

CHAPTER IV

EXISTING SEWAGE TREATMENT FACILITIES IN THE PLANNING AREA

A. EXISTING FACILITIES

1. Westtown-Chester Creek Plant

Westtown Township acquired the Westtown-Chester Creek Treatment Plant (WCC Plant) in the summer of 1997. The WCC Plant utilizes an extended aeration process for secondary treatment and biological nutrient removal (BNR). The WCC Plant currently serves the northeastern portion of the Township from the East Goshen Township line south to approximately Johnny's Way. Service to this area is provided via a conventional gravity/force main system with the sewage being conveyed by a gravity sewer line running through the Westtown School. The Township has recently received planning and construction approval to upgrade the permitted capacity of the treatment plant from 290,000 gpd to 495,000 gpd. Current flows to the treatment plant are approximately 360,000 gpd. As stated in the 1998 Plan Update, the improvements needed to increase the permitted capacity are as follows:

- Implement structural repairs to the North Aeration Basin and consider either a repair to or replacement of the South Aeration Basin. If replacement is elected, the new South Aeration Basin should be either a new post-tensioned concrete tank or steel tank with corrosion protection.
- Convert the North Aeration Basin to equalization; install a submersible pumping system in the tank to transfer flows to the South Aeration Basin and modify piping as required.
- Repair or replace the existing Chlorine Contact Tank. If replacement is elected, consider changing the disinfection process to an alternate method such as UV.
- Repair the existing North and South Clarifiers. Replace worn and excessively oxidized steel equipment and recalibrate both the North and South Clairifer weir devices.
- Replace the existing comminutor and grates with a new precast concrete comminutor and conventional bar screens.
- Consider installing grit removal at the headworks to the Plant.
- Request a "re-rating" of the plant from PA DEP to increase the permitted flow from 290,000 gpd to 495,000 gpd.

It is anticipated that these improvements will be completed by October 2000. The Township has requested, and received approval from DEP, for release of 30,000 gpd of additional permitted treatment capacity in February 2000. Per previous litigation, 10,000 gpd of this additional capacity has already been allocated, making 20,000 gpd available.

In addition to improvements to the treatment plant, the Township is currently in the process of making phased improvements to the collection and conveyance system in accordance with a Phase I and Phase II Infiltration and Inflow (I/I) Studies which were completed in January and June 1998, respectively.

The location of the WCC treatment plant and the existing service area can found on Map IV-1.

2. West Goshen Sewer Authority Plant

The West Goshen Treatment Plant uses a trickling filtration followed by an activated sludge treatment process. West Goshen Sewer Authority has just completed plant upgrades to increase the capacity from 4.5 mgd to 6.0 mgd. The treatment plant upgrades include the addition of flow equalization, upgrades to the headworks, trickling filter media replacement, addition of an aeration tank, addition of a final clarifier, addition of distribution box and the conversion of chlorine disinfection to ultraviolet disinfection. As a result of the plant upgrade, per the inter-municipal agreement between West Goshen and Westtown Townships, Westtown Township has a reserve capacity of 530,000 gpd. Existing flows (Second Quarter, Year 2000 Average Daily Flow) from Westtown Township to the West Goshen treatment are approximately 355,000 gpd. The intermunicipal agreement between Westtown Township and West Goshen Sewer Authority can be found in Appendix B.

The Resolution of Adoption of Westtown Township for the West Goshen Township Wastewater Treatment Plant Upgrade Act 537 Plan can be found in Appendix C.

B. INVENTORY OF MALFUNCTIONING SYSTEMS

As mentioned above, although two treatment plants serve the Township, the majority of parcels in the Township still utilize individual on-lot systems for wastewater disposal. The Township tracks permits issued by the Chester County Health Department for repairs to individual on-lot systems. Between 1982 and September 1999, the Township tracked the issuance of 354 permits for repairs to on-lot systems. The location of the repair permits can be found on Map IV-2. The location of the repair permits are dispersed throughout the unsewered areas of the Township with relatively heavy concentrations occurring in and around the developments of Grandview Acres, Westmount and Westview Acres.

Map IV-2 (return to the Act 537 Plan page in the website to view this map)

Map IV-3 (return to the Act 537 Plan page in the website to view this map)

It is not within the scope of an overall Act 537 Plan to research each repair permit to determine the reasons for, and nature of, the repairs. A cursory review of the 354 permits does indicate that some of the repairs were structural in nature (replacement of septic tank) and may not necessarily be an indication of a problem with the soils' ability to properly accommodate the septic tank effluent.

To further supplement the above information, reference is hereby made to the *Regional Sewage Study*, dated Fall 2000, prepared by the West Chester Regional Planning Commission.

Page 58 of this study states:

Many of the existing OLDS are more than 25 years old. Over the years, many of these systems have been renewed or replaced because their seepage areas have failed or have been repaired because of failed septic tanks, pumping systems or piping and improper care of the system. In the past 41 months, between January 1997 and June 2000, 133 systems were replaced and many more repaired. In the years prior to 1997, there were also a significant number of systems replaced or repaired each year. Table 2, A Summary of On-Site Sewage System Replacements of Existing Failed Systems within the Chapter 1 Overview, lists the data on failed systems from 1997 through January 2000 for each of the Townships within the study area. Westtown Township has had significantly more on-lot systems replaced or repaired when compared to the other townships within the study area.

Based on the above information regarding the issuance of Health Department permits, the Township finds it necessary to evaluate alternatives to extend collection and conveyance facilities to all unsewered areas. The recently purchased additional capacity from West Goshen, the increase in capacity forthcoming to the WCC Plant, as approved in the 1998 Plan and as will be evaluated in this Plan, makes it possible for the Township to provide centralized sewer service to some or all of these areas.

As will be discussed later in this Plan, phasing and implementation of any collection and conveyance extensions or treatment plant upgrades will be contingent upon a Township-wide inventory of on-lot systems. This inventory, which is described in more detail in Chapter IX, will be used to determine the timing and extent of any collection and conveyance extensions and/or treatment plant upgrades.

The Health Department permit information, as described above, will be used in conjunction with other information, such as lot size and age of the on-lot systems, to indicate those areas where no additional DEP required Act 537 Planning is necessary. That is, enough information will be provided in Chapter IX to receive DEP planning approval of sewer extension to certain areas. Any such planning approval will not, however, abrogate the Township's commitment to conduct the Township-wide on-lot system inventory.