VII. INSTITUTIONAL EVALUATION

A. Evaluation of Existing Sewer Authority

Upper Salford has no public sewer collection, conveyance or treatment system. Therefore analysis of any existing wastewater treatment authority is not possible at this time.

B. Institutional Evaluation

To implement the recommended alterative for the three village areas it will require the retention of an individual or agency certified by the State to operate and maintain the sewage treatment plant. Such agency or individual shall be responsible for the operation and maintenance of the plant and all treated effluent sampling and reporting as required by PADEP. The implementation of the selected alternative shall also require the retention of an individual or agency to provide administrative support. These duties will include general accounting and the invoicing/processing of collected tap fees and monthly/quarterly user fees. The Township has no desire, at this time, to establish a "Sewer Authority" for these purposes.

The Montgomery County Health Department currently provides enforcement of on-lot sewage regulations and would continue to do so for the Rural Balance of the Township. The implementation of the proposed on-lot management program would be the responsibility of the municipality shall require administrative support from Township employees and contract staff.

The administration, operation and maintenance costs for the selected alternative are provided in Chapter VI. Assuming this sewer service area and number of users remains constant, the limited staff proposed shall be sufficient.

The anticipated time line for the implementation of the selected technical and institutional alternative is provided on Table VII-1.

C. Administrative and Legal Requirements

As part of the Act 537 plan update the Township will concurrently adopt a Township On-Lot Management Ordinance. The Township may also adopt an ordinance establishing the public sewer district, requiring connection of properties within the district and establishing fees and rules for the proper use of the public system. The Township may also adopt technical standards for construction and connection to the public sewer system.

The collection, conveyance and treatment methods proposed do not appear to require any transfer of land or easements at this time. If easements are required the Township shall attain them as necessary. The Township shall negotiate a fair market price for such easements where possible.

D. Selected Institutional Alternative

The selected technical alternative is Option 3. This option proposed centralized treatment by expanding the existing WWTP at the Shelly Square Commercial site. Treated effluent will be discharged to the East Branch of the Perkiomen Creek. The service area of this selected alternative is limited to the village areas of Woxall, Salford and Salfordville.

Based upon the regional Comprehensive Plan and current Zoning Ordinance, there is no need to provide additional service areas for future growth needs. The alternative proposes connection of approximately 364 edu's. This number includes the existing users in the Shelly Square Commercial site. The required flows for this alternative are 111,000 gpd. Based upon the limited growth potential of the sewer district and relatively low number of users, a limited staff to provide administrative and operational support is justified. The Township may assign the administrative duties of the sewer service area to its existing administrative staff and substantially reduce its annual costs. The administration and operation of this selected alternative by the Township will also yield the greatest level of operational control.

TABLE VII-1
IMPLEMENTATION SCHEDULE

The anticipated implementation schedule for the selected alternative (Option 3) is as follows:

Action	Months following plan approval
• Adopt On-Lot Management Ordinance	3
• Submit NPDES Application to PA DEP	3
• Adopt Sewer District Ordinance and Construction Standards	6
• Approval of NPDES Permit by PADEP	8
• Negotiate necessary easements (if necessary)	12
• Complete Survey for Conveyance System	12
• Complete System Design and Submit PADEP Part II permit	18
• Review of Plans and Construction Budget	20
• Receipt of PADEP Part II Permit	24
• Begin Funding Approval Process	28
• Complete Construction Drawings and Specs	32
• Secure Funding Approval	36
• Advertise Bid Documents	38
• Receive Bids	40
• Award Contracts	41
• Begin Construction	44

VIII. SELECTED ALTERNATIVES

The Township identified four (4) study areas within the municipality. Those study areas were the village areas of Woxall, Salford, Salfordville and the Rural Balance of the Township. The three village areas possessed similar characteristics such as small lots, poorly drained soils and aged pre-regulatory septic systems. It was these traits that identified them as potential needs areas. These potential needs were later confirmed through sanitary surveys and well sampling. The needs analysis concluded that all three villages were experiencing a significant number of on-lot malfunctions. The results of the needs analysis in the Rural Balance did not identify any concentrated areas of system failure or malfunction. The results of this evaluation of existing needs can be reviewed in more detail in Chapter III.

The Township evaluated alternatives individually for the four study areas by exploring decentralized alternatives for each area and also collectively with centralized treatment alternatives. When collective evaluation was performed, the three village areas of Woxall, Salford and Salfordville were analyzed together due to their similar characteristics and needs. The remaining study area, the Rural Balance, was evaluated independently.

A. Study Areas 1, 2 and 3 (Woxall, Salford and Salfordville)

The selected technical and institutional alternative was Alternative C.2.a.3 otherwise known as Option 3. This option proposed collection of all three villages by means of low pressure force main and conveyance by force main to a centralized WWTP located at the Shelly Square Commercial site. Disposal of treated effluent will be stream discharge with the discharge point being the East Branch of the Perkiomen Creek.

