

## 4.1 LAND USE REGULATIONS AND PLANNING

### 4.1.1 Strasburg Township Comprehensive Plan

In 1995, Strasburg Borough and Strasburg Township adopted the Strasburg Region Joint Comprehensive Plan. This was the first multi-municipal Comprehensive Plan adopted in the history of Lancaster County and helped to establish the planning relationship between the two municipalities. Due to major updates to the Act 247 Pennsylvania's Municipalities Code, the Strasburg Region Joint Planning Commission began updating the 1995 Plan in 2004 based on the increased ability for municipalities to work together on planning issues. The update to the 1995 *Strasburg Region Joint Comprehensive Plan* was prepared in 2006 by Spott, Stevens & McCoy Group, Inc., Strasburg Region Joint Planning Commission, along with the Lancaster County Planning Commission.

The 2006 *Strasburg Region Comprehensive Plan* was adopted by the Strasburg Borough Council and the Strasburg Township Board of Supervisors on October 9, 2006, based on the recognition of the importance of emphasizing cooperative efforts between the two municipalities, identifying community goals, anticipating change, and articulating a strategy for development and land use, including preservation efforts in the region. It contains objectives and recommendations for the land use, housing, transportation and community facilities, and utilities.

Objectives and recommendations developed include the following:

- “Areas characterized by prime agricultural soils will be preserved for those agricultural activities that rely upon such high-quality soils as well as support activities that promote the viability of such operations.”
- “Sensitive environmental, natural, and cultural resources shall be protected from degradation.”
- “Provide for a comprehensive range of housing types and densities to meet the projected demand for housing units through the year 2020 while discouraging accelerated development.”
- “Support the viability of all forms of production agriculture as an economic activity.”
- “Support the viability of the local tourist industry, but restrict tourist-oriented development to the northern part of the region.”
- “Support Strasburg Borough as the principal commercial and services center for the Strasburg region, with Village of Refton as a smaller, rural center.”
- “Control the availability of public utilities to avoid excess capacity that would promote inappropriate development.”
- “Seek out additional opportunities for joint municipal cooperation, including cooperation with municipalities bordering on the Strasburg region.”

The 2006 *Strasburg Region Comprehensive Plan* also contains future land use and transportation plans. The future land use plan represents the Township's desire to discourage non-agricultural development outside of the DGAs which places a high degree of appreciation and respect regarding the community's agricultural significance and open-space pastoral character. The future growth areas for the Township, as identified in the 2006 Comprehensive Plan, have been deliberately located and sized to accommodate the growth that is projected within the designated growth area boundaries to reduce the conversion of productive farmlands and to confine development areas so that public improvements and services can be provided efficiently to a compact area. The future land uses identified in the 2006 Comprehensive Plan is illustrated in Table 4-1. The future transportation plan identifies planned improvements to the Township's existing transportation network to appropriately utilize the region's road network, provide adequate access where needed, prevent over-design in rural areas, and to safely accommodate non-motorized travel.

**Table 4-1 Future Land Use**

Land Use	Area (acres)	Percent of Township Total Land Area
Agriculture	9,601	74.5
Woodlands	1,635	12.7
Residential, Single Family Detached	976	7.58
Residential, Single Family Attached	12.6	0.10
Residential, Multi-Family	4.38	0.03
Commercial	224	1.74
Industrial	14.3	0.11
Public, Civic, Institutional	73.7	0.57
Transportation, including roads	342.7	2.66
Vacant	1.12	0.01
Total Area	12,885	100

#### 4.1.2 Strasburg Township Subdivision and Land Development Ordinance

Strasburg Township has not adopted its own Subdivision and Land Development Ordinance and therefore is regulated by the Lancaster County Subdivision and Land Development Ordinance.

#### 4.1.3 Lancaster County Subdivision and Land Development Ordinance

Lancaster County's original Subdivision and Land Development Ordinance was adopted in 1991. The original *Lancaster County Subdivision and Land Development Ordinance* was amended in 1994 and again in 1997.

Section 609 of the Ordinance pertains to sewer and water facilities.

