

**OFFICIAL ACT 537
SEWAGE FACILITIES PLAN**

FOR

**STRABAN TOWNSHIP
ADAMS COUNTY**

JULY, 2006

Revised: November, 2007



WM. F. HILL & ASSOC., INC.

PROFESSIONAL ENGINEERS

CIVIL ✧ MUNICIPAL ✧ ENVIRONMENTAL

207 Baltimore Street
Gettysburg, Pennsylvania 17325
(717) 334 - 9137

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RESOLUTION# 2006-08

RESOLUTION OF THE BOARD OF SUPERVISORS OF STRABAN
TOWNSHIP, ADAMS COUNTY, PENNSYLVANIA

WHEREAS, Straban Township has been experiencing unprecedented growth over the last several years; and

WHEREAS, the Agreement for Service was recently negotiated and executed between Straban Township and Gettysburg Municipal Authority; and

WHEREAS, the current Act 537 Official Plan, having been amended several times, is in need of a general "Township-wide" revision; and

WHEREAS, the Board of Supervisors of Straban Township acknowledges the replies to comments as answered by the Project Consulting Engineer, Wm. F. Hill. & Assoc., Inc. on Wm. F. Hill & Assoc., Inc. letterhead; and

WHEREAS, the Board of Supervisors of Straban Township finds the Act 537 Plan Revision conforms to all applicable zoning, subdivision, and other municipal ordinances and plans and further funds it to be part of a comprehensive program of pollution control and water quality management.

NOW, THEREFORE, BE IT RESOLVED that the Supervisors of the Township of Straban hereby adopt and submit to the Pennsylvania Department of Environmental Protection, for its approval, the above referenced Act 537 Official Plan Revision, selecting Alternative 1. II. and III in an effort to achieve the goals of this Act 537 Plan Revision.


V- CHAIRMAN

I, Jean A. Hawbaker, Secretary of Straban Township Board of Supervisors, hereby certify that the forgoing is a true copy of the Township's Resolution No 2006-08, adopted Dec. 4, 2006.


SECRETARY



Pennsylvania Department of Environmental Protection

909 Elmerton Avenue
Harrisburg, PA 17110-8200
October 2, 2008

Southcentral Regional Office

717-705-4707
FAX - 717-705-4760

Straban Township Supervisors
c/o Township Secretary
1745 Granite Station Road
Gettysburg, PA 17325

Re: Act 537 Planning
APS ID No. 604393
DEP Code No. E1-01929-ACT
Straban Township, Adams County

Ladies and Gentlemen:

The Department of Environmental Protection (Department) has reviewed your Act 537 Plan, submitted January 2007, prepared by William F. Hill and Associates, Inc., and entitled Official Act 537 Sewage Facilities Plan for Straban Township, Adams County. The Department's review period has exceeded regulatory limits and the submission is deemed approved pursuant to Chapter 71, Section 71.32(c) of the rules and regulations of the Department.

The plan provides for an on-lot sewage disposal system management program.

The plan is approved with the following conditions:

1. Following final municipal adoption, copies of the OLDS Management, and any other ordinances associated with the implementation of Straban Township's 537 Plan must be submitted to this office and the York District Office.
2. Also, as indicated in your correspondence dated April 7, 2008, there will be a follow-up of sewage systems identified in your plan as having possible gray water discharges or malfunctions.

It is now Straban Township's responsibility to implement the 537 Plan in accordance with the schedules contained within the Plan. Recent discussions with Gettysburg Borough indicate that there may be some service area changes within Straban Township and that this may necessitate an update or revision to your Plan.

Since the Department has approved your Plan, you are now eligible to receive a 50 percent planning cost reimbursement as provided under Section 6 of the Sewage Facilities Act (Act 537). A copy of the reimbursement application is enclosed. You are reminded that reimbursement applications must show detailed cost breakdowns of tasks completed or you will place your reimbursement in jeopardy.

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 Pa. C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, PO Box 8457, Harrisburg, PA 17105-8457, 717-787-3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800-654-5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on audiotape from the Secretary to the Board at 717-787-3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST REACH THE BOARD WITHIN 30 DAYS. YOU DO NOT NEED A LAWYER TO FILE AN APPEAL WITH THE BOARD.

IMPORTANT LEGAL RIGHTS ARE AT STAKE, HOWEVER, SO YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD (717-787-3483) FOR MORE INFORMATION.

If you have any questions, please call me at 717-771-4481.

Sincerely,



Lee A. McDonnell, P.E.

Program Manager

Water Management Program

Enclosure

cc: William F. Hill and Associates, Inc.
Adams County Planning Commission
Gettysburg Municipal Authority
Dean Shultz, SEO



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER STANDARDS AND FACILITY REGULATION

Act 537 Plan Content and Environmental Assessment Checklist

PART 1 GENERAL INFORMATION

A. Project Information

1. Project Name Straban Township Act 537 Plan Revision
2. Brief Project Description Township-wide revision of the Act 537 Plan

B. Client (Municipality) Information

Municipality Name	County	City	Boro	Twp
Straban Township	Adams	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Municipality Contact Individual - Last Name	First Name	MI	Suffix	Title
Martin	Troy	A		Board Chairman
Additional Individual Last Name	First Name	MI	Suffix	Title

Municipality Mailing Address Line 1	Mailing Address Line 2		
1745 Granite Station Road			
Address Last Line -- City	State	ZIP+4	
Gettysburg	PA	17325	
Phone + Ext.	FAX (optional)	Email (optional)	
717-334-4833	717-334-0061		

C. Site Information

Site (or Project) Name	(Municipal Name) Act 537 Plan
Straban Township	
Site Location Line 1	Site Location Line 2
Gettysburg	

D. Project Consultant Information

Last Name	First Name	MI	Suffix
Heerbrandt	Paul	F	P.E.
Title	Consulting Firm Name		
Environmental Engineer	Wm. F. Hill & Assoc., Inc.		
Mailing Address Line 1	Mailing Address Line 2		
207 Baltimore Street			
Address Last Line -- City	State	ZIP+4	Country
Gettysburg	PA	17325	USA
Email	Phone + Ext.	FAX	
fheerbrandt@wmfillinc.com	717-334-9137	717-334-0714	

PART 2 ADMINISTRATIVE COMPLETENESS CHECKLIST

DEP Use Only	Indicate Page #(s) in Plan	In addition to the main body of the plan, the plan must include items one through eight listed below to be accepted for formal review by the department. Incomplete Plans will be returned unless the municipality is clearly requesting an advisory review.
_____	<u>preface</u>	1. Table of Contents 2. Plan Summary
_____	<u>preface</u>	A. Identify the proposed service areas and major problems evaluated in the plan. (Reference - Title 25, §71.21.a.7.i).
_____	<u>preface</u>	B. Identify the alternative(s) chosen to solve the problems and serve the areas of need identified in the plan. Also, include any institutional arrangements necessary to implement the chosen alternative(s). (Reference Title 25 §71.21.a.7.ii).
_____	<u>preface</u>	C. Present the estimated cost of implementing the proposed alternative (including the user fees) and the proposed funding method to be used. (Reference Title 25, §71.21.a.7.ii).
_____	<u>preface</u>	D. Identify the municipal commitments necessary to implement the Plan. (Reference Title 25, §71.21.a.7.iii).
_____	<u>preface</u>	E. Provide a schedule of implementation for the project that identifies the MAJOR milestones with dates necessary to accomplish the project to the point of operational status. (Reference Title 25, §71.21.a.7.iv).
_____	<u>preface</u>	3. Municipal Adoption: Original , signed and sealed Resolution of Adoption by the municipality which contains, at a minimum, alternatives chosen and a commitment to implement the Plan in accordance with the implementation schedule. (Reference Title 25, §71.31.f) Section V.F. of the Planning Guide.
_____	<u>preface</u>	4. Planning Commission / County Health Department Comments: Evidence that the municipality has requested, reviewed and considered comments by appropriate official planning agencies of the municipality, planning agencies of the county, planning agencies with area wide jurisdiction (where applicable), and any existing county or joint county departments of health. (Reference-Title 25, §71.31.b) Section V.E.1 of the Planning Guide.
_____	<u>preface</u>	5. Publication: Proof of Public Notice which documents the proposed plan adoption, plan summary, and the establishment and conduct of a 30 day comment period. (Reference-Title 25, §71.31.c) Section V.E.2 of the Planning Guide.
_____	<u>preface</u>	6. Comments and Responses: Copies of ALL written comments received and municipal response to EACH comment in relation to the proposed plan. (Reference-Title 25, §71.31.c) Section V.E.2 of the Planning Guide.
_____	<u>preface</u>	7. Implementation Schedule: A complete project implementation schedule with milestone dates specific for each existing and future area of need. Other activities in the project implementation schedule should be indicated as occurring a finite number of days from a major milestone. (Reference-Title 25, §71.31.d) Section V.F. of the Planning Guide. Include dates for the future initiation of feasibility evaluations in the project's implementation schedule for areas proposing completion of sewage facilities for planning periods in excess of five years. (Reference Title 25, §71.21.c).
_____	<u>68-71</u>	8. Consistency Documentation: Documentation indicating that the appropriate agencies have received, reviewed and concurred with the method proposed to resolve identified inconsistencies within the proposed alternative and consistency requirements in 71.21.(a)(5)(i-iii). (Reference-Title 25, §71.31.e). Appendix B of the Planning Guide.

PART 3 GENERAL PLAN CONTENT CHECKLIST

DEP Use Only	Indicate Page #(s) in Plan	Item Required
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- | | | |
|-------|--------------|--|
| _____ | <u>1-10</u> | <p>I. Previous Wastewater Planning</p> <p>A. Identify, describe and briefly analyze all past wastewater planning for its impact on the current planning effort:</p> <ol style="list-style-type: none"> 1. Previously undertaken under the Sewage Facilities Act (Act 537). (Reference-Act 537, Section 5 §d.1). 2. Has not been carried out according to an approved implementation schedule contained in the plans. (Reference-Title 25, §71.21.a.5.i.A-D). Section V.F of the Planning Guide. 3. Is anticipated or planned by applicable sewer authorities or approved under a Chapter 94 Corrective Action Plan. (Reference-Title 25, §71.21.a.5.i.A&B). Section V.D. of the Planning Guide. 4. Through planning modules for new land development, planning “exemptions” and addenda. (Reference-Title 25, §71.21.a.5.i.A). |
| _____ | _____ | |
| _____ | _____ | |
| _____ | _____ | |
| _____ | <u>11-19</u> | <p>II. Physical and Demographic Analysis utilizing written description and mapping
(All items listed below require maps, and all maps should show all current lots and structures and be of appropriate scale to clearly show significant information).</p> <p>A. Identification of planning area(s), municipal boundaries, Sewer Authority/Management Agency service area boundaries. (Reference-Title 25, §71.21.a.1.i).</p> <p>B. Identification of physical characteristics (streams, lakes, impoundments, natural conveyance, channels, drainage basins in the planning area). (Reference-Title 25, §71.21.a.1.ii).</p> <p>C. Soils - Analysis with description by soil type and soils mapping for areas not presently served by sanitary sewer service. Show areas suitable for in-ground onlot systems, elevated sand mounds, individual residential spray irrigation systems, and areas unsuitable for soil dependent systems. (Reference-Title 25, §71.21.a.1.iii). Show Prime Agricultural Soils and any locally protected agricultural soils. (Reference-Title 25, §71.21.a.1.iii).</p> <p>D. Geologic Features - (1) Identification through analysis, (2) mapping and (3) their relation to existing or potential nitrate-nitrogen pollution and drinking water sources. Include areas where existing nitrate-nitrogen levels are in excess of 5 mg/L. (Reference-Title 25, §71.21.a.1.iii).</p> <p>E. Topography - Depict areas with slopes that are suitable for conventional systems; slopes that are suitable for elevated sand mounds and slopes that are unsuitable for onlot systems. (Reference-Title 25, §71.21.a.1.ii).</p> <p>F. Potable Water Supplies - Identification through mapping, description and analysis. Include public water supply service areas and available public water supply capacity and aquifer yield for groundwater supplies. (Reference-Title 25 §71.21.a.1.vi). Section V.C. of the Planning Guide.</p> |
| _____ | _____ | |
| _____ | _____ | |
| _____ | _____ | |

_____ _____ G. Wetlands-Identify wetlands as defined in Title 25, Chapter 105 by description, analysis and mapping. Include National Wetland Inventory mapping and potential wetland areas per USDA, SCS mapped hydric soils. Proposed collection, conveyance and treatment facilities and lines must be located and labeled, along with the identified wetlands, on the map. (Reference-Title 25, §71.21.a.1.v). Appendix B, Section II.I of the Planning Guide.

_____ 20-30

III. Existing Sewage Facilities in the Planning Area - Identifying the Existing Needs

A. Identify, map and describe municipal and non-municipal, individual and community sewerage systems in the planning area including:

- _____ _____ 1. Location, size and ownership of treatment facilities, main intercepting lines, pumping stations and force mains including their size, capacity, point of discharge. Also include the name of the receiving stream, drainage basin, and the facility's effluent discharge requirements. (Reference-Title 25, §71.21a.2.i.A).
- _____ _____ 2. A narrative and schematic diagram of the facility's basic treatment processes including the facility's NPDES permitted capacity, and the Clean Streams Law permit number. (Reference-Title 25, §71.21.a.2.i.A).
- _____ _____ 3. A description of problems with existing facilities (collection, conveyance and/or treatment), including existing or projected overload under Title 25, Chapter 94 (relating to municipal wasteload management) or violations of the NPDES permit, Clean Streams Law permit, or other permit, rule or regulation of DEP. (Reference-Title 25, §71.21.a.2.i.B).
- _____ _____ 4. Details of scheduled or in-progress upgrading or expansion of treatment facilities and the anticipated completion date of the improvements. Discuss any remaining reserve capacity and the policy concerning the allocation of reserve capacity. Also discuss the compatibility of the rate of growth to existing and proposed wastewater treatment facilities. (Reference-Title 25, §71.21.a.4.i & ii).
- _____ _____ 5. A detailed description of the municipality's operation and maintenance requirements for small flow treatment facility systems, including the status of past and present compliance with these requirements and any other requirements relating to sewage management programs. (Reference-Title 25, §71.21.a.2.i.C).
- _____ _____ 6. Disposal areas, if other than stream discharge, and any applicable groundwater limitations. (Reference-Title 25, §71.21.a.4.i & ii).

_____ 39-47

B. Using DEP's publication titled *Sewage Disposal Needs Identification*, identify, map and describe areas that utilize individual and community onlot sewage disposal and, unpermitted collection and disposal systems ("wildcat" sewers, borehole disposal, etc.) and retaining tank systems in the planning area including:

- _____ _____ 1. The types of onlot systems in use. (Reference-Title 25, §71.21.a.2.ii.A).
- _____ _____ 2. A sanitary survey complete with description, map and tabulation of documented and potential public health, pollution, and operational problems (including malfunctioning systems) with the systems, including violations of local ordinances, the Sewage Facilities Act, the Clean Stream Law or regulations promulgated thereunder. (Reference-Title 25, §71.21.a.2.ii.B).
- _____ _____ 3. A comparison of the types of onlot sewage systems installed in an area with the types of systems which are appropriate for the area according to soil, geologic conditions, topographic limitations sewage flows, and Title 25 Chapter 73 (relating to standards for sewage disposal facilities). (Reference-Title 25, §71.21.a.2.ii.C).

4. An individual water supply survey to identify possible contamination by malfunctioning onlot sewage disposal systems consistent with DEP's *Sewage Disposal Needs Identification* publication. (Reference-Title 25 §71.21.a.2.ii.B).

5. Detailed description of operation and maintenance requirements of the municipality for individual and small volume community onlot systems, including the status of past and present compliance with these requirements and any other requirements relating to sewage management programs. (Reference-Title 25, §71.21.a.2.i.C).

C. Identify wastewater sludge and septage generation, transport and disposal methods. Include this information in the sewage facilities alternative analysis including:

1. Location of sources of wastewater sludge or septage (Septic tanks, holding tanks, wastewater treatment facilities). (Reference-Title 25 §71.71).

2. Quantities of the types of sludges or septage generated. (Reference-Title 25 §71.71).

3. Present disposal methods, locations, capacities and transportation methods. (Reference-Title 25 §71.71).

31-38 **IV. Future Growth and Land Development**

A. Identify and briefly summarize all municipal and county planning documents adopted pursuant to the Pennsylvania Municipalities Planning Code (Act 247) including:

1. All land use plans and zoning maps that identify residential, commercial, industrial, agricultural, recreational and open space areas. (Reference-Title 25, §71.21.a.3.iv).

2. Zoning or subdivision regulations that establish lot sizes predicated on sewage disposal methods. (Reference – Title 25§71.21.a.3.iv).

3. All limitations and plans related to floodplain and stormwater management and special protection (Ch. 93) areas. (Reference-Title 25 §71.21.a.3.iv) Appendix B, Section II.F of the Planning Guide.

B. Delineate and describe the following through map, text and analysis.

1. Areas with existing development or plotted subdivisions. Include the name, location, description, total number of EDU's in development, total number of EDU's currently developed and total number of EDU's remaining to be developed (include time schedule for EDU's remaining to be developed). (Reference-Title 25, §71.21.a.3.i).

2. Land use designations established under the Pennsylvania Municipalities Planning Code (35 P.S. 10101-11202), including residential, commercial and industrial areas. (Reference-Title 25,§71.21.a.3.ii). Include a comparison of proposed land use as allowed by zoning and existing sewage facility planning. (Reference-Title 25, §71.21.a.3.iv).

3. Future growth areas with population and EDU projections for these areas using historical, current and future population figures and projections of the municipality. Discuss and evaluate discrepancies between local, county, state and federal projections as they relate to sewage facilities. (Reference-Title 25, §71.21.a.1.iv). (Reference-Title 25, §71.21.a.3.iii).

- 4. Zoning, and/or subdivision regulations; local, county or regional comprehensive plans; and existing plans of any other agency relating to the development, use and protection of land and water resources with special attention to: (Reference-Title 25, §71.21.a.3.iv).
 - public ground/surface water supplies
 - recreational water use areas
 - groundwater recharge areas
 - industrial water use
 - wetlands

- 5. Sewage planning necessary to provide adequate wastewater treatment for five and ten year future planning periods based on projected growth of existing and proposed wastewater collection and treatment facilities. (Reference-Title 25, §71.21.a.3.v).

48-59

V. Identify Alternatives to Provide New or Improved Wastewater Disposal Facilities

A. Conventional collection, conveyance, treatment and discharge alternatives including:

- 1. The potential for regional wastewater treatment. (Reference-Title 25, §71.21.a.4).
- 2. The potential for extension of existing municipal or non-municipal sewage facilities to areas in need of new or improved sewage facilities. (Reference-Title 25, §71.21.a.4.i).
- 3. The potential for the continued use of existing municipal or non-municipal sewage facilities through one or more of the following: (Reference-Title 25, §71.21.a.4.ii).
 - a. Repair. (Reference-Title 25, §71.21.a.4.ii.A).
 - b. Upgrading. (Reference-Title 25, §71.21.a.4.ii.B).
 - c. Reduction of hydraulic or organic loading to existing facilities. (Reference-Title 25, §71.71).
 - d. Improved operation and maintenance. Reference-Title 25, §71.21.a.4.ii.C).
 - e. Other applicable actions that will resolve or abate the identified problems. (Reference-Title 25, §71.21.a.4.ii.D).
- 4. Repair or replacement of existing collection and conveyance system components. (Reference-Title 25, §71.21.a.4.ii.A).
- 5. The need for construction of new community sewage systems including sewer systems and/or treatment facilities. (Reference-Title 25, §71.21.a.4.iii).
- 6. Use of innovative/alternative methods of collection/conveyance to serve needs areas using existing wastewater treatment facilities. (Reference-Title 25, §71.21.a.4.ii.B).

B. The use of individual sewage disposal systems including individual residential spray irrigation systems based on:

- 1. Soil and slope suitability. (Reference-Title 25, §71.21.a.2.ii.C).
- 2. Preliminary hydrogeologic evaluation. (Reference-Title 25, §71.21.a.2.ii.C).
- 3. The establishment of a sewage management program. (Reference-Title 25, §71.21.a.4.iv). See also Part "F" below.
- 4. The repair, replacement or upgrading of existing malfunctioning systems in

areas suitable for onlot disposal considering: (Reference-Title 25, §71.21.a.4).

a. Existing technology and sizing requirements of Title 25 Chapter 73. (Reference-Title 25, §73.31-73.72).

b. Use of expanded absorption areas or alternating absorption areas. (Reference-Title 25, §73.16).

c. Use of water conservation devices. (Reference-Title 25, §71.73.b.2.iii).

C. The use of small flow sewage treatment facilities or package treatment facilities to serve individual homes or clusters of homes with consideration of: (Reference-Title 25, §71.64.d).

1. Treatment and discharge requirements. (Reference-Title 25, §71.64.d).

2. Soil suitability. (Reference-Title 25, §71.64.c.i).

3. Preliminary hydrogeologic evaluation. (Reference-Title 25, §71.64.c.2).

4. Municipal, Local, Agency or other controls over operation and maintenance requirements through a Sewage Management Program. (Reference-Title 25, §71.64.d). See Part "F" below.

D. The use of community land disposal alternatives including:

1. Soil and site suitability. (Reference-Title 25, §71.21.a.2.ii.C).

2. Preliminary hydrogeologic evaluation. (Reference-Title 25, §71.21.a.2.ii.C).

3. Municipality, Local Agency or Other Controls over operation and maintenance requirements through a Sewage Management Program (Reference-Title 25, §71.21.a.2.ii.C). See Part "F" below.

4. The rehabilitation or replacement of existing malfunctioning community land disposal systems. (See Part "V", B, 4, a, b, c above). See also Part "F" below.

E. The use of retaining tank alternatives on a temporary or permanent basis including: (Reference- Title 25, §71.21.a.4).

1. Commercial, residential and industrial use. (Reference-Title 25, §71.63.e).

2. Designated conveyance facilities (pumper trucks). (Reference-Title 25, §71.63.b.2).

3. Designated treatment facilities or disposal site. (Reference-Title 25, §71.63.b.2).

4. Implementation of a retaining tank ordinance by the municipality. (Reference-Title 25, §71.63.c.3). See Part "F" below.

5. Financial guarantees when retaining tanks are used as an interim sewage disposal measure. (Reference-Title 25, §71.63.c.2).

F. Sewage Management Programs to assure the future operation and maintenance of existing and proposed sewage facilities through:

1. Municipal ownership or control over the operation and maintenance of individual onlot sewage disposal systems, small flow treatment facilities, or other traditionally non-municipal treatment facilities. (Reference-Title 25, §71.21.a.4.iv).

2. Required inspection of sewage disposal systems on a schedule established by the municipality. (Reference-Title 25, §71.73.b.1.).

3. Required maintenance of sewage disposal systems including septic and aerobic treatment tanks and other system components on a schedule

established by the municipality. (Reference-Title 25, §71.73.b.2).

4. Repair, replacement or upgrading of malfunctioning onlot sewage systems. (Reference-Title 25, §71.21.a.4.iv) and §71.73.b.5 through:

a. Aggressive pro-active enforcement of ordinances that require operation and maintenance and prohibit malfunctioning systems. (Reference-Title 25, §71.73.b.5).

b. Public education programs to encourage proper operation and maintenance and repair of sewage disposal systems.

5. Establishment of joint municipal sewage management programs. (Reference-Title 25, §71.73.b.8).

6. Requirements for bonding, escrow accounts, management agencies or associations to assure operation and maintenance for non-municipal facilities. (Reference-Title 25, §71.71).

G. Non-structural comprehensive planning alternatives that can be undertaken to assist in meeting existing and future sewage disposal needs including: (Reference-Title 25, §71.21.a.4).

1. Modification of existing comprehensive plans involving:

a. Land use designations. (Reference-Title 25, §71.21.a.4).

b. Densities. (Reference-Title 25, §71.21.a.4).

c. Municipal ordinances and regulations. (Reference-Title 25, §71.21.a.4).

d. Improved enforcement. (Reference-Title 25, §71.21.a.4).

e. Protection of drinking water sources. (Reference-Title 25, §71.21.a.4).

2. Consideration of a local comprehensive plan to assist in producing sound economic and consistent land development. (Reference-Title 25, §71.21.a.4).

3. Alternatives for creating or changing municipal subdivision regulations to assure long-term use of on-site sewage disposal that consider lot sizes and protection of replacement areas. (Reference-Title 25, §71.21.a.4).

4. Evaluation of existing local agency programs and the need for technical or administrative training. (Reference-Title 25, §71.21.a.4).

H. A no-action alternative which includes discussion of both short-term and long-term impacts on: (Reference-Title 25, §71.21.a.4).

1. Water Quality/Public Health. (Reference-Title 25, §71.21.a.4).

2. Growth potential (residential, commercial, industrial). (Reference-Title 25, §71.21.a.4).

3. Community economic conditions. (Reference-Title 25, §71.21.a.4).

4. Recreational opportunities. (Reference-Title 25, §71.21.a.4).

5. Drinking water sources. (Reference-Title 25, §71.21.a.4).

6. Other environmental concerns. (Reference-Title 25, §71.21.a.4).

60-65, 68-71

VI. Evaluation of Alternatives

A. Technically feasible alternatives identified in Section V of this check-list must be evaluated for consistency with respect to the following: (Reference-Title 25, §71.21.a.5.i.).

1. Applicable plans developed and approved under **Sections 4 and 5 of the Clean Streams Law or Section 208 of the Clean Water Act** (33 U.S.C.A. 1288). (Reference-Title 25, §71.21.a.5.i.A). Appendix B, Section II.A of the

Planning Guide.