1. The existing wastewater needs for the three villages are significant. The number of malfunctions identified in each village well exceeded 25% of surveyed dwellings. Conventional on-lot repairs do not appear viable for a large number of the dwellings due to generally poor soils and small lot sizes. Community sewage facilities were determined to be the appropriate alternative to on-lot repair.

2. The Township has no future growth areas identified that would imply the need for public sewer by use or by density. This evaluation is further explained in Chapter IV.

3. The centralized treatment proposed by Option 3 reduces both the initial costs of construction and annual O&M costs by establishing a single WWTP within the Township. This was a significant consideration when selecting this option in favor of the decentralized treatment alternative that requires three (3) WWTPs.

The annual O&M cost for the decentralized alternative was estimated by $232,570.00. The annual O&M cost for the selected alternative was estimated at $156,780.00 for a net decrease of $84,130.00. This is a substantial reduction in user fees when distributed over the 337 customers located in the sewer service study areas. This reduction is attributed to reduced energy consumption, component replacement and operator labor.

4. Both capital cost and administrative/operation and maintenance costs were considered when evaluating the community sewage facility alternatives for the three village areas. Option 3 proved to be the most cost effective solution of the seven centralized treatment options that were evaluated. Option 6 resulted in a slightly lower capital cost by eliminating the need for a pump station and providing conveyance solely thru low pressure force main. However, this option did not include the edu's associated with the Shelly Commercial site, therefore, the debt service and O&M costs were distributed over a smaller number of connections resulting in higher user fees.

   The Township considered land based disposal and or a combination of land based disposal with stream discharge in Options 4, 5, 6, and 7. The capital cost increase for these options varied between $1.7M to $15.3M dependent upon the extent of land application and the associated costs assumed for land acquisition. Given the poor soils within the Township, the application rates were assumed to be "irrigation only." This assumption increased the area needs for disposal and also increased the lagoon storage requirements. This assumption is conservative but realistic considering the poor draining soils and shallow bedrock conditions that exist within the municipality. At this time the Township is primarily concerned with abating the potential health risks associated with the malfunctioning on-lot systems in the most cost effective and responsible manner possible. The Township would certainly consider disposing of a portion or all of its treated effluent in a land application method if it's financially feasible to do so.

5. It is the Township's expectation to manage and provide administrative support to the public sewer system proposed by Option 3 by using the existing staff of elected officials and municipal employees.

6. Available finance methods were evaluated in a general sense in Chapter VI, Section E. A detailed financial analysis was provided for the selected alternative in Table VI-1. In this analysis three

methods of funding were considered. A PennVest loan, 20 year bond issue and a 30 year bond issue. The Township would initially pursue PennVest funding for this project.

7. This selected alternative is environmentally responsible and the treatment facility would be designed to meet or exceed the discharge limits established by the PADEP Part II permit. This selected alternative proposes very little disturbance and encroachment on wetlands/floodplain. The expansion of the existing Shelly Square WWTP can be accomplished on the pad site that currently exists. All conveyance lines are pressure force mains with relatively shallow depths and are situated within existing public road right-of-ways. The Township is also committed to disposing its treated effluent by means of a land based disposal method when it's financially feasible to do so.

B. Study Area 4 – Rural Balance

1. This area consists of all areas not included in study areas 1, 2 and 3. Based upon historic records of malfunction and repair provided by the Montgomery County Health Department and limited survey performed in this Act 537 Plan, the malfunctions appear to be random and isolated. Therefore the selected alternative is repair and replacement of individual on-lot sewage facilities – Option 1.

2. The current regional comprehensive plan encourages the use of individual on-lot sewage facilities. The current residential zoning district area and bulk requirements are consistent with this objective by requiring new minimum lot sizes in excess of one acre. Under this alternative, new development in this study area would be reliant upon the OLDS selection strategy outlined in Table V-3.

3. The continued use of on-lot sewage facilities as the preferred alternative relies upon the adoption and enforcement of the on-lot management ordinance. The implementation of this program will ensure the proper use and maintenance of the individual on-lot systems and potentially extend their service life.

4. The cost of this selected alternative is relatively low. The implementation of the on-lot management program on an annual basis has been estimated at $10,680.00. However, this program is subsidized by PADEP and costs associated with ordinance adoption and enforcement are eligible for 85% reimbursement.

5. This selected alternative is environmentally sound. All repairs, replacements or new systems constructed would be permitted by

MCHD and meet the design standards of Title 25, Chapters 71, 72 and 73. This alternative also promotes localized recharge of groundwater.

C. Capital Financing Plan

The financing strategy for the selected alternative for the study areas 1, 2 and 3 (Woxall, Salford and Salfordville) has been previously identified in Section A.6 of this chapter. The implementation costs associated with the selected alternative for Study Area 4 (Rural Balance) are relatively low and should not require financing.

D. The implementation schedule for the two selected alternatives can be found in Table VII-1.