The Ordinance specifies that, "If the project is located within an Urban Growth Boundary or if the site is within an area planned for sewer service by a municipal sewage facilities plan adopted pursuant to Act 537 of 1966 and if public sewer service is available within the following distances, subdivisions and land developments shall be connected to an existing public sanitary sewer system; two hundred (200) feet for one-unit; four hundred (400) feet for two-unit; six hundred (600) feet for three-unit; eight hundred (800) feet for four-unit; and one thousand (1,000) feet for five-unit to fifteen-unit developments. For developments of greater

than fifteen (15) units which are within one mile from an existing public sanitary sewer system, adequate justification shall be provided as to why they should not provide a connection to the existing public sanitary sewer system. For developments of greater than fifteen (15) units which are more than one mile from an existing system, the sanitary sewer strategy shall be determined on a case-by-case basis, taking into consideration the density of development, economic considerations, and the requirements of the municipal sewage facilities plan.”

“If a public system is not in place or cannot be extended, the developer may provide individual subsurface disposal systems subject to applicable regulations of the Pennsylvania Department of Environmental Resources (currently referred to as DEP). Provided that, if a public sanitary sewer system will be provided to such areas within a six-year period as indicated in the municipal sewage facilities plan, adopted pursuant to Act 537 of 1966, the Commission at the request of a municipality may require installation of a capped system within the road right-of-way.”

“Where on-site sanitary wastewater disposal facilities are to be utilized, each lot so served shall be of a size and shape to accommodate the necessary subsurface wastewater disposal system at a safe distance from building and water supply in accordance with Title 25, Chapter 73, Rules and Regulations of the Pennsylvania Department of Environmental Resources (currently referred to as DEP), as amended. If municipal ordinances require that all newly created lots be tested by a sewage enforcement officer, such testing to prove that each lot is suitable for on-site wastewater disposal shall be completed prior to the submission of the Final Plan. No lot shall be created in an area without public sewer, unless such lot is suitable for on-site wastewater disposal.”

#### **4.1.4 Strasburg Township Zoning Ordinance**

The *Strasburg Township Zoning Ordinance* was adopted by the Township Board of Supervisors on July 17, 1995 with several amendments to date. Purposes of the Ordinance include “to promote, protect and facilitate the public health, safety, morals, general welfare, coordinated and practical community development, proper density of population, the provisions of adequate light and air, emergency services, including police protection, vehicle parking and loading space, transportation, water, sewerage, schools, public grounds and other public requirements, as well as to prevent overcrowding of land, blight, danger and congestion in travel and transportation, loss of health, life, or property from fire, flood, panic or other dangers.”

Strasburg Township has been divided into the following zoning districts:

- Agricultural Zone (A)
- Rural Residential Zone (RR)
- Village Residential Zone (VR)
- Residential Zone (R-1)
- Village Commercial Zone (VC)
- Highway Commercial Zone (HC)
- Restricted Commercial Zone (RC)
- Industrial Zone (I)
- Floodplain Zone (FP)
- Gateway North Zone (GN)
- Railroad Heritage Zone (RH)

The primary purpose of the Agricultural Zone (A) is to protect and promote the continuation of farming in areas with prime agricultural and to separate agricultural land uses and activities from incompatible residential, commercial and industrial development, and public facilities. The Rural Residential Zone (RR) acknowledges low density rural residential development that has previously occurred within the Township’s agricultural

landscape where no public utilities exist or are planned. The purpose of the Village Residential Zone (VR) is to encourage compact residential development consistent with the traditional densities and historic rural character of the Village of Refton. The Residential Zone (R-1) represents the Township's residential growth area which is characterized by a mixture of high density residential uses in proximity to Strasburg Borough and comparatively less dense in other areas of the Township based on the availability of public utilities. The purpose of the Village Commercial Zone (VC) is to provide for neighborhood goods and services within walking distance of local residents in the Village of Refton. The Highway Commercial Zone (HC) provides suitable locations for larger-scale and/or highway-oriented retail, service, and entertainment businesses along major roads in the Township. The Restricted Commercial Zone (RC) is intended to provide distinct locations for less intensive commercial activities that provide and/or receive some benefit from tourism. The Industrial Zone (I) provides smaller light industrial uses in the Township which are located near existing public utility service and along major roads. The Floodplain Zone (FP) establishes the areas in the Township which are subject to recurring flooding which is likely to endanger life and public and private property and facilities. The Gateway North Zone (GN) accommodates both general commercial uses that will service the residents and light industrial uses along S.R. 896 while still maintaining the rural character of the Township by preserving land use. The purpose of the Railroad Heritage Zone (RH) is to accommodate permitted uses which relate to historic railroading to enable such principal uses to prosper. A copy of Strasburg Township's Future Land Use Map is presented as Map 11 in Appendix H.