2. Municipal wasteload management **Corrective Action Plans or Annual Reports** developed under PA Code, Title 25, Chapter 94. (Reference-Title 25, §71.21.a.5.i.B). The municipality’s recent Wasteload Management (Chapter 94) Reports should be examined to determine if the proposed alternative is consistent with the recommendations and findings of the report. Appendix B, Section II.B of the Planning Guide.
3. Plans developed under **Title II of the Clean Water Act** (33 U.S.C.A. 1281-1299) or **Titles II and VI of the Water Quality Act of 1987** (33 U.S.C.A 1251-1376). (Reference-Title 25, §71.21.a.5.i.C). Appendix B, Section II.E of the Planning Guide.
4. **Comprehensive plans** developed under the Pennsylvania Municipalities Planning Code. (Reference-Title 25, §71.21.a.5.i.D). The municipality’s comprehensive plan must be examined to assure that the proposed wastewater disposal alternative is consistent with land use and all other requirements stated in the comprehensive plan. Appendix B, Section II.D of the Planning Guide.
5. **Antidegradation requirements** as contained in PA Code, Title 25, Chapters 93, 95 and 102 (relating to water quality standards, wastewater treatment requirements and erosion control) and the Clean Water Act. (Reference-Title 25, §71.21.a.5.i.E). Appendix B, Section II.F of the Planning Guide.
6. **State Water Plans** developed under the Water Resources Planning Act (42 U.S.C.A. 1962-1962 d-18). (Reference-Title 25, §71.21.a.5.i.F). Appendix B, Section II.C of the Planning Guide.
7. **Pennsylvania Prime Agricultural Land Policy** contained in Title 4 of the Pennsylvania Code, Chapter 7, Subchapter W. Provide narrative on local municipal policy and an overlay map on prime agricultural soils. (Reference-Title 25, §71.21.a.5.i.G). Appendix B, Section II.G of the Planning Guide.
8. **County Stormwater Management Plans** approved by DEP under the Storm Water Management Act (32 P.S. 680.1-680.17). (Reference-Title 25, §71.21.a.5.i.H). Conflicts created by the implementation of the proposed wastewater alternative and the existing recommendations for the management of stormwater in the county Stormwater Management Plan must be evaluated and mitigated. If no plan exists, no conflict exists. Appendix B, Section II.H of the Planning Guide.
9. **Wetland Protection.** Using wetland mapping developed under Checklist Section II.G, identify and discuss mitigative measures including the need to obtain permits for any encroachments on wetlands from the construction or operation of any proposed wastewater facilities. (Reference-Title 25, §71.21.a.5.i.I) Appendix B, Section II.I of the Planning Guide.
10. **Protection of rare, endangered or threatened plant and animal species** as identified by the Pennsylvania Natural Diversity Inventory (PNDI). (Reference-Title 25, §71.21.a.5.i.J). Provide DEP with a copy of the completed Request For PNDI Search document. Also provide a copy of the response letter from the Department of Conservation and Natural Resources’ Bureau of Forestry regarding the findings of the PNDI search. Appendix B, Section II.J of the Planning Guide.
11. **Historical and archaeological resource protection** under P.C.S. Title 37, Section 507 relating to cooperation by public officials with the Pennsylvania Historical and Museum Commission. (Reference-Title 25, §71.21.a.5.i.K). Provide the department with a completed copy of a Cultural Resource Notice

request of the Bureau of Historic Preservation (BHP) to provide a listing of known historical sites and potential impacts on known archaeological and historical sites. Also provide a copy of the response letter from the BHP. Appendix B, Section II.K of the Planning Guide.

- B. Provide for the resolution of any inconsistencies in any of the points identified in Section VI.A. of this checklist by submitting a letter from the appropriate agency stating that the agency has received, reviewed and concurred with the resolution of identified inconsistencies. (Reference-Title 25, §71.21.a.5.ii). Appendix B of the Planning Guide.
- C. Evaluate alternatives identified in Section V of this checklist with respect to applicable water quality standards, effluent limitations or other technical, legislative or legal requirements. (Reference-Title 25, §71.21.a.5.iii).
- D. Provide cost estimates using present worth analysis for construction, financing, on going administration, operation and maintenance and user fees for alternatives identified in Section V of this checklist. Estimates shall be limited to areas identified in the plan as needing improved sewage facilities within five years from the date of plan submission. (Reference-Title 25, §71.21.a.5.iv).
- E. Provide an analysis of the funding methods available to finance the proposed alternatives evaluated in Section V of this checklist. Also provide documentation to demonstrate which alternative and financing scheme combination is the most cost-effective; and a contingency financial plan to be used if the preferred method of financing cannot be implemented. The funding analysis shall be limited to areas identified in the plan as needing improved sewage facilities within five years from the date of the plan submission. (Reference-Title 25, §71.21.a.5.v).
- F. Analyze the need for immediate or phased implementation of each alternative proposed in Section V of this checklist including: (Reference-Title 25, §71.21.a.5.vi).
 - 1. A description of any activities necessary to abate critical public health hazards pending completion of sewage facilities or implementation of sewage management programs. (Reference-Title 25, §71.21.a.5.vi.A).
 - 2. A description of the advantages, if any, in phasing construction of the facilities or implementation of a sewage management program justifying time schedules for each phase. (Reference-Title 25, §71.21.a.5.vi.B).
- G. Evaluate administrative organizations and legal authority necessary for plan implementation. (Reference - Title 25, §71.21.a.5.vi.D).

66-67 **VII. Institutional Evaluation**

- A. Provide an analysis of all existing wastewater treatment authorities, their past actions and present performance including:
 - 1. Financial and debt status. (Reference-Title 25, §71.61.d.2).
 - 2. Available staff and administrative resources. (Reference-Title 25, §71.61.d.2)
 - 3. Existing legal authority to:
 - a. Implement wastewater planning recommendations. (Reference-Title 25, §71.61.d.2).
 - b. Implement system-wide operation and maintenance activities. (Reference-Title 25, §71.61.d.2).
 - c. Set user fees and take purchasing actions. (Reference-Title 25, §71.61.d.2).
 - d. Take enforcement actions against ordinance violators. (Reference-Title 25,

§71.61.d.2).

e. Negotiate agreements with other parties. (Reference-Title 25, §71.61.d.2).

f. Raise capital for construction and operation and maintenance of facilities. (Reference-Title 25, §71.61.d.2).

B. Provide an analysis and description of the various institutional alternatives necessary to implement the proposed technical alternatives including:

1. Need for new municipal departments or municipal authorities. (Reference-Title 25, §71.61.d.2).

2. Functions of existing and proposed organizations (sewer authorities, onlot maintenance agencies, etc.). (Reference-Title 25, §71.61.d.2).

3. Cost of administration, implementability, and the capability of the authority/agency to react to future needs. (Reference-Title 25, §71.61.d.2).

C. Describe all necessary administrative and legal activities to be completed and adopted to ensure the implementation of the recommended alternative including:

1. Incorporation of authorities or agencies. (Reference-Title 25, §71.61.d.2).

2. Development of all required ordinances, regulations, standards and inter-municipal agreements. (Reference-Title 25, §71.61.d.2).

3. Description of activities to provide rights-of-way, easements and land transfers. (Reference-Title 25, §71.61.d.2).

4. Adoption of other municipal sewage facilities plans. (Reference-Title 25, §71.61.d.2).

5. Any other legal documents. (Reference-Title 25, §71.61.d.2).

6. Dates or timeframes for items 1-5 above on the project's implementation schedule.

D. Identify the proposed institutional alternative for implementing the chosen technical wastewater disposal alternative. Provide justification for choosing the specific institutional alternative considering administrative issues, organizational needs and enabling legal authority. (Reference-Title 25, §71.61.d.2).

preface

VIII. Implementation Schedule and Justification for Selected Technical & Institutional Alternatives

A. Identify the technical wastewater disposal alternative which best meets the wastewater treatment needs of each study area of the municipality. Justify the choice by providing documentation which shows that it is the best alternative based on:

1. Existing wastewater disposal needs. (Reference-Title 25, §71.21.a.6).

2. Future wastewater disposal needs. (five and ten years growth areas). (Reference-Title 25, §71.21.a.6).

3. Operation and maintenance considerations. (Reference-Title 25, §71.21.a.6).

4. Cost-effectiveness. (Reference-Title 25, §71.21.a.6).

5. Available management and administrative systems. (Reference-Title 25, §71.21.a.6).

6. Available financing methods. (Reference-Title 25, §71.21.a.6).

_____	_____	7. Environmental soundness and compliance with natural resource planning and preservation programs. (Reference-Title 25, §71.21.a.6).
_____	_____	B. Designate and describe the capital financing plan chosen to implement the selected alternative(s). Designate and describe the chosen back-up financing plan. (Reference-Title 25, §71.21.a.6)
_____	_____	C. Designate and describe the implementation schedule for the recommended alternative, including justification for any proposed phasing of construction or implementation of a Sewage Management Program. (Reference – Title 25 §71.31d)
_____	<u>n/a</u>	IX. Environmental Report (ER) generated from the Uniform Environmental Review Process (UER) A. Complete an ER as required by the UER process and as described in the DEP Technical Guidance 381-5511-111. Include this document as “Appendix A” to the Act 537 Plan Update Revision. Note: <i>An ER is required only for Wastewater projects proposing funding through any of the funding sources identified in the UER.</i>

Public Notice

Notice is hereby given that the Straban Township Supervisors, Straban Township, Adams County, Pennsylvania, are considering action on a proposed official Act 537 Comprehensive Sewage Facilities Plan Revision developed in accordance with the regulations and requirements of the Pennsylvania Sewage Facilities Act. The Plan Revision recommends continued extension of central sewerage service, on-site septic system management, and control of the proliferation of private central sewage collection and treatment facilities. No public construction projects are proposed. A copy of the plan will be available for inspection at the Straban Township Municipal Building, at the address below, Monday through Friday, 8:00 a.m. to 3:00 p.m. Written comments will be received by the Straban Township Supervisors at their office any time prior to the expiration of 30 days from the date of this notice. Any person who needs an accommodation in order to gain access to or participate in the review should call (717) 334-4833 prior to the above scheduled date. STRABAN TOWNSHIP, 1745 Granite Station Road, Gettysburg, PA 17325.

STATEMENT

It is hereby stated and declared that The Gettysburg Times is a daily newspaper as defined under the "Newspaper Advertising Act" of the Commonwealth of Pennsylvania approved May 16, 1929, and its several supplements and amendments, published at its place of business in the Township of Cumberland, Adams County, Pennsylvania, and is of general circulation throughout said County. That it was established in the year 1902 and has been issued regularly and continuously circulated and distributed from its established place of business daily, from the date of its establishment to the present time; that said newspaper is owned and published by The Times and News Publishing Company, a corporation organized and existing under the laws of the State of Pennsylvania.

That a legal notice, a true copy of which exactly as printed and published, is securely attached hereto, was published and appeared in the regular editions and issues of said newspaper on the following dates, viz.

August 12, 2006

That all of the charges, costs and expenses, including the fee for the affidavit to this proof of publication have
not been paid in full.

Linda A. Becker

Advertising Clerk

of Times and News Publishing Company.

Commonwealth of Pennsylvania } ss.:
County of Adams

On the 16th day of August 2006, before me, the subscriber, a Notary Public in and for said State and County personally came the above named Linda A. Becker who having been by me duly sworn according to law on his oath doth depose and say that he is the Advertising Clerk of The Times and News Publishing Company, a corporation, and is an officer duly authorized by resolution of the Board

of Directors of said corporation to make the foregoing statement and this affidavit on its behalf; that the affiant is not interested in the subject matter of the notice or advertising referred to in the foregoing statement and that all of the allegations contained in the foregoing statement as to the time, place and character of publication therein referred to are true.

Copy of notice of publication

PUBLIC NOTICE
Notice is hereby given that the Straban Township Supervisors, Straban Township, Adams County, Pennsylvania, are considering action on a proposed official Act 537 Comprehensive Sewage Facilities Plan Revision developed in accordance with the regulations and requirements of the Pennsylvania Sewage Facilities Act. The Plan Revision recommends continued extension of central sewerage service, on-site septic system management, and control of the proliferation of private central sewerage collection and treatment facilities. No public construction projects are proposed. A copy of the plan will be available for inspection at the Straban Township Municipal Building, at the address below, Monday through Friday, 8:00 a.m. to 3:00 p.m. Written comments will be received by the Straban Township Supervisors at their office any time prior to the expiration of 30 days from the date of this notice. The 30-day public notice period will end on Sept. 11, 2006. Any person who needs an accommodation in order to gain access to or participate in the review should call (717) 334-4833 prior to the above scheduled date.
STRABAN TOWNSHIP,
1745 Granite Station Road,
Gettysburg, PA 17325.

Sworn to and subscribed before me the day and year aforesaid.

Linda A. Becker

Advertising Clerk

Tammy L. Signor

Notary Public

My commission expires

RECEIVED
AUG 24 2006

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
TAMMY L. SIGNOR, Notary Public
Cumberland Twp., Adams County
My Commission Expires Aug. 24, 2009

Statement of Advertising Costs

BY: -----The Gettysburg Times

To Times and News Publishing Company, Dr.

For publishing notice or advertisement attached hereto

on the above dates	\$	38.18
Probating same	\$	5.00
Total	\$	43.18

Publisher's Receipt for Advertising Costs

Publishing Company, a corporation, publisher of the Gettysburg Times, a daily newspaper, receipt of the aforesaid advertising and publication of costs and certifies that the same have been

Times and News Publishing Company,
a corporation, publisher of
The Gettysburg Times,
a daily newspaper.

By _____
Its _____

CONCERNED CITIZENS OF STRABAN TOWNSHIP

P.O. Box 4794, Gettysburg, PA 17325

September 9, 2006

Straban Township
Board of Supervisors
1745 Granite Station Road
Gettysburg PA 17325

RE: Straban Township, Adams Co., ACT 537 "Official Plan" dated July 2006
(Certified Mail No. 7099 3400 0001 4896 2192)

THIS LETTER IS TO PROVIDE COMMENT ON THE PROPOSED "OFFICIAL ACT 537 SEWAGE FACILITIES PLAN- JULY 2006"

Dear Supervisors,

We the Concerned Citizens of Straban Township have the following concerns with the proposed "Official Act 537 Sewage Facilities Plan" dated July 2006 and the "Agreement For Service" dated April 12, 2006 between Straban Township and Gettysburg Municipal Authority (GMA)

We believe that the proposed ACT 537 "Official Plan" does not adequately protect the health, safety, and welfare of the residents of the Township and that further information, thought, and public participation be provided until an adequate and comprehensive "Official Plan" can be prepared for the entire Township.

We believe that the approved plan revision for the "Route 30 Corridor" has not been implemented as approved by the Department of Environmental Protection (DEP) and that changes are being made outside of the public participation process required by law.

We believe that the existing GMA treatment facility at times is both hydraulically and nutrient overloaded and that continued sewer extensions and connections from Straban Township would increase the risk of contamination of surface waters of our community.

We believe that the recent Sewer Agreement between Straban Township and the Gettysburg Municipal Authority (GMA) dated April 12, 2006 was completed in a fashion that was not within the requirements of ACT 537 in regards to public notification and the public participation process required by law or within the requirements of Inter-Municipal Agreements as outlined in 53 Pa. C.S.A. §2305 and 2307.

We believe that the 5.5 million dollars grant monies that was awarded to Straban Township and administered by DEP may not have been used as outlined in the grant award Agreement. Preliminary research has shown that monies were spent for purposes other than planning, design, and construction of the project. An example of other uses includes paying for sewer reserve capacity fees to third parties.

We believe that DEP and the Pennsylvania Office of Auditor Generals should require that a complete Audit be conducted immediately on how the 5.5 million dollar grant monies were spent and that the results of such Audit be provided to the Citizens of Straban Township and made part of the ACT 537 revised "Official Plan".

RECEIVED
SEP 11 2006

BY:.....

CONCERNED CITIZENS OF STRABAN TOWNSHIP

P.O. Box 4794, Gettysburg, PA 17325

The following are specific concerns with the proposed "Official Act 537 Sewage Facilities Plan:

Previous Wastewater Planning

1. We believe that the Plan as presented does not identify, describe and briefly analyze all past wastewater planning for its impact on the current planning effort. An explanation and copy of the January 12, 2004 "Consent Order and Agreement" between DEP and Straban Township should be made part of the Official Plan.
2. We believe that not all recently approved revisions to the current Act 537 plan have been identified, such as the treatment facility with discharge to Rock Creek north of Boyd School Road among potential others.
3. We believe that the Chapter 94 reports and Corrective Action Plan for the owned and operated Gettysburg Municipal Authority (GMA) located on Rock Creek and the Hunterstown Facility should be discussed and appropriate reports made part of the "Official Plan."

Existing Sewage Facilities in the Planning Area

1. We believe that further information should be provided on the Sewage Facility Planning Module and approved WWTF for the "Gettysburg Commons" project. A copy of the referenced Agreement between the Township and the Developer needs to be made available and made part of the "Official Plan." The current status of the approval, schedule, and financial security for this approved facility is unknown and should be made a part of the "Official Plan."
2. We believe the level of description provided on the existing publicly and privately owned Sewage Treatment Facilities with NPDES permit discharges is not in adherence with Chapter 71 requirements in terms of schematic treatment process, problems with existing facilities and related Chapter 94, or violations of the NPDES permit. This information needs to be made a part of the "Official Plan."
3. We believe that the level of information on the existing publicly and privately owned Sewage Treatment Facilities does not provide a detailed schedule of facility upgrades or expansion.
4. We believe that the level of information on the operation and maintenance requirements for privately owned Sewage Treatment Facilities is inadequate and that further effort and measures be provided in the "Official Plan."

Future Growth and Land Development

1. We believe that the basis of the "Official Plan" should be the recently adopted and approved Comprehensive Plan. The basis of the proposed "Official Plan" has used the current Zoning which does not reflect the proposed growth areas of the Township as outlined in the recently adopted Comprehensive Plan and the final copy of the revised Zoning Ordinance and Zoning Map.
2. We believe that the proposed "Official Plan" does not identify and discuss the potential impacts of over 1500 acres of high density "Mixed Use" and over 5000 acres of "Residential" zone as outlined in the adopted Comprehensive Plan and proposed Zoning Ordinance.

CONCERNED CITIZENS OF STRABAN TOWNSHIP

P.O. Box 4794, Gettysburg, PA 17325

3. We believe there is a lack of effort in the proposed "Official Plan" to discuss and evaluate discrepancies between local, county, state, and federal projections as they relate to sewage facilities.
4. We believe that the proposed "Official Plan" does not provide adequate sewage planning necessary to provide sufficient wastewater treatment for the ten-year planning period based on the projected growth in the Township.

Identify Alternatives to Provide New or Improved Wastewater Disposal Facilities

1. We believe that the proposed "Official Plan" should include an analysis on the use of innovative and or approved alternative on-lot systems.
2. We believe that a more detailed and specific "Official Plan" needs to be created to ensure that the goal "to discourage the proliferation of small, development specific, privately owned and operated wastewater conveyance and treatment facilities within the Township." The proposed "Official Plan" provides no detailed game plan to achieve this stated goal.
3. We believe that the potential for the continued use of existing municipal or non-municipal sewage facilities has not been adequately addressed in the proposed "Official Plan" in terms of repair, upgrading, reduction of hydraulic or organic loading, improved operations, and other applicable actions that will resolve known problems.
4. We believe that the proposed "Official Plan" has not adequately addressed the "No-Action" alternative that includes discussion of both short term and long term impacts on water quality, growth potential, community economic conditions, recreation opportunities, drinking water sources, and other environmental concerns.

Evaluation of Alternatives

1. We believe that the proposed "Official Plan" does not present an evaluation for specific Alternatives or justification and only makes an attempt at making suggestions for administrative actions. The plan should be revised to include specific construction projects that are consistent with the stated goals.

Institutional Evaluation

1. We believe that the proposed "Official Plan" does not present an adequate analysis of all existing wastewater treatment authorities, their past actions, and present performance including existing legal authority.
2. We believe that the proposed "Official Plan" does not provide an adequate analysis and description of the various institutional alternatives necessary to implement the proposed technical alternatives due to the lack of such alternatives.

Implementation Schedule and Justification for Selected Technical & Institutional Alternatives

1. We believe that the proposed "Official Plan" is incomplete in regards to this requirement.

CONCERNED CITIZENS OF STRABAN TOWNSHIP

P.O. Box 4794, Gettysburg, PA 17325

Agreement For Service Between Straban Township and Gettysburg Municipal Authority (GMA)

1. We believe that the recent Sewer Agreement between Straban Township and GMA dated April 12, 2006 was completed in a fashion that was not within the requirements of ACT 537 in regards to the public notification and public participation process required by law or within the requirements of Inter-Municipal Agreements as outlined in 53 Pa. C.S.A. §2305 & 2307.
2. We believe that the contents regarding dedication of Commerce Park Facilities and Water Service expansion of the public water supply throughout Straban Township are inappropriate in terms of ACT 537 "Official Plan" adoption.
3. We believe that the Sewer Agreement will be found void and invalid in the Court of Common Pleas of Adams County based on a Complaint submitted on September 11, 2006 by several property owners of Straban Township.

It is our understanding that a written response will be provided and that our comment letter and your response will be forwarded to DEP as part of the regulated process.

Respectfully,
Officers / Concerned Citizens of Straban Township

Franklin W. Thomas Jr
Signature

Franklin W. Thomas Jr Name 291 Red Bridge Rd Gettysburg Pa 17325 Address

Sharon E. Hamm
Signature

SHARON E. HAMM Name 98 SIBERT RD GETTYSBURG PA 17325 Address

Timothy E. Hamm
Signature

Timothy E. Hamm Name 98 Sibert Rd, Gettysburg PA 17325 Address

Ronald J. Horton
Signature

Ronald J. Horton Name 129 Artillery Dr. Gettysburg Address

cc: Ms. Kathleen A. McGinty,
Secretary, Pennsylvania Department of Environmental Protection



Pennsylvania Department of Environmental Protection

Rachel Carson State Office Building

P.O. Box 2063

Harrisburg, PA 17105-2063

August 22, 2006

Secretary

717-787-2814

Concerned Citizens of Straban Township

P.O. Box 4794

Gettysburg, PA 17325

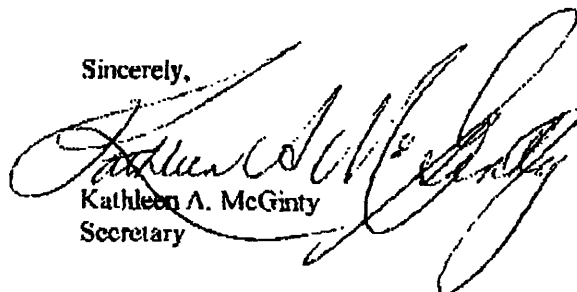
Ladies and Gentlemen:

Thank you for your letter dated July 27, 2006, regarding your organization's concerns over the status of the Straban Township, Adams County Act 537 Official Plan and for your suggestion regarding a review of the Township's use of grant funds.

Department staff recently verified with officials of Straban Township that notice of the proposed comprehensive Township Act 537 Official Plan was published on Saturday, August 12, 2006, in a local newspaper. This notice begins the required 30-day public comment period (ending September 11, 2006) during which your organization can comment to the Township on the proposed Act 537 Official Plan. The Sewer Agreement between Straban Township and the Gettysburg Municipal Authority will be an integral part of the Official Plan, and your organization may comment on that agreement at this time.

Thank you for your interest in this matter. I hope this information is helpful. If you have any questions, please contact Mr. Michael Sherman, Deputy Secretary for Field Operations, by e-mail at msherman@state.pa.us or by phone at 717-787-5028, or Ms. Rachel Diamond, Director of the Southcentral Regional Office, by e-mail at rdiamond@state.pa.us or by phone at 717-705-4704.

Sincerely,



Kathleen A. McGinty
Secretary



September 27, 2006

Concerned Citizens of Straban Township
P. O. Box 4794
Gettysburg, PA 17325

Re: Act 537 Plan Comment Responses

Dear Concerned Citizens,

On behalf of the Straban Township Supervisors, we thank you for your interest in the Township's sewage facilities planning process and your comments on the Township's proposed Act 537 Plan. Citizen participation in this process is important and encouraged.

The Act 537 Plan is a planning document focused specifically on the responsible management of domestic, commercial, and industrial wastewaters produced within Straban Township. These wastewaters are managed through the use of municipally owned and operated central treatment and conveyance facilities, privately owned and operated central treatment and conveyance facilities, on-lot treatment systems, and co-operation between municipalities to provide treatment and/or conveyance facilities.

When considering Straban Township, one must note that it has been traditionally an agricultural community, but due to its proximity to Gettysburg Borough and the presence of major transportation corridors (Route 30 and Route 15), the area has been experiencing significant growth pressures. The Act 537 Plan attempts to address existing and future needs for wastewater management within Straban Township as it grows.

The following are responses to your itemized comments from your letter dated September 9, 2006 and received by the Township Supervisors on September 11, 2006. Your original question is presented in italics and the response follows.

Previous Wastewater Planning

- 1. We believe that the plan as presented does not identify, describe, and briefly analyze all past wastewater planning for its impact on the current planning effort. An explanation and copy of the January 12, 2004 "Consent Order and Agreement" between DEP and Straban Township should be made part of the Official Plan.*

The Proposed Act 537 Plan includes brief summaries of all wastewater planning within Straban Township from 1971 until the inception of this Plan in the Previous Planning section beginning at page 1. The referenced Consent Order is included in this discussion and is included in the plan by reference.

- 2. We believe that not all recently approved revisions to the current Act 537 Plan have been identified, such as the treatment facility with discharge to Rock Creek north of Boyds School Road among potential others.*

We assume that you are referring to the Keller Farm development project. This project will utilize a privately owned and operated package wastewater treatment facility, which is currently under construction. This planning module was adopted by the Straban Township Supervisors at their public meeting on March 7, 2005 and approved by the Pennsylvania Department of Environmental Protection (PA DEP) by letter dated April 27, 2005. The treatment facility will also serve an adjoining development proposed by the same developer. The planning module for this development, the Connelly Farm, is currently under review. When the planning module was reviewed and adopted, it became a revision of the existing Act 537 Plan, as noted in your comment. This facility planning was not individually discussed since it is not anticipated to be utilized to serve any areas outside of these two developments, within this planning period. The location of this proposed facility is included on **Exhibit 4 – Wastewater Treatment Facilities** and the development is included within the Proposed Developments section of the plan. This is intended to be an interim facility until public facilities are available.

