

Chapter 3

Sewage Disposal and Water Supply

Development cannot occur unless adequate sewage disposal and water supply facilities are available. For land use planning, it is important to determine where centralized facilities exist or are planned and where development must use individual on-lot facilities. Centralized facilities allow more intense development while individual on-lot facilities can accommodate only lower intensity development. Therefore, the Township can guide the intensities of development by carefully planning and limiting the locations where centralized sewer and water facilities are located or proposed. In Worcester Township, with only two exceptions, the centralized sewer systems that serve existing developments are all municipally owned and operated public systems. The two exceptions are privately owned and operated "package

plants" for two developments with more than 80 residential units. Private companies regulated by the Public Utilities Commission provide centralized water supplies. This chapter describes Worcester's existing and proposed centralized sewage and water facilities and provides recommendations for future purposes.

Public Sewage Facilities

Existing or planned public sewage facilities provide an incentive for growth when there is sufficient capacity for new development. Conversely, there is a disincentive for growth where public sewage facilities and capacity are not available. Therefore, the Township's sewage facilities and land use plans should be closely coordinated and sewer growth areas should be provided where the Township wants to direct growth of intensive land uses. These intensive land uses should be grouped together to provide economical sewage treatment service and to control suburban sprawl. This section identifies the existing public sewage facilities available in the Township and summarizes guidelines in the Township's official Sewage Facilities Plan.

Figure 3-1
Plant Capacities

Name	Upper Gwynedd	Upper Gwynedd/ Towamencin	Berwick Place	Valley Green
1992 EDU Flow by Worcester*	81,000 gallons per day	45,000 gallons per day	(built 1994)	62,000 gallons per day
1995 Average Annual Plant Capacity*	2,500,000 gallons per day	6,500,000 gallons per day	60,000 gallons per day	90,000 gallons per day
1995 EDU Flow by Worcester**	98,300 gallons per day	86,800 gallons per day	0 gallons per day	61,300 gallons per day
1995 Projected Total Future EDU Flow by Worcester**	241,700 gallons per day	120,960 gallons per day	150,000 gallons per day	220,000 gallons per day
1998 Average Annual Plant Capacity***	4,500,000 gallons per day	6,500,000 gallons per day	150,000 gallons per day	230,000 gallons per day
1998 EDU Flow by Worcester	98,000 gallons per day			74,000 gallons per day
2001 Measured Flow by Worcester****			52,000 gallons per day	
2002 EDU Flow by Worcester****			70,400 gallons per day	
2002 Projected Total Future EDU Flow by Worcester****			149,900 gallons per day	
2005 Average Annual Plant Capacity*****	4,500,000 gallons per day	6,500,000 gallons per day	150,000 gallons per day	220,000 gallons per day
2005 EDU Flow by Worcester*****	173,100 gallons per day	92,400 gallons per day	80,000 gallons per day	100,000 gallons per day