The Zoning Ordinance establishes minimum lot sizes based on the method of sewage disposal for the following residential and commercial zoning districts: VR, Village Residential Zone; R-1, Residential Zone; VC, Village Commercial Zone; HC, Highway Commercial Zone; RC, Restricted Commercial Zone; GN, Gateway North Zone. The Ordinance states that the minimum lot area shall be twenty thousand (20,000) square feet (approximately ½ acre) where public sewer is available and a minimum of one (1) acre (43,560 square feet) where public sewer is not available for each of the residential and commercial zoning districts. The minimum lot sizes for the residential and commercial zoning districts based on the method of sewage disposal are included in Table 4-2.

**Table 4-2 Minimum Required Lot Sizes Based on Sewage Disposal**

<b>Zoning District</b>	<b>No Sewer or Water</b>	<b>Sewer Only</b>	<b>Water Only</b>	<b>Sewer &amp; Water</b>
Village Residential (VR)	43,560 sq. ft.	20,000 sq. ft.	32,000 sq. ft.	14,500 sq. ft.
Residential Zone (R-1)	43,560 sq. ft. SFD	--	--	10,000 sq. ft. SFD 6,000 sq. ft. Duplex 2,000 sq. ft. TH
Village Commercial (VC)	43,560 sq. ft.	20,000 sq. ft.	32,670 sq. ft.	15,000 sq. ft.
Highway Commercial (HC)	43,560 sq. ft.	20,000 sq. ft.	32,670 sq. ft.	15,000 sq. ft.
Restricted Commercial (RC)	43,560 sq. ft.	20,000 sq. ft.	32,670 sq. ft.	10,000 sq. ft.
Gateway North Zone (GN)	43,560 sq. ft.	20,000 sq. ft.	43,560 sq. ft.	15,000 sq. ft.

#### **4.1.5 Land and Water Resources Planning**

None of the planning documents reviewed above contain limitations and/or planning for the use and protection of public surface water supplies, recreational water uses areas, and industrial water use. However, compliance with the requirements of the Township's ordinances will often require compliance with state or federal regulations pertaining to these areas.

#### **4.2 GROWTH AREAS IDENTIFIED BY PREVIOUS PLANNING**

The 2006 *Strasburg Region Comprehensive Plan* indicates that future development is presently focused within the Township's Designated Growth Areas (DGAs). The DGA represents an area of the Township where the majority of development is expected and encouraged to occur and can accommodate growth through the year 2020. The Plan explained that the "...purpose of the urban growth boundary (currently referred to as "growth area") is to discourage the premature rezoning of land for development through a formalized UGD (currently referred to as "DGA") adoption and amendment process. When lands adjacent to and outside an adopted UGD are proposed for rezoning to an urban use, it should first be demonstrated that no lands planned and zoned for that use are available for development within the UGD, or that a mistake has been made which compels the rezoning." The Plan also recognizes that "A key component of that DGA is the provision of public sewerage and public water supply, both to serve very limited areas of new development and areas of existing development that have a history of sewer-related problems." Public infrastructure services are provided or are planned to serve the DGAs as a needs basis.

The first DGA boundary of the Township outlines the Strasburg Borough municipal boundary, the northern portion of the Township along the S.R. 896, and into eastern portion of the Township along S.R. 741 between the Borough line and the Strasburg Rail Road. The second DGA boundary of the Township outlines the Village of Refton. The DGAs as depicted in the Plan's Future Land Use Map is presented as Map 11 in Appendix H.

