VI. EVALUATION OF EXISTING WASTEWATER TREATMENT SYSTEMS

2007 Report Chapter VI – Evaluation of Existing Wastewater Treatment Systems

A. Existing Municipal and Privately Owned Wastewater Treatment and Conveyance Systems

1. Existing Municipal Systems

a. West Penn Township and Walker Township do not currently own or operate any municipal treatment facilities or conveyance systems within their municipal boundaries.

b. Adjoining municipalities which operate municipal treatment facilities are limited to Tamaqua Borough's Sewage Treatment Plant which operates at a capacity of 2.43 million gallons per day (gpd). Its location (technically in Walker Township) is indicated in **Exhibit R-1**.

As discussed in Section II, the Sewer Committee has had several meetings with the Tamaqua Borough Sewer Authority and received a copy of their most recent Chapter 94 Sewage Municipal Wasteload Management Report. The Borough Sewer Authority has both the capacity and is willing to serve West Penn and Walker Townships; see correspondence in Appendix R-II-1.

Bowmanstown Borough has recently extended sewers into The Village of West Bowmans in adjacent East Penn Township, Carbon County. However, these facilities are several miles away from the Village of Andreas and could not be used as a sewage treatment alternative.

2. Privately Owned and Operated Treatment Facilities

This Section is retained unaltered.

B. Existing On-Lot Sewage Disposal Systems

This Section provides general information and is retained unaltered.

C. Analysis of Existing Municipal Regulations Regarding On-Lot Sewage Disposal Systems

This Section is retained unaltered.

D. Evaluation of Existing On-Lot Wastewater Treatment Needs

This Section is retained unaltered, with the following amendments:

PA DEP requested that the RETTEW TAR include well sampling and analysis in each of the four (4) Study Areas. This work was performed by an independent laboratory under subcontract to RETTEW, Suburban Water Testing Laboratories, Inc. (SWTL). The specific results for each property are being kept confidential; however, the statistical results have been reported. SWTL coordinated the well sample collection in July 2010. The final laboratory analysis results are dated August 16, 2010. The statistical results summary memorandum is provided in Appendix R-VI-1.

The PA DEP task list was originally developed based upon the 2003 property owner questionnaires. Since that time, public water was expanded to the Villages of South Tamaqua, Clamtown, and Reynolds. As such, insufficient private wells were available to meet the required number of samples for Study Areas 1 & 2. Of the samples collected in the four (4) Study Areas, the following results are summarized:

Total Coliform	62% Detection
E Coli Bacteria	15% Detection
Nitrate	41% Detection

The results reveal a strong indication of ground water pollution and on-lot septic system malfunction and the need for improved sewage facilities solutions.

RETTEW also engaged a sub-consultant, Lehigh Soils and Wetlands, as an independent SEO to perform an evaluation of the existing on-lot wastewater treatment systems to see the specific needs of each study area. In the evaluations of the study area, several wildcat sewers were discovered where untreated sewage was being discharged directly to surrounding streams. The Act 537 Sewage Facilities Plan Revision, Sewage Disposal Needs Identification, Door-to-Door Survey and Long Term On-Lot Disposal Potential Evaluation and Dye Testing Wildcat Sewers can be found in Appendix R-VI-2 of this report. This door-to-door study obtained near 100% occupied property participation.

E. Identification of Sewage Associated Malfunctions and Environmental Contamination

The previous 2007 report provided a general description of the Identification of Sewage Associated Malfunctions and Environmental Contamination. Additional supplemental information in regards to this topic is also found within the "2012 Needs Assessment" report [Appendix R-VI-2].

F. Sewer Study Areas in the Planning Area

Note that there is "No Change" in the boundaries of each Study Area. The previous 2007 report provided further description of each of five (5) Study Areas. Sub-section "g" for each Study Area provides additional description for "Soil Analysis". Although the information presented is still valid, additional detailed soils information is provided in the RETTEW Feasibility Study for Community On-Lot Sewage Disposal Systems, dated June 2011 [Appendix R-V-1 & 2].

