

VIII. Utilities

A. SEWER SERVICE

Public sewer service is provided within the Township by the Conewago Township Municipal Authority (CTMA). The CTMA is comprised of 5 members who are appointed by the Board of Supervisors to serve 4-year terms. They meet at the Township Office on the second Monday of March, June, September and December of each year to oversee management of the system and resolve policy issues. The CTMA is a conveyance-only authority as all sewage is collected and conveyed to the Hanover Area Regional Wastewater Treatment Plant. Over the last few years Hanover Borough has been under a PA DEP Corrective Action Plan to help reduce inflow and infiltration problems and effectively increase the treatments plant's hydraulic capacity. The Township is operating under its Official Sewage Planning (Act 537 Plan) adopted in March 1995; however, the Township is participating in the regional Act 537 Plan update for the Hanover Area Regional system. Much of the information within this section was derived from a survey completed by the CTMA's engineer.

SYSTEM HISTORY

Public sewer service within Conewago Township was originally provided to a few properties within Midway in 1965 by the Borough of Hanover. Associated with grant monies made available in the 1970s, the PA DEP wanted Hanover Borough to expand its service area throughout the region. Then in 1980 the CTMA was created so that the Township could better manage its sewer needs at a higher level of independence from Hanover Borough. Over time, increasing on-lot malfunctions caused public sewers to be extended to the villages of Edgemoor, Brushtown and Mount Pleasant. Given the scattered locations of these historic villages, sewers continued to fan-out throughout much of the Township to serve new developments. In turn, as newer subdivisions were proposed they had ready access to nearby sewer lines already in place. In turn, today the Township has an extensive system of public sewers that stretch throughout all but a few limited development areas.

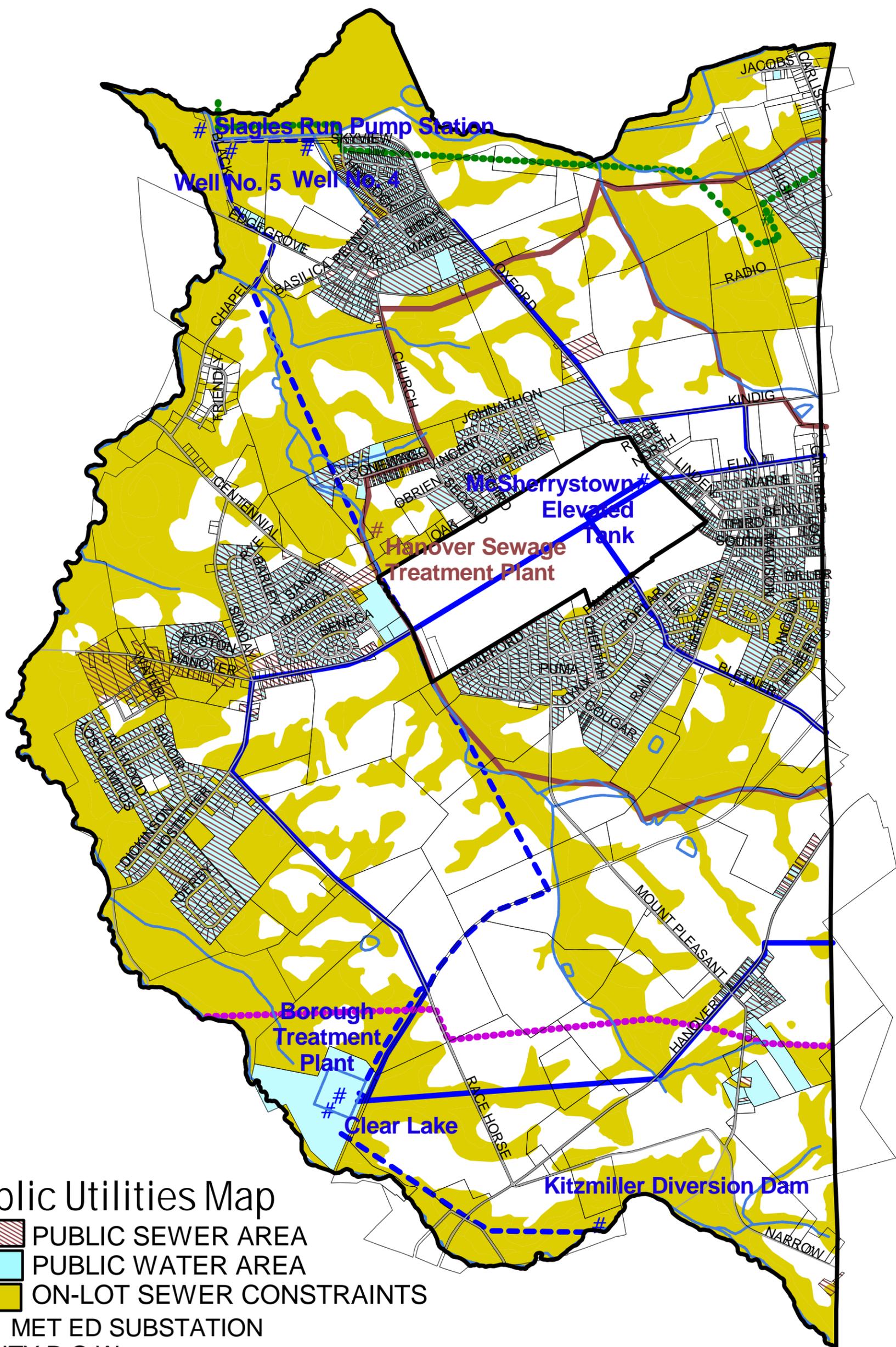
EXISTING CONVEYANCE LINES

Today the CTMA's collection lines extend throughout almost all developed areas of the Township. Generally the southern half of the Township, except for the Village of Mount Pleasant, is free from sewer lines. However, the densely developed neighborhoods of Midway and the newer suburbs all have extensive sewage collection networks. The location of "sewered" properties is depicted on the Public Utilities Map contained on the following page.

The CTMA's collection system consists of approximately 146,500 lineal feet of gravity sewer lines between 8 and 12 inches in diameter, 6500 lineal feet of force main and one duplex pump station within the Allwood Manor subdivision.



View of repaired sewer line



Public Utilities Map

-  PUBLIC SEWER AREA
-  PUBLIC WATER AREA
-  ON-LOT SEWER CONSTRAINTS

MET ED SUBSTATION

UTILITY R.O.W.s

-  Columbia Gas Transmission
-  Met Ed Powerline
-  SEWER TREATMENT PLANT
-  SEWER MAINS
-  WATER SYSTEM FEATURE
-  WATER MAINS
-  Potable Water
-  Raw Water



Conewago Township

Adams County, PA



Collection lines within Midway are made of vitrified clay which over time have deteriorated, and cracked. The Township is currently in the process of identifying inflow and infiltration problems by televising these lines and making repairs by inserting sleeves that will restore their sealed integrity. In other areas of the Township, lines are constructed of PVC pipe; these sanitary lines and manholes have been recently inspected as part of an ongoing GPS mapping project and have been examined to be in good condition.

The Allwood Manor pump station is located on the Township's proposed parkland within the development and has a capacity of 316,000 gallons per day (gpd). This pumping capacity will be reached once its proposed developments (Allwood Manor Phase V and the Villa's at Cattail) are completed.

It is also important to understand that the Hanover Area Region has three large interceptors that traverse areas of the Township.

First, the Plum Creek interceptor generally parallels the Creek; this interceptor accepts flows from Conewago Township for the neighborhoods generally located south of Midway and south and west of the Borough of McSherrystown. This interceptor also carries flows from McSherrystown Borough and adjoining Penn Township (York County) through Conewago Township on its way to the Hanover Area Regional Wastewater Treatment Plant. Presently, a portion of the Plum Creek Interceptor located between the Penn Township boundary and a manhole located just south of the Conewago Industrial Park is under the PA DEP Corrective Action Plan. Consequently, until inflow and infiltration problems are resolved, new connections are limited.

A second interceptor extends "across country" in an east to west alignment in the northern portion of the Township from the Penn Township line to the Edgegrove pump station just south of the Village of Edgegrove. From here it becomes a force main interceptor southward along Church Street and onto Conewago Drive where it then follows, by gravity, along Plum Creek south to the treatment plant. This interceptor accepts flows from within Conewago Township from the commercial industrial developments in the vicinity of High Street, the Village of Edgegrove and its surrounding suburban neighborhoods and the neighborhoods straddling Conewago Drive.

Third, another interceptor passes through the Township from Hanover Borough along an unnamed tributary to the South Branch of the Conewago Creek to the above-described interceptor. This interceptor accepts flows from within Conewago Township from a portion of Midway, and the commercial industrial developments along Kindig Drive. Presently, this interceptor is under the PA DEP Corrective Action Plan, presumably related to the inflow and infiltration problems attributed to the older deteriorating lines within Midway. Consequently, until these problems are resolved, new connections are limited. Because, this interceptor also flows into the preceding one described just above, it too suffers from the same restrictions on future connections.

TREATMENT PROCESSES & CAPACITY

The Hanover Area Regional Wastewater Treatment Plant is actually located within Conewago Township at the end of O'Brien Lane just northwest of the Borough of McSherrystown. This facility serves Conewago Township, McSherryston Borough, and Hanover Borough and Penn Township, both in York County. Sewage flows to this site via several regional interceptors described above plus local lines emanating from Conewago

Township and McSherrystown Borough. The plant utilizes a tertiary treatment process with biological, settling and filtration components.

The Plant outfalls into the South Branch of the Conewago Creek under National Pollutant Discharge Elimination System (NPDES) Permit No. PA0026875. Presently the plant has no hydraulic restrictions on the amount of treated waste that can be released at this location. However, the ongoing update to the Borough's Act 537 Plan will address the PA DEP Corrective Action Plan to reduce the levels of total nitrogen and phosphorus to within acceptable levels in accordance with Chesapeake Bay guidelines; such Plan is also considering sewage flows generated from within Conewago Township as part of this planning process.



Hanover Area Regional Wastewater Treatment Plant

Presently the treatment plant's hydraulic capacity is rated at 4.5 million gallons per day (MGD.) However, recent improvements at the plant have not been formally evaluated by the PA DEP. Therefore, it is expected that once this occurs, the Plant will be re-rated to a capacity of 5.5 MGD.

The Township has a reserved capacity of 12.3 percent of the total capacity; therefore, today it reserves 553,500 gpd. The Township's year 2006 metered flows averaged 621,000 gpd, or 67,500 gpd more than is presently reserved. It is hoped that the ongoing inflow and infiltration repairs occurring within Midway will reduce the actual sewage generated within the Township

The year 2006 flows generated within Conewago Township by various land uses types is presented below: Today the average sewage flow to the treatment plant is tabulated below:

Year 2006 Sewage Flows Generated within Conewago Township		
Land Use	No. of Connections	Average Effluent Generated (Gallons Per Day)
Residential	2521	562,723 gpd
Commercial	83	25,000 gpd
Industrial	13	31,344 gpd
Public/Institutional	2	1,933 gpd
Total	836	621,000 gpd, or (0.621 MGD)

Based upon the year 2006 flows, the Township has a flow that exceeds its reserved treatment capacity by 67,500 gpd. It is hoped that the flow reduction associated with the CTMA's inflow and infiltration repairs underway within Midway under the PA DEP Corrective Action Plan will reduce and eliminate this deficit.

FUTURE PUBLIC SEWER NEEDS

Based upon this Plan's goals to "balance" proposed developments amid protected important natural open spaces and farmlands, the use of public utilities becomes vital. Compact "growing-greener" neighborhoods promote densities that are most effective with the use of public utilities. On one hand the CTMA is fortunate to have an extensive conveyance system that reaches nearly all areas of the Township, as this provides ready access to public sewers for new developments. However, this same ready access also invites conversion of important natural and cultural features premised upon the availability of public utilities. Clearly this plan will require careful and deliberate attention to this "balance" so that defensible urban growth boundaries and zoning boundaries are identified.

One technique that can assist the Township is "staging" growth. Staging refers not only to identifying the proper location for proposed growth, but also focusing upon a proper sequence and timing of developments. Sequencing and timing offer additional protection to important natural features when developments and utilities and converge into a particular locale that transcends mere locational considerations. The Township can reasonably resist the development of a valuable natural feature when a less valuable/sensitive property can meet the Township's projected growth given similar characteristics (e.g. location, availability of utilities, road access, etc.) Given these goals and objectives it is vital to ensure that the Township has sufficient public utility capacity to implement these sound planning techniques.

To project future sewage flows several assumptions must be made as follows:

Assumptions to Project Future Public Sewer Treatment Capacity	
1.	The Township will grow by 1152 persons per decade between 2000 and 2020 as presented in Chapter IV of this Plan;
2.	The Township will grow by 552 housing units per decade between 2000 and 2020 as presented in Chapter IV of this Plan;
3.	The average household size will continue to reduce through year 2020 as presented in Chapter IV of this Plan;
4.	In response to goals of this plan that call for targeting growth into public utility service areas, 100% of growth will occur within areas planned for public sewer service;
5.	The current ratio of flows for residential, commercial, industrial and institutional will be maintained in the future; and,
6.	The average daily flow generated per person is 90 gpd.

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Given these assumptions it becomes possible to project the amount of public sewage capacity needed to accommodate future growth. The following table presents this information:

Projected Public Sewage Flows 2000 to 2020					
Years	Projected new dwelling units served by public sewer (100% of total)	Projected sewer flows from new residences (90 gpd / person)	Projected nonresidential flows (10.3% of residential flow)	Remedial Connections of existing uses	Projected total flows
2006	NA	562,723 gpd (existing)	58,277 gpd (existing)	Unknown*	621,000 gpd
2006-2010	221	49,725 gpd	5,122 gpd		675,847 + gpd
2010-2020	497	120,722 gpd	12,434 gpd		809,003 + gpd
*When public utilities are extended through existing developments to serve proposed growth, some properties that have previously relied upon on-lot systems are generally connected. These potential customers must be accounted when calculating needed system conveyance and treatment capacity.					

Based upon the preceding table, the Township can expect to exceed its reserved sewage treatment plant reserve capacity even with the expected increase associated with the Plant's re-rating by the PA DEP by year 2010. Unless the infill-infiltration project underway substantially reduces existing sewage flows, the Township will need to reserve additional capacity within the Hanover Area Regional Wastewater Treatment Plant. Township officials should immediately pursue a solution to this dilemma so that public sewer service can be planned and assured to areas where much of the Township's growth is to occur.

Absent such efforts, increased and undue development pressure will be exerted upon the agricultural and conservation landscapes for rural housing. In turn the Plan's deliberate and proactive strategy to concentrate residential growth in planned utility service areas will be invalidated by its lack of infrastructure to support this strategy. The Township is much more likely to have its effective agricultural/conservation zoning regulations upheld if a judicial body can determine that the Township has adequately projected growth and advanced a deliberate strategy for its accommodation. The obligation of communities to plan extends beyond the mere placement of zones on a map; legal precedents have established that the provision of necessary public services and infrastructure are equally binding.

ACT 537 SEWAGE FACILITY PLANNING¹

In accordance with the Pennsylvania Sewage Facility Act the Borough of Hanover must maintain an up-to-date sewage facilities plan. The Borough of Hanover's Act 537 as prepared by Gannett Fleming, incorporates surrounding municipalities that contribute wastewater flows to the Borough of Hanover's Wastewater Treatment Facilities. The Borough's Official Sewage Facilities Plan Update provides planning for the following five areas: the Borough of Hanover, a portion of Penn Township in York County, the Borough of McSherrystown, Conewago Township in Adams County, and a portion of Oxford Township in Adams County. The following will summarize Conewago Township's role in Hanover Borough's Act 537 plan.

¹ Information provided by Wm. F. Hill & Associates, Inc.

Conewago Township has two major roles in the Borough of Hanover's Act 537 Plan.

The first role or commitment is a corrective action plan for Conewago Township. The corrective action plan has been adopted to help reduce infiltration and inflow problems in the collection system. This is accomplished by monitoring flows, televising lines, and repairing problems in the collection systems. The Borough of Hanover's Act 537 Plan provides an outline of a projected infiltration and inflow rehabilitation program. The outline incorporates a timetable along with anticipated work that starts now and continues till 2014. Significant problem areas or areas of concern will be rehabilitated first and should be completed by 2010.

The second obligation for Conewago Township will be to participate financially with the upgrade to the Borough of Hanover's Wastewater Treatment Facility and the rehabilitation of sanitary sewer interceptors. This would include a hydraulic upgrade for more design capacity to 5.6 MGD and an upgrade to meet current and future total nitrogen loads implemented by the PA DEP through the Chesapeake Bay Strategy Plan. Conewago Township currently retains a capacity of 553,500 gallons per day of the 4.5 million gallons per day design capacity at the Hanover Area Regional Wastewater Treatment Plant. According to estimated cost breakdowns provided by Hanover Borough the hydraulic and total nitrogen upgrades will cost a total of \$13,692,300. Rehabilitation of sanitary sewer interceptors will cost approximately a total of \$8,272,530. Conewago Township's cost for the wastewater treatment plant upgrades is estimated to be \$3,581,073 and cost for the rehabilitation of sanitary sewer interceptors is estimated at \$1,273,597. Both the total cost and Conewago Township's cost is based on 2007 prices.

ON LOT SEWAGE DISPOSAL SYSTEMS

Given portions of the Township's rural character, some use of on-lot sewage disposal systems (OLDS) will continue. As presented in Chapter 3, a majority of the Township's soils are characterized with severe limitations for on-lot sewage disposal systems. This reinforces the Township's contention that:

1. most growth should be targeted in the readily available public sewer service areas;
2. permitted residential densities should be limited at very rural levels; and,
3. the Township exercise careful scrutiny in the review of proposed sewer modules for new uses to rely upon OLDs.

According to the Township SEO, the Township has minor "issues" regarding its existing on-lot sewage systems. He believes that some on-lot malfunctioning systems are found in the vicinities of Carlisle Pike, Narrow Drive and Centennial Road. He suggests that these would be good candidates for remedial public sewer service.

Often some OLDs were installed before State regulations governing design and installation methods were in place. Consequently, these older systems tend to fail over time and the sewage rises to the land surface.

On-lot disposal systems, if constructed and maintained properly, can provide a reliable and efficient means of wastewater treatment in rural areas where population density is low. However, where such systems are improperly installed or not maintained, contamination of on-site water supplies can result. The goals of this plan emphasize protection of the

B. PUBLIC WATER

HISTORY & SERVICE AREA

Public water within the Township is provided by the Hanover Borough Water Department. This Department is governed by an 11 member board which is appointed by the Borough Council to serve 4-year terms. They meet on the second and fourth Wednesday of each month at the Borough Office located at 44 Frederick Street, Hanover, PA 17331. The Water Department serves Hanover Borough and Penn Township in York County and Conewago Township and McSherrystown Borough in Adams County.

The original system was owned by the private Hanover Water Company formed in 1872. In 1896 the Consumer Water Company purchased the system and expanded service into Conewago Township along Third Street in Midway and to the Borough of McSherrystown. The Company changed its name to the Hanover-McSherrystown Water Company. A drought in 1930 caused the tap water to become dark brown, foul smelling and sediment laden. At the same time the stock market crash caused the company to fail financially and the Borough Council acquired the water company with generous assistance from several local philanthropists (H. D. Sheppard and C. N. Myers).

Over the years several severe droughts have caused the Borough to increase its supply and storage capacities.

WATER SOURCES

Today the system relies upon the following sources:

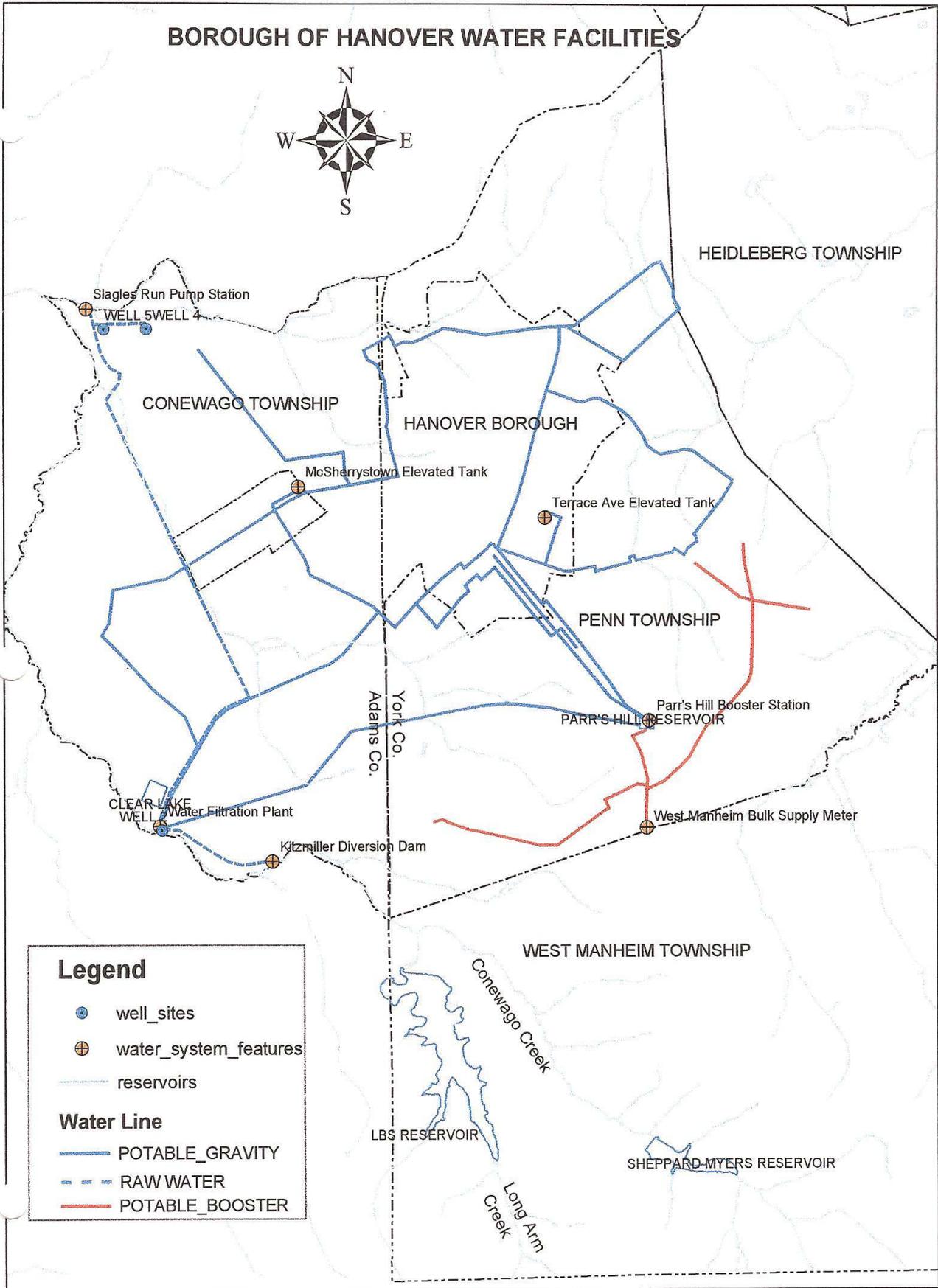
Public Water Sources of the Hanover Borough Water Department		
Name	Location	Capacity (gallons) / Yield (gpd)
Lawrence Baker Sheppard (Long Arm) Dam	West Manheim Twp.	1,660,000,000 gallons
Sheppard Myers Dam	West Manheim Twp.	190,400,000 gallons
Kitzmiller Intake	Conewago Twp.	15,000,000 gallons
Slagle Run Intake	Conewago Twp.	4,800,000 gpd
Well No. 2	Conewago Twp.	180,000 gpd
Well No. 4	Conewago Twp.	4,000,000 gpd
Well No. 5	Conewago Twp.	

Raw water from the Lawrence Baker Sheppard and Sheppard Myers Dams flows northwesterly from West Manheim Township via the South Branch of the Conewago Creek where 15 million gallons is pooled in the streambed at the Kitzmiller Diversion Dam. A 36-inch reinforced concrete line diverts raw water into Clear Lake adjoining the treatment plant.

Well No. 2 is located near the treatment plant and was previously only used on an emergency basis; however, a permanent use permit has been requested from the PA DEP, so that this well water can be mixed with other well water entering the treatment plant.

The Slagles Run Intake and Well Nos. 4 and 5 are located in the northern reaches of Conewago Township. The Slagles Run Intake pumps raw waters from the upstream Vulcan Material Company quarry and the local drainage basin. Well Nos. 4 and 5 can produce up to a combined 4 MGD. All of this raw water is conveyed south along Plum Creek then along what appears to be a private right-of-way owned by the Hanover Shoe Farms, Inc. (as depicted on the Overall Sewer Plan of the Conewago Township Municipal Authority as prepared by Wm. F. Hill & Associates, Inc.) into the treatment plant. All of these sources and conveyance lines are depicted on the following map provided by the Borough.

BOROUGH OF HANOVER WATER FACILITIES



Legend

- well_sites
- ⊕ water_system_features
- reservoirs

Water Line

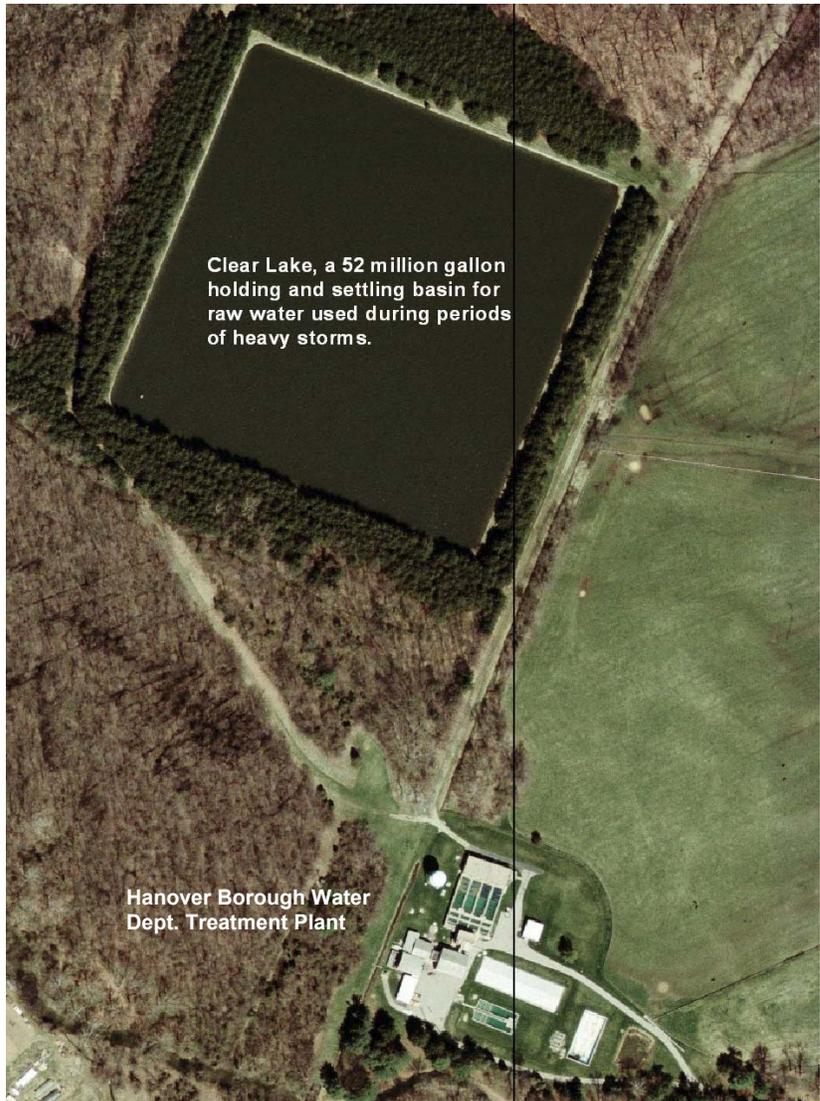
- POTABLE_GRAVITY
- - - RAW WATER
- POTABLE_BOOSTER

TREATMENT, STORAGE AND CONVEYANCE FACILITIES

Water Treatment - The Borough's Water Treatment Plant is located along a private right-of-way held by the Hanover Shoe Farms, Inc. located in the southwest corner of Conewago Township. This facility uses seven single rapid sand filters with a total capacity of 3.5 MGD. Two other double-unit multimedia filters have a total capacity of 8 MGD. The total plant capacity is 11 MGD.

Other treatments include pre-chlorination, coagulation, sedimentation, filtration, post chlorination, fluoridation and ph adjustment. The Borough has 40 samples analyzed per month by certified laboratories in addition to those performed routinely at the plant.

Total raw water storage capacity is 1,904,804,000 gallons at the Lawrence Baker Sheppard Dam, Sheppard Myers Dam, Kitzmiller Diversion Dam and Clear Lake.



Treated water is pumped from the treatment plant to two reservoirs located at Parr's Hill, the McSherrystown storage tank and the Terrace Hill Storage Tank. The following tabulates these features which have a combined capacity of 13,950,000 gallons:

Treated Water Storage of the Hanover Borough Water Department		
Name	Location	Capacity (gallons)
2 covered Reservoirs at Parr's Hill	Penn Township (York Co.)	13,200,000 gallons
McSherrystown Storage Tank	McSherrystown Borough	250,000 gallons
Terrace Ave. Storage Tank	Hanover Borough	500,000 gallons

With an average daily consumption (year 2006) of 5,411,364 gpd, these treated storage reserves furnish ample water supply for about 2.43 days of reserve capacity. A general rule-of-thumb suggests that reserve water capacity of 2.5 days is desirable; therefore the Borough has adequate reserve treated water storage capacity.

The Borough’s treated water reservoirs and storage tanks are connected to the system’s gravity-fed distribution lines; however, a booster station is installed at the Parr’s Hill Reservoirs to increase effective water pressure in the southeastern service area. The system has about 193 miles of cast iron and ductile iron water mains ranging in size from 4 to 20 inches in diameter.

EXISTING PUBLIC WATER FLOWS

In the year 2006, the following tabulates the consumption rates of public water through the system by land use types:

Year 2006 Township Public Water Consumption Rate			
Land Use	No. of Customers	Total Gallons Consumed	Consumption / EDU
Residential	2,427	129,861,000 (81.1%)	147 g.p.d.
Commercial	77	9,842,000 (6.2%)	350 g.p.d.
Industrial	25	19,368,000 (12.1%)	2123 g.p.d.
Public	4	928,000 (0.5%)	636 g.p.d.
Total	2,533	159,999,000 (100%)	174 g.p.d.

In year 2006, some 5,411,364 gpd were consumed by all of those served by this public water system. This represents about 49 percent of the Borough’s treatment plant capacity, 39 percent of its treated water storage capacity and 0.3 percent of the systems total source yields. Obviously, this system can accommodate substantial growth within its current physical and operating parameters.

FUTURE PUBLIC WATER NEEDS

As discussed earlier for future public sewer needs, the goals of this plan advocate the use of public utilities to serve compact growth areas within designated urban growth boundaries to relieve development pressures in outlying rural areas characterized by sensitive and/or productive natural features. These compact growth areas are to accommodate the all of the Township’s planned urban growth through the year 2020. Therefore many of the same assumptions that were used to project future sewage flows will be applied to public water.

Assumptions to Project Future Public Water Demand	
1.	The Township will grow by 1152 persons per decade between 2000 and 2020 as presented in Chapter IV of this Plan;
2.	The Township will grow by 552 housing units per decade between 2000 and 2020 as presented in Chapter IV of this Plan;
3.	The average household size will continue to reduce through year 2020 as presented in Chapter IV of this Plan;
4.	In response to goals of this plan that call for targeting growth into public utility service areas, 100% of growth will occur within areas planned for public sewer service;
5.	The current ratio of flows for residential, commercial, industrial and institutional will be maintained in the future; and,
6.	The average daily flow generated per connection is 174 gpd.

With these assumptions it becomes possible to project the amount of public sewage capacity needed to accommodate future growth. The following table presents this information:

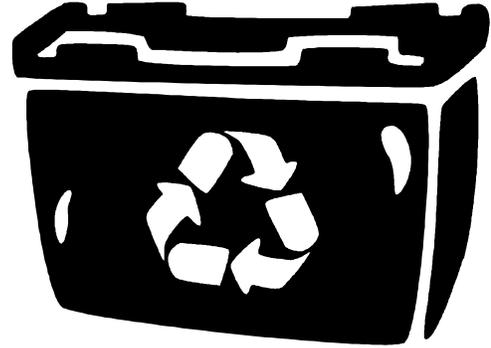
Projected Public Water Demand 2001 to 2020					
Year	Projected new dwelling units served by public water (100% of total)	Projected water needed for new residences (147 gpd/unit)	Projected nonresidential needs (23.2% of residential demand)	Remedial Connections of existing uses	Projected total needed water
2006	NA	355,784 gpd (existing)	82,542 gpd (existing)	Unknown*	438,326 gpd
2006-2010	221	32,487 gpd	7,537 gpd		478,350+ gpd
2010-2020	497	73,059 gpd	16,950 gpd		568,359+ gpd

*When public utilities are extended through existing developments to serve proposed growth, some properties that have previously relied upon on-lot wells are generally connected. These potential customers must be accounted when calculating needed system conveyance and treatment capacity.

With this information Township Officials should ensure that adequate public water capacity is available to legitimize its land use policies that rely upon adequate and ready access to public utilities to accommodate compact “growing greener” developments. Like with public sewers, the use of public water must become a priority if the Township’s allocation of growth is to withstand legal challenge.

C. SOLID WASTE DISPOSAL

Under Chapter 15 of the PA Municipal Waste Planning, Recycling and Waste Reduction Act 101, municipalities with a population of at least 5000 and a density exceeding 300 persons per square mile are required to “establish and implement a source-separation and collection program for recyclable materials. Such determinations are based upon the most recent decennial census conducted by the US Census Bureau. Conewago Township surpassed this threshold during the year 2000 US Census and is therefore required to establish and implement a recycling collection program. The PA DEP has notified local officials that Conewago Township does not comply with several aspects of the State recycling law and its guidelines.



“Residential curbside collection services for waste and recyclables is mandatory in the Township and is implemented via contract with Waste Management, Inc. The current contract is a joint contract with Gettysburg and Conewago Townships. The joint waste collection contract, which includes disposal of municipal waste, was facilitated by Adams County. Adams County has actively assisted 22 local municipalities in implementing contract collection programs. Under the current contract, Waste Management is required to collect, remove and properly process or dispose of municipal waste, large items and recyclable materials from all residential dwellings, multi-family dwellings, mobile home parks, churches and municipal offices. Large commercial establishments are not included under the contract.”

“Under the current contract, residents receive the following services:

- Weekly curbside trash collection;
- Weekly curbside recycling collection;
- Weekly bulky item pick-up upon request; and,
- Seasonal Christmas tree collection.

“As agreed between Conewago Township and Waste Management, the following recyclables are collected commingled on the same day as trash from residential establishments, small businesses, multi-family dwellings, mobile home parks, churches, and municipal offices.

- Aluminum cans
- Steel/bimetallic cans
- Clear glass
- Colored glass (green and brown)
- Newsprint
- Office paper
- Cardboard
- Plastic beverage/detergent

“Some residents have 22-gallon recycling bins that were distributed by the Township. Other residents are responsible for providing their own recycling containers and labeling them for recycling. Waste Management has recycling stickers that can be placed directly on the containers. After collection, commingled containers and newsprint are taken to

Recycle America Alliance in York, Pennsylvania. As reported by Waste Management, 351 tons of residential commingled recyclables were collected in 2006.²

In addition, small businesses that exceed the amount of waste typically generated by a household may subscribe with Waste Management for weekly or semi-weekly dumpster service. Larger businesses, industries, farms, and institutions are exempt from the Township's collection and disposal contract. These uses generally individually contract with local private haulers; under such circumstances, the private hauler is required to report upon the amounts and types of materials recycled to the Township and County. However, the Township has no formal recycling tracking system for such reporting and the extent of recycling from these larger uses is unknown. Act 101 requires all commercial, institutional and municipal uses to recycle and the Township is required to submit such information annually to Adams County who then submits Countywide totals on to the PA DEP. The PA DEP has notified local officials that Conewago Township does not comply with several aspects of the State recycling law and its guidelines.

To overcome these problems the Township has recently completed the SWANA Recycling Technical Assistance Study which recommends the following actions:

1. Increase its involvement in waste and recycling initiatives to make noticeable improvement to the program and to meet Act 101 recycling requirements.
2. Verify that the Contractor is meeting its contractual requirement to inform customers about the recycling program requirements on a semiannual basis and supplement the education information provided by the collection contractor with Township recycling information for residents and businesses (e.g. newsletters and website at a minimum).
3. Make the waste collection and recycling contract more enforceable through addition of a Liquidated Damages Policy.
4. Notify/educate residents once every six months about leaf waste, including the location of one or more local drop-off sites for leaf waste. At a minimum, residents should be informed about H&H Excavation (Country Mulch), which is a private facility located in Spring Grove.
5. Coordinate with Adams County to add curbside leaf waste collection services to the next competitive bid for waste collection services. Leaf waste services should include at least one curbside collection of garden residue, shrubbery and tree trimmings, and similar material in the spring and one curbside collection for leaves in the fall. Leaf waste pickup is commonly provided on Saturdays in this region
6. Inform commercial establishments directly about their recycling requirements by using a combination of the methods.
7. Distribute a Commercial Recyclables Report Form to all large commercial sector establishments not included in the waste collection contract.
8. Take an active roll in improving recycling by local commercial establishments through mailings, phone calls and/or visits. Target large businesses first.

² SWANA Recycling Technical Assistance Study, prepared for Conewago Township, Adams County, PA, Final Report, April 2007, pg.2.

9. Work more closely with Adams County to develop an organized approach to obtaining commercial recycling data.
10. Update the Township Solid Waste Ordinance to require all commercial, institutional and municipal establishment to report recycling data to the Township and to require recycling of:
 - High-grade office paper;
 - Cardboard;
 - Leaf waste; and,
 - Aluminum.”³

D. OTHER UTILITIES

Aside from the public sewer and water utilities described earlier in this section, several other utility lines pass through the Conewago Township. Many of the rights-of-way (ROW) associated with these utilities have distinct implications for future land use and proposed activities. This analysis inventories and maps major utility lines. ***Potential land developers and residents living near ROW should use the PA One Call System at 800-242-1776 to contact representatives of the various utility companies with regard to any proposed projects.*** The locations of the ROWs are plotted on the *Public Utilities Map*. The following describes these major rights-of-way:

Met-Ed (First Energy) Corporation

Met-Ed (First Energy) Corporation has a 115 kV overhead electrical transmission line that serves the electrical substation located along Radio Road that passes through the Township. The following present the General Restriction and Requirements for uses along this transmission line, although potential users must obtain permission from First Energy before new uses are established:

First Energy High-voltage Transmission Rights-of-Way Restrictions

Any encroachment will create a hazardous condition. Contact with or arcing of the energized conductors will cause property damage or **serious bodily injury, including death.** Other restrictions may apply for specific situations.

Safety

OSHA safe-working clearance from a person or any conductive object to the energized bare wires shall be maintained at all times.

- 500,000 volt (500-kV) lines ----- **Minimum** 19 feet, in any direction.
- 345,000 volt (345-kV) lines ----- **Minimum** 16 feet, in any direction.
- 230,000 volt (230-kV) lines ----- **Minimum** 13 feet, in any direction.
- 138,000 volt (138-kV) lines ----- **Minimum** 12 feet, in any direction.
- 115,000 volt (115-kV) lines ----- **Minimum** 11 feet, in any direction.
- 23,000 volt (23-kV) to 69,000 volt (69-kV) lines ---- **Minimum** 10 feet, in any direction

Any driveways or parking areas near First Energy structures (poles, towers, guys, etc.) shall include protective barriers. Parking or operating a vehicle within or adjacent to the right-of-way may induce an electric charge on the vehicle. Induced charges may also be imposed on objects such as fences, signs, or any other conductive object. An engineering firm should be consulted to provide a proper grounding system

³ SWANA Recycling Technical Assistance Study, prepared for Conewago Township, Adams County, PA, Executive Summary, April 2007, pgs.1-2.

to prevent induced electric shock. Construction vehicles operating near transmission lines should also be properly grounded.

No explosive or combustible liquid, substance, or material shall be located within the right-of-way. Prohibited materials include but are not limited to: fuel, wood chips, mulch, brush, and tires.

Vegetation

All vegetation on or adjacent to the right-of-way shall be low growing, (10-foot maximum height). Shrubbery planted near FirstEnergy structures (poles, towers, guys, etc.) shall allow for working area at ground level. (No closer than 10 from the structure, in any direction).

Access

No buildings, signs, billboards, swimming pools, decks, flag posts, sheds, barns, garages, playgrounds, or other structures shall be located within the right-of-way. Truck and equipment access to all Transmission-line structures shall be provided at all times. No septic systems or wells shall be located within the right-of-way.

Lighting fixtures

No lighting fixtures shall be located within the right-of-way without written approval from FirstEnergy.

Grading/Excavation

No changes to grade elevations within the right-of-way shall be made without written approval from FirstEnergy. No excavations near Transmission structures (poles, towers, guys, etc.) shall occur without written approval from FirstEnergy.

Other activities

Kite flying, model airplane flying, or similar activities is prohibited on or near FirstEnergy right-of-way.

Columbia Gas Transmission Company

The Columbia Gas Transmission Company has a 50 feet wide right-of-way for a regional underground natural gas pipeline that passes through the southern part of the Township. The following present the General Restriction and Requirements for uses along this transmission pipeline, although potential users must obtain permission from Columbia Gas Transmission Company before new uses are established:

Notify Columbia before construction begins

Columbia must be notified according to the state law before construction begins in the vicinity of its facilities. This notification shall be made through the appropriate state One-Call notification service, but follow up contact should be made with the local Columbia Gas Transmission office by calling 1-800-242-1776.

No construction or excavation activities of any kind, including blasting, shall be done on Columbia's right of way area before Columbia personnel have established the actual location of all affected facilities and the limits of the right of way. Columbia personnel must be present during any construction or excavation activities.

Excavation near pipelines/buried facilities

No excavation shall be made on the pipeline right of way without prior notification to Columbia through the state One-Call notification service. Subsequent follow-up must be made to Columbia to seek approval for the proposed construction. Approved excavations above, below or within three-feet of either side of the pipeline shall be dug using hand tools.

Crossing pipelines with heavy equipment

Columbia may require heavy equipment operators to install mats, dirt pads, or other approved protective materials to adequately protect Columbia pipelines from potential damage by heavy equipment crossing

the right of way. All proposed road crossings of buried facilities must be evaluated by Columbia personnel. Any additional over-burden must be removed after construction unless otherwise directed by Columbia personnel.

Blasting plans must be approved

Any blasting proposed within 300 feet of Columbia facilities must be submitted to Columbia in advance along with a blasting plan outlining such proposed activity. No blasting may begin unless and until Columbia provides written confirmation that it does not object to such blasting. Any modifications to the blasting plan must also be submitted to Columbia for review and should not be implemented unless and until Columbia provides written confirmation that it does not object to such modifications. The blasting contractor may be required to monitor and record seismic shock at the facilities.

Allow adequate clearance for directional drilling

Any directional drilling or boring proposed under Columbia's buried facilities must be submitted to Columbia for review and approval. Adequate clearance must be maintained from Columbia's facilities and additional excavations may be required to ensure adequate clearance. As-built plans are required for all borings.

Maintain up to 300-foot clear area around storage well heads

Property owners or developers must notify Columbia of any proposed construction or excavation within 300 feet in any direction of a natural gas storage well. For safety, Columbia reserves the right to object to any such proposed activities or placement of objects closer than 300 feet to a storage wellhead.

Construction requirements within a right of way

The requirements listed below are minimum guidelines for construction in the vicinity of Columbia pipeline rights of way to protect public safety and the integrity of Columbia's facilities. A review of individual plans and property rights may reveal more specific requirements.

1. The existing cover over pipelines and rights of way, which is normally a minimum of 36-inches and a maximum of 48-inches, shall be maintained. The minimum earth cover over pipelines at all street and road crossings, including the adjacent ditch line, shall be 36-inches; 6Q-inches minimum cover shall be maintained at stream and river crossings.
2. Above-ground or below-ground structures or obstructions of any type shall not be placed within the easement area of any pipeline, which generally extends 25 feet on each side from the center of the pipeline, or as defined in the applicable right of way or land rights agreement.
3. Pipeline easements shall not be shared longitudinally with other utilities. All water valves, curb boxes, manholes, etc. must be outside the easement. Other utilities which cross Columbia pipelines must do so at or as near 90 degrees as practical and with a minimum of 12-inches vertical clearance. Any crossing not installed below Columbia's pipelines must have prior written consent from Columbia (Location of Buried Facilities Form - Form 1050-P17). All crossings (excluding single telephone and single television drops) of Columbia facilities by cable and/or wire utilities, including but not limited to electric, fiber optic, telephone, and television lines crossing Columbia's pipelines must be encased with a minimum of 2-inch Schedule 80 PVC pipe. For safety reasons, electric and fiber optic lines shall also be surrounded with a minimum of six inches of concrete or encased with 4inch minimum diameter, .250-wall, coated steel pipe for the full width of the right-of-way. Metallic warning flags shall also be buried above all cable, wire utility, or fiber optic lines crossing a Columbia right-of-way. All crossings must be approved by Columbia before installation begins.

4. Roads shall cross pipelines at or as near 90 degrees as practical, but at angles not less than 45 degrees. The entity constructing the street must pay for any measures required by Columbia to protect its pipeline(s). Such protective measures shall be designed and/or approved by Columbia personnel.
5. Paved areas, such as parking lots, shall not be allowed over the easement unless the pavement can be altered so as not to impact the safe and reliable operation and maintenance of Columbia's pipeline. Concrete paving in Columbia's right-of-way, except for sidewalks and curbs, is prohibited. Consequently, all plans for pavement within a Columbia right-of-way must be submitted and approved by Columbia personnel before paving can begin.
6. Septic tanks and leach fields should be placed so they drain away from the pipeline where practical. In no case shall they be placed in the easement area.
7. The right-of-way may be planted in lawn and small shrubs (less than 5 feet tall) or may be used for normal agricultural purposes. However, shrubs will not be allowed within 5 feet each side of the pipeline. Shrubs greater than 5 feet tall and trees, including fruit or nut bearing trees of any kind, are prohibited within the right of way.
8. Fences that block visual inspection or interfere with access to Columbia's facilities are prohibited within Columbia rights of way. Fences permitted by Columbia to cross its rights of way must be designed with 12-foot gates centered on the pipelines and must cross at or as near to 90 degrees as possible.