#### **4.3 EXISTING AND FUTURE GROWTH AREAS**

Most of the recent development in Strasburg Township has occurred in the Agricultural Zone (A), Rural Residential Zone (RR), and Residential Zone (R-1) districts outside of the DGAs. The developments generally consisted of subdivision plans submitted by the property owner. Several recent proposed land developments in the DGAs have been submitted but have no immediate plans for development due to lack of public sewer and water infrastructure or other undisclosed reasons.

Recent commercial development has been concentrated along the S.R. 896 and S.R. 741 in the DGAs. The development has generally consisted of tourist-oriented business and commercial operations which also serve Township residents.

Future growth within the Township is expected to occur within the DGAs. Undeveloped lots are located throughout the Township and are indicative of areas where development may occur within the next 5-15 years. Lots that have water and sewer service or are in close proximity to public utilities are most likely to develop sooner as pressure for development increases. See Map 12 in Appendix H for areas of existing and future development.

#### 4.4 GROWTH PROJECTIONS

Table 4-3 presents population information by census year as documented in the 2006 *Strasburg Region Comprehensive 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 1950 to 2000 is approximately 16.5% per ten-year period. Since 1950, Strasburg Township experienced steady population increases with significant growth during the 1970's and 1980's. Between 1990 and 2000, the population increased by 9.0%.

Population projections for each municipality in Lancaster County were compiled by the Pennsylvania State Data Center. Those projections were used by the Lancaster County Planning Commission in its forecasts presented in its Comprehensive Plan. According to the projections, Strasburg Township is anticipated to continue increasing in population with a projected total population of 5,003 by the year 2030.

**Table 4-3 Population History and Projections**

Actual Population						Projected Population		
1950	1960	1970	1980	1990	2000	2010*	2020	2030
1,890	2,081	2,550	3,188	3,688	4,021	4,364	4,700	5,003
--	10.1%	22.5%	25.0%	15.7%	9.0%	8.5%	7.7%	6.4%

\*2010 Census data not available at the time of this Plan.

#### 4.5 WASTEWATER FLOW PROJECTIONS

As previously discussed in Chapter 3, there are no municipally owned wastewater systems within Strasburg Township that currently serve Township properties. There is an existing sanitary sewer main in the Creekview Study Area constructed in the late 1970's but no sanitary sewer service is currently provided. Two (2) residential properties and five (5) commercial properties are currently served by the Strasburg Rail Road Sanitary Sewer Extension. Currently, all subdivisions and land developments in Strasburg Township are planning to be served by on-lot disposal systems (OLDS) or packaged wastewater treatment facilities. The identification of existing sewer flows and projection of future flows resulting from new connections are presented in the following sections.

##### 4.5.1 Current Wastewater Flow

Section 3.2 of this Act 527 Plan provides a description of the packaged wastewater treatment facility (PWWTF) in Strasburg Township which currently serves Hershey Farm Restaurant & Inn and Sight & Sound Theatres located along S.R. 896. A summary of existing wastewater flow to the PWWTF, according to the records provided by the operator, is provided in Table 4-4 below.

**Table 4-4 Hershey Farm PWWTF Wastewater Flow Summary – Annual Average Flow**

<b>EDUs Connected</b>	<b>Annual Average Daily Flow (MGD)</b>	<b>Permitted Capacity (MGD)</b>	<b>Remaining Capacity (MGD)</b>
132*	~25,000	0.160	0.135

*\*Estimated based on current wastewater flow with an average daily flow of 189 gpd/EDU.*

Section 3.3 of this Act 537 Plan provides a description of the Strasburg Rail Road's sanitary sewer extension (S.R. 741 DGA) located within Strasburg Township which discharges all wastewater flow to Strasburg Borough Authority's system. The Strasburg Borough Authority (SBA) submits an annual Chapter 94 Wasteload Management Report to DEP for its collection and conveyance system tributary to Suburban Lancaster Sewer Authority's (SLSA) wastewater system. SBA's Chapter 94 Report presents annual average daily flows conveyed to SLSA from the their service area, including Strasburg Rail Road's sewer extension in Strasburg Township. According to SBA's 2011 Chapter 94 Report, Strasburg Rail Road's service area currently includes 102 EDUs connected to the SBA system as a bulk customer. Strasburg Rail Road currently has seven (7) customers connected to the sewer extension along S.R. 741 within the Township, 5 of which are commercial and 2 are residential. A summary of existing wastewater flows for Strasburg Borough, as obtained from SBA's Chapter 94 Report for Calendar Year 2011 is provided in Table 4-5 below.