- 3. We believe that the Chapter 94 reports and Corrective Action Plan for the owned and operated Gettysburg Municipal Authority (GMA) (facility) located on Rock Creek and the Hunterstown Facility should be discussed and appropriate reports made part of the "Official Plan."*

The Hunterstown and Gettysburg Wastewater Treatment Facilities are owned and operated by the Gettysburg Municipal Authority. This is not a regional authority but is wholly controlled by the Borough of Gettysburg. Straban Township has no voice in the operation or maintenance of these facilities. We therefore feel that it would be inappropriate and superficial to include operational reports (Chapter 94) or maintenance orders (Corrective Action Plans) within Straban Township's Act 537 Plan. Straban Township has an executed agreement with GMA concerning GMA's responsibility to provide capacity and conveyance facilities for those areas they will serve within Straban Township. Chapter 94 Reports for the GMA facilities and the WRRMA facility can be viewed at the respective authority offices.

Existing Sewage Facilities in the Planning Area

- 1. We believe that further information should be provided on the Sewage Facilities Planning Module and approved WWTF for the "Gettysburg Commons" project. A copy of the referenced Agreement between the Township and the Developer needs to be made available and part of the "Official Plan." The current status of the approval, schedule, and financial security for this approved facility is unknown and should be made a part of the "Official Plan."*

The Planning Module for the Gettysburg Commons development is discussed in the Previous Planning section of the proposed Act 537 Plan, therefore it is included in the Plan by reference. The wastewater treatment facility proposed by this development is also discussed in the Plan. The treatment facility has received its NPDES (Part 1) and Clean Streams Law (Part II) Permits from the PA DEP. These permits allow the developer to construct and operate the treatment and conveyance facilities associated with this development. The agreement referenced is specific to this facility and therefore is not relevant to the overall Township sewage facilities planning, which is why it was not included in the plan. There is discussion in the plan concerning the use of such agreements to assure that the Township has some level of oversight as to the design, construction, and operation of this type of private facility.

- 2. We believe the level of description provided on the existing publicly and privately owned Sewage Treatment Facilities with NPDES permit discharges is not in adherence with Chapter 71 requirements in terms of schematic treatment process, problems with existing facilities, and related Chapter 94, or violations of the NPDES permit. This information needs to be made a part of the "Official Plan."*

There is significant discussion within the plan on all three publicly owned treatment facilities which, although not owned or operated by Straban Township, serve portions of the Township. There are verbal descriptions of the treatment process used by all of the private wastewater treatment facilities in the Township in lieu of schematic diagrams. Private facilities do not produce Chapter 94 Reports, yet there is discussion on the treatment shortcomings of these type facilities with a thorough discussion of the specific problems experienced by the Cooperative Mills facility. All of the private facilities' NPDES compliance records were researched at the Southcentral Regional Office of PA DEP and significant violations are discussed.

- 3. We believe that the level of information on the existing publicly and privately owned Sewage Treatment Facilities does not provide a detailed schedule of facility upgrades or expansion.*

Straban Township does not own or operate any wastewater treatment facilities, as noted above. It therefore has little or no control over the upgrading or expansion of any facilities. To our knowledge there are no proposed expansions or upgrades in progress or proposed for any facility serving Straban Township, other than the collection system upgrade for the White Run Regional Municipal Authority (WRRMA) facility, which is discussed in the Existing Facilities section of the plan.

- 4. We believe that the level of information on the operation and maintenance requirements for privately owned Sewage Treatment Facilities is inadequate and that further effort and measures be provided in the "official Plan."*

Straban Township has no authority to exert operation and maintenance requirements on privately owned and operated sewage treatment facilities, beyond a contract obligation if a

developer's agreement was previously executed. These facilities are permitted by PA DEP and they alone have oversight powers. We believe this comment refers to an item in the Act 537 Checklist that refers to Small Flow Treatment Facilities which typically treat wastewater from one to three individual houses and do not hold an NPDES permit as they do not typically discharge to surface waters. These facilities are regulated similar to on-lot systems.

Future Growth and Land Development

1. *We believe that the basis of the "Official Plan" should be the recently adopted and approved Comprehensive plan. The Basis of the proposed "Official Plan" has used the current Zoning which does not reflect the proposed growth areas of the Township as outlined in the recently adopted Comprehensive Plan and the final copy of the revised Zoning Ordinance and Zoning Map.*

The Township's Comprehensive Plan, adopted May 2, 2005, is discussed in the plan. The proposed Zoning Ordinance is not specifically discussed since it has not been adopted. But the plan does say that revised Zoning and Subdivision and Land Development Ordinances will be based on the new Comprehensive Plan. The plan acknowledges the Growth Areas identified by the Township's and the County's Comprehensive Plans. We feel that the Act 537 Plan is consistent with Straban Township's Comprehensive Plan.

2. *We believe that the proposed "Official Plan" does not identify and discuss the potential impacts of over 1500 acres of high density "Mixed Use" and over 5000 acres of "Residential" zone as outlined in the adopted Comprehensive Plan and proposed Zoning Ordinance.*

We feel that the proposed Act 537 Plan is consistent with Straban Township's Comprehensive Plan. The zoning districts referenced are areas where "high density" developments are allowed under the proposed zoning ordinance. Central sewer and water are necessary to propose these high density developments within these zoning districts. The Act 537 Plan designates whom shall provide central sewer service to a defined area by **Exhibit 8 – Central Sanitary Sewer Systems and Proposed Service Areas**. This is essentially how the Plan addresses the potential impact of these areas.

3. *We believe there is a lack of effort in the proposed "Official Plan" to discuss and evaluate discrepancies between local, county, state, and federal projections as they relate to sewage facilities.*

We assume you are referring to growth projections. We see no purpose in reconciling numbers from different sources. They are educated opinions. The common thread between these projections is that they all foresee continued significant growth in Straban Township.

- 4. We believe that the proposed "Official Plan" does not provide adequate sewage planning necessary to provide sufficient wastewater treatment for the ten-year planning period based on the projected growth in the Township.*

This comment appears to be a general opinion on the suitability of the proposed Act 537 Plan. We differ from your opinion.

Identify Alternatives to Provide New or Improved Wastewater Disposal Facilities

- 1. We believe that the proposed "Official Plan" should include an analysis on the use of innovative and or approved alternative on-lot systems.*

As discussed in the Plan, there were no "Needs Areas" identified in the plan study. Therefore we felt there was no need to discuss the widespread use of innovative and/or alternative on-lot systems to resolve an existing need. This does not mean that these systems can not be used, but that they are not appropriate to meet the overall goal of the Plan. The use of such systems would be reviewed on an individual basis, as they are now.

- 2. We believe that a more detailed and specific "Official Plan" needs to be created to ensure that the goal "to discourage the proliferation of small, development specific, privately owned and operated wastewater conveyance and treatment facilities within the Township." The proposed "Official Plan" provides no detailed game plan to archive this stated goal.*

As discussed in the Plan, there is no easy way to control the proliferation of these systems without a change in state legislation or regulations. Local government is generally limited to those controls allowed by the Municipal Planning Code, local Land Development Ordinances, and the Planning Module Process. We feel like the proposed Act 537 Plan offers the most effective measures available to Straban Township. If your group felt that there was a better method available to address this goal, we would have been happy to consider it.

- 3. We believe that the potential for the continued use of existing municipal or non-municipal sewage facilities has not been adequately addressed in the proposed "Official Plan" in terms of repair, upgrading, reduction of hydraulic or organic loading, improved operations, and other applicable actions that will resolve known problems.*

As discussed in the plan, no "Needs Areas" were identified in the plan study, so there are no known problems in that sense. Secondly, the Township does not own or operate any wastewater conveyance or treatment facilities to repair, upgrade, etc. We saw no justification for the expenditure of public funds to expand, repair or upgrade a private facility when no problems were identified in the general vicinity of these facilities.

- 4. We believe that the proposed "Official Plan" has not adequately addressed the "No-Action" alternative that includes discussion of both short term and long term impacts on water*

quality, growth potential, community economic conditions, recreation opportunities, drinking water sources, and other environmental concerns.

A "No Action" alternative is included in the plan and is briefly discussed, including short and long term impacts. We do not feel that further discussion is warranted since it was never the Township's desire to implement a No Action alternative. Further discussion would only act to further justify the rejection of this alternative and we felt the presented justification was sufficient. It appears that your comment may indicate that your group merely desires more discussion added to an alternative that is desired neither by your group nor the Supervisors. This seems counter productive to the comment process.

Evaluation of Alternatives

- 1. We believe that the proposed "Official Plan" does not present an evaluation for specific Alternatives or justifications and only makes an attempt at making suggestions for administrative actions. The plan should be revised to include specific construction projects that are consistent with the stated goals.*

We see no point in proposing or evaluating an alternative that is neither justified nor desired to be implemented. Without an identified "Needs Area" or other potential public health risk, it would be unfounded to propose a significant expenditure of public funds to construct municipal wastewater facilities. The construction of municipal wastewater facilities, whether treatment, conveyance, or both, would only act to further stimulate high density growth in the Township, which is not the desire of the Supervisors.

Institutional Analysis

- 1. We believe that the proposed "Official Plan" does not present an adequate analysis of all existing wastewater treatment authorities, their past actions, and present performance including existing legal authority.*

There is only one Municipal Authority of which Straban Township is a participant, which is the White Run Regional Municipal Authority (WRRMA). Since it is a regional authority, serving sections of Mount Joy Township, Mount Pleasant Township, and Straban Township, there is a representative of Straban Township on the Authority's Board who is periodically appointed by the Straban Township Supervisors. There is discussion in the plan concerning WRRMA. Straban Township's relationship with Gettysburg Municipal Authority is defined by the Intermunicipal Agreement executed between these two parties. There is discussion concerning this agreement and its impact on sewage facilities within Straban Township, but it is not an institution of the Township.

- 2. We believe that the proposed "Official Plan" does not provide an adequate analysis and description of the various institutional alternatives necessary to implement the proposed technical alternatives due to a lack of such alternatives.*

We feel that the presented institutional alternatives are sufficient, appropriate, and sufficiently supported to implement the selected technical alternatives. Your comments do not suggest any specific alternatives which you feel should be evaluated for implementation, so this is the only response we can offer.

Implementation Schedule and Justification for Selected Technical & Institutional Alternatives

1. *We believe that the proposed "Official Plan" is incomplete in regards to this requirement.*

An implementation schedule is included in the plan as well as justification for the selected technical and institutional alternatives, therefore we differ from your opinion.

Agreement for Service between Straban Township and Gettysburg Municipal Authority (GMA)

1. *We believe that the recent Sewer Agreement between Straban Township and GMA dated April 12, 2006 was completed in a fashion that was not within the requirements of Act 537 in regards to the public notification and public participation process required by law or within the requirements of Intermunicipal Agreements as outlined in 53 Pa. C.S.A. §2305 & §2307.*

As far as the public notification and public participation requirement under Act 537, a notice of the public comment period was placed in the local paper, as required, and your group has presented these comments. This opportunity to comment on the content of the Intermunicipal Agreement was relayed to you in a letter, forwarded to the Township with your comments, from Kathleen McGinty, Secretary of the Pennsylvania Department of Environmental Protection. Unfortunately, your group did not choose to comment on the content of this agreement when given the opportunity under the Act 537 comment process. We can only assume that your objection is to the public participation process instead of the content of the agreement.

53 Pa. C.S. A. §2305 & §2307 are not relevant to this agreement. This legislative reference is to the Intergovernmental Cooperation Act. This act governs cooperation between two or more **Governments**, defined in the act as a "unit of government created by the General Assembly". GMA, a municipal authority, was not created by the General Assembly and is therefore not a governmental entity under this act. Therefore, the agreement between GMA and Straban Township is outside the scope of the referenced act.

2. *We believe that the contents (of the Agreement) regarding dedication of Commerce Park Facilities and Water Service expansion of the public water supply throughout Straban Township are inappropriate in terms of Act 537 "Official Plan" adoption.*

The Intermunicipal Agreement, although important to the Act 537 Plan, is not an exclusive product of the Plan. Therefore the appropriateness of a particular recital or section of the Agreement to the Act 537 Plan is irrelevant.

It is logical to dedicate the wastewater and potable water facilities within the Commerce Park to GMA since they are the source water supplier for the water system and the provider of treatment for the wastewater collected within the Park. GMA has an existing staff and structure to operate and maintain these facilities, while Straban Township does not. The Supervisors feel that this is the most cost effective option for the customers connected to this system.

We believe your reference to the "expansion of the public water supply throughout Straban Township" is a misinterpretation of this section of the agreement. This section merely states that there is no "Drainage Basin" restriction to the extension of public water service, as there is with the extension of sewer service, within Straban Township. GMA has no intension of extending public water service throughout Straban Township at their own expense. It is their policy to provide service if a developer wants to install and dedicate the required infrastructure to GMA.

- 3. We believe that the Sewer Agreement will be found void and invalid in the Court of Common Pleas of Adams County based on a Complaint submitted on September 11, 2006 by several property owners of Straban Township.*

These contentions are currently the subject of a lawsuit filed against the Township, and we have been advised by the Township's Solicitor to not discuss any particular position in response to this comment.

We thank you again for your participation in the public comment period of Straban Township's Act 537 Planning process.

Respectfully submitted,
Wm. F. Hill & Assoc., Inc.



William F. Hill, P.E.

President



P. Fred Heerbrandt, P.E.
Environmental Engineer

cc: Straban Township Supervisors

Adams County Office of Planning and Development

19 Baltimore Street, Suite 101

Gettysburg PA 17325

Phone: (717) 337-9824

FAX: (717) 334-0786

Director: Richard H. Schmoyer, AICP

DATE: October 2, 2005

TO: Straban Township Supervisors
Straban Township Planning Commission

FROM: Adams County Office of Planning and Development
Richard H. Schmoyer, AICP, Director

SUBJECT: County Review
Straban Township Act 537 Plan Update
File #: 001-06-Act 537

Comments: The Adams County Office of Planning and Development received the draft Straban Township Act 537 Plan on August 18, 2006 for review. Our 60-day review period ends on October 17, 2006. We have reviewed the proposed Straban Township Act 537 Plan Update and offer the following comments:

A. Consistency with Straban Township Comprehensive Plan: As submitted, the draft Straban Township Act 537 Plan Update is generally consistent with the recently adopted Straban Township Comprehensive Plan, particularly with respect to the land use and utilities provision elements. Both documents address the potential for the urbanization of much of Straban Township, particularly along the US Route 15 and US Route 30 corridors.

B. Consistency with Adams County Comprehensive Plan: As submitted, the draft Straban Township Act 537 Plan Update can not be considered to be consistent with the adopted Adams County Comprehensive Plan. In our advisory review of the Straban Township Comprehensive Plan, we indicated that the amount and location of growth and development envisioned significantly exceeds that envisioned for the Straban Township area in the County Plan. The draft Act 537 Plan seeks to demonstrate how future sewage needs of the area designated for development in the Township Plan. However, since these development areas dramatically exceed those envisioned in the County Plan, the provision of sewer treatment capacity in these areas, either publicly or privately provided, can not be considered to be consistent with the County Plan.

C. Privately Developed Central Sewer Systems: We agree with the Township's stated goal of discouraging "the proliferation of small, development specific, privately

owned and operated wastewater conveyance and treatment facilities.” We agree that such proliferation can result in poorly developed and managed systems that in turn can result in environmental damage and ineffective growth management. However, this goal is inconsistent with Alternative III (which the draft Plan states the Township will implement), which implies that some privately developed systems will be used. The best method for the Township to implement this appropriate goal would be to enact zoning ordinance provisions that limit development densities in the more rural areas of the Township to a degree where the permitted development can be accommodated through the use of on-lot systems. The draft Straban Township Zoning Ordinance does not use such techniques.

D. Sewer System Service Areas Map: We offer the following comments regarding the “Central Sanitary Sewer Systems – Existing and Proposed Service Areas” map.

1. **White Run 5-10 Year Service Area:** The map depicts a sizeable service area expansion along either side of Hoffman Road to the north of Hanover Road (PA Route 116). The service area includes two properties the County has preserved through the purchase of agricultural easements. These properties will not be developed and should be removed from the service area. Further, the service area include a small area of within the National Park boundary, also which will not be developed and should be removed from the service area.
2. **Gettysburg Municipal Authority 5-10 Year Service Area:** The map depicts a sizeable service area expansion in an area bounded by US Route 15 to the east, PA Route 16 to the south, and Old Harrisburg Road to the north and east. We do not necessarily object to this proposed service area expansion, although we note that the service area includes the Lady Farm, which has been preserved through a conservation easement held by the Gettysburg Battlefield Preservation Association. This property should be removed from the proposed service area.
3. **Portrayal of Existing and Proposed Systems:** The map depicts several of the larger proposed, privately developed sewer systems, as well as the larger existing public systems. However, it does not portray all existing or proposed systems. The existing Shriver’s Corner systems, and the new system for the Plank’s Field development, are not shown. Further, other developments have been conceptually proposed, but which do not appear on the map. The locations of these major development proposals should be provided for reference purposes.
4. **PA Route 116 – South Side:** We note that the south side of PA Route 116 is not included in a proposed future sewer system area. We support the exclusion of this area from a proposed service area. However, we note that the draft Straban Township Zoning Ordinance includes this area in a zoning district that would allow relatively high residential development densities. We have recommended against this zoning approach in review correspondence regarding the draft Zoning Ordinance. We continue to recommend against this approach, and believe that this area should be placed in a conservation oriented zoning district. The

adjustment would result in a higher degree of consistency between the Adams County Comprehensive Plan, the draft Straban Township Zoning Ordinance, and the draft Act 537 Plan.

Overall Concern and Summary: We have identified several concerns with regard to the proposed Act 537 Plan, particularly with regard to inconsistency with regard to adopted goals and recommendation of the Adams County Comprehensive Plan. But, this issue aside, the Office of Planning and Development continues to express concern regarding the dramatic, potential urbanization of Straban Township. The draft Act 537 Plan represents another "step" by which widespread development may occur. We must recommend that the Township and related local and state agencies (in particular, with regard to the draft Act 537 Plan, the Pennsylvania Department of Environmental Protection) review this work in the context of the potential impact that widespread development will have. This Office is concerned with issues such as transportation needs, community facilities needs, water supply, and environmental impacts. In particular, we are concerned that significant development in the headwaters of streams such as Rock Creek could have significant downstream flooding impacts. Every effort should be made to mitigate such impacts before they occur.

October 10, 2006

Adams County Office of Planning and Development
19 Baltimore Street, Suite 101
Gettysburg, PA 17325

Re: Act 537 Plan Comment Responses

Dear Mr. Schmoyer,

On behalf of the Straban Township Supervisors, we thank you for your comments on the Township's proposed Act 537 Plan.

The Act 537 Plan is a planning document focused specifically on the responsible management of domestic, commercial, and industrial wastewaters produced within Straban Township. These wastewaters are managed through the use of municipally owned and operated central treatment and conveyance facilities, privately owned and operated central treatment and conveyance facilities, on-lot treatment systems, and co-operation between municipalities to provide treatment and/or conveyance facilities.

When considering Straban Township, one must note that it has been traditionally an agricultural community, but due to its proximity to Gettysburg Borough and the presence of major transportation corridors (Route 30 and Route 15), the area has been experiencing significant growth pressures. The Act 537 Plan attempts to address existing and future needs for wastewater management within Straban Township as it grows.

The following are responses to your itemized comments from your letter dated October 2, 2006 and received by the Township Supervisors on October 2, 2006. Your original question is presented in italics and the response follows.

- A. *Consistency with Straban Township Comprehensive Plan: As submitted, the draft Straban Township Act 537 Plan Update is generally consistent with the recently adopted Straban Township Comprehensive Plan, particularly with respect to the land use and utilities provision elements. Both documents address the potential for the urbanization of much of Straban Township, particularly along the US Route 15 and US Route 30 corridors.*

Response: We agree with this comment. The Act 537 Plan was designed to work in concert with the Township's comprehensive Plan and the draft Zoning Ordinance.

- B. Consistency with Adams County Comprehensive Plan: As submitted, the draft Straban Township Act 537 Plan Update can not be considered to consistent with the adopted Adams County Comprehensive Plan. In our advisory review of the Straban Township Comprehensive Plan, we indicated that the amount and location of growth and development envisioned significantly exceeds that envisioned for the Straban Township area in the County Plan. The draft Act 537 Plan seeks to demonstrate how future sewage needs of the area designated for development in the Township Plan. However, since these development areas dramatically exceed those envisioned in the County Plan, the provision of sewer treatment capacity in these areas, either publicly or privately provided, can not be considered to be consistent with the County Plan*

Response: Since this is a Straban Township plan, the Act 537 Plan's consistency with the Township's recently adopted Comprehensive Plan was the goal. The Adams County Comprehensive Plan, adopted in 1991, foresees significant growth in Straban Township, but does not take into account the recent spike in development proposals throughout Adams County, apparently due to an increased migration of commuters from Maryland.

- C. Privately Developed Central Sewer Systems: We agree with the Township's stated goal of discouraging "the proliferation of small, development specific, privately owned and operated wastewater conveyance and treatment facilities." We agree that such proliferation can result in poorly developed and managed systems that in turn can result in environmental damage and ineffective growth management. However, this goal is inconsistent with Alternative III (which the draft plan states the Township will implement), which implies that some privately developed systems will be used. The best method for the Township to implement this appropriate goal would be to enact zoning ordinance provisions that limit development densities in the more rural areas of the Township to a degree where the permitted development can be accommodated through the use of on-lot systems. The draft Straban Township Zoning Ordinance does not use such techniques.*

Response: We feel that the use of large minimum lot sizes to discouraging private central wastewater system proposals would be less effective in Straban Township due to the significant soil restrictions for on-lot systems throughout the Township. The Township can not deny a private central sewer system proposal, so it has developed a method to deal with them when it must by accepting dedication of those proposed private facilities that have the ability to be expanded to serve adjoining areas.

- D. Sewer system Service Area Map: We offer the following comments regarding the "Central Sanitary Sewer Systems – Existing and Proposed Service Areas" map.*
- 1. White Run 5-10 Year Service Area: The map depicts a sizeable service area expansion along either side of Hoffman Road to the north of Hanover Road (PA Route 116). The service area includes two properties the County has preserved through the purchase of agricultural easements. These properties will not be developed and should be removed from the service area. Further, the service area include a small*

area of within the National Park boundary, also which will not be developed and should be removed from the service area.

Response: It is not possible for us to research the ownership/status of each parcel of land within each service area. The inclusion of preserved and/or public lands within a proposed future service area does not mean that these parcels will now be developed. These areas are a general guidance so that when a development proposal is submitted to the Township, the preferred sewer service provider for that property can be identified. We note that other areas of the Battlefield Park are served by central sewer systems due to failing on-lot systems. This could be a consideration in the future.

- 2. Gettysburg Municipal Authority 5-10 year Service Area: The map depicts a sizeable service area expansion in an area bounded by US Route 15 to the east, PA Route 116 to the south, and Old Harrisburg Road to the north and east. We do not necessarily object to this proposed service area expansion, although we note that the service area includes the Lady Farm, which has been preserved through a conservation easement held by the Gettysburg Battlefield Preservation Association. This property should be removed from the proposed service area.*

Response: See response to comment D. 1. above.

- 3. Portrayal of Existing and Proposed Systems: The map depicts several of the larger proposed, privately developed sewer systems, as well as the larger existing public systems. However, it does not portray all existing or proposed systems. The existing Shriver's Corner systems, and the new system for the Planks Field development, are not shown. Further, other developments have been conceptually proposed, but which do not appear on the map. The locations of these major development proposals should be provided for reference purposes.*

Response: It is not the purpose of this map to indicate the location of all the private central sewage treatment systems, existing and/or proposed. The only two private systems included are the Gettysburg Commons and Snyder development systems due to the relative size of the service area and the significant possibility that they will eventually be dedicated to the Township and become public systems. There is an exhibit included in the Act 537 Plan (Exhibit 4 – Wastewater Treatment Facilities) that depicts the location of the NPDES permitted facilities within Straban Township, as well as the major proposed private systems.

- 4. PA Route 116 – South Side: We note that the south side of PA Route 116 is not included in a future sewer service area. We support the exclusion of this area from a proposed service area. However, we note that the draft Straban Township Zoning Ordinance includes this area in a zoning district that would allow relatively high residential development densities. We have recommended against this zoning approach in review correspondence regarding the draft Zoning Ordinance. We continue to recommend against this approach, and believe that this area should be*

placed in a conservation oriented zoning district. The adjustment would result in a higher degree of consistency between the Adams County Comprehensive Plan, the draft Straban Township Zoning Ordinance, and the draft Act 537 Plan.

Response: As this comment seems to concern the draft Zoning Ordinance, we offer no response.

Overall Concern and Summary: We have identified several concerns with regard to the proposed Act 537 Plan, particularly with regard to inconsistency with regard to adopted goals and recommendations of the Adams County Comprehensive Plan. But, this issue aside, the Office of Planning and Development continues to express concern regarding the dramatic, potential urbanization of Straban Township. The draft Act 537 Plan represents another "step" by which widespread development may occur. We must recommend that the Township and related state and local agencies (in particular, with regard to the draft Act 537 Plan, the Pennsylvania Department of Environmental Protection) review this work in the context of the potential impact that widespread development will have. This Office is concerned with issues such as transportation needs, water supply, and environmental impacts. In particular, we are concerned that significant development in the headwaters of streams such as Rock Creek could have significant downstream flooding impacts. Every effort should be made to mitigate such impacts before they occur.


Response: The Straban Township Act 537 Plan, first and foremost, must be consistent with the Township's Comprehensive Plan and Zoning Ordinance. We feel that this plan is consistent with these Township documents. The Adams County Comprehensive Plan, adopted in 1991, did not foresee the development pressure that has been present throughout Adams County in the last several years. The Township can not rely on sixteen year old projections to craft planning today. Growth is coming to the Gettysburg area and this growth will have the greatest impact on the surrounding townships. If this growth is inevitable, it is logical that the densest development be adjacent to Gettysburg Borough, where utilities and services are available. With the two dominant transportation corridors in the county intersecting in Straban Township, this trend toward urbanization should be anticipated, so that the necessary planning is in place.