* From 1995 Worcester Comprehensive Plan

** From 1995 Worcester Township 537 Plan

*** From 1998 Montgomery County Planning Commission Sewage Treatment Facilities Status Report

**** From 2002 Worcester Township 537 Plan Update

***** From 2005 Montgomery County Planning Commission Sewage Treatment Facilities Status Report

Figure 3-2
Existing Sewage Facilities

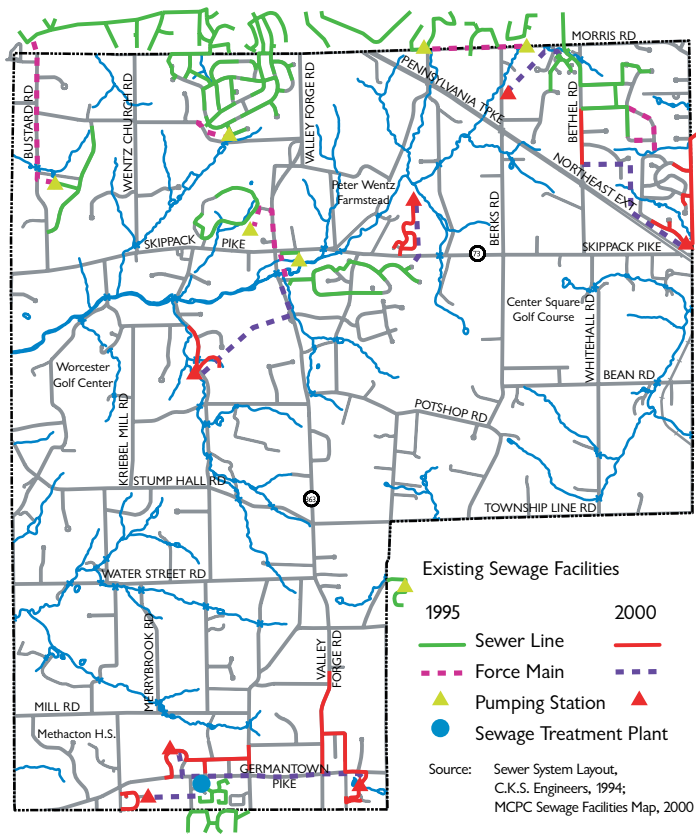
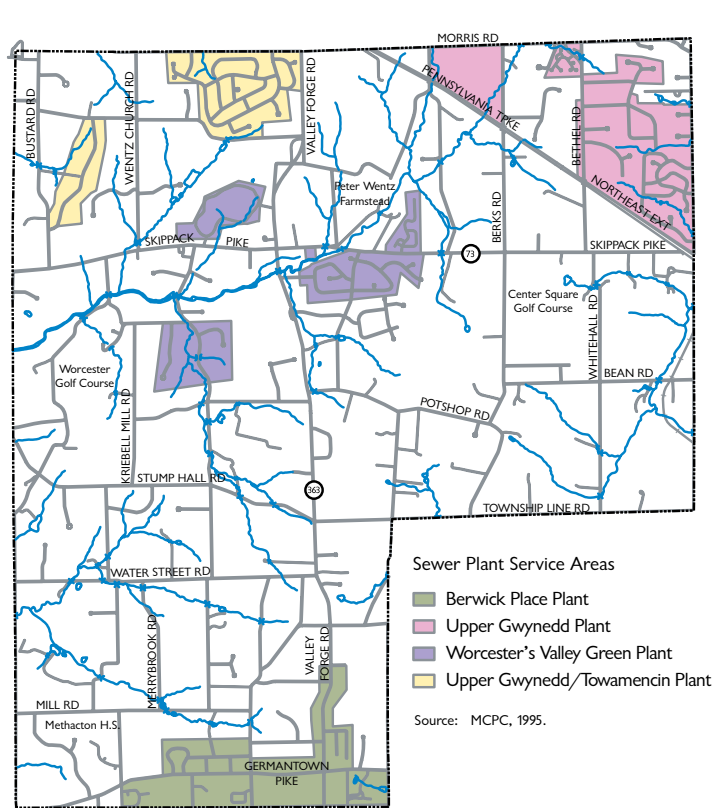


Figure 3-3
Sewer Plant Service Areas, 1995



Existing Sewage Facilities

Worcester Township is currently served by four municipally owned and operated sewage treatment plants: the Upper Gwynedd and the Upper Gwynedd/Towamencin plants, and Worcester Township's Valley Green and Berwick Place plants. Plant capacities are shown in the table in Figure 3 - 1. Figure 3 - 2 shows the location of existing sewer lines, pumping stations, and treatment plants. Figure 3 - 3 shows areas that served by public sewers in 1995.

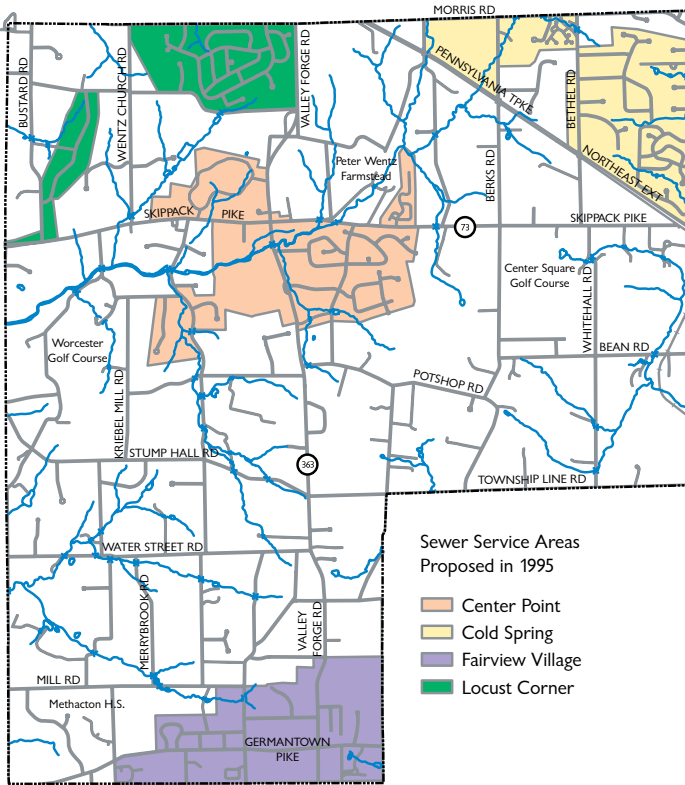
Sewage Facilities Planning

In 1966, the Pennsylvania Legislature passed Act 537, the Sewage Facilities Act. This required local governments to provide for sewage needs within their borders and required these governments to prepare sewage facilities plans and amend them as needed. The following list summarizes additional relevant sewer planning for Worcester Township:

- 1974: Act 537 was amended by Act 208, which provided additional standards for the administration of on-site sewage systems and for revising local sewage facilities plans in a coordinated manner.