**Table 4-5 Strasburg Borough 2011 Wastewater Flow Summary**

<b>EDUs Connected</b>	<b>Annual Average Daily Flow (MGD)</b>	<b>Allocated Capacity within SLSA System (MGD)</b>	<b>Remaining Allocated Capacity (MGD)</b>
1,146	258,743	0.420	0.161

#### **4.5.2 Projected Future Wastewater Flows from New Connections**

In order to determine if providing public sanitary sewer facilities for the unsewered Study Areas and the S.R. 896 DGA identified in previous chapters of this Act 537 Plan is feasible, four (4) wastewater flow projection scenarios were developed. The economic feasibility of extending public sewer service to these Study Areas and the S.R. 896 DGA is discussed in Chapter 5 of this Plan.

Annual average daily flows for new residential connections in the Study Areas and the S.R. 896 DGA, for the purpose of this Act 537 Plan, are projected at 189 gallons per day per EDU (gpd/EDU). This figure is based on an average household size of 3.15 persons in Strasburg Township as reported in the 2000 U.S. Census and 60 gallons/capita/day. It should be noted that if water service becomes available then it is likely that the projected wastewater flows will increase.

The estimated number of new connections for the Refton Study Area was based upon door-to-door surveys (provided in Appendix E) conducted by the Refton Sewer Committee as well as input from the Township. The Lancaster County Geographic Information System Mapping Online (GISMO) was utilized to estimate the number of new connections for the Creekview Study Area and the S.R. 896 DGA.

Projected future wastewater flows from new commercial and institutional connections in the Refton Study Area was evaluated based upon recommended flows identified in the Pennsylvania Code, Title 25, Chapter 73, *Standards for Onlot Sewage Treatment Facilities*. In addition, flow meter data was collected by the Refton Sewer Committee during the preparation of this Act 537 Plan from two (2) water meters installed at the Refton Brethren in Christ Church and at the Refton Fire Department. The water meters installed at the two (2) new connections in the Refton Study Area were utilized to monitor water consumption and to determine average daily flow and peak daily flow for each connection. The data collected from the two (2) water meters is provided in Appendix E.

Table 4-6 lists the estimated number of EDUs from existing development for the unsewered Study Areas and the S.R. 896 DGA.

**Table 4-6 Estimated EDUs from Unsewered Areas**

Area	Estimated EDUs
Refton Study Area	101
Creekview Study Area	20
S.R. 896 DGA	38
<b>Total</b>	<b>159</b>

Future development in the S.R. 896 DGA is limited by the availability of land to be planned and zoned for development within the growth boundaries. According to the 2006 Comprehensive Plan, it is recommended that the configuration of the growth boundaries be re-evaluated every five years to accommodate appropriate growth in the future.

The estimated wastewater generation from the preliminary commercial land development within the S.R. 896 DGA is displayed in Table 4-7. The projected average daily flow is based upon the sewage treatment agreement between the owner of the Hershey Farm PWWTF and the developer (provided in Appendix O). This development is shown on Map 12 in Appendix H.

**Table 4-7 Estimated Wastewater Generation from Preliminary Land Development**

Map ID No.	Development Name	Type of Development	Acreage	Projected Average Daily Flow (gpd)
2	Keystone Tract	Commercial	10.9	20,000

Four (4) wastewater flow projection scenarios were developed for this Act 537 Plan which assumes new connections in the Study Areas and the S.R. 896 DGA as projected in Table 4-6 as well as commercial development as projected in Table 4-7. Scenario A assumes that public sanitary sewer facilities will be constructed to serve approximately 95 connections including residential, commercial, and institutional with an estimated 101 total EDUs designated as the Refton Study Area. Scenario B assumes that the existing public sanitary sewer facilities along Creekview Lane will be connected to the SBA system to serve approximately 20 residential properties designated as the Creekview Study Area. Scenario C assumes that public sanitary sewer facilities will be constructed to serve approximately 38 EDUs in the unsewered areas of the S.R. 896 DGA and



also includes wastewater flow from EDUs currently connected to the Hershey Farm PWWTF. Scenario D assumes that the preliminary development projected in the next 5-15 years following the adoption of this Plan in the S.R. 896 DGA connect to public sanitary sewer in addition to those properties identified in Scenario C.

