000	2010	2020	2030	2040
2,038	2,943	3,449	3,329	3,483	3,671	3,830	3,956
	44.4%	17.2%	(3.5%)	4.6%	5.4%	4.3%	3.3%

4.5 WASTEWATER FLOW PROJECTIONS

As part of the preparation of this Plan, the flow projections are based on providing public sanitary sewer facilities to existing properties within the three (3) potential sewer service areas currently served by OLDS, adjacent developments currently served by private wastewater treatment facilities (Alex Acres Mobile Home Park and Lenker Estates), and build-out of all existing or proposed subdivision and land development plans known at the time of this Plan by the Township. These potential sewer service areas were delineated based on the results of the sanitary sewage and water surveys (Chapter 3) within the Planning Area. The economic feasibility of providing public sanitary sewer facilities to the Planning Area is discussed in Chapter 5.

The wastewater flow projections developed for this Act 537 Plan were based on the following conditions and assumptions:

- Wastewater flows generated for all Structural Alternatives are based on a 5-year annual average daily flow of 144.2 gallons per day (gpd) per equivalent dwelling unit (EDU) as identified in the Halifax Area Water and Sewer Authority's Chapter 94 Wasteload Management Report for Calendar Year 2017.
- Alex Acres Mobile Home Park (MHP) connections are based on an annual average flow of 78 gpd from existing flow records.
- Future growth within the three (3) potential sewer service areas is based on 20% of non-MHP EDUs.
- Lenker Estates estimated existing and projected EDUs are based on existing aerial imagery and final subdivision/land development plans received by the Halifax Township dated May 2002 through October 2013 for Phases I-III.

As presented in Table 4-5, all projected flows are tributary to the Halifax Area Water and Sewer Authority's (HAWASA) Wastewater Treatment Plant (WWTP). The Main Pumping Station located at the HAWASA WWTP is – at the time of this Plan – considered to be hydraulically overloaded in accordance with 25 Pa. Code § 94.12. In addition, a draft Consent Order and Agreement (COA) was issued to HAWASA by the Pennsylvania Department of Environmental Protection (PA DEP) on January 10, 2018 for WWTP effluent violations occurring between March 2013 and September 2017.

Table 4-5 Estimated Wastewater Flow Scenarios By Alternative

Potential Service Area	Initial EDUs	Initial Flow (GPD)	Build-out EDUs	Build-out Flow (GPD)
Alternative 1	347	50,037	347	50,037
- Misc. Future Growth @ 20%			70	10,094
TOTAL	347	50,037	417	60,131
Alternative 2	111	16,006	111	16,006
- Alex Acres MHP	14	2,019	14	2,019
- Misc. Future Growth @ 20%			25	3,605
TOTAL	125	18,025	150	21,630
Alternative 3	46	6,633	46	6,633
- Ambulance Building	4	577	4	577
- Misc. Future Growth @ 20%			10	1,442
TOTAL	50	7,210	60	8,652
Alternative 4	347	50,037	347	50,037
- Lenker Estates	58	8,364	160	23,072
- Misc. Future Growth @ 20%			81	11,680
TOTAL	405	58,401	588	84,790

WWTP Upgrades are currently being evaluated by HAWASA and are in some capacity dependent on the sewage facilities recommended as part of this Halifax Township Act 537 Official Sewage Facilities Plan. Coordination of this Plan with HAWASA is critical to establish a successful and practical implementation schedule, determine funding, and ensure that all facilities are installed in a manner that is both environmentally responsible and economically feasible.

4.6 SUMMARY OF WASTEWATER PLANNING NEEDS

As previously stated, the Township is served in part by HAWASA's wastewater collection, conveyance, and treatment systems, privately owned and operated OLDS, and packaged wastewater treatment facilities. Although many of the existing OLDS appear to be in acceptable condition, a majority of the Township's soils and slopes are generally unsuitable for conventional inground systems.

As a result of existing OLDS malfunctions and the high potential for growth, the Township is evaluating the following wastewater planning needs:

1. Solutions to provide public sewer facilities to the Matamoras Study Area should be considered. Seventy-two (72) percent of OLDS inspected had potential, suspected, or confirmed malfunctions with twenty-six (26) percent of the water samples that tested positive for total coliform, also tested positive for fecal coliform in the Matamoras Study Area. In addition, due to anticipated growth and development and soil suitability, solutions to provide public sewer to the Matamoras Study Area should be considered. Therefore, the Matamoras Study Area is considered a needs area, and alternatives for providing improved sewage facilities are investigated in Chapter 5.
2. Solutions to provide public sewer facilities to the Routes 147 and 225 Study Area should be considered. Forty-six (46) percent of OLDS inspected had potential, suspected, or confirmed malfunctions with ten (10) percent of the water samples that tested positive for total coliform, also tested positive for fecal coliform in the Routes 147 and 225 Study Area. In addition, due to anticipated growth and development and soil suitability, solutions to provide public sewer to the Routes 147 and 225 Study Area should be considered. Therefore, the Routes 147 and 225 Study Area is considered a needs area, and alternatives for providing improved sewage facilities are investigated in Chapter 5.
3. Solutions to provide public sewer facilities to the Fetterhoff Church Study Area should be considered. Twenty-three (23) percent of OLDS inspected had potential, suspected, or confirmed malfunctions with ten (10) percent of the water samples that tested positive for total coliform, also tested positive for fecal coliform in the Fetterhoff Church Study Area. In addition, due to anticipated growth and development and soil suitability, solutions to provide public sewer to the Fetterhoff Church Study Area should be considered. Therefore, the Fetterhoff Church Study Area is considered a needs area, and alternatives for providing improved sewage facilities are investigated in Chapter 5.
4. Solutions to provide public sewer facilities to the Tourist Park Study Area should be considered. Sixty-six (66) percent of OLDS inspected had potential, suspected, or confirmed malfunctions with zero (0) percent of the water samples that tested positive for total coliform, also tested positive for fecal coliform in the Tourist Park Study Area. In

addition, due to anticipated growth and development and soil suitability, solutions to provide public sewer to the Tourist Park Study Area should be considered. Therefore, the Tourist Park Study Area is considered a needs area, and alternatives for providing improved sewage facilities are investigated in Chapter 5.

5. Solutions to allow for adequate OLDS management in areas of the Township where public sewer facilities exist are not feasible.

4.6.1 Extension of Public Sewers to New Development Areas

In conjunction with the Township's Subdivision and Land Development Ordinance, new developments must plan for sewage facilities by including either OLDS or public sewage facilities. Where public sewers are not reasonably accessible as determined by the Township, OLDS in accordance with Pennsylvania's Sewage Facilities Act may be installed in areas with suitable soils. Developers must follow the appropriate DEP planning module procedures. See Section 4.1.2.

4.6.2 Extension of Public Sewers to Existing Development Areas

Sanitary sewer surveys conducted as part of this Act 537 Plan update have revealed a confirmed malfunction rate in the Township of 5.2%.

Due to limiting soils and slopes in the Township, most residents will not be able to repair or replace malfunctioning OLDS with traditional in-ground or trench systems. Soil limitations within the Township for the on-lot disposal of effluent from septic tanks is moderate to severe. In addition, based on the limitations of slope and useable soil depth, many of the newer on-lot disposal sites within the Township require elevated sand mound installations. These conditions greatly limit the options for residents within the determined needs areas to repair or replace malfunctioning systems. The findings of the well water sampling indicate the need for improved sewage facilities in the determined needs areas. Alternatives for improved sewage facilities within Halifax Township are presented in Chapter 5.