- 1972: Worcester and all but two Montgomery County municipalities adopted a countywide sewage facilities plan.
- 1976: The Township prepared a revision to its part of the county base plan.
- 1985: The Township revised the plan for the Center Point area only.
- 1995: To reflect the land use plan in the 1995 Comprehensive Plan, the Township prepared an Act 537 plan update. This update was used as a guide for the sewer growth plan described in the 1995 Comprehensive Plan.
- 2002: The Township revised the plan for the Fairview Village area.
- 2006: The Township revised the plan for the Hollow Road/Zacharias Creek area.

Figure 3-4
Proposed Sewer Service Areas in 1995



1995 Sewer Growth Plan

Figure 3 - 4 shows the parts of the Township that were proposed as sewer growth areas in the 1995 Comprehensive Plan. These growth areas include proposed medium-density and high-density residential, commercial, and village commercial land uses. Unserved low-density areas near Center Point and Cedars were also included, since these areas were already approved for sewers. This sewer growth plan was intended to serve the Township’s sewage needs until the year 2020, although the Township anticipated a need to review the sewer growth plan sooner. The 1995 Comprehensive Plan anticipated these sewer service areas would accommodate nearly all of the Township’s expected residential growth until 2020 (1,800 units).

The areas outside the sewer growth areas were designated rural preservation/low-density residential on the 1995 Land Use Plan, and comprise the majority of the township. The 1995 Plan anticipated growth in these areas to occur slowly and at very low densities to protect rural character and limit suburban sprawl. Public sewers should extend into these areas only to serve low-density cluster development (density of one dwelling unit per two acres with over 70% open space). Figure 3 - 4 also shows areas where possible cluster development might be served by public sewers.

Public Sewer System Capacities

Figure 3 - 5 shows the 1995 numbers for sewage generated by existing development, sewage capacity set aside, and sewage projected to be generated by new development on vacant land.

Figure 3-5
Projected Sewage Flows in Gallons Per Day (1995 Comprehensive Plan)

	Center Point Sewer Service Area	Fairview Village Sewer Service Area	Cold Spring Sewer Service Area	Locust Corner Sewer Service Area
1992 Sewage Flows plus Reserved Sewage Flows	90,000	89,750	98,300	86,800
Additional Sewage Flows from Residential Buildout of Vacant Tracts	91,400	46,250	143,400	34,160
Additional Sewage Flows from Build-out on Non-Residential Vacant Tracts	12,000	14,000	0	0
Possible Sewage Flows from Cluster Development Outside of Growth Area	26,000	0	3,900	43,680
Total Future Sewage Flows	220,000	150,000	245,600	164,640
Existing Sewage Capacity	90,000	60,000	Net Set	100,000

- Valley Greene Plant: To accommodate projected growth in the Center Point area, this plant was expanded to 230,000 gallons per day of sewer capacity. Four pumping stations serve the area.
- Berwick Place Plant: At 150,000 gallons per day, the capacity of the plant is projected to be adequate to meet the future sewage needs of the Fairview Village area. Three pumping stations serve the area.
- Upper Gwynedd Plant: This plant's expanded capacity can easily accommodate the Cold Spring area's projected 230,000 gallons per day. Four pumping stations in Worcester serve the area.
- Upper Gwynedd/Towamencin Plant: This plant has the capacity to handle the 121,000 gallons per day projected in the 1995 Plan for the Locust Corner growth area. If future cluster development requires additional capacity, the Township will have to work with the Upper Gwynedd/Towamencin sewer authority to assure that capacity. Two pumping stations in Worcester serve the area.

Overall, the proposed sewer growth areas provide room for the township's growth while limiting this growth to specific growth areas. The Township's 1995 Act 537 plan recommended how sewers will serve these areas.