The Act 537 Plan does not open up Straban Township to development, but it does, as it must, provide a plan to accommodate growth, if and when it does arrive. It does not propose any publicly financed expansion of sewage facilities to stimulate growth and development. The Plan offers tools that the Township can use to guide the expansion of wastewater facilities as development proposals are presented to the Township. By defining service areas, private facility proposals within these service areas are discouraged.

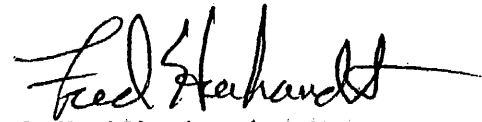
As far as development impacts on stream flooding, we see no relationship between this and the Act 537 Plan. Storm water management would be more relevant to these concerns.

We thank you again for your comments on Straban Township's Act 537 Plan. Your comments and these responses will be made part of the Plan and submitted to the Department of Environmental Protection for review.

Respectfully submitted,
Wm. F. Hill & Assoc., Inc.



William F. Hill, P.E.
President



P. Fred Heerbrandt, P.E.
Environmental Engineer

cc: Straban Township Supervisors



Pennsylvania Department of Environmental Protection

909 Elmerton Avenue
Harrisburg, PA 17110-8200

April 26, 2007

Southcentral Regional Office

717-705-4707

FAX - 717-705-4830

Straban Township Supervisors
c/o Jean A Hawbaker, Secretary
1745 Granite Station Road
Gettysburg, PA 17325

Re: Act 537 Planning
APS ID No. 604393
DEP Code No. E1-01929-ACT
Straban Township, Adams County

Ladies and Gentlemen:

The Department of Environmental Protection (Department) reviewed your Act 537 Official Sewage Facilities Plan (Plan) dated July 2006 and prepared by William F. Hill & Associates, Inc. We have determined that it is incomplete for the following reasons (categorized by 537 Plan Checklist topics):

I. Previous Wastewater Planning

The Plan fails to identify, describe and briefly analyze all past wastewater planning that 1) has not been carried out according to an approved implementation schedule contained in the plans and 2) has been accomplished through planning modules for new land development, planning exemptions, and addenda. Include information to address the following:

- a. What is the status of the Rte 30 sewer project? Include an updated implementation schedule with milestone dates for construction.
- b. What is the implementation status of the onlot sewage disposal system management program for the Route 30 corridor? Include a report of the program's progress indicating how many systems have been pumped and inspected and whether or not any onlot system malfunctions were identified.

II. Physical and Demographic Analysis Utilizing Written Description and Mapping

1. The Plan states the northern section of the township drains to the Susquehanna and the Southern and Western sections drain to the Potomac. The Plan must specifically identify the drainage basins that drain to each. Also, none of the maps identify the streams by name. This must be done on at least one of the maps.



2. The Plan fails to provide a map depicting the geologic features of the township. The Plan fails to identify, through analysis, the relation between geologic features and existing or potential nitrate-nitrogen pollution. The Plan must discuss whether or not there appears to be a correlation between elevated nitrate-nitrogen levels in the ground water and the identified geologic features. The Plan must identify *areas* where existing nitrate-nitrogen levels are in excess of 5mg/L. The 1/4-mile radius circles may not represent the complete extent of the elevated nitrate areas.
3. The Plan fails to identify, through mapping, the public water supply service areas. It appears from the text description, Exhibit 8 (sewer service areas) does not depict (completely) the public water service areas. The Plan fails to identify the public water supply capacity.
4. The Plan fails to identify wetlands by description, analysis, and mapping. The description on page 18 is not adequate to address this requirement.

III. Existing Sewage Facilities in the Planning Area - Identifying the Existing Needs

1. The Plan fails to provide a map of the existing sewerage facilities (other than the approximate location of the wastewater treatment facilities). The map must indicate the location of main intercepting lines, force mains and pump stations.
2. The Plan fails to provide information from Chapter 94 reports submitted for public facilities located in and/or serving the township. This information must be incorporated into a discussion of remaining reserve capacity and the policy concerning the allocation of reserve capacity. The Plan also fails to discuss the compatibility of the rate of growth to existing and proposed wastewater treatment facilities. Will facilities (Hunterstown for example) need to be expanded? What are the limitations (if any) to necessary expansions?
3. The Plan identifies at least two private facilities that are, by definition, small- flow treatment facilities (<2,000 GPD). (What is the capacity of the "Biggerstaff Restaurant" facility?) The Plan fails to provide a detailed description of the township's operation and maintenance requirements for these systems. Are these systems controlled by a sewage management program?
4. The Plan fails to identify the types of onlot systems in use in the township. Furthermore, the Plan fails to provide a comparison of the types of onlot systems installed in an area with the types of systems that are appropriate for the area according to soil geologic conditions, topographic limitations, sewage flows, and Title 25, Chapter 73.
5. The Plan fails to provide an assessment of existing sewage disposal needs in accordance with the Act 537 Sewage Disposal Needs Identification manual. Using the classification system provided in the manual, the onlot sewage disposal systems surveyed for the needs analysis must be categorized as potential, suspected or confirmed malfunction or "no malfunction" as appropriate.

6. Why does Table 5 (located just before page 41 in the Plan) "begin" in 1999? Are earlier records of repair or replacement permits unavailable? If so, why?
7. The Plan incorrectly states on page 38 that "Nitrate nitrogen in the groundwater is also used to indicate an improperly operating septic system...". In fact, properly operating onlot sewage disposal systems produce nitrate-nitrogen. Elevated nitrate nitrogen levels in the groundwater indicate it will be necessary to implement provisions to control the density of future developments proposing to utilize onlot sewage disposal systems.
8. The Plan fails to identify sources of wastewater sludge and septage generation, and methods of transportation and disposal. The Plan also must identify quantities of sludge and septage generated and the capacities of sludge and septage disposal sites.

IV. Future Growth and Land Development

1. It is our understanding that the township recently adopted a revised zoning ordinance which dramatically changes land use designations compared to previous zoning. Is this Plan consistent with the revised ordinance and zoning map? The Plan fails to discuss zoning or subdivision regulations that regulate lot sizes based on sewage disposal methods.
2. The Plan fails to delineate and describe through map, text and analysis the name, location, description of existing development or plotted subdivisions, total number of EDUs in development, total number of EDUs currently developed, and total number of EDUs remaining to be developed. Proposed developments listed in the text (Table 4, pages 30 and 31) do not appear to be fully presented on Exhibit 8. The map entitled "GMA Sanitary Sewer Service Area - Existing and Future" (Appendix volume) also appears to indicate proposed developments that do not appear on Exhibit 8. Please clarify and correct as necessary. The Plan also must provide a time schedule for the remaining EDUs to be developed.
3. The Plan fails to provide a comparison of proposed land use as allowed by (current) zoning and existing sewage facility planning. The Plan also fails to provide EDU projections for future growth areas based on potential build-out allowable under most recent zoning.
4. Exhibit 8 depicts two 5-10 year service areas. Otherwise, the plan fails to identify clearly defined five and ten year growth areas.
5. The Plan fails to adequately address the nitrate-nitrogen groundwater contamination problem documented by the well samples. The Plan must state that planning exemptions (25 Pa. Code, Section 71.51) and exceptions (Section 71.55) may not be used in the 1/4 mile radius circles indicated on Exhibit 9. New land development plans proposing to use onlot sewage disposal systems in these areas must be accomplished in accordance with the requirements of Section 71.62 (regarding preliminary hydrogeologic evaluations).

6. The Plan appears to lack a clearly defined commitment to achieve the stated "Goal #2" (page 51) - "to discourage the proliferation of small, development specific privately owned and operated wastewater conveyance and treatment facilities within the Township". The Plan indicates the township will require all such facilities to be *offered* for dedication to the township prior to conveyance to a third party for ownership and operation. The Plan does not state that the township will *accept* dedication of all such facilities. How will the township decide whether or not they will accept dedication of the facility? Is the goal to discourage the proliferation of "small development specific wastewater conveyance and treatment facilities" generally, or only such facilities that are privately held?
7. At what point does a small, development specific sewer system become a "central" sewer system? For example, page 54 refers to the Snyder development proposal as a "central sewer system". Generally a number of small, development specific sewer systems is regarded as "decentralized". What is the plan for the ultimate disposition of these facilities? Does the township intend to own and operate, say, six separate "decentralized" facilities, or is the plan to consolidate the sewage flow to one or more "central" facilities and decommission the other facilities as necessary? With regard to the Gettysburg Commons system - page 54 implies this system will be dedicated (not just offered for dedication) to the township. Has the township formally accepted this dedication?

V. Identify Alternatives to Provide New or Improved Wastewater Disposal Facilities

1. The Plan identifies the New Chester Village area as one with a significant concentration of small lots (page 40). Also, the Plan acknowledges that: "Areas requiring continued scrutiny are more related to areas where small lots are concentrated. This is mostly due to the inability to replace a failing septic system due to area constraints." The Plan fails to provide sufficient information to support the conclusion that the long-term sewage disposal needs of this area can be addressed with a sewage management program. Although a sewage management program is effective in helping to assess the condition of onlot systems and to extend the life of a functioning onlot system, it cannot provide resolution for onlot system failures when the soil is unsuitable or the lot is too small to allow for a repair that meets current regulations. In order for continued use of individual OLDS to be considered an acceptable long-term alternative, the Plan must demonstrate that the lots are generally large enough (including isolation distance requirements) and the soils generally suitable to allow for repairs or replacements that meet current regulations. The Plan fails to do this for the New Chester Village area. To propose the use (by default) of best technical guidance repairs or holding tanks to address the future disposal is unacceptable. Therefore, the Plan fails to provide for the future disposal needs of this area of the township.
2. Table 2 identifies a significant number of "greywater" discharges to the surface of the ground. Greywater (laundry, bath or sink water) is regarded as sewage in the Commonwealth of Pennsylvania. 25 Pa Code, Chapter 73 requires that greywater be discharged to a treatment tank. The township's Sewage Enforcement Officer must take actions to abate these discharges. The Plan fails to contain an implementation schedule for these actions. The Plan also fails to analyze or discuss an appropriate method for eliminating these discharges.

Simply connecting the discharges into the existing onlot sewage disposal system is frequently not an effective long-term solution as the increased hydraulic load may overtax the ability of the soil to absorb it. The Plan fails to provide for the resolution of these existing sewage disposal problems.

3. Table 2 also identifies a number of other "Signs of Malfunctions" that indicate serious problems - "Wetness/Spongy Areas" or "Water Ponding or Surfacing". The same concerns expressed in Comment 2 apply.
4. The Plan fails to discuss the use of retaining tank (privies or holding tanks) alternatives on a temporary or permanent basis. Does the township have an ordinance or ordinances to provide for and control the management of these alternatives? If so, copies of the ordinances must be included in the Plan. If not, the Plan must discuss the restrictions imposed by not providing for these alternatives.
5. The Plan fails to discuss and analyze the potential use of community land disposal alternatives (including spray irrigation) or the use of small flow treatment facilities or package treatment facilities to serve individual homes or clusters of homes. The Plan also fails to discuss the use of innovative/alternative methods of collection/conveyance to serve needs areas using existing wastewater treatment facilities.
6. The Plan must discuss and analyze (as the Plan recommends on page 55) - "ways to encourage facility owners and operators to ground apply treated wastewater to supplement groundwater supplies as opposed to discharging it to surface waters". Drip and spray irrigation would be two methods that would be consistent with this. Indeed this would be in concert with the Plans "Goal #3".
7. The Plan fails to provide a copy of the Sewage Management Ordinance adopted by the township for the Route 30 Corridor Area. We assume this is the ordinance that will be used to administer the proposed Onlot Management Program for the remainder of the township. The Plan must provide additional information with regard to implementation of the program at a township-wide level. Will the township be broken into "Sewage Management Districts"?
8. As a point of clarification - preliminary hydrogeologic studies are required in accordance with 25 Pa. Code, Section 71.62 whether or not the township adopts an ordinance to require them (page 47).

VI. Evaluation of Alternatives

1. The Plan fails to analyze the need for immediate or phased implementation of the proposed alternatives. This includes a description of any activities necessary to abate critical public health hazards (such as the numerous malfunctions identified in Table 3). This also includes a discussion or description of the township's timetable for accepting dedication of small, private sewer systems.

2. The Plan fails to discuss any financing that may be necessary to implement the chosen alternatives. Will the township incur no costs as they accept the dedication of the small, private sewer systems? What about financing for projects necessary to address the existing sewage disposal needs of the township clearly identified but not acknowledged in the Plan.

VII. Institutional Evaluation

The Plan fails to provide a meaningful evaluation of the administrative and institutional requirements necessary to achieve the Plan's stated "Goal #2". Page 56 states: "if a central sewage collection and treatment system is dedicated to the township there will be some additional measures necessary to administer, operate, and maintain these facilities". In order to implement Goal #2, it appears the township will have to accept dedication of these facilities. Therefore, it seems incongruous to state: "if a central sewage ...system is dedicated to the township...". The Plan must identify and evaluate what the options are to institute the "additional measures" and whether or not the township has the ability to administer them. The Plan must also provide justification for choosing the specific institutional alternative considering administrative issues, organizational needs, and enabling legal authority.

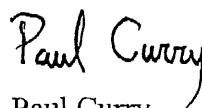
In summary, Section 71.11 of 25 Pa. Code requires that official plans "provide for the resolution of existing sewage disposal problems, provide for the future sewage disposal needs of new land development and provide for the future sewage disposal needs of the municipality". It is our determination that the Plan fails to contain sufficient information to demonstrate that the chosen alternatives can adequately provide for the resolution of existing sewage disposal problems and provide for the future disposal needs of the municipality and new land development.

The deficiencies identified in this letter must be addressed and the requested information submitted to the Department within 180 days of the date of this letter. Do not submit piecemeal information. Failure to respond during this time frame may result in Departmental action to disapprove your currently incomplete plan submission.

The 120-day review period will restart when we are in receipt of a complete plan submission. Please submit three complete copies of the information package.

If you have any questions concerning this letter, please call me at 717-705-4766.

Sincerely,



Paul Curry
Sewage Planning Specialist
Water Management Program

cc: William F. Hill & Associates, Inc.
Gettysburg Municipal Authority
Adams County Office of Planning and Development



November 5, 2007

Paul Curry
Water Management Program
PA Department of Environmental Protection
909 Elmerton Avenue
Harrisburg, PA 17110-8200

Re: Act 537 Plan Comment Responses
Straban Township, Adams County, PA

Dear Mr. Curry,

On behalf of the Straban Township Supervisors, we are responding to your comments on the proposed Straban Township Act 537 Plan, contained in your letter dated April 26, 2007. Your comments are shown in italics with our responses following.

I. Previous Wastewater Planning

The plan fails to identify, describe, and briefly analyze all past wastewater planning that 1) has not been carried out according to an approved implementation schedule contained in the plans and 2) has been accomplished through planning modules for new land development, planning exemptions, and addenda. Include information to address the following:

- a) *What is the status of the Rte 30 sewer project? Include an updated implementation schedule with milestone dates for construction.*

The Route 30 sewer project is proceeding. An updated implementation schedule for the project is now included in the Plan, with a substantial completion date of November 1, 2008.

- b) *What is the implementation status of the on-lot sewage disposal system management program for the Route 30 corridor? Include a report of the program's progress indicating how many systems have been pumped and inspected and whether or not any onlot system malfunctions were identified.*

The on-lot Septic Management Program for the Route 30 Corridor is fully implemented. The first round of tri-annual pumpings and inspections are complete. No malfunctions or repairs were discovered as a result of these initial inspections. Information to this extent is now included in the Plan and the Appendix.

II. Physical and Demographic Analysis Utilizing Written Description and Mapping

1. *The plan states the northern section of the township drains to the Susquehanna and the Southern and Western sections drain to the Potomac. The Plan must specifically identify the drainage basins that drain to each. Also, none of the maps Identify the streams by name. This must be done on at least one of the maps.*

A map exhibit which labels the rivers and streams within the Township, as well as indicating the divide between the Potomac River basin and the Susquehanna River basin, is now included in the Plan.

2. *The Plan fails to provide a map depicting the geologic features of the township. The Plan fails to identify, through analysis, the relationship between geologic features and existing or potential nitrate-nitrogen pollution. The plan must discuss whether or not there appears to be a correlation between elevated nitrate nitrogen levels in the groundwater and the identified geologic features. The Plan must identify **areas** where existing nitrate-nitrogen levels are in excess of 5 mg/l. The ¼ mile radius circles may not represent the complete extent of the elevated nitrate areas.*

A map is now provided that illustrates the underlying geologic features within the Township. The area of the diabase dykes within the Township is now included within the areas that will require a hydrogeologic study due to the limited groundwater movement within these features, as well as those areas within ¼ mile of a well which tested for nitrates above 5 mg/l. No pattern was observed that identified an area of concern for nitrate groundwater pollution from the random well sampling.

3. *The Plan fails to identify through mapping, the public water supply service areas. It appears from the text description, Exhibit 8 (sewer service areas) does not depict (completely) the public water service areas. The Plan fails to identify the public water supply capacity.*

Public water within Straban Township is supplied by the Gettysburg Municipal Authority's system. Public water supply capacity is expanded as the GMA system is expanded. A proposal to add a significant number of users or volume of use, are required, by GMA policy, to provide a new water source, such as a well and possibly a standpipe. This is determined by GMA at the time a development proposal is submitted. Confirmation from GMA that capacity is available for a proposal is required during the preliminary plan process. A map clearly indicating the existing public water service area is provided.

4. *The Plan fails to identify wetlands by description, analysis, and mapping. The description on page 18 is not adequate to address this requirement.*

Additional mapping has been provided.

III. Existing Sewage Facilities in the Planning Area – Identify the Existing Needs

- 1. The Plan fails to provide a map of the existing sewage facilities (other than the approximate location of the wastewater treatment facilities). The map must indicate the location of main intercepting sewers, force mains, and pump stations.*

The map has been revised to show pumping stations, forcemains, and interceptor lines.

- 2. The Plan fails to provide information from the Chapter 94 reports submitted for public facilities located in and/or serving the township. This information must be incorporated into a discussion of remaining reserve capacity and the policy concerning the allocation of reserve capacity. The Plan also fails to discuss the capability of the rate of growth to existing and proposed wastewater treatment facilities. Will facilities (Hunterstown for example) need to be expanded? What are the limitations (if any) to necessary expansions?*

A discussion of the reserve capacity at the three public treatment facilities that serve a portion of Straban Township is now included in the Plan. Additionally a copy of the Chapter 94 Reports for these three facilities is included in the Appendix. GMA has a proposed Act 537 Plan that plans an expansion of the Gettysburg WWTF to provide capacity for growth in Straban Township. No expansion of Hunterstown WWTF is proposed.

- 3. The Plan identifies at least two private facilities that are, by definition, small-flow treatment facilities (<2000 GPD). (What is the capacity of the “Biggerstaff Resaturant” facility?) The Plan fails to provide a detailed description of the township’s operation and maintenance requirements for these systems. Are these systems controlled by a sewage management program?*

All private treatment facilities with a surface discharge permit (NPDES) are required to forward a copy of their monthly Discharge Monitoring Report (DMR) to the Township for review. All new facilities will be required to meet minimum construction and materials standards and will enter into an Operation and Maintenance Agreement with the Township. Unfortunately, these existing facilities do not have these existing controls. The hydraulic capacity of the Biggerstaff facility is 10,000 gpd.

- 4. The Plan fails to identify the types of onlot systems in use in the township. Furthermore, the plan fails to provide a comparison of the types of onlot systems installed in an area with the types of systems that are appropriate for the area according to soil geologic conditions, topographic limitations, sewage flows, and Title 25, Chapter 73.*

5. *The Plan fails to provide an assessment of existing sewage disposal needs in accordance with the Act 537 Sewage Disposal Needs Identification manual. Using the classifications system provided in the manual, the onlot sewage disposal systems survey for the needs analysis must be categorized as potential, suspected or confirmed malfunction or “no malfunction” as appropriate.*

The needs analysis now utilizes the classification system from the *Act 537 Sewage Disposal Needs Identification* guidance document. The categories are indicated in Table 2 and discussed in the Needs Analysis section of the Plan.

6. *Why does Table 5 (located just before page 41 in the Plan) “begin” in 1999? Are earlier records of repair or replacement permits unavailable? If so, why?*

The table begins in 1999 because our request to the SEO was for on-lot system repair permits issued in the past 10 years. We felt that this was sufficient to characterize the condition of the on-lot systems within the Township when combined with the random on-lot system survey conducted as a part of this plan.

7. *The Plan incorrectly states on page 38 that “Nitrate nitrogen in the groundwater is also used to indicate an improperly operating septic system...” In fact, properly operating onlot sewage disposal systems produce nitrate nitrogen. Elevated nitrate nitrogen levels in the groundwater indicate it will be necessary to implement provisions to control the density of future developments proposing to utilize onlot sewage disposal systems.*

The referenced statement has been revised to state that elevated nitrate in a potable well can indicate that the system and well were not sited correctly and the effluent plume is contaminating the potable water.

8. *The Plan fails to identify sources of wastewater sludge and septage generation, and methods of transportation and disposal. The Plan must identify quantities of sludge and septage generated and the capacities of sludge and septage disposal sites.*

The plan now includes a discussion of the sources and disposal practices for sewage sludge and septage.

IV. Future Growth and Land Development

1. *It is our understanding that the township recently adopted a revised zoning ordinance which dramatically changes land use designations compared to previous zoning. Is this plan consistent with the revised ordinance and zoning map? The Plan fails to discuss zoning or subdivision regulations that regulate lot sizes based on sewage disposal methods.*

The new Straban Township Zoning ordinance was drafted to be consistent with the adopted Comprehensive plan. It is not significantly different, except in terminology and the use of cluster development to preserve open space. Further discussion is now included in the Plan.

- The Plan fails to delineate and describe through map, text, and analysis the name, location, description of existing developments or plotted subdivisions, total number of EDU's in development, total number of EDUs currently developed, and total number of EDUs remaining to be developed. Proposed developments listed in the text (Table 4, Page 30 and 31) do not appear to be fully presented on Exhibit 8. The map entitled "GMA Sanitary Sewer Service Area – Existing and Future" (Appendix volume) also appears to indicate proposed developments that do not appear on Exhibit 8. Please clarify and correct as necessary. The Plan also must provide a time schedule for the remaining EDUs to be developed.*

A new map exhibit which shows the location of all proposed development projects that have submitted plans to Straban Township but have not completed construction. Table ___ summarizes the status of each of the development proposals shown on the exhibit. The map included in the appendix which is referenced in this comment is unrelated to this subject and is included only as an exhibit attached to the agreement executed between Straban Township and GMA.

- The Plan fails to provide a comparison of proposed land use as allowed by (current) zoning and existing sewage facility planning. The plan also fails to provide EDU projections for future growth areas based on potential build-out allowable under most recent zoning.*

The plan now contains further discussion of future growth based on the new Township zoning.

- Exhibit 8 depicts two 5-10 year service areas. Otherwise the Plan fails to identify clearly defined five and ten year growth areas.*

The two 5-10 year service areas shown on Exhibit 8 are where Straban Township expects the existing GMA service area and White Run service area to expand within the next 10 years. Additionally two large proposed residential developments are shown where sewers are anticipated to be installed with their own treatment facilities. The extension of sewer facilities to other areas of the Township is not anticipated within the next 5 to 10 years.

- The Plan fails to adequately address the nitrate-nitrogen groundwater contamination problem documented by the well samples. The Plan must state that planning exemptions (25 PA Code, Section 71.51) and exceptions (Section 71.55) may not be used in the ¼ mile radius circles indicated on Exhibit 9. New land development plans proposing to use onlot sewage disposal systems in these areas must be accomplished in accordance with the requirements of Section 71.62 (regarding preliminary hydrogeologic evaluations).*

Additional discussion concerning the requirement for hydrogeologic studies and the use of planning exemptions and exceptions is included in the Plan.

- 6. The Plan appears to lack a clearly defined commitment to achieve the stated “Goal #2” (page 51) – “to discourage the proliferation of small, development specific privately owned and operated wastewater conveyance and treatment facilities within the Township”. The Plan indicates the township will require all such facilities to be offered for dedication to the township prior to conveyance to a third party for ownership and operation. The plan does not state that the township will accept dedication of all such facilities. How will the township decide whether or not they will accept dedication of the facility? Is the goal to discourage the proliferation of small development specific wastewater conveyance and treatment facilities generally or only such facilities that are privately held?*

Additional discussion concerning the offering of dedication of all new, private wastewater treatment facilities is included in the Plan.

- 7. At what point does a small, development specific sewer system become a central sewer system? For example, page 54 refers to the Snyder development proposal as a central sewer system. Generally, a number of small, development specific sewer systems is regarded as decentralized. What is the plan for the ultimate disposition of these facilities? Does the township intend to own and operate, say, six separate decentralized facilities, or is the plan to consolidate the sewage flow to one or more central facilities and decommission the other facilities as necessary? With regard to the Gettysburg Commons system – page 54 implies this system will be dedicated (not just offered for dedication) to the township. Has the township formally accepted dedication?*

The use of the word “central” was not meant within the classic meaning of the word, relative to wastewater facilities. Central was meant to convey the fact that these facilities would serve areas outside of the land development project for which they were designed. The text has been revised to better convey this idea.

V. Identify Alternatives to provide New or Improved Wastewater Disposal Facilities

- 1. The Plan identifies the New Chester Village area as one with a significant concentration of small lots (page 40). Also, the Plan acknowledges that: “Areas requiring continued scrutiny are more related to areas where small lots are concentrated. This is mostly due to the inability to replace a failing septic system due to area constraints.” The Plan fails to provide sufficient information to support the conclusion that the long term sewage disposal needs of this area can be addressed with a sewage management program. Although a sewage management program is effective in helping to assess the condition of onlot systems and to extend the life of a functioning onlot system, it cannot provide resolution for onlot failures when the soil is unsuitable or the lot is too small to allow for the repair that meets current regulations. In order for continued use of individual OLDS to be considered an acceptable long term alternative, the Plan must demonstrate that the lots are generally large enough (including isolation distance requirements) and the soils*

generally suitable to allow for repairs or replacements that meet current regulations. The Plan fails to do this for the New Chester Village area. To propose the use (by default) of best technical guidance repairs or holding tanks to address the future is unacceptable. Therefore, the plan fails to provide for the future disposal needs of this area of the township.