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

- Each EDU in the Study Areas and S.R. 896 DGA will contribute an annual average flow of 189 gpd.
- Projected development in the S.R. 896 DGA is inclusive of Keystone Tract (refer to Table 4-7).

The projected annual average and peak daily wastewater flows through 2027 developed under the above assumptions are shown in Table 4-8. Average annual flow under Scenario A is projected to equal approximately 19,089 gpd. Growth in the Refton Study Area is limited by current zoning (refer to Map 11 in Appendix H) and therefore no growth is expected within the next 15 years. Average annual flow under Scenario B is projected to equal approximately 3,780 gpd. Average annual flow under Scenario C is projected to equal approximately 32,182 gpd. Scenario D would add a total of 20,000 gpd to Scenario C for a total projection of the annual average flow to 52,182 gpd. Growth in the S.R. 896 DGA is limited by current zoning (refer to Map 11 in Appendix H) and therefore no additional commercial or residential growth is expected within the next 15 years.

**Table 4-8 Estimated Wastewater Flow**

<b>Scenario</b>	<b>Annual Average Flow (gpd)</b>	<b>Peak Daily Flow (gpd)</b>
A	19,089	47,723
B	3,780	9,450
C	32,182	80,455
D	52,182	130,455

#### **4.6 SUMMARY OF WASTEWATER PLANNING NEEDS**

As previously stated, the Township does not own or operate any sanitary sewer facilities, as the primary method of sewage treatment is privately owned and operated OLDS and packaged wastewater treatment facilities.

As a result of existing OLDS malfunctions and potential for continued growth in the S.R. 896 DGA, the Township is evaluating the following wastewater planning needs:

1. Solutions to provide public sewer facilities to the Refton Study Area should be considered. Twenty-seven (27) percent of OLDS inspected were confirmed as malfunctions with 37% of the water samples that tested positive for total coliform also tested positive for fecal coliform. Solutions to alleviate environmental and health impacts resulting from existing malfunctions of OLDS should be investigated. Therefore, this area is considered a needs area, and alternatives for providing improved sewage facilities are investigated in Chapter 5.
2. Solutions to provide public sewer service to the Creekview Study Area should be considered due to the proximity of public sewer facilities and requests for service. Thirteen (13) percent of OLDS inspected were confirmed as malfunctions with 11% of the water samples that tested positive for total coliform also tested positive for fecal coliform. Solutions to alleviate environmental and health impacts resulting from existing malfunctions of OLDS should be investigated. For these reasons, this area is considered a needs area, and alternatives for providing improved sewage facilities for the Creekview Study Area are investigated in Chapter 5.
3. Solutions to provide public sewer facilities to the S.R. 896 DGA should be considered. Providing public sanitary sewer service to this growth area conforms to the Strasburg Region Comprehensive Plan, helps ensure that the land that is being developed is being utilized properly, and that developments are being planned for and constructed in areas of the Township that are planned for growth.
4. Continued OLDS management in areas of the Township where public sewer facilities are not feasible.

#### **4.6.1 Extension of Public Sewers to New Development Areas**

In conjunction with Lancaster County'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 designed and constructed 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. Refer to Section 4.1.3.

#### **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 12%.

Within the Refton Study Area and the Creekview Study Area, malfunctions are compounded due to the densely populated area and small lot sizes. The Creekview Study Area is further compounded by limiting soils and its location within the floodplain. These conditions greatly limit the options for residents within the Study Areas to repair or replace malfunctioning systems. The findings of the well water sampling indicate the need for improved sewage facilities in the Study Areas. Alternatives for improved sewage facilities within Strasburg Township are presented in Chapter 5.