Centralized Water Facilities

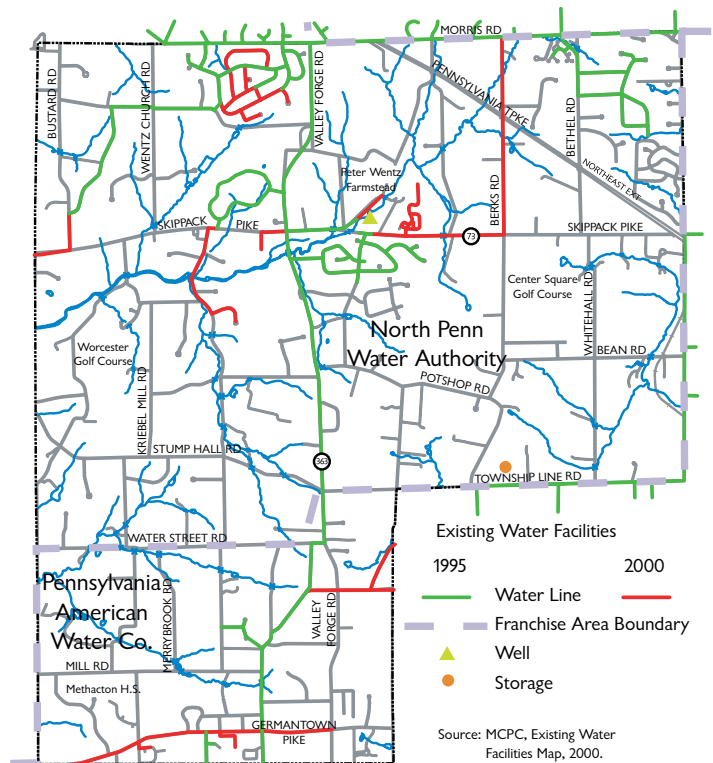
Water service is another important determinant of the amount and location of growth in a township. Centralized water supply is necessary for higher-density residential growth, which also needs public sewers. Therefore, the water facilities plan should be closely coordinated with the sewage and land use plans. This section examines the township's existing public water facilities and proposes a water supply plan.

Existing Water Suppliers

Most of Worcester is within the franchise area of the North Penn Water Authority. The rest of the township falls within the franchise area of the Pennsylvania American Water Company, except for the Center Point Farms development near Center Point, which is a service area of the Superior Water Company. Within these franchise areas, only a small portion of the township is served by public water. Figure 3 - 6 shows the franchise areas and the extent of water lines.

The North Penn Water Authority draws water from two general sources: groundwater via wells located throughout its franchise area and surface water that is pumped from the Delaware River through the Point Pleasant pumping station. 1998 data indicated the North Penn Water Authority was permitted to withdraw nearly 20 million gallons per day but

Figure 3-6
Existing Water Facilities



its average daily withdrawal was less than 10 million gallons per day. Therefore, it appears the Authority will have capacity to serve Worcester's water needs for many years, although its excess capacity will be distributed throughout the eleven communities that comprise its service area.

The Pennsylvania American Water Company uses two wells and the Schuylkill River for its primary water supply. In 1998, the company was permitted to withdraw and treat 18 million gallons per day from the river, but actually used only 8.8 million gallons per day of this capacity. Its two wells are permitted for an additional 150,000 gallons per day. This leaves the company with a large excess capacity, some of which can be used to serve new customers within its service area in Worcester, and the remainder throughout the ten communities that comprise its service area.

Water Plan

Although the State does not require water planning by local governments, in 1979 the Montgomery County Planning Commission published a Water Service Plan that proposed water service growth areas and outlined criteria for identifying these areas.

These criteria include population estimates, proposed land use and growth areas, sewage facility growth areas,

proximity to existing water lines, physical constraints, location of problem water areas, and water supply. The county Water Service Plan stresses that water plans should be correlated closely with sewage facility plans and that residential areas zoned for two or more acre lots are rarely justified for public water service.

When these criteria are applied to Worcester, the proposed water service area closely corresponds with the proposed sewage facilities areas, except that the industrial area on Potshop Road, which is near water lines, has been included in the water service area while a sewered development on Hollow Road is not proposed for water service. The Township's proposed water service area is shown in Figure 3 - 7 and includes all non-residential areas and residential areas with more than one dwelling unit per acre. The water service areas support growth near Fairview Village, Center Point, Locust Corner, and Cold Spring.

In addition, secondary water service areas are shown for potential low-density cluster development sites. If public sewers are provided for these sites, public water supply should also be provided. Cluster developments can also be served by on-site centralized water supply and sewage disposal owned and operated by a homeowners association or by the Township. The Future Land Use chapter explains how low-density cluster principles can be used to preserve major elements of rural character throughout the township while allowing reasonable amounts of new residential development.

As shown in Figure 3 - 7, much of the Township is not proposed to be served by public water lines. Instead, these areas of the Township will continue to be served by private, on-lot wells that depend on groundwater sources.

To help protect the groundwater supply for wells, homeowners and businesses should conserve water by changing water-use habits and using water saving devices. Contamination can be avoided by properly storing and handling hazardous materials, by limiting the amount of chemicals used outdoors, and by properly installing, using, and maintaining private on-lot sewage systems.

Figure 3-7
Future Public Water Service Areas