Further discussion of the New Chester Village area is now included in the plan.

- 2. Table 2 identifies a significant number of “graywater” discharges to the surface of the ground. Graywater (laundry, bath, or sink water) is regarded as sewage in the Commonwealth of Pennsylvania. 25 PA Code, Chapter 73 requires that graywater be discharged to a treatment tank. The township’s Sewage Enforcement Officer must take actions to abate these discharges. The Plan fails to analyze or discuss an appropriate method for eliminating these discharges. Simply connecting the discharges into the existing onlot sewage disposal system is frequently not an effective long-term solution as the increased hydraulic load may over tax the ability of the soil to absorb it. The Plan fails to provide for the resolution of these existing sewage disposal problems.*

A plan to further investigate these discharges and correct them, as well as the signs of malfunctions is now included in the Plan.

- 3. Table 2 also identifies a number of other “signs of malfunction” that indicate serious problems “wetness/spongy areas” or “water ponding or surfacing”. The same concerns expressed in Comment 2 apply.*

See the response above.

- 4. The Plan fails to discuss the use of retaining tank (privies or holding tanks) alternatives on a temporary or permanent basis. Does the township have an ordinance or ordinances to provide for and control the management of these alternatives? If so, copies of the ordinances must be included in the Plan. If not, the Plan must discuss the restrictions imposed by not providing for these alternatives.*

A discussion of retaining tank alternatives is now included in the plan. The existing Holding Tank Ordinance is included in the Plan Appendix.

- 5. The Plan fails to discuss and analyze the potential use of community land disposal alternatives (including spray irrigation) or the use of small flow treatment facilities or package treatment facilities to serve individual homes or clusters of homes. The Plan also fails to discuss the use of innovative/alternative methods of collection/conveyance to serve needs areas using existing wastewater treatment facilities.*

A discussion of these alternatives is now included within the Plan.

- 6. The Plan must discuss and analyze (as the Plan recommends on page 55)- “ways to encourage facility owners and operators to ground apply treated wastewater to supplement groundwater supplies as opposed to discharging it to surface waters”. Drip and spray irrigation would be two methods that would be consistent with this. Indeed this would be in concert with the Plan’s “Goal #3”.*

Additional discussion concerning the ground application of wastewater effluent is included in the Plan.

- 7. The Plan fails to provide a copy of the Sewage Management Ordinance adopted by the township for the Route 30 Corridor Area. We assume this is the ordinance that will be used to administer the proposed Onlot Management Program for the remainder of the township. The Plan must provide additional information with regard to implementation of the program at a township-wide level. Will the township be broken into “Sewage Management Districts”?*

A copy of the existing Septic Management Ordinance for the Route 30 Corridor is included in the Appendix. Additional discussion as to the expansion of this program throughout the Township is now included in the Plan.

- 8. As a point of clarification – preliminary hydrogeological studies are required in accordance with 25 PA Code, Section 71.62 whether or not the township adopts an ordinance to require them (page 47).*

No response required.

VI. Evaluation of Alternatives

- 1. The Plan fails to analyze the need for immediate or phased implementation of the proposed alternatives. This includes a description of any activities necessary to abate critical health hazards (such as the numerous malfunctions identified in Table 3). This also includes a discussion or description of the townships timetable for accepting dedication of small, private sewer systems.*

Further discussion of the implementation of the proposed alternatives is included in the Plan.

- 2. The Plan fails to discuss any financing that may be necessary to implement the chosen alternatives. Will the township incur no costs as they accept the dedication of the small, private sewer systems? What about financing for projects necessary to address the existing sewage disposal needs of the township clearly identified but not acknowledged in the Plan?*

Additional discussion as to the costs and financing of the proposed alternatives is included in the Plan.

VII. *Institutional Evaluation*

The Plan fails to provide a meaningful evaluation of the administrative and institutional requirements necessary to achieve the Plans stated "Goal #2". Page 56 states "if a central sewage collection and treatment system is dedicated to the township, there will be additional measures necessary to administer, operate, and maintain these facilities". In order to implement Goal #2, it appears the township will have to accept dedication of these facilities. Therefore, it seems incongruous to state "if a central sewage...system is dedicated to the township...". The Plan must identify and evaluate what the options are to institute the "additional measures" and whether or not the township has the ability to administer them. The Plan must also provide justification for choosing the specific institutional alternative considering administrative issues, organizational needs, and enabling legal authority.

As discussed in the Plan, only those private facilities that can be used to serve other areas of the Township or can be used to eliminate other private facilities will be accepted for dedication. The suitability of an individual facility will be evaluated prior to acceptance of dedication. At the time a facility is dedicated, it will have already been in operation for some time, while the development is built-out to a point where the operation and maintenance of the facility is supported fully by the users (and/or the developer). The creation of an authority to administer the facility and the acquisition of additional staff to operate the facility will be evaluated with the facility evaluation.

Three copies of the revised Act 537 Plan are attached for your review. If you have any further comments or questions, please contact this office.

Professionally yours,
Wm. F. Hill & Assoc., Inc.

William F. Hill, P.E.
President

P. Fred Heerbrandt, P.E.
Environmental Engineer

PLAN SUMMARY

The Straban Township Act 537 Plan has three goals:

Goal #1

To assure the continued efficient operation and management of on lot sewage disposal systems utilized in Straban Township.

Goal #2

To discourage the proliferation of small, development specific, privately owned and operated wastewater conveyance and treatment facilities within the Township.

Goal #3

To enhance, or prevent the degradation of, the quality and quantity of the water resources of Straban Township.

In order to meet these goals, multiple alternatives will be necessary.

The planning area for the Act 537 update can best be defined as the boundary lines of Straban Township. Located northeast of Gettysburg and centrally located in Adams County, Straban Township consists of 34.4 square miles or 22,016 acres of land.

Straban Township's landscape is dominated by rolling lowlands. Underlining the lowlands are Triassic age sedimentary rocks. There are two types of geologic units in the Triassic system

located within the Township. They are diabase and the Gettysburg Formation. The diabase formation runs from the southeastern corner of the Township along the eastern edge up to the Northeastern corner. Covering the rest of the Township is the Gettysburg Formation.

Straban Township has completed several sewage facility planning documents since 1971. Much of this planning has focused on the Route 30 corridor and the Lake Heritage area, since these are the areas within the Township with the highest density of development. The remaining area of the Township, dominated by agricultural uses, has maintained the status quo relative to sewage planning – continued use of on-lot sewage disposal systems.

Straban Township has revised their Comprehensive Plan. Following the Comprehensive Plan revision, the Township revised its Zoning Ordinance and began work on revisions to the Subdivision and Land Development Ordinance, in order to achieve the goals of the Comprehensive Plan.

As land and home prices spiral upward in the Metro-Washington area, and Frederick County and Frederick City deal with infrastructure issues, development pressure will continue within Adams County and Straban Township. This entire area is becoming a bedroom and retirement community for those working in the Frederick, MD – Washington DC corridor as well as those who work in Harrisburg, the Metro-Baltimore area, and southeast Pennsylvania.

The challenge for Straban Township will be to manage this explosive growth so that it does not degrade the character of the Township.

One of the main categories of focus in this study is public health needs. These needs are considered to be those health hazards and water pollution problems that involve discharging untreated or inadequately treated sewage to the surface of the ground or to the waters of the Commonwealth. Public health needs relating to sewage disposal can be determined by looking for potential malfunctioning on lot sewage disposal systems in Straban Township. The information gained from identifying potential malfunctions may be utilized to identify areas that are or could soon be experiencing public health problems.

For the Township-wide well sampling, 160 randomly selected improved properties were sampled out of the 800 improved properties within Straban Township. All wells sampled were analyzed for total and fecal coliforms as well as nitrate nitrogen. A well and septic survey form was also completed for each improved property that was sampled. The results of the well sampling and survey were used to identify needs areas within the Township, along with a review of geophysical limitations and repair histories for on-lot disposal systems. The needs analysis concluded that there are no identifiable existing needs for centralized sewers to serve areas with failing or potentially failing on-lot septic systems.

Although the Needs Analysis performed as a part of this Act 537 Sewage Facilities Plan Update did not identify any areas requiring the establishment or extension of public sanitary sewage facilities, there are administrative, management, operational, and oversight alternatives that can be utilized by Straban Township to enhance the existing and future sewage facilities. The Act 537 Plan identifies four alternatives to assist in meeting the stated goals of the study:

No Action Alternative

Due to the fact that no “Needs Areas” were identified in the Needs Analysis, it is estimated that short term impacts of implementing a No Action Alternative would be insignificant. With that being said, in order to meet the goals stated above, Straban Township must be proactive to avoid long term impacts resulting from implementation of a No Action Alternative

Alternative I – Continued Extension of Central Sewerage Service

In order to establish a framework for the expansion of central sewers within the Township, the Straban Township Supervisors negotiated and executed an agreement with Gettysburg Municipal Authority that divides the township into “drainage basins”. These “drainage basins” are areas that drain to a common location, defined by topography and roads. Any development within a defined drainage basin must investigate conveyance of wastewater to a sewerage system within the basin, if present. In an attempt to increase the Township’s control over sewage options within Straban Township, the Board of Supervisors established a policy requiring that all private sewage facilities proposed by developers within the Township shall be offered for dedication to Straban Township following construction.

Alternative II – On-Site Septic System Management

The majority of the existing population of Straban Township meet their wastewater disposal needs by the use of individual on-site septic systems. When properly designed

and maintained, these on-site systems can operate efficiently and reliably for many years. But without the proper maintenance, even a well designed system can fail after only a few years use. The key to confident reliability of these systems is the periodic removal of accumulated solids from the septic tank every two to three years. In order to reduce the probability of surface malfunctions and further access the condition of existing on-lot systems, a Township-wide on-site system maintenance program would be implemented.

Alternative III – Private Central Sewage Collection and Treatment Facilities

Although it is the desire of the Township to limit the proliferation of privately owned and operated central sewage systems, they do not have the state legislated authority to deny such proposals. Prior to constructing a private wastewater treatment facility, the developer shall be required to thoroughly evaluate all options for connecting to an existing wastewater treatment facility, whether publicly or privately operated, during preparation of a planning module. In order to exert some control over these types of proposals, the Township will place requirements on such systems to assure a well designed and operated facility is realized.

In order to meet the goals of this plan, multiple alternatives will be necessary. Straban Township will implement Alternatives I, II, and III, in an effort to achieve the goals of this Act 537 Plan. The existing administrative staff at Straban Township is adequate to manage the administration of the proposals selected within this Act 537 Sewage Facilities Plan. However, if a sewage collection and treatment system is dedicated to the Township, there will be some additional

measures necessary to administer, operated and maintain these facilities. These further measures will be further evaluated at the time the proposed dedication is evaluated.

PLAN IMPLEMENTATION SCHEDULE

Adopt Act 537 Plan	December, 2006
Submit Act 537 Plan to PA DEP	December, 2006
PA DEP Approval of Act 537 Plan	December, 2007
Revise On-Lot Septic System Maintenance Ordinance	May, 2008
Begin Septic System Inspections	August, 2008
Execute Agreement with Gettysburg Municipal Authority	April, 2006
Adopt Standard Specifications for Construction of Sewage Facilities	June, 2008
Adopt Well Ordinance	June, 2008
Adopt Groundwater Nitrate Ordinance	July, 2008

PREVIOUS WASTEWATER PLANNING

Straban Township has completed several sewage facility planning documents since 1971.

Much of this planning has focused on the Route 30 corridor and the Lake Heritage area, since these are the areas within the Township with the highest density of development. The remaining area of the Township, dominated by agricultural uses, has maintained the status quo relative to sewage planning – continued use of on-lot sewage disposal systems. The following is a summary of the past sewage facilities planning within the Township:

Feasibility Study for Wastewater Collection and Treatment for Lake Heritage and Surrounding Areas – 1971

This was a joint planning study for a central wastewater collection and treatment facility to serve the Lake Heritage residential development. Lake Heritage, developed in the 1960's, lies in Straban, Mount Joy, and Mount Pleasant Townships. The study proposed the construction of a public sewerage system to serve the Lake Heritage development and surrounding area.

Official Act 537 Plan – 1972

This plan encompassed the entire Township. Growth within the Township was projected to occur primarily along the Route 30 corridor between Gettysburg and US Route 15. The plan proposed an extension of the Gettysburg Municipal Authority's collection system to serve the Route 30 corridor to US Route 15. It also incorporated the previously developed Lake

Heritage Feasibility Study as part of the Townships Act 537 Plan. Areas outside of these two areas (Lake Heritage and West Route 30) were to be serviced by on-lot disposal systems

Official Act 537 Plan Revision – 1974

In 1973, PA DER notified Straban Township that the Township's Act 537 Plan would need to be revised to further evaluate the Route 30 Corridor east of US Route 15, the Hunterstown area, and the New Chester area. At the time this plan revision was being prepared, the concept of a regional wastewater treatment facility had gained popularity with the surrounding municipalities and the PA DER. As a result, this plan revision proposed a regional facility with collection and conveyance from the eastern Route 30 corridor and the area between Route 30 and Route 116 would be served by a regional treatment facility located along Rock Creek west of Route 15. The plan revision also proposed a central sewerage system for the Hunterstown area to be constructed by a developer that was contemplating a project in this area. The developer's project did not proceed, so this system was not constructed.

Gettysburg Area 201 Facilities Plan – 1976

As a result of the regional sewage facility concept being touted for the Gettysburg area, Gettysburg Municipal Authority (GMA) was asked by PA DER to revise their 201 Facilities Plan to include an expanded service area that included parts of Straban Township, Cumberland Township, Mount Joy Township, and Mount Pleasant Township. The purpose of this plan was to determine what type of regional facility would best meet the needs of this

expanded service area. The plan proposed a regional wastewater treatment facility located along Rock Creek west of US Route 15 with associate interceptor sewers.

US EPA Environmental Impact Statement – 1981

Due to concerns that the growth stimulated by the construction of a regional wastewater treatment facility would inversely impact the natural, historical and aesthetic resources of the area, the US EPA decided that an Environmental Impact Statement (EIS) was necessary prior to the implementation of GMA's 201 Facilities Plan, which was to be partially funded by EPA grants. The EIS did not favor a regional wastewater treatment facility. Instead it proposed an expansion of the Cumberland Township WWTF, GMA would expand their facility to accommodate the western Route 30 corridor, and a new sanitary sewage system would be constructed to serve the Lake Heritage development and surrounding areas.

Lake Heritage Area 201 Facilities Plan Update – 1982

As a result of the US EPA Environmental Impact Statement's conclusions, the Gettysburg Area 201 Facilities Plan was revised. The revised plan proposed the construction of a new sanitary sewer system to serve the Lake Heritage development and surrounding areas. The Lake Heritage Municipal Authority, since renamed the White Run Regional Municipal Authority, was formed jointly by Straban Township, Mount Joy Township, and Mount

Pleasant Township. The Authority completed construction of the sanitary sewer system in 1987.

Gettysburg Municipal Authority 201 Facilities Plan Update – 1983

This plan proposed the expansion of the GMA wastewater treatment facility to accommodate the western Route 30 section of Straban Township. As a result, the GMA facility was expanded to provide 140,000 gpd of treatment capacity to Straban Township. Straban Township then constructed a sanitary sewage collection system along route 30 between the Gettysburg Borough line and US Route 15. These facilities were put into operation by 1987.

Act 537 Plan Revision for the Development of Fair Fields and the Hunterstown Area – 1986

This plan revision required the developers of a project called Fair Fields to extend central sewers to the Hunterstown area as part of their sewer system construction project. The development was never constructed, therefore the associated sewer system was not constructed.

Act 537 Plan Revision for Route 30 Corridor from the Borough of Gettysburg to Centennial Road – 1988

This plan revision evaluated the future needs of the Route 30 corridor in Straban Township. With the regional treatment facility concept no longer practical, Straban Township was

evaluating new alternatives to serve this area. The plan proposed the continued use of GMA facilities to serve the western section of the study area, to US Route 15. It also proposed the formation of an authority and the construction of a wastewater treatment facility in Straban Township to treat wastewater generated within the eastern Route 30 corridor, from US Route 15 to Centennial Road. Due to the subsequent expansion of the GMA wastewater treatment facility, the plan's proposals were never implemented.

Act 537 Sewage Facility Plan Update for Route 30 Corridor – 2001

Due to the expansion of the GMA wastewater treatment facility, completed in 1998, Straban Township revised its Act 537 Plan to evaluate the use of treatment capacity within the expanded GMA facility to meet sewage needs of the Route 30 corridor. The plan proposed upgrades to the GMA conveyance facilities between the Borough and US Route 15 to accommodate projected year 2020 sewage flows, construction of collection and conveyance facilities from the GMA facilities to serve the Adams Commerce Center, southeast of the intersection of US Route 15 and Route 30, and extension of a collection system from the commerce center to the Flickinger Road area. Straban Township had acquired a \$ 5.5 million grant from the state to install the infrastructure to support the commerce center, so implementation of the plan proceeded quickly. Presently all of the proposed construction projects have been completed with the exception of the sewer extension between the commerce center and Flickinger Road area along Route 30. Design for this last project is complete and it is anticipated that construction will begin soon. The plan proposed the continued use of on-lot septic systems within the Route 30 corridor from the Flickinger Road

area to the Township line. This Act 537 Sewage Facility Plan was approved by PA DEP on September 13, 2002 and was referred to as the “2002 Revision” in subsequent reports.

As proposed in the Plan revision, an Onlot Septic Management Program was established for the Route 30 corridor area between the Flickinger Road area and the eastern Township line. The first round of pumpings was completed in late 2006 and the second round was begun earlier this year. Fifty one septic systems were pumped out and inspected with no malfunction identified.

The Route 30 public sewer extension is proceeding. The following is an updated implementation schedule for the project:

Advertise for Bids – October 26, 2007

Bids Due – November 30, 2007

Notice to Proceed – February 1, 2008

Construction Period – February 1 thru September 30, 2008

Substantial Completion – November 1, 2008

Sewage Facilities Planning Module – Hunterstown Area Sewage Facilities – December, 2000

This planning module addresses the sewage facility needs of the Adams County Facility Center and the Reliant Energy electric generation facility. The Adams County Facility Center includes the Adult Corrections Facility, the Emergency Management Training Center, and the Co-Composting Facility. Both developments are located along Granite Station Road in the

Hunterstown Village area. The Hunterstown Village area has a history of failing on-lot septic systems and contaminated wells. The planning module proposed a central sewer system and wastewater treatment facility, financed by the County and Reliant Energy, to serve these two developments as well as the Hunterstown Village Area. Construction of the sewerage system was completed in December, 2002 and the collection and treatment facilities were proposed to be dedicated to GMA, which currently owns and operates the system. This system is the only public sanitary sewerage system completely within Straban Township.

Act 537 Sewage Facilities Plan Update for Route 30 Corridor – 2004

PA DEP and Straban Township entered into a Consent Order and Agreement dated January 12, 2004 regarding sewage disposal associated with the Route 30 Corridor. The Agreement required the Township to submit a revision to its Official Sewage Facilities Plan associated with the Route 30 Corridor.

The plan revision reevaluated the Route 30 Corridor and recommended the service area east of the Adams County Commerce Center to a point about 900 feet east of Flickinger Road be served by a public sanitary sewer collection system extension using a combination of gravity sewers and low pressure sewers with grinder pumps. Areas east of this within the Route 30 Corridor to the Township line were to continue being serviced by individual on-lot septic systems.

A revised implementation schedule was provided in this plan revision, which was adopted on July 6, 2004.

Sewage Facilities Planning Module for Gettysburg Commons – 2005

The Gettysburg Commons development project proposed the construction of 1800 single family detached dwellings on approximately 650 acres. A privately owned and operated wastewater treatment facility was proposed to serve the wastewater disposal needs of this development, with a average daily flow of 270,000 gpd based on 150 gpd per dwelling unit. Provisions were included in the operation and maintenance agreement, between the developer and the Township, for the Township to accept dedication of the facility. The agreement calls for the facility to be dedicated to the Township on or before seven years from the date of the execution of the agreement. This facility would have design flexibility to accept wastewater flows from areas of need outside of the Gettysburg Commons development, with utility right of ways provided for in the approved subdivision plans. The Planning Module was approved by PA DEP by letter dated March 15, 2005.

COUNTY AND MUNICIPAL COMPREHENSIVE PLANS

Adams County Comprehensive Plan

The Adams County comprehensive plan, adopted December, 1991, plans for significant growth within Straban Township. The Land Use Plan foresees considerable commercial and industrial growth in Straban Township around the Route 30 Corridor near Route 15 and in the Hunterstown – Route 394 and Route 15 interchange area. The plan does not foresee the residential development pressure that is being experienced in Straban Township.

Most residential growth is projected near existing residential centers such as McSherrystown, Lake Heritage, Cross Keys, Bonneauville, Littlestown, and the Gettysburg – Cumberland Township area. This pattern is projected due to the existence of the infrastructure necessary to support this higher density development – central sewers and central water systems.

The Adams County Comprehensive Plan suggests a need for a central water and sewerage system for the area east of Route 15 along Route 30 including the Hunterstown - Shrivvers Corner area of Straban Township due to a history of malfunctions. As noted above, a central sewerage system was installed in the Hunterstown area.

Adams County is currently updating their Comprehensive Plan. Initiated in 2004, it is estimated that the new plan will be complete by 2008. As part of this update, the county prepared a report on growth and development in the county from 1990 to 2003. In this report the county identifies two potential development “Hot Spots” within Straban Township – the

Hunterstown Area and the Route 30 Corridor. These are identified due to the availability of central sewer and/or water systems.

Straban Township Comprehensive Plan

Straban Township has just completed a township-wide comprehensive plan, adopted May 2, 2005. The plan states that the location of development within the Township will be driven by the availability of public sewer and water, particularly for residential development. Currently, public sewer is available in the Lake Heritage – Route 116 area, Hunterstown area, and the Route 30 corridor. Since Straban Township has limited control over these systems, they have little control over the availability of treatment capacity or the extension of the collection system.

The Comprehensive Plan projects the possible construction of approximately 500 homes in the Township annually for the next 10 to 15 years. This was based on proposed developments and discussions with developers. This rate of growth could result in a Township population of over 14,000 by 2010. This would be a 300% increase over a 10-year period or about a 30% annual increase. Although the plan acknowledges the possibility for this explosive growth, it projects a more conservative 22% growth from 2000 to 2010.

To manage growth, the Straban Township Comprehensive Plan proposes revisions to the Zoning Ordinance and the Subdivision and Land Development Ordinance.

PHYSICAL AND DEMOGRAPHIC ANALYSIS

Planning Area, Municipal Boundaries, Sewer Authority/Management Agency

Service Area Boundaries

The planning area for the Act 537 update can best be defined as the boundary lines of Straban Township. Located northeast of Gettysburg and centrally located in Adams County, Straban Township consists of 34.4 square miles or 22,016 acres of land. Just positioned south of Route 234 is the northern border of the Township. The southern border falls just south of Route 116. Route 34 bounds the western boundary line of the Township and just northeast of New Chester to Lake Heritage is the eastern boundary line.

Currently, public sewer is available to properties located adjacent to Gettysburg Borough, in the Hunterstown area, and from White Run Regional Municipal Authority south of Route 116. Gettysburg Municipal Authority provides public sewer for the area along the Route 30 corridor up to Cavalry Field Road. Hunterstown wastewater treatment facility and collection system is currently being operated and maintained by Gettysburg Municipal Authority. Sanitary service lines for the Hunterstown plant are situated along Hunterstown-Hampton Road, Granite Station Road, and Red Bridge Road in the Hunterstown area. White Run Regional Municipal Authority provides sanitary sewer collection and treatment for Mt. Joy, Mt. Pleasant, and a small portion at the southern

edge of Straban Township. The area served by White Run Regional Municipal Authority is located just south of Hanover Road or Route 116 in the southeastern region of Straban Township. For more information regarding service areas see Exhibit 8 provided.

Physical Characteristics

Defining limiting physical characteristics aids in identifying areas that should be preserved, conserved or targeted for development. Wetlands, floodplains, and steep slopes are all types of physical characteristics that are to be persevered and kept undeveloped. Conserved lands are land types such as prime agricultural lands, woodlands, and historic areas. Areas not requiring conservation or preservation are suitable for development. Some lands may have factors that could potentially be less or more suitable for development than other lands.

Throughout the Township, low-lying areas along with rolling hills are intertwined with creeks and streams. In the northeastern part of the Township most of the creeks and streams drain to the Susquehanna River via the Conewago Creek. The southwestern section of the Township drains to the Potomac River via Rock Creek. This feature places a major watershed divide within the Township and can raise issues of interbasin transfers of water resources for developments near this divide. Partially covering the Township, floodplain areas associated with the streams are kept undeveloped due to risks of flooding and damage to structures. The Township's floodplains are delineated on FEMA maps provided in this report (Exhibit 1).

Soils

In the study area there are three soil associations for Straban Township according to the Adams County Soil Survey dated 2004. The three associations are Penn-Klinesville-Croton, Lehigh-Neshaminy, and Penn-Abbottstown-Readington. Penn-Klinesville-Croton soils are located on divided irregular valleys and hills associated with drainageways. Wavy and rolling hills to gently rolling to almost level lowlands make up the landscape of this soil association. The main use of this group of soils is as cropland or woodland. Penn-Klinesville-Croton are suitable for growing crops such as corn, soybeans, small grain, and hay. Penn and Klinesville soils have severe limitations with regard to on lot sewage disposal. The main limitation for these two is slope and the depth to bedrock. Croton soils also have severe limitation for on lot sewage disposal due to a high water table and very poor permeability.

Lehigh-Neshaminy soils are mainly situated in curved or extended areas adjacent to low lying lands. These soils can range from gentle slopes to very steep slopes. Found on ridge tops or on the sides of banks or slopes, Neshaminy soils are underlain by diabase bedrock and Lehigh soils are underlain porcelanite bedrock. Slope is the major limitation with the Lehigh-Neshaminy soil association. Due to high slopes, wetness, and depth to bedrock associated with this type soil, urban development and on lot sewage disposal is very restricted.

Penn-Abbottstown-Readington soils are located upland on separated irregular valleys, ridges, and hills. These soils provide a landscape that can range from nearly level slopes to rolling drainageways and depressions that can have ridges with steep slopes. These soils are underlain by red shale, siltstone, and sandstone. The main limitations of these soils respectively are depth to bedrock, slope, and wetness. Most urban development is fairly suited for these soils except for these limitations. On lot sewage disposal is very limited due to depth to bedrock and wetness.

The types of soils that are located at a site can have a significant impact on the suitability for on lot wastewater disposal. Table 6 shows the types of soils that are suitable and unsuitable for on lot sewage disposal. The information was taken from the Adams County Soil Survey, dated 2004. This table provides information about each individual soil type. It shows how limited a soil is for on lot sewage disposal and provides the nature and extent of the limitation by providing a value ranging from 0.01 to 1.00. A low number is not as severe as a high number with respect to the soil limitation. A map is also included in the plan showing soil types in Straban Township and its suitability for on lot sewage disposal (Exhibit 2).

Geologic Features

Straban Township's landscape is dominated by rolling lowlands. Underlining the lowlands are Triassic age sedimentary rocks. There are two types of geologic units in the Triassic system located within the Township. They are diabase and the Gettysburg

Formation. The diabase formation runs from the southeastern corner of the Township along the eastern edge up to the Northeastern corner. Covering the rest of the Township is the Gettysburg Formation.

Diabase is a long and narrow formation of igneous origin. The poorly fractured igneous rock formation typically occurs as strips ½ to 2 miles wide and 10's of miles long. Characteristics of the strata for diabase are medium to coarse grained, dark gray rock consisting mainly of plagioclase feldspar, pyroxene, and accessory magnetite. Areas underlain by diabase tend to have thin soils with abundant boulder fields and a high percentage of wetland areas along with a high density of small streams. This formation provides low groundwater supplies that are marginally adequate to inadequate for potable use. Water from this formation tends to be hard. The overall quality of the water as a potable supply is poor due to the shallow circulation system in the aquifer. Drilling through the diabase to deep underground water supplies also tends to be not potable due to characteristics that exceed drinking water standards for hardness, total dissolved solids, sulfate, iron, and manganese.

The Gettysburg Formation is composed of a red to brown, fine to coarse-grained quartz or sandstone with red shale and limestone conglomeritic interbeds. This formation provides a water supply that ranges from 1 gal/min to 630 gal/min. Water quality tends to be mostly good but has a tendency to be hard.

Topography

Straban Township's landscape is predominantly level with several rolling hills. The topography of the land significantly influences the suitability of that site for supporting wastewater treatment and disposal. Generally, slopes that are greater than 12% are unsuitable for on lot disposal systems like sand mounds and trench systems. It is estimated that less than 2% of Straban Township consists of slopes greater than 12%. Generally, topography is not an issue when determining the overall suitability of a site within Straban Township for the use of on-lot septic systems. The bulk of these steep slope areas are associated with ridges along streams that lie within floodplains. These slopes lying in floodplain areas are unsuitable for development already due to flood hazards (Exhibit 3).

Straban Township is somewhat unique in that it contains the divide between the two major watersheds of the Chesapeake Bay. The northern section of the township lies within the Susquehanna River Watershed while the southern and western sections lie within the Potomac River Watershed.

Potable Water Supplies

Straban Township currently is serviced by several public water systems that have no plans to extend their service area. Gettysburg Municipal Authority provides public water for most areas that are currently connected to GMA's wastewater collection. These areas

consist of the Gettysburg Area School District, Twin Oaks, Hunters Crossing, and the surrounding areas, along with the Route 30 corridor East of Route 15 and the Route 30 corridor West of Route 15 to a point 900 feet east of Flickinger Road.

The Township has an area which is identified by EPA as a Superfund site. For the parcels affected by groundwater pollution from this site, a public water system was provided. This public water distribution system is located just north of the intersection of Hunterstown Road and Shealer Road. Besides the above public water supplies, the rest of the Township uses private wells to provide water to their homes and businesses.

Any new developments will need to utilize groundwater for a water supply.

Geologically, there are only two formations in Straban Township as noted previously. Both diabase and the Gettysburg Formation originated during the Triassic age. Diabase areas tend to yield small supplies of water, which requires supplemental storage to meet any type of water demand. Water quality from diabase is generally hard and poor due to little circulation of the groundwater. On the other hand the Gettysburg Formation, which covers the majority of the Township, tends to provide sufficient supplies of water ranging from 1 to 630 gal/min of water. The water quality for this formation is predominantly good for potable water with the water being slightly on the hard side.

The Straban Township Subdivision and Land Development Ordinance (SALDO) addresses potable water supply in § 117-21.C.(10). This section gives the township supervisors the ability to require a study of the available groundwater supply for a

subdivision that plans to utilize individual wells to supply homes and/or to provide a feasibility report on the development of a new public water system for the proposed development.

Wetlands

Wetlands consist of areas that tend to be saturated either at or near the surface of the soil for extended periods of time. The presence of water in the soil matrix for extended periods of time creates an environment that favors the growth of specially adapted plants (hydrophytes) and encourages the development of characteristic wetland (hydric) soils. Hydric soils are present in Straban Township including Croton and Bowmansville. The presence of wetlands has an effect on the development of a parcel because it limits the types of activities that can occur in the wetland.

Considered ecologically very valuable and useful, wetlands help remove pollutants, recharge water supplies, reduce flood risks, and provide fish and wildlife habitat. In addition, wetlands provide recreational opportunities, visual benefits, sites for research and education, as well as commercial fishery benefits.

TABLE 6
SOIL LIMITATIONS FOR ON-LOT SEWAGE DISPOSAL

Map Symbol, Soil Name & Description	Septic Tank Absorption Fields	
	Rating Class & Limiting Features	*Value
AbA: Abbottstown silt loam 0 to 3 percent slopes	Very Limited: restricted permeability depth to cemented pan depth to saturated zone depth to bedrock	1.00 1.00 1.00 0.94
AbB: Abbottstown silt loam 3 to 8 percent slopes	Very Limited: restricted permeability depth to cemented pan depth to saturated zone depth to bedrock	1.00 1.00 1.00 0.94
Be: Bermudian silt loam 0 to 3 percent slopes	Very Limited: flooding filtering capacity depth to saturated zone	1.00 1.00 0.84
BgA: Birdsboro silt loam 0 to 3 percent slopes	Somewhat Limited: restricted permeability depth to saturated zone	0.46 0.43
BgB: Birdsboro silt loam 3 to 8 percent slopes	Somewhat Limited: restricted permeability depth to saturated zone	0.46 0.43
Bo: Bowmansville silt loam 0 to 3 percent slopes	Very Limited: flooding depth to saturated zone restricted permeability	1.00 1.00 1.00
BrB: Brecknock channery silt loam 3 to 8 percent slopes	Somewhat Limited: depth to bedrock restricted permeability	0.99 0.46
BrC: Brecknock channery silt loam 8 to 15 percent slopes	Somewhat Limited: depth to bedrock slope restricted permeability	0.99 0.63 0.46
BrD: Brecknock channery silt loam 15 to 25 percent slopes	Very Limited: slope depth to bedrock restricted permeability	1.00 0.99 0.46
CrA: Croton silt loam 0 to 3 percent slopes	Very Limited: restricted permeability depth to cemented pan depth to saturated zone ponding depth to bedrock	1.00 1.00 1.00 1.00 0.99

**TABLE 6
SOIL LIMITATIONS FOR ON-LOT SEWAGE DISPOSAL**

Map Symbol, Soil Name & Description	Septic Tank Absorption Fields	
	Rating Class & Limiting Features	*Value
CrB: Croton silt loam 3 to 8 percent slopes	Very Limited: restricted permeability depth to cemented pan depth to saturated zone depth to bedrock	1.00 1.00 1.00 0.99
Hc: Hatboro silt loam 0 to 3 percent slopes	Very Limited: flooding depth to saturated zone restricted permeability	1.00 1.00 0.46
KnB: Klinsville channery silt loam 3 to 8 percent slopes	Very Limited: depth to bedrock	1.00
KnC: Klinsville channery silt loam 8 to 15 percent slopes	Very Limited: depth to bedrock slope	1.00 0.63
KnD: Klinsville channery silt loam 15 to 25 percent slopes	Very Limited: depth to bedrock slope	1.00 1.00
KnE: Klinsville channery silt loam 25 to 40 percent slopes	Very Limited: depth to bedrock slope	1.00 1.00
LeB: Lansdale loam 3 to 8 percent slopes	Somewhat Limited: depth to bedrock	0.89
LgB: Legore channery silt loam 3 to 8 percent slopes	Somewhat Limited: restricted permeability	0.46
LgC: Legore channery silt loam 8 to 15 percent slopes	Somewhat Limited: slope restricted permeability	0.63 0.46
LgD: Legore channery silt loam 15 to 25 percent slopes	Very Limited: slope restricted permeability	1.00 0.46
LhA: Lehigh channery silt loam 0 to 3 percent slopes	Very Limited: restricted permeability depth to saturated zone depth to bedrock	1.00 1.00 0.99
LhB: Lehigh channery silt loam 3 to 8 percent slopes	Very Limited: restricted permeability depth to saturated zone depth to bedrock	1.00 1.00 0.99
LhC: Lehigh channery silt loam 8 to 15 percent slopes	Very Limited: restricted permeability depth to saturated zone depth to bedrock slope	1.00 1.00 0.99 0.63

**TABLE 6
SOIL LIMITATIONS FOR ON-LOT SEWAGE DISPOSAL**

Map Symbol, Soil Name & Description	Septic Tank Absorption Fields	
	Rating Class & Limiting Features	*Value
LkB: Lehigh channery silt loam 0 to 8 percent slopes very stony	Very Limited: restricted permeability depth to saturated zone depth to bedrock	1.00 1.00 0.99
MdA: Mount Lucas silt loam 0 to 3 percent slopes	Very Limited: depth to saturated zone restricted permeability	1.00 1.00
MdB: Mount Lucas silt loam 3 to 8 percent slopes	Very Limited: depth to saturated zone restricted permeability	1.00 1.00
MeB: Mount Lucas silt loam 0 to 8 percent slopes very bouldery	Very Limited: depth to saturated zone restricted permeability	1.00 1.00
NaB: Neshaminy channery silt loam 3 to 8 percent slopes	Very Limited: restricted permeability	1.00
NaC: Neshaminy channery silt loam 8 to 15 percent slopes	Very Limited: restricted permeability slope	1.00 0.63
NdB: Neshaminy channery silt loam 0 to 8 percent slopes extremely bouldery	Very Limited: restricted permeability	1.00
NdD: Neshaminy channery silt loam 8 to 25 percent slopes extremely bouldery	Very Limited: slope restricted permeability	1.00 1.00
NdE: Neshaminy channery silt loam 25 to 45 percent slopes extremely bouldery	Very Limited: slope restricted permeability	1.00 1.00
PcB: Penn silt loam 3 to 8 percent slopes	Very Limited: depth to bedrock	1.00
PcC: Penn silt loam 8 to 15 percent slopes	Very Limited: depth to bedrock slope	1.00 0.63
PoB: Penn channery silt loam 3 to 8 percent slopes	Very Limited: depth to bedrock	1.00
Klinesville channery silt loam 3 to 8 percent slopes	Very Limited: depth to bedrock	1.00
PoC: Penn channery silt loam 8 to 15 percent slopes	Very Limited: depth to bedrock slope	1.00 0.63
Klinesville channery silt loam 8 to 15 percent slopes	Very Limited: depth to bedrock slope	1.00 0.63

**TABLE 6
SOIL LIMITATIONS FOR ON-LOT SEWAGE DISPOSAL**

Map Symbol, Soil Name & Description	Septic Tank Absorption Fields	
	Rating Class & Limiting Features	*Value
ReA: Readington silt loam 0 to 3 percent slopes	Very Limited: depth to cemented pan depth to saturated zone restricted permeability depth to bedrock	1.00 1.00 1.00 0.91
ReB: Readington silt loam 3 to 8 percent slopes	Very Limited: depth to cemented pan depth to saturated zone restricted permeability depth to bedrock	1.00 1.00 1.00 0.91
RfA: Reaville channery silt loam 0 to 3 percent slopes	Very Limited: restricted permeability depth to bedrock depth to saturated zone	1.00 1.00 1.00
RfB: Reaville channery silt loam 3 to 8 percent slopes	Very Limited: restricted permeability depth to bedrock depth to saturated zone	1.00 1.00 1.00
RfC: Reaville channery silt loam 8 to 15 percent slopes	Very Limited: restricted permeability depth to bedrock depth to saturated zone slope	1.00 1.00 1.00 0.63
Rw: Rowland silt loam 0 to 3 percent slopes	Very Limited: flooding depth to saturated zone restricted permeability	1.00 1.00 0.72
WaA: Watchung silt loam 0 to 3 percent slopes	Very Limited: restricted permeability depth to saturated zone	1.00 1.00
WaB: Watchung silt loam 3 to 8 percent slopes	Very Limited: restricted permeability depth to saturated zone	1.00 1.00
WbB: Watchung silt loam 0 to 8 percent slopes extremely bouldery	Very Limited: restricted permeability depth to saturated zone	1.00 1.00

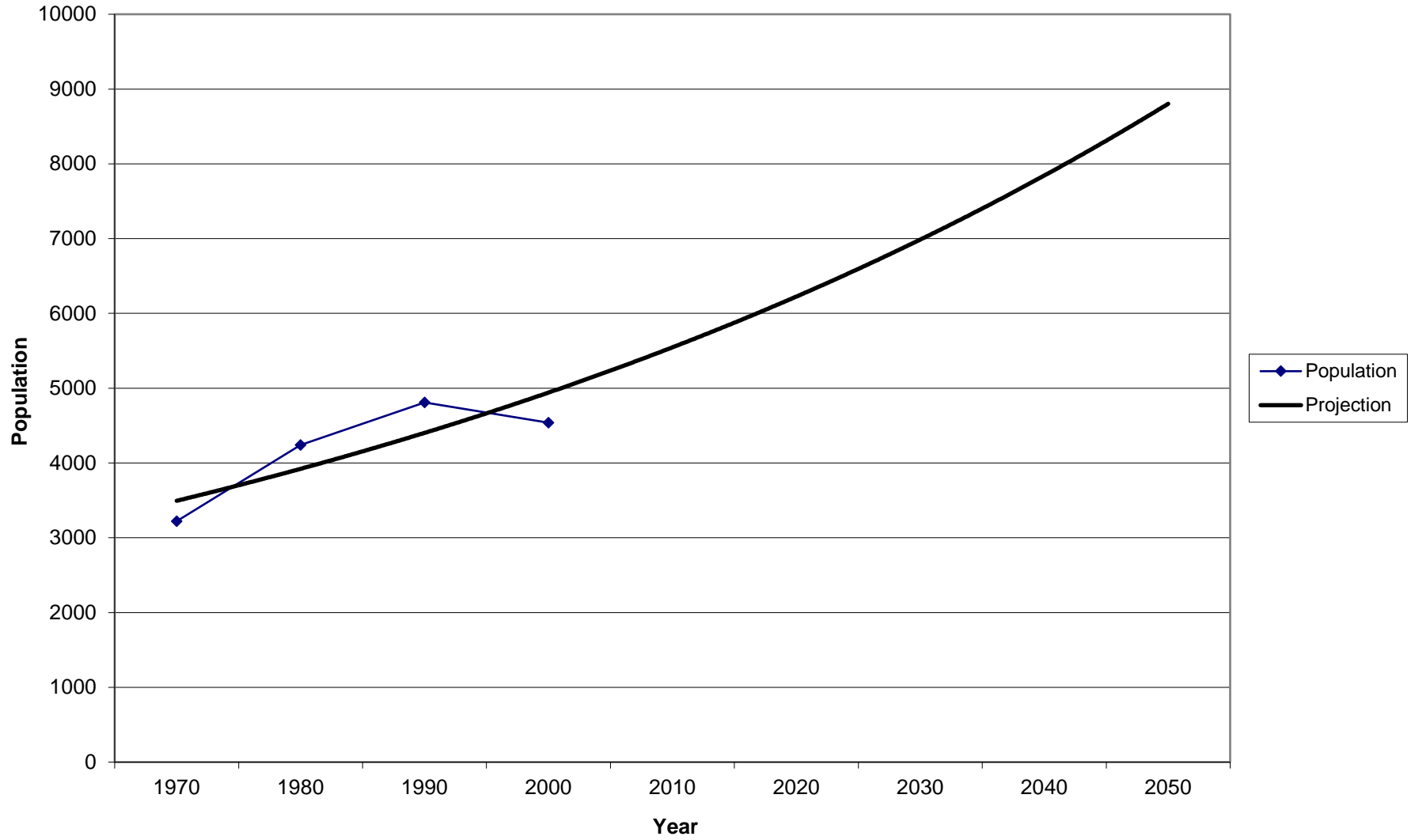
*The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation.

POPULATION PROJECTIONS

Population and projected population can be helpful in the determination of future public sewer needs. US Census data illustrates that the population for Straban Township in 2000 was 4,539. As compared to the 1970 population of 3,221, this is an increase in population of 1,318 in the past 30 years or a growth rate of 41%. The projected growth rate for the Township for the next 10 years is 22.2% or an increase in population of 1,007 individuals. Straban Township's population is projected to grow faster than the overall population growth rate of county and state. Graph 1 shows the projected Township population for the next 50 years.

According to the Adams County Update to their 1990 Comprehensive Plan, Adams County was the fourth fastest growing county in Pennsylvania from 1990 to 2000. The population within the county grew at a rate of 16.6% from 1990 to 2000. This is compared to the Township population growth rate of 22.2%. The boroughs of Adams County grew at an even faster rate than the townships. This is most likely due to the availability of public sewer and water within the boroughs. This type of growth is rare and only occurred in Adams County out of all of Pennsylvania. In the future, this type of growth is not anticipated due to finite available lands within the boroughs. This could portend even higher growth rates in the townships surrounding high growth boroughs.

Graph 1 - Straban Township's Population Projection



EXISTING SEWAGE FACILITIES

The majority of the residents within Straban Township rely on on-lot sewage disposal systems to meet their sewage disposal needs. This is reflective of the agricultural character of the bulk of the Township. The dominant soil types within the Township are not the most suitable for on-lot disposal, but with an adequately sized lot, a suitable per acre site for a primary and backup system is attainable.

There are three publicly owned sewage systems that serve portions of Straban Township. Gettysburg Municipal Authority owns and operates two of these public sewer systems. The Gettysburg system, which serves Gettysburg Borough and parts of Cumberland Township and Straban Township, currently serves the Route 30 corridor between the Borough line and Cavalry Field Road, at the west side of the Adams Commerce Park, and along Old Route 15 in the vicinity of the Gettysburg High School in Straban Township. An extension of this system, to be bid shortly, will extend service from Calvary Field Road to a point approximately 700 feet east of Flickinger Road. This system serves all properties that front on Route 30 in this section of the Township. This area is predominantly commercial in nature, as the Route 30 corridor is becoming the county's retail/commercial center. It is unlikely that this collection system will be extended past the terminal point of the currently proposed extension.

The GMA Gettysburg system is the most likely system to continue to expand within Straban Township. The Gettysburg Boroughs draft Act 537 Plan proposes an expansion

of the wastewater treatment facility, which would provide a proposed future capacity of 1.6 MGD for future development within Straban Township. This represents over 6500 EDU's, which would be sufficient to support development in Straban Township for the next 20 years.

The second public sewage system within Straban Township owned and operated by Gettysburg Municipal Authority is the Hunterstown system. The Hunterstown sewer system was constructed in 2002 by Adams County and Reliant Energy. The County was developing a property along Granite Station Road for a new Adult Correctional Facility, Emergency Management Training Center, and a municipal waste Co-Composting Facility. Reliant Energy was developing another property along Granite Station Road for a power generating facility. To meet the wastewater needs of these two developments, these two parties agreed to construct a new wastewater treatment facility and collection system and agreed to install a collection system to serve the Hunterstown area. The Hunterstown area had experienced problems with on-lot system failures and repairs. Many of the lots are small and do not have the area needed for replacement on-lot systems. The construction of the Hunterstown sewer system solved these problems by providing central sewer service to the residents of Hunterstown.

With a significant number of developable parcels of land in the Hunterstown area, there is a potential for future growth of this system. The Township should encourage potential developers to extend this system to development projects in the vicinity as opposed to using on-lot disposal or private package treatment facilities. At this time there is only a

limited amount of available capacity within the Hunterstown facility and it is anticipated that this capacity will be used for projects within the existing service area. There are no plans to add additional capacity at this time.

The third publicly owned sewer system is owned and operated by the White Run Regional Municipal Authority (WRRMA). WRRMA is a regional authority that serves the Lake Heritage development and the surrounding area in Mount Joy Township, Mount Pleasant Township, and Straban Township. In Straban Township, the WRRMA system serves the area along Route 116 east of Route 15 to Hoffman Road. The collection system in this area is predominantly low pressure sewers and therefore is limited in its ability to be expanded. The authority is currently in the planning stages of a collection system upgrade that will make additional conveyance capacity available to the area of Straban Township served by the collection system. It is estimated that the proposed expansion will support modest growth and development of land parcels north of Route 116. Approximately 190,000 gpd of treatment capacity is available at the WRRMA facility, due to a treatment facility expansion that was completed in 2002, although none of this capacity is allocated for a particular township. Capacity is allocated on a first come – first served basis for development proposals.

In addition to the three publicly owned sewer systems in Straban Township, there are seven private sewage treatment facilities within the Township. These private treatment facilities serve one to three commercial properties or, in one case, a 49 unit mobile home park.

The largest of these private treatment facilities is the Castle Hill Mobile Home Park facility. With a design average daily flow capacity of 12,250 gpd, this facility serves 45 existing mobile home sites as well as 4 more additional sites recently proposed. The mobile home park is located on Old Route 15. Constructed in 1999, the extended aeration facility uses tablet chlorine disinfection and dechlorination and discharges to an unnamed tributary to Rock Creek. During the first two years of operation, the facility received several Notices of Violation for exceeding ammonia nitrogen limits in the effluent.

The Biggerstaff private treatment facility is located west of the intersection of Route 15 and Route 394. It serves the Biggerstaff Restaurant and service station, the Distlefink Restaurant, and Rick's Auto Repair. Constructed in 1984, the Biggerstaff facility is a aerated lagoon – constructed wetland treatment process with tablet chlorine disinfection. The permitted capacity of this facility is believed to be around 10,000 gpd. Effluent is discharged to an unnamed tributary to Beaverdam Creek.

Morton Buildings Inc., located on Route 30 near its intersection with New Chester Road, has a private treatment facility with an average daily flow capacity of 2,600 gpd. The extended aeration facility, with tertiary filtration, discharges to an unnamed tributary of Swift Run.

The Freedom Valley Worship Center utilizes a private, small flow treatment facility with a hydraulic capacity of 1,950 gpd. The facility uses an extended aeration process with

intermittent sand filters, equalization tank, and ultraviolet disinfection. Freedom Valley Worship Center is located on Route 30 about ¼ mile east of its intersection with Coleman Road.

The former Lincoln Logs Restaurant is now operating as a small apartment building. The private treatment facility that serves this site is now permitted to Chris Hinton of Rainworth, Inc. The treatment facility is a Bio-A-Robi extended aeration system with sand filtration and tablet chlorination. The permitted average daily flow is 4,000 gpd and effluent is discharged to an unnamed tributary of White Run.

Columbia Gas Transmission has a private, small flow treatment facility at their office on Granite Station Road. The facility is a recirculating sand filter with tablet chlorination and discharges to Beaverdam Creek. The permitted average daily flow is 780 gpd.

The last private treatment facility within Straban Township is at Cooperative Milling, Inc. This is an animal feed business on Route 30 approximately ½ mile west of Flickinger Road. The private treatment facility is an extended aeration facility with tablet chlorination and dechlorination. It has a permitted average daily flow of 2,715 gpd and discharges to an unnamed tributary of Rock Creek. This treatment facility has had continuous problems maintaining treatment efficiency and therefore has received multiple Notices of Violation from the PA DEP due to effluent quality violations. The continued inability of this facility to meet the permitted effluent discharge limits for ammonia nitrogen and suspended solids, as well as its failure to submit Discharge

Monitoring Reports for several months in 2002, resulted in Cooperative Milling, Inc. and PA DEP entering into a Consent Assessment of Civil Penalty on September 19, 2003.

The Consent Agreement assessed a \$ 1,000 civil fine to Cooperative Milling, Inc. Facility Inspection Reports dated after the violations referenced in the Consent Agreement indicate that this facility continues to experience difficulties meeting their permit limits.

The location of all wastewater treatment facilities that discharge to surface waters within Straban Township is illustrated on Exhibit 4.

As illustrated by the Cooperative Milling, Inc. small flow treatment facility, a poorly designed and/or operated private wastewater treatment facility can be as great a public health threat as failing on lot septic systems. Reviewing the Facility Inspection Reports indicated that for some periods of time, the quality of the effluent from this facility was not much better than the raw wastewater it was to treat, and this incompletely treated wastewater was discharged to Rock Creek upstream of the GMA potable water treatment facility. The record review showed a pattern of noncompliance through the first NPDES permit cycle – a period of five years from December, 1997 to December, 2002 - before PA DEP took enforcement action and then only assessed a \$ 1,000 fine.

This example illustrates why the Supervisors of Straban Township should act to discourage the proliferation of privately owned and operated wastewater treatment facilities within the Township. The PA DEP is reactive in enforcement of their permits. A discharger must repeatedly and consistently violate the terms of their permit before PA

DEP takes enforcement action and their action often is not severe enough to encourage corrective actions, resulting in capital expenditures, by the permittee. Privately owned and operated wastewater treatment facilities receive much less scrutiny than publicly owned and operated treatment facilities, yet compliance records may suggest that these private facilities require greater oversight by regulators. Straban Township requires that all DMR's submitted to PA DEP be copied to the township so that it can review the operation of these private facilities. The township does not hold an operation and maintenance agreement for these existing private treatment facilities, as is required of all new private facility proposals during the planning stage of a new development proposal, so their ability to police these facilities is limited as compared to any new facilities. The Township has also adopted construction standards for all sewer systems constructed within the Township.

The Cooperative Milling, Inc. facility will be abandoned when the east Route 30 sewer extension project is completed. Facility permit conditions require that they connect to a public sewer system when available. But with several developer proposals including privately owned and operated wastewater collection and treatment facilities being reviewed by the Supervisors, the proliferation of these facilities is facing the Township. PA DEP has indicated a desire to reduce the number of point source discharges by encouraging regionalization and controlling the proliferation of small private treatment facilities. However, Pennsylvania environmental regulations offer few tools for the control of the proliferation of these facilities and the State's concern over litigation may

prevent them from affirming a planning module denial by the Township when forwarded to PA DEP for a private request for revision.

When combined with the fact that Straban Township does not have a wastewater collection and/or treatment facility that is owned or operated by the Township, or an authority created exclusively by Straban Township, the supervisors are limited in their ability to encourage or discourage the extension, proliferation, or upgrade of central wastewater facilities within the Township. Therefore, if the Supervisors desire to limit the number of private facilities constructed within the Township, they may be required to test their legislative ability to control sewage planning within the Township. It is hoped that as municipal sewage collection systems expand within the Township, due to private development projects, that many of these small, private treatment facilities can be abandoned as they are connected to the municipal system.

Municipal sewage sludge is produced as a result of secondary sewage treatment. Each of the wastewater treatment facilities located within the Township produces sewage sludge as a result of wastewater treatment. The private wastewater treatment facilities generally pump and haul the sludge to a permitted disposal site, such as a large central, municipal treatment facility (i.e. Harrisburg AWTF) or a private treatment and disposal facility (Pecks Septic Service) and produce less than 2 dry tons per year, each.

The Gettysburg WWTF, owned and operated by the Gettysburg Municipal Authority, produces approximately 300 dry tons of sewage sludge per year. The bulk of this sludge

is land applied on the 340 acres of agricultural property that is permitted for this use.

Some minor amount of sludge is hauled to the Harrisburg AWTF or a similar facility for further treatment or disposal. The Hunterstown WWTF, also owned and operated by the Gettysburg Municipal Authority, produces approximately 100,000 gallons of liquid sludge per year, which is hauled to the Gettysburg facility for treatment and disposal.

The White Run Regional Municipal Authority's WWTF, which serves a small portion of Straban Township, produces approximately 500,000 gallons per year of liquid sludge.

This sewage sludge is land applied at two permitted agricultural sites within Mount Joy Township.

It is estimated that over 250,000 gallons of septage is pumped from on-lot septic systems each year. This septage is pumped and hauled by private septic companies. The septage is hauled to a state approved disposal site, generally either a large, municipal wastewater treatment facility or a private septage treatment system. A small percentage is directly land applied to permitted agricultural lands.

Within Straban Township, the on-lot systems in use consist of Elevated Sand Mound Systems and Conventional In-Ground Systems. As per a discussion with the Straban Township Sewage Enforcement Officer, no Individual Residential Spray Irrigation Systems or alternate systems have been utilized in Straban Township. Due to the overall uniform topography and soil characteristics throughout the Township, a predominance of Elevated Sand Mound Systems exists, which is suitable for the soil type found in Straban Township. Since the enactment of the Sewage Facilities Act, all on-lot systems have

been tested and installed in accordance with the appropriate regulations. The Township Sewage Enforcement Officer also stated that all systems, for at least the past twenty-five years have been designed and permitted with the appropriate system for the soil classification and testing administered. Prior to the Sewage Facilities Act, most systems were installed as in-ground drain field systems. These systems are not the most appropriate systems for the soils in Straban Township and it is these early systems which account for the bulk of those system malfunctions reported in the Township.

FUTURE GROWTH AND LAND DEVELOPMENT

Straban Township Comprehensive Plan

Straban Township recognizes the importance of a comprehensive approach to guiding future development within its limits. The Comprehensive Plan is a policy guide for managing growth in the Township. The Plan is intended to organize and coordinate ideas, land facilities, services, infrastructure, land uses and environmental elements that comprise the Township as a whole. The Comp Plan updates the community's vision for municipal growth. Land uses are defined and located in the Township's Comp Plan along with future land uses and growth areas. These future land uses and growth areas can then be used to compare with the Sewage Facilities Planning for the Township to get an idea of future sewage needs.

The Straban Township Comp Plan designates land use into a couple key categories. These categories are: residential, commercial, industrial, agricultural, and open space. Currently Straban Township is dominated by agricultural and open space uses.

Residential land use can be divided into two sub categories. The first sub category is low density. Low density residential areas typically include larger lots (≥ 1 acre) within developments. Housing for low density is typically detached single family dwelling units. The second sub category is high density. High density residential areas consist of apartment complexes, townhomes, small (< 1 acre) residential lots, and mobile home

parks. According to Straban Township's Comp Plan, the residential areas in Straban Township currently utilize about 8.8% of the land.

Commercial and industrial areas of development in Straban Township currently utilize 3.4% of the land area. Straban Township has both local and regional commercial areas. Local commercial areas include land use activities that service only the local population. This includes local businesses such as personal services, small businesses, and some professional offices. Regional commercial areas consist of businesses that will attract business and employees from a greater distance. Industrial uses are manufacturing facilities that range from low level/low impact uses to high impact/labor intensive uses.

The next land use category dominates Straban Township by occupying 66.3% of the land area. The agricultural land use area is comprised of actively cultivated land used for pasture and row crops. Limited residential uses are allowed in this area.

Following only agricultural in aerial coverage is the designation of land use as open space. Open space land use covers about 15.5% of the land in Straban Township. Open space land use areas are comprised of tracts of land that are green, free from development, wooded and/or steeply sloped.

The final major land use in Straban Township is utilities. Utilities occupy a very small percentage of the Township. Most of the land used for this designation is by the Power Plant located on Granite Station Road.

The projected mixed use growth area is center around the intersection of Route 394 and Route 15 along with a small area centered on the intersection of Route 15 and Route 116 and another area centered around the New Chester area. The economic growth area is projected along the Route 30 corridor. Areas west of Route 15 and surrounding New Chester are projected as low density growth areas. The projected high density residential growth area is located along Route 116, where White Run Regional Municipal Authority has public sewer service. The rest of the Township is projected as open space development area.

Straban Township has completed the revision of their Comprehensive Plan. The revision of this plan as well as the revision of the Township's Zoning Ordinance and revisions to the Subdivision and Land Development Ordinance will assist in achieving the goals of the Comprehensive Plan.

Straban Township Zoning Ordinance

Straban Township adopted a revised zoning ordinance, based on the revised Comprehensive Plan, in December of 2006. The revised ordinance is largely similar to the Townships previous zoning, although new terminology is used for the zoning districts and provisions for cluster developments are included within some districts. Generally, the revised zoning concentrates commercial development along Route 30 and at the Hunterstown exit of Route 15. Residential development is centered around those areas where public sewer service is available or close by (Route 116, old Route 15). In

residential districts, lot sizes are regulated by the proposed method of sewage disposal and percolation rate, at the discretion of the Sewage Enforcement Officer, and require clustering for larger subdivisions, with community sewage systems required.

The maximum build-outs within these growth areas, in accordance with the zoning ordinance, are listed in the following table:

ZONING DISTRICT	TOTAL ACERAGE	MAXIMUM DENSITY W/CLUSTERING	MAXIMUM EDU's
MIXED USE VILLAGE (MU-1)	1045 ACRES	8 UNITS/ACRE	4180 EDU's
MIXED USE NEIGHBORHOOD (MU-2)	1547 ACRES	6 UNITS/ACRE	4641 EDU's
RESIDENTIAL HIGH DENSITY (R-2)	505 ACRES	10 UNITS/ACRE	2525 EDU'S

This table assumes that all of the parcels within each zoning district are undeveloped and that they all shall be developed to a maximum density with clustering, which requires 50% of the parcel to remain open space. The remaining 17,000 acres of the Township are zoned Residential-Rural or Residential-Low Density. These zoning districts lie outside of the projected growth areas and allow only lower densities.

Existing Act 537 Planning

The Official Act 537 Sewage Facilities Plan for Straban Township was prepared for the purpose of determining the sewage needs of the Township. The Act 537 Plan aids the Supervisors of Straban Township to address sewage problems and analyze present and future sewage capacity needs. Existing sewage facility planning currently has met the

needs of the Route 30 corridor and most of the planned commercial districts. Gettysburg Municipal Authority extended central sewers into the area in 2001/2002 as part of the Adams County Commerce Center construction project. This sewer upgrade extended its conveyance facilities west of Route 15 to the areas east of Route 15. All of the sewer needs for economic growth in this region are met as of now. The majority of the Township, though, is still residential agriculture and is using on lot sewage facilities. The availability of public facilities, primarily water and sewer service, has a direct impact on the location and density of areas proposed for future development in the Township. So, the main driving force for extensions to the existing Route 30 corridor sewer or any of the other existing sewage collection systems in Straban Township is development. As developers come into Straban Township they are going to look to extend sewer lines into their proposed developments.

Straban Township's Comprehensive Plan along with the revised Zoning Ordinance and the Act 537 Sewage Facilities Plan aid in directing the future growth and land development in the Township. The Comp Plan projects a concept of future land use and growth. Zoning places compatible uses together and separates those uses that are not compatible. It also places the most intensive uses in areas proximate to public utilities, such as sewer and water systems. From this a determination of need for sewer service can be compared to existing planning. The current needs for central sewage facilities are met. The future extension of sewer and water utilities will be the product of developments and developers.

Proposed Developments

Currently there several development plans approved or being reviewed by Straban Township which propose a total of over 3500 residential units. These developments include three new central sanitary sewer systems. These new sanitary sewer systems are proposed to be privately owned and operated to serve only those residential units within the proposed development. Table 4 lists four of the largest of these developments and the number of residential units proposed.

Table 4 - Proposed Developments

Development	Development Type	Planning Phase	Planned EDUs	1-5 YRS EDUs	>5 YRS EDUs	Total EDUs
Adams Commerce Park	Commercial	Final Approval	98	98	-----	98
Connelly Farms	Residential	Sketch Plan Submitted	120	-----	120	120
The Eagles	Commercial	Final Approval	10	10	-----	10
Gateway Gettysburg	Commercial	Final Approval	314	314	-----	314
Gettysburg Commons	Residential	Preliminary & Final Phase A	2018	437	1581	2018
Gettysburg Marketplace	Commercial	Preliminary Approval	60	60	-----	60
Gettysburg Station	Commercial	Preliminary Approval	Approx. 125	-----	125	125
Granite Lake	Residential	Preliminary Approval	189	-----	189	189
Kortney Meadows	Residential	Preliminary Submission	154	-----	154	154
Lamberson Estates	Residential	Final Approval	22	22	-----	22
Gettysburg Sleep Inn	Commercial	Final Approval	13	13	-----	13
Planks Field	Residential	Final Approval	45	45	-----	45
Snyder Developers	Residential	Preliminary Approval	775	-----	775	775
The Willows of Gettysburg	Residential	Preliminary & Final Phase 1	109	21	88	109

S & A Homes, Inc. is preparing plans for a 194 unit detached single family subdivision for review by Straban Township. This subdivision would be located between Route 15 and Route 30, west of their intersection. It would be served by an extension of the GMA collection system in this area.

The entire southcentral region of the state is experiencing this explosion of growth. As land and home prices spiral upward in the Metro-Washington area, and Frederick County and Frederick City deal with infrastructure issues, development pressure will continue within Adams County and Straban Township. This entire area is becoming a bedroom community for those working in the Frederick, MD – Washington DC corridor as well as those who work in Harrisburg, the Metro-Baltimore area, and southeast Pennsylvania.

The challenge for Straban Township will be to manage this explosive growth so that it does not degrade the character of the Township. Straban Township, somewhat of a suburb of Gettysburg, contains significant commercial development along Route 30 and an ever expanding residential sector. But since the residential growth is significantly outpacing the commercial and industrial growth of the area, new residents will undoubtedly hold employment outside of Straban Township, and for the most part outside of Adams County.

From a sewerage facilities standpoint, the greatest challenge facing Straban Township is controlling the proliferation of private wastewater treatment facilities. The Comprehensive Plan and the Zoning Ordinance were designed to concentrate residential and commercial growth in areas where these uses predominate. This allows the preservation of open space by concentrating growth in high density areas instead of allowing patchwork growth across the Township. One key to the promotion of this type of growth pattern is the availability of infrastructure to support the growth. Central sanitary sewers are essential to these types of high density developments and the ability

to expand existing collection systems is essential to promoting the anticipated growth in these areas. Therefore the proliferation of privately owned and operated sanitary sewer systems must be a primary concern to the controlled growth of the Township.

A privately owned and operated wastewater treatment facility is most often designed to minimize construction costs, to maximize profits, therefore there is only capacity available to serve the residents of the development for which it was constructed. They do not have an obligation to serve adjoining developments which are proposed following their construction. This situation could promote the continued proliferation of private facilities, possibly on adjoining parcels.

Presently, Straban Township does not own or operate any wastewater treatment or conveyance facilities. Gettysburg Municipal Authority and White Run Regional Municipal Authority have service areas within the Township. Without municipal sanitary sewage facilities, the future of sanitary sewer service within Straban Township will be largely in the hands of others.

SEWAGE DISPOSAL NEEDS STUDY

The Pennsylvania Sewage Facilities Act 537 requires that all municipalities develop, revise, and implement Official Sewage Facility Plans. A fundamental part of this Act 537 Plan is the identification and documentation of the sewage disposal needs in a municipality. The identification and documentation of sewage-associated problems involve the collection and tabulation of information and then verifying the data with actual field inspections.

One of the main categories of focus in this study is public health needs. These needs are considered to be those health hazards and water pollution problems that involve discharging untreated or inadequately treated sewage to the surface of the ground or to the waters of the Commonwealth. Public health needs relating to sewage disposal can be determined by looking for potential malfunctioning on lot sewage disposal systems in Straban Township. The information gained from identifying potential malfunctions may be utilized to identify areas that are or could soon be experiencing public health problems. There are three methods to obtain this information. They are door to door on lot sanitary sewer surveys, existing SEO records and door to door well water analysis. All three methods are used in this plan update.

The process of sewage disposal surveying and well water analysis is two-tiered. First a representative, randomized sample must be collected. In the second tier, any suspect areas that might be a potential sewer service area are sampled again and examined more

closely. The Pennsylvania Department of Environmental Protection in their Sewage Disposal Needs Identification Guidance Manual defines a representative sample based on the total number of wells in a service area. Straban Township falls into the range of 501 to 1000 wells with a total of 800 wells on improved properties. Corresponding to the PA DEP Sewage Disposal Needs Identification Guidance Manual a representative sample would be 20% of the total number of wells. So, the total number of sewage disposal surveys and well water analyses that needed to be collected was 160. To determine which 160 parcels would be sampled; a random number generator was used to select the 160 samples from all 800 improved parcels. The method chosen for collecting the sewage disposal surveys and well water analysis was with a door-to-door survey.

Door to Door Sewage Disposal Survey

The door-to-door survey was completed in two steps. The first step was survey preparation and the second step was survey execution. Prior to the door-to-door collection, a letter informing the 160 randomly selected parcels that a survey was going to be conducted by the Township was forwarded to the selected residences. They were informed that the surveys were necessary to update their Sewage Facility Planning and that a representative from the Township would be coming to perform the survey. Next, a map of all the parcels in Straban Township was prepared and labeled with all of the parcels to be surveyed. All parcels that had either public water or public sewer were excluded from the survey. After the parcels were located on the map, the data collection process could begin.

Once at a selected residence, the survey was performed. This involved the completion of a questionnaire and the collection of well water samples. The questionnaire used was modeled from Appendix A in PA DEP's *Sewage Disposal Needs Identification Guidance Manual* dated March 1996. Information on separation distances was field checked by pacing the distance and other information was confirmed, if possible, by a physical inspection of the property. After the questionnaire was completed, a representative groundwater sample was collected from the well. Before collecting a well water sample the property owner was asked if there was any type of water treatment system connected to their well. If so, the sample was taken before any type of treatment to get a raw sample of the well water.

Care must be taken when collecting well water samples to be analyzed for bacterial contamination. Since the collected sample was to be tested for three different parameters, three sample containers are required. The three parameters included Total Coliform, Fecal Coliform, and Nitrate Nitrogen. All three were used to indicate possible contamination from an improperly functioning or malfunctioning on lot sewage disposal system. When collecting a sample to be tested for Total Coliforms or Fecal Coliforms, a sterile container was used. The well water samples collected in Straban Township were analyzed at Laboratory Analytical and Biological Services, Inc. (LABS) in East Berlin, Pennsylvania. LABS supplied WhirlPacs, which are sterile bags used to collect samples being tested for bacteria. When collecting well water samples that are to be tested for bacteria, care must be taken not to contaminate the sample. First, the sample collection

point must be determined. A butane lighter and alcohol wipe are first used to disinfect the spigot or hose bib utilized. The home plumbing was flushed for at least 3 to 5 minutes to clear any water that was sitting in the plumbing and fixtures. This was done to make sure that the water sample collected was a raw sample from the well. Containers were labeled with the address, time, date, and initials of the sample collector. A sample was also collected for nitrate –nitrogen analysis. LABS provided prepared sample containers to collect the nitrate samples. The samples then were stored in a cooler until they reached LABS, Inc., on the same day they were collected, so they could be analyzed within the accepted holding period. The samples were then tested and the results were returned to the Township Engineer.

The door-to-door surveys and well water sampling was voluntary. If someone decided that they did not wish to participate in the survey, another parcel was randomly selected in its place until all 160 samples and surveys were collected.

NEEDS ANALYSIS

For the Township-wide well sampling, 160 randomly selected improved properties were sampled out of the 800 improved properties within Straban Township. A well and septic survey form was also completed for each improved property that was sampled. The results of the well sampling and survey were used to identify needs area within the Township, along with a review of geophysical limitations to on-lot disposal systems. The needs analysis concluded that there are no identifiable existing needs for centralized sewers to serve areas with failing or potentially failing on-lot septic systems.

All wells sampled were analyzed for total and fecal coliforms as well as nitrate nitrogen. Total coliforms are common throughout the environment but are used to indicate a possible connection between surface and groundwater. Often this connection is due to an improperly grouted well casing. Fecal coliforms are common to the digestive tract of all mammals and are used to indicate a possible contamination of groundwater with improperly treated septic system effluent. Nitrate nitrogen in a groundwater well can be due to an improperly sited septic system (insufficient separation distance and well location downslope of septic field) but can have several other sources. Nitrate is a commonly used fertilizer component and is commonly applied for agricultural operations and residential uses. Elevated groundwater nitrate is common in areas where agricultural uses have predominated over an extended period of time. Residential use of nitrate also has contributed to elevated groundwater concentrations due to the use of excessive application rates related to the notion that more is better.

Of the 160 wells sampled within Straban Township, 39, or 24%, were found to contain total coliforms. Only 2 wells, or 1%, were found to contain fecal coliforms. 28 wells, or 18%, were found to have nitrate concentrations above 5 mg/l, considered to be an elevated level, while 12 wells, or 8%, showed nitrate concentrations above the health-based limit of 10 mg/l. Of those wells that contained nitrate concentrations above 10 mg/l, seven, or 58%, were located on agricultural parcels, defined as those over 20 acres in size and 12, or 43%, of the 28 wells with nitrate concentrations over 5 mg/l were located on these farm parcels. Well sampling results are presented in Table 1 and illustrated on Exhibits 5 & 6.

The surveys revealed additional information on the wells and septic systems within the Township. The surveys indicated that 70 of the wells sampled and surveyed, or 44%, used some type of water treatment system, most commonly a water softener. Twelve of these water treatment systems incorporated ultraviolet disinfection, yet well testing only indicated that two of these wells had bacterial contamination. Seven of the wells sampled were shallow, hand dug wells and 71% of these hand dug wells tested positive for total coliforms. Twenty eight wells were less than or equal to 100 feet in depth and 36% of these shallow wells also tested positive for total coliforms. Of the septic systems surveyed, 85, or 53%, were over 20 years old. Sixteen percent indicated that some evidence of a possible septic system malfunction had been observed and ten percent had some type of repair to their septic system. Twenty two percent of those sampled discharged gray water to the ground surface instead of into the septic system. Survey results are summarized in Tables 2 & 3. Completed survey forms are included in the Appendix.

The surveyed septic systems were classified according to the classification protocol in the *Act 537 Sewage Disposal Needs Identification* guidance document. Since no malfunctions were documented, as described in the guidance, the classification category Probable Malfunction was used instead of Confirmed Malfunction. Table 2 lists the surveyed systems by classification. 43 systems were classified as Probable Malfunctions, which represents 28% of those systems surveyed. This seems like a high number, but of the 43 systems in this category, 31 were placed in this category because they reported a graywater discharge to the surface. A graywater malfunction can be corrected by a change in the home plumbing system to divert the graywater into the septic system, as long as the system was correctly designed for the hydraulic load. If hydraulic load is a concern, water saving devices can be installed within the home to reduce this additional load. When these graywater discharges are removed, probable malfunctions are reduced to 12, or 8% of those systems surveyed. When combined with the Suspected Malfunctions, only 16% of those systems surveyed show indications of improper operation. The geographic distribution of these systems shows no pattern and many of these systems are on large lots where finding an area for a replacement system should not prove difficult, if a malfunction is confirmed (See Exhibit 11). Twenty one systems were classified as potential malfunctions since they were probably installed without a permit (prior to 1972) One-half of the systems surveyed showed no indication of any problem.

In addition to well sampling and surveys, a review of septic system repair permits within the township was used to look for a pattern in system failures. A review of the Sewage Enforcement Officer's records indicated that since 1999, seven repair permits were issued for repairs to a failed system (Table 5). Repair permits for replacement of a damaged septic tank or broken

building sewer were not considered, since these repairs were not the result of a system failure. The on-lot septic system repair history did not indicate an area of the Township where system failures occur with a greater regularity. The seven incidents recorded since 1999 were dispersed across the Township, indicating no discernable pattern. These are illustrated on Exhibit 7.

Well sampling and septic system surveys did not indicate a concentration of potential septic failures or groundwater contamination that could be attributed to malfunctioning septic systems. Areas requiring continued scrutiny are more related to areas where small lots are concentrated. This is mostly due to the inability to replace a failing septic system due to area constraints. The New Chester village area in the northeast section of the Township and the Route 30 corridor are the only areas where there is a significant concentration of these small lots. Several lots were sampled and surveyed within these areas, but the results did not indicate a need for central sewer service at this time, but the area does warrant increased vigilance.

Although there is a concentration of small lots in the New Chester Village area of Straban Township, there is not a predominance of small lots. Within the area considered New Chester Village (defined by Adams County Tax Maps), there are a total of 52 lots. Of these 52 lots, 24 are larger than one acre in size. Only 12 lots are one-half acre in size, or less, while the remaining 16 lots are between one-half and one acre in size. When considering developing a lot with on-lot septic disposal, the general rule is that a minimum lot size of one acre is needed to allow for a reserve septic area and the necessary setbacks and separation distances. Almost half of the lots within New Chester meet this rule of thumb. The 16 lots that are between one-half and one acre do not meet this minimum size, but some may be large enough to place a replacement

system on the property in the event of a malfunction. Additionally, there are some large parcels of land surrounding New Chester Village which could be used for a community land-based disposal system, if necessary. As with the bulk of the Township, the soils mapped in the New Chester Village area have limitations for use for sewage disposal.

The small lots within the New Chester Village area that were classified as probable malfunctions were classified as such due to a graywater discharge, not because the systems indicated a problem with the performance of the drainfield. The Township SEO has researched repair permits back to 1988, and found no repairs for the New Chester Village area. He also indicated that he has received n complaints for this area. A letter to this effect is in the Plan Appendix.

Existing data does not support a conclusion that a public construction project to provide public sewer service is warranted to correct a public health problem. Consequently, the Township will include the New Chester Village Area in the township-wide Septic Management Program to gather further information on the operation of the on-lot septic systems. If this additional data indicates a problem with this area, a separate Act 537 Plan amendment can examine possible alternatives to abate the problems, if present. Interim solutions to individual failures include the use of holding tanks and best technical guidance repairs.

Table 1

Results for Straban Township
Act 537 Study
Straban Township, Adams County

Sample Number	Sample Address	Total Coliform Bacteria	Fecal Coliform Bacteria	Nitrate Nitrogen
1	1907 Old Harrisburg Road	0 col. / 100 ml	0 col. / 100 ml	3.74 mg/L
2	1650 Old Harrisburg Road	0 col. / 100 ml	0 col. / 100 ml	4.34 mg/L
3	1174 Old Harrisburg Road	0 col. / 100 ml	0 col. / 100 ml	2.83 mg/L
4	2840 Old Harrisburg Road	8 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
5	1190 Old Harrisburg Road	0 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
6	1560 Old Harrisburg Road	0 col. / 100 ml	0 col. / 100 ml	1.80 mg/L
7	1908 Old Harrisburg Road	0 col. / 100 ml	0 col. / 100 ml	3.72 mg/L
8	2080 Old Harrisburg Road	0 col. / 100 ml	0 col. / 100 ml	1.46 mg/L
9	198 Stone Jug Road	0 col. / 100 ml	0 col. / 100 ml	2.53 mg/L
10	155 Cavalry Field Road	0 col. / 100 ml	0 col. / 100 ml	2.11 mg/L
11	171 Hoffman Road	0 col. / 100 ml	0 col. / 100 ml	2.38 mg/L
12	131 Hoffman Road	0 col. / 100 ml	0 col. / 100 ml	6.14 mg/L
13	255 Goldenville Road	0 col. / 100 ml	0 col. / 100 ml	8.45 mg/L
14	137 Cashman Road	0 col. / 100 ml	0 col. / 100 ml	3.89 mg/L
15	470 Rentzel Road	0 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
16	899 Schrivens Corner Road	0 col. / 100 ml	0 col. / 100 ml	1.97 mg/L
17	46 Leedy Road	1 col. / 100 ml	0 col. / 100 ml	1.50 mg/L
18	730 Schrivens Corner Road	0 col. / 100 ml	0 col. / 100 ml	1.25 mg/L
19	127 Stone Jug Road	4 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
20	145 New Chester Road	0 col. / 100 ml	0 col. / 100 ml	4.12 mg/L
21	60 Flickinger Road	0 col. / 100 ml	0 col. / 100 ml	2.09 mg/L
22	65 Flickinger Road	0 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
23	280 Hoffman Road	0 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
24	156 Hoffman Road	2 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
25	1820 Granite Station Road	0 col. / 100 ml	0 col. / 100 ml	3.37 mg/L
26	110 Hunterstown-Hampton Road	0 col. / 100 ml	0 col. / 100 ml	2.84 mg/L
27	50 Cashman Road	0 col. / 100 ml	0 col. / 100 ml	2.33 mg/L
28	79 Woodside Road	0 col. / 100 ml	0 col. / 100 ml	2.65 mg/L
29	5 Stone Jug Road	0 col. / 100 ml	0 col. / 100 ml	1.23 mg/L
30	3325 Old Harrisburg Road	0 col. / 100 ml	0 col. / 100 ml	2.75 mg/L

Table 1

Results for Straban Township
Act 537 Study
Straban Township, Adams County

Sample Number	Sample Address	Total Coliform Bacteria	Fecal Coliform Bacteria	Nitrate Nitrogen
31	3822 Old Harrisburg Road	0 col. / 100 ml	0 col. / 100 ml	1.04 mg/L
32	136 Stone Jug Road	2 col. / 100 ml	0 col. / 100 ml	1.01 mg/L
33	404 Schriver Corner Road	0 col. / 100 ml	0 col. / 100 ml	2.28 mg/L
34	485 Goldenville Road	0 col. / 100 ml	0 col. / 100 ml	1.88 mg/L
35	737 Schrivvers Corner Road	0 col. / 100 ml	0 col. / 100 ml	1.66 mg/L
36	2168A Old Harrisburg Road	0 col. / 100 ml	0 col. / 100 ml	1.64 mg/L
37	2085 Old Harrisburg Road	0 col. / 100 ml	0 col. / 100 ml	1.44 mg/L
38	96 Leedy Road	0 col. / 100 ml	0 col. / 100 ml	2.66 mg/L
39	2485 Old Harrisburg Road	11 col. / 100 ml	0 col. / 100 ml	5.76 mg/L
40	646 Hunterstown Road	46 col. / 100 ml	0 col. / 100 ml	3.48 mg/L
41	1384 Hunterstown Road	0 col. / 100 ml	0 col. / 100 ml	1.73 mg/L
42	125 Hunterstown Road	53 col. / 100 ml	0 col. / 100 ml	2.58 mg/L
43	519 Hunterstown Road	18 col. / 100 ml	1 col. / 100 ml	2.92 mg/L
44	94 Riley Road	0 col. / 100 ml	0 col. / 100 ml	3.50 mg/L
45	583 Sibert Road	0 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
46	1281 Brickcrafters Road	16 col. / 100 ml	0 col. / 100 ml	5.56 mg/L
47	991 Brickcrafters Road	42 col. / 100 ml	0 col. / 100 ml	4.89 mg/L
48	1120 New Chester	112 col. / 100 ml	0 col. / 100 ml	3.01 mg/L
49	2481 Hunterstown-Hampton Road	0 col. / 100 ml	0 col. / 100 ml	1.77 mg/L
50	15 Sharrer Mill Road	0 col. / 100 ml	0 col. / 100 ml	12.9 mg/L
51	1275 Old Harrisburg Road	0 col. / 100 ml	0 col. / 100 ml	2.19 mg/L
52	1023 Highland Road	0 col. / 100 ml	0 col. / 100 ml	1.45 mg/L
53	1267 Highland Road	0 col. / 100 ml	0 col. / 100 ml	1.06 mg/L
54	1560 Hanover Road	0 col. / 100 ml	0 col. / 100 ml	2.29 mg/L
55	1490 Hanover Road	40 col. / 100 ml	0 col. / 100 ml	12.1 mg/L
56	241 Hoffman Road	0 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
57	2575 Hunterstown Road	0 col. / 100 ml	0 col. / 100 ml	1.53 mg/L
58	50 Sharrer Mill Road	3 col. / 100 ml	0 col. / 100 ml	2.89 mg/L
59	1948 Oxford Road	5 col. / 100 ml	0 col. / 100 ml	5.95 mg/L
60	1680 Hanover Road	2 col. / 100 ml	0 col. / 100 ml	6.40 mg/L

Table 1

Results for Straban Township
Act 537 Study
Straban Township, Adams County

Sample Number	Sample Address	Total Coliform Bacteria	Fecal Coliform Bacteria	Nitrate Nitrogen
61	1125 Hunterstown-Hampton Road	0 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
62	1385 Hunterstown-Hampton Road	0 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
63	1299 Brickcrafters Road	0 col. / 100 ml	0 col. / 100 ml	6.58 mg/L
64	445 New Chester Road	0 col. / 100 ml	0 col. / 100 ml	12.0 mg/L
65	663 New Chester Road	22 col. / 100 ml	0 col. / 100 ml	4.51 mg/L
66	521 New Chester Road	0 col. / 100 ml	0 col. / 100 ml	12.9 mg/L
67	55 New Chester Road	0 col. / 100 ml	0 col. / 100 ml	4.58 mg/L
68	1015 Swift Run Road	8 col. / 100 ml	0 col. / 100 ml	3.23 mg/L
69	959 Hanover Road	0 col. / 100 ml	0 col. / 100 ml	1.62 mg/L
70	1690 Hanover Road	19 col. / 100 ml	0 col. / 100 ml	3.01 mg/L
71	800 Pond Bank Road	>200 col. / 100 ml	12 col. / 100 ml	4.76 mg/L
72	2493 Hunterstown-Hampton Road	0 col. / 100 ml	0 col. / 100 ml	1.59 mg/L
73	850 Red Bridge Road	0 col. / 100 ml	0 col. / 100 ml	1.22 mg/L
74	745 New Chester Road	0 col. / 100 ml	0 col. / 100 ml	5.76 mg/L
75	1525 New Chester Road	46 col. / 100 ml	0 col. / 100 ml	11.0 mg/L
76	485 Woodside Road	164 col. / 100 ml	0 col. / 100 ml	7.33 mg/L
77	447 Hunterstown-Hampton Road	0 col. / 100 ml	0 col. / 100 ml	2.59 mg/L
78	1587 Schrivvers Corner Road	19 col. / 100 ml	0 col. / 100 ml	1.29 mg/L
79	423 Hunterstown-Hampton Road	0 col. / 100 ml	0 col. / 100 ml	2.26 mg/L
80	1080 Hunterstown-Hampton Road	0 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
81	259 Pine Tree Road	0 col. / 100 ml	0 col. / 100 ml	1.21 mg/L
82	288 Pine Tree Road	0 col. / 100 ml	0 col. / 100 ml	2.68 mg/L
83	810 Beaver Run Road	0 col. / 100 ml	0 col. / 100 ml	3.85 mg/L
84	650 Red Bridge Road	108 col. / 100 ml	0 col. / 100 ml	19.3 mg/L
85	1430 Schrivvers Corner Road	0 col. / 100 ml	0 col. / 100 ml	4.94 mg/L
86	2095 Hunterstown-Hampton Road	0 col. / 100 ml	0 col. / 100 ml	2.82 mg/L
87	434 Hunterstown-Hampton Road	0 col. / 100 ml	0 col. / 100 ml	5.11 mg/L
88	260 Pine Tree Road	0 col. / 100 ml	0 col. / 100 ml	1.44 mg/L
89	1460 New Chester Road	0 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
90	420 New Chester Road	0 col. / 100 ml	0 col. / 100 ml	3.39 mg/L

Table 1

Results for Straban Township
Act 537 Study
Straban Township, Adams County

Sample Number	Sample Address	Total Coliform Bacteria	Fecal Coliform Bacteria	Nitrate Nitrogen
91	1345 New Chester Road	0 col. / 100 ml	0 col. / 100 ml	2.69 mg/L
92	621 New Chester Road	0 col. / 100 ml	0 col. / 100 ml	20.5 mg/L
93	1995 Oxford Road	0 col. / 100 ml	0 col. / 100 ml	4.62 mg/L
94	1625 Table Roack Road	0 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
95	1514 Hunterstown-Hampton Road	0 col. / 100 ml	0 col. / 100 ml	24.6 mg/L
96	340 Good Intent Road	0 col. / 100 ml	0 col. / 100 ml	1.98 mg/L
97	275 Leedy Road	0 col. / 100 ml	0 col. / 100 ml	10.6 mg/L
98	1370 Old Harrisburg Road	0 col. / 100 ml	0 col. / 100 ml	2.48 mg/L
99	375 Smith Road	0 col. / 100 ml	0 col. / 100 ml	8.60 mg/L
100	765 Good Intent Road	8 col. / 100 ml	0 col. / 100 ml	1.15 mg/L
101	326 Schrivvers Corner Road	0 col. / 100 ml	0 col. / 100 ml	1.36 mg/L
102	1274 Hunterstown-Hampton Road	0 col. / 100 ml	0 col. / 100 ml	3.20 mg/L
103	1030 Hunterstown Road	0 col. / 100 ml	0 col. / 100 ml	5.52 mg/L
104	804 Hanover Road	30 col. / 100 ml	0 col. / 100 ml	2.94 mg/L
105	240 Millhimes Road	>200 col. / 100 ml	0 col. / 100 ml	1.14 mg/L
106	63 Sharrer Mill Road	0 col. / 100 ml	0 col. / 100 ml	3.56 mg/L
107	1330 Hunterstown-Hampton Road	22 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
108	2016 Oxford Road	0 col. / 100 ml	0 col. / 100 ml	3.68 mg/L
109	525 Swift Run Road	0 col. / 100 ml	0 col. / 100 ml	1.13 mg/L
110	1736 Hunterstown Road	0 col. / 100 ml	0 col. / 100 ml	10.3 mg/L
111	388 Leedy Road	8 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
112	1265 Highland Road	0 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
113	200 Carey Lane	0 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
114	565 Swift Run Road	0 col. / 100 ml	0 col. / 100 ml	2.11 mg/L
115	795 Good Intent Road	0 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
116	240 Weaner Road	4 col. / 100 ml	0 col. / 100 ml	3.76 mg/L
117	1133 Good Intent Road	0 col. / 100 ml	0 col. / 100 ml	16.3 mg/L
118	1240 Good Intent Road	0 col. / 100 ml	0 col. / 100 ml	2.71 mg/L
119	45 Fidler Road	0 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
120	161 Rentzel Road	0 col. / 100 ml	0 col. / 100 ml	2.96 mg/L

Table 1

Results for Straban Township
Act 537 Study
Straban Township, Adams County

Sample Number	Sample Address	Total Coliform Bacteria	Fecal Coliform Bacteria	Nitrate Nitrogen
121	555 Rentzel Road	0 col. / 100 ml	0 col. / 100 ml	7.01 mg/L
122	860 Hunterstown-Hampton Road	12 col. / 100 ml	0 col. / 100 ml	5.26 mg/L
123	257 Cashman Road	22 col. / 100 ml	0 col. / 100 ml	1.84 mg/L
124	95 Fairview Road	0 col. / 100 ml	0 col. / 100 ml	3.88 mg/L
125	11 Goldenville Road	0 col. / 100 ml	0 col. / 100 ml	1.25 mg/L
126	1973 Hunterstown-Hampton Road	0 col. / 100 ml	0 col. / 100 ml	3.73 mg/L
127	1370 Hanover Road	0 col. / 100 ml	0 col. / 100 ml	3.53 mg/L
128	1550 Hanover Road	0 col. / 100 ml	0 col. / 100 ml	4.82 mg/L
129	1607 Hanover Road	0 col. / 100 ml	0 col. / 100 ml	6.73 mg/L
130	209 Hoffman Road	0 col. / 100 ml	0 col. / 100 ml	1.12 mg/L
131	1120 Hanover Road	0 col. / 100 ml	0 col. / 100 ml	2.27 mg/L
132	1319 Granite Station Road	20 col. / 100 ml	0 col. / 100 ml	1.94 mg/L
133	1940 Hunterstown-Hampton Road	0 col. / 100 ml	0 col. / 100 ml	3.75 mg/L
134	720 Rentzel Road	0 col. / 100 ml	0 col. / 100 ml	2.98 mg/L
135	1125 New Chester Road	0 col. / 100 ml	0 col. / 100 ml	4.57 mg/L
136	790 New Chester Road	0 col. / 100 ml	0 col. / 100 ml	2.94 mg/L
137	1810 Hunterstown-Hampton Road	10 col. / 100 ml	0 col. / 100 ml	12.8 mg/L
138	2115 Hunterstown-Hampton Road	0 col. / 100 ml	0 col. / 100 ml	2.61 mg/L
139	99 Zepp Road	0 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
140	395 Red Bridge Road	0 col. / 100 ml	0 col. / 100 ml	1.47 mg/L
141	20 Conewago Road	0 col. / 100 ml	0 col. / 100 ml	3.83 mg/L
142	215 Conewago Road	42 col. / 100 ml	0 col. / 100 ml	3.33 mg/L
143	2105 Hunterstown-Hampton Road	6 col. / 100 ml	0 col. / 100 ml	4.28 mg/L
144	2455 Hunterstown-Hampton Road	0 col. / 100 ml	0 col. / 100 ml	1.67 mg/L
145	575 Coleman Road	0 col. / 100 ml	0 col. / 100 ml	1.99 mg/L
146	184 Flickinger Road	0 col. / 100 ml	0 col. / 100 ml	1.67 mg/L
147	90 New Chester Road	15 col. / 100 ml	0 col. / 100 ml	4.06 mg/L
148	1900 Old Harrisburg Road	18 col. / 100 ml	0 col. / 100 ml	2.19 mg/L
149	3603 Old Harrisburg Road	0 col. / 100 ml	0 col. / 100 ml	2.71 mg/L
150	185 Hunterstown-Hampton Road	8 col. / 100 ml	0 col. / 100 ml	3.57 mg/L

Table 1

Results for Straban Township
Act 537 Study
Straban Township, Adams County

Sample Number	Sample Address	Total Coliform Bacteria	Fecal Coliform Bacteria	Nitrate Nitrogen
151	55 Stone Jug Road	0 col. / 100 ml	0 col. / 100 ml	2.01 mg/L
152	131 Cavalry Field Road	0 col. / 100 ml	0 col. / 100 ml	1.98 mg/L
153	725 New Chester Road	0 col. / 100 ml	0 col. / 100 ml	3.92 mg/L
154	1354 Hunterstown Road	0 col. / 100 ml	0 col. / 100 ml	2.60 mg/L
155	107 Hoffman Road	0 col. / 100 ml	0 col. / 100 ml	<1.00 mg/L
156	225 New Chester Road	0 col. / 100 ml	0 col. / 100 ml	3.83 mg/L
157	2939 Old Harrisburg Road	0 col. / 100 ml	0 col. / 100 ml	2.36 mg/L
158	175 Flickinger Road	0 col. / 100 ml	0 col. / 100 ml	6.20 mg/L
159	1195 Old Harrisburg Road	9 col. / 100 ml	0 col. / 100 ml	1.51 mg/L
160	311 Hoffman Road	0 col. / 100 ml	0 col. / 100 ml	2.07 mg/L

**Table 2 Septic System Survey of Straban Township
Act 537 Study
Straban Township, Adams County**

ADDRESS	AGE OF SYSTEM	TYPE OF SEWAGE SYSTEM	SIGNS OF MALFUNCTIONS	SYSTEM REPAIRED	TYPE OF REPAIR	MALFUNCTION CATEGORY	SAMPLE NUMBER
1174 Old Harrisburg Rd	6 Yrs	In Ground Bed	Laundry to Separate Drainfield	Y	Tank Replaced	PROBABLE	3
1190 Old Harrisburg Road	30 Yrs	In Ground Bed	Laundry & Sink to Dry Well	N	NA	PROBABLE	5
1908 Old Harrisburg Rd	35 Yrs	In Ground Bed	Wetness/Spongy Areas	N	NA	PROBABLE	7
2080 Old Harrisburg Rd.	50+ Yrs	In Ground Bed	Laundry to Yard	N	NA	PROBABLE	8
127 Stone Jug Road	38 Yrs	In Ground Bed	Laundry & Sink to Ditch	NR	NR	PROBABLE	19
156 Hoffman Road	NR	In Ground Bed	Laundry & Sink to Dry Pit in Woods	N	NA	PROBABLE	24
5 Stone jug Road	40 Yrs	In Ground Bed	Sink to Pipe to Ditch	N	NA	PROBABLE	29
3325 Old Harrisburg Rd	45 Yrs	In Ground Bed	Laundry-Dry Well, Sink to Ditch	Y	NR	PROBABLE	30
2085 Old Harrisburg Rd.	45 Yrs	In Ground Bed	Green Lush Grass, Wetness/Spongy	Y	Line Repaired	PROBABLE	37
2485 Old Harrisburg Road	37 Yrs	In Ground Bed	Laundry/Sink Drains to Ditch	N	NA	PROBABLE	39
1384 Hunterstown Road	8 Months	In Ground Bed	Sink & Laundry Drain "Somewhere"	Y	New System	PROBABLE	41
125 Hunterstown Rd	50 Yrs	In Ground Bed	Laundry to Road, Sink to Seepage Pit	Y	Replaced 20 Yrs ago	PROBABLE	42
1275 Old Harrisburg Rd.	51 Yrs	In Ground Bed	Laundry not to Septic Tank	Y	Line Repaired	PROBABLE	51
1023 Highland Ave. Rd.	50 Yrs	In Ground Bed	Green Lush Grass, Wetness/Spongy	N	NA	PROBABLE	52
1560 Hanover Road	45+ Yrs	In Ground Bed	Sink Piped to Surface,	N	NA	PROBABLE	54
50 Sharrer Mill Road	40-50 Yrs	In Ground Bed	Laundry & Sink Pipe to Ditch	N	NA	PROBABLE	58
1948 Oxford Road	45 Yrs	In Ground Bed	Laundry & Sink Pipe to Ditch	Y	Line Repaired	PROBABLE	59
1299 Brickcrafters Road	32 Yrs	In Ground Bed	Laundry Pipe to Surface	N	NA	PROBABLE	63
445 New Chester Road	11 Yrs	Sand Mound	Laundry & Sink to Septic Tank	N	NA	PROBABLE	64
1690 Hanover Road	40 Yrs	In Ground Bed	Laundry/Sink Drains to Ditch	N	NA	PROBABLE	70
2493 Hunterstown-Hampton	40 Yrs	In Ground Bed	Pipe to Surface - Laundry	Y	Line Replaced, Drainfield Replaced	PROBABLE	72
485 Woodside Road	30-40 Yrs	Holding Tank	Pipe to Surface - Laundry & Sink	N	NA	PROBABLE	76
447 Hunterstown-Hampton	16 Yrs	In Ground Bed	Green Lush Grass, Wetness/Spongy	N	NA	PROBABLE	77
423 Hunterstown-Hampton	20 Yrs	In Ground Bed	Green Lush Grass, Wetness/Spongy	N	NA	PROBABLE	79
2095 Hunterstown-Hampton	28 Yrs	In Ground Bed	Pipe to Surface - Laundry	Y	Line Replaced	PROBABLE	86
434 Hunterstown-Hampton	30 Yrs	In Ground Bed	Pipe to Ditch - Laundry	N	NA	PROBABLE	87
621 New Chester Road	30 Yrs	In Ground Bed	Pipe to Surface - Laundry	Y	Repaired Tank, Baffles, Added Tank	PROBABLE	92
240 Millhimes Road	50+ Yrs	In Ground Bed	Pipe to Ditch - Laundry & Sink	N	NA	PROBABLE	105
63 Sharrer Mill Road	40+ Yrs	In Ground Bed	Pipe to Ditch - Laundry & Sink	N	NA	PROBABLE	106
1736 Hunterstown Road	30+ Yrs	In Ground Bed	Pipe to Ditch - Sink	N	NA	PROBABLE	110
1240 Good Intent Road	36 Yrs	In Ground Bed	Pipe to Ditch - Laundry	N	NA	PROBABLE	118
45 Fidler Road	30 Yrs	In Ground Bed	Wetness/Spongy Areas	N	NA	PROBABLE	119
161 Rentzel Road	27 Yrs	In Ground Bed	Wetness/Spongy Areas	Y	Added to Drainfield	PROBABLE	120
860 Hunterstown-Hampton	50+ Yrs	In Ground Bed	Wetness/Spongy Areas	N	NA	PROBABLE	122
1550 Hanover Road	48 Yrs	In Ground Bed	Wetness/Spongy Areas	Y	Drainfield Enlarged	PROBABLE	128
209 Hoffman Road	NR	In Ground Bed	Wetness/Spongy Areas	Y	New Pump, Replaced Drainfield	PROBABLE	130
1120 Hanover Road	35-40 Yrs	In Ground Bed	Pipe to Surface - Laundry & Sink	Y	Replaced Tank & added drain lines	PROBABLE	131
1940 Hunterstown-Hampton	18 Yrs	In Ground Bed	Laundry & Sink do not go to drainfield	N	NA	PROBABLE	133
1810 Hunterstown-Hampton	NR	In Ground Bed	Wetness/Spongy Areas	N	NA	PROBABLE	137
575 Coleman Road	47 Yrs	In Ground Bed	Pipe to Ditch - Laundry	N	NA	PROBABLE	145
1900 Old Harrisburg Road	NR	In Ground Bed	Pipe to Surface - Laundry	Y	Repaired Drainfield	PROBABLE	148
55 Stone Jug Road	NR	In Ground Bed	Wetness/Spongy Areas	N	NA	PROBABLE	151
311 Hoffman Road	40 Yrs	In Ground Bed	Laundry & Sink Pipe to Ditch	N	N	PROBABLE	160

**Table 2 Septic System Survey of Straban Township
Act 537 Study
Straban Township, Adams County**

ADDRESS	AGE OF SYSTEM	TYPE OF SEWAGE SYSTEM	SIGNS OF MALFUNCTIONS	SYSTEM REPAIRED	TYPE OF REPAIR	MALFUNCTION CATEGORY	SAMPLE NUMBER
137 Cashman Road	30-40 Yrs	In Ground Bed	Laundry to Sump, Green Lush Grass	N	NA	SUSPECTED	14
470 Rentzel Road	40 Yrs	In Ground Bed	Green Lush Grass	N	NA	SUSPECTED	15
110 Hunterstown-Hampton F	16 Yrs	In Ground Bed	Green Lush Grass	N	NA	SUSPECTED	26
646 Hunterstown Road	8 Yrs	Sand Mound	Green Lush Grass	N	NA	SUSPECTED	40
519 Hunterstown Road	32 Yrs	In Ground Bed	Green Lush Grass, Wetness/Spongy	N	NA	SUSPECTED	43
583 Sibert Road	38 Yrs	In Ground Bed	Green Lush Grass	N	NA	SUSPECTED	45
1490 Hanover Road	NR	In Ground Bed	Green Lush Grass	NR	NR	SUSPECTED	55
1385 Hunterstown-Hampton	15 Yrs	In Ground Bed	Green Lush Grass, Wetness/Spongy	N	NA	SUSPECTED	62
1330 Hunterstown-Hampton	22-23 Yrs	In Ground Bed	Green Lush Grass	N	NA	SUSPECTED	107
525 Swift Run Road	16-17 Yrs	In Ground Bed	Odors, Green Lush Grass	N	NA	SUSPECTED	109
1265 Highland Avenue Roac	40 Yrs	In Ground Bed	Green Lush Grass	N	NA	SUSPECTED	112
240 Weaner Road	27 Yrs	In Ground Bed	Green Lush Grass	N	NA	SUSPECTED	116
1907 Old Harrisburg Rd	42 Yrs	In Ground Bed	N	N	NA	POTENTIAL	1
1560 Old Harrisburg Road	50 Yrs	In Ground Bed	N	N	NA	POTENTIAL	6
96 Leedy Road	30-35 Yrs	In Ground Bed	N	Y	Line Repaired	POTENTIAL	38
1267 Highland Ave. Rd.	50 Yrs	In Ground Bed	N	N	NA	POTENTIAL	53
241 Hoffman Road	40+ Yrs	In Ground Bed	N	N	NA	POTENTIAL	56
1680 Hanover Road	42 Yrs	In Ground Bed	N	N	NA	POTENTIAL	60
800 Pond Bank Road	30 Yrs	In Ground Bed	N	Y	Drainfield Replaced	POTENTIAL	71
1587 Shrivvers Corner Rd	46 Yrs	In Ground Bed	N	Y	Line Repaired, Drainfield Replaced	POTENTIAL	78
259 Pine Tree Road	55 Yrs	In Ground Bed	Sink to Grease Trap	N	NA	POTENTIAL	81
810 Beaver Run Road	50+ Yrs	In Ground Bed	N	Y	Drainfield Replaced	POTENTIAL	83
1430 Shrivvers Corner Rd	40 Yrs	In Ground Bed	N	N	NA	POTENTIAL	85
1995A Oxford Road	40+ Yrs	In Ground Bed	N	N	NA	POTENTIAL	93
275 Leedy Road	35+ Yrs	In Ground Bed	N	Y	Baffle Repaired	POTENTIAL	97
765 Good Intent Road	40-50 Yrs	In Ground Bed	N	N	NA	POTENTIAL	100
1030 Hunterstown Road	40+ Yrs	In Ground Bed	N	N	NA	POTENTIAL	103
2016 Oxford Road	40 Yrs	In Ground Bed	N	N	NA	POTENTIAL	108
388 Leedy Road	44 Yrs	In Ground Bed	N	N	NA	POTENTIAL	111
1370 Hanover Road	45 Yrs	In Ground Bed	N	N	NA	POTENTIAL	127
184 Flickinger Road	35 Yrs	In Ground Bed	N	N	NA	POTENTIAL	146
3603 Old Harrisburg Road	56 Yrs	In Ground Bed	N	N	NA	POTENTIAL	149
2481 Hunterstown-Hampton	40 