The previous 2007 report provided further description of each of five (5) Study Areas. Sub-section "I" for each Study Area provides additional description for "Confirmed, Suspected and Potential Malfunctions and Sewage Needs Survey" and references "Book 2" and the documented sewage needs surveys for each property in each study area. This previous needs survey is entirely superseded by the new "2012 Needs Assessment" [Appendix R-VI-2].

G. Wastewater Sludge and Septage Generation, Transport, and Disposal Methods

This Section is retained unaltered.

H. Summary of Identified Needs Documentation in the Planning Area

The previous 2007 report provided a general description of the Summary of Identified Needs Documentation in the Planning Area which is not current; therefore, this section is entirely superseded by the "2012 Needs Assessment [Appendix R-VI-2].

Based upon the long term disposal needs identified in the Needs Identification Report and Addendum, most of the identified confirmed, suspected and potential malfunctions in each study area had sufficient property to resolve sewage facility problems on-site. Wildcat sewers were confirmed in the villages of South Tamaqua and Andreas. In each study area there are malfunctions and/or wildcat serviced properties that do not have sufficient property to resolve the sewage problem on-site. These properties will need to participate in cluster COLDS alternative solutions.

Exhibit VI-1 Needs Assessment Summary

EXHIBIT VI-1

Needs Assessment Summary

South Tamaqua		
Confirmed Malfunctions	13	
Suspected Malfunctions	3	
Potential Malfunctions	38	
No Malfunctions	7	
Total Occupied Lots		61
Wildcat Sewer	8	
Difficult Long Term Disposal	17	
# Lots Need COLDS Treatment	**10**	

Snyders		
Confirmed Malfunctions	2	
Suspected Malfunctions	1	
Potential Malfunctions	15	
No Malfunctions	5	
Total Occupied Lots		23
Wildcat Sewer	0	
Difficult Long Term Disposal	2	
# Lots Need COLDS Treatment	**0**	

Clamtown		
Confirmed Malfunctions	13	
Suspected Malfunctions	6	
Potential Malfunctions	52	
No Malfunctions	3	
Total Occupied Lots		74
Wildcat Sewer (tested negative)	4	
Difficult Long Term Disposal	10	
# Lots Need COLDS Treatment	**1**	

Andreas		
Confirmed Malfunctions	4	
Suspected Malfunctions	7	
Potential Malfunctions	26	
No Malfunctions	1	
Total Occupied Lots		38
Wildcat Sewer	4	
Difficult Long Term Disposal	10	
# Lots Need COLDS Treatment	**4**	

Reynolds		
Confirmed Malfunctions	8	
Suspected Malfunctions	2	
Potential Malfunctions	24	
No Malfunctions	8	
Total Occupied Lots		42
Wildcat Sewer	0	
Difficult Long Term Disposal	6	
# Lots Need COLDS Treatment	**4**	

Total Occupied Lots in 5 Villages	238

	Number of Lots w/Confirmed Malf. or Wildcat Sewer	Anticipated Individual On-Lot Solution	Anticipated Minimum Lots for COLDS System	System Size
South Tamaqua	15	5	10	10 to 12
Clamtown	17	16	1	2 to 4
Reynolds	9	5	4	4 to 6
Andreas	10	6	4	4 to 6
Snyders	2	2	0	0 to 2
Total	**53**	**34**	**19**	**20 to 30**

Data Summary From: Walker Township - West Penn Township Act 537 Sewage Facilities Plan Revision, Sewage Disposal Needs Identification, Door-to-Door Survey and Long Term On-Lot Disposal Potential Evaluation Prepared by Lehigh Soils and Wetlands, dated October 19, 2012 and Dye Testing Wildcat Sewer Amendment, dated March 30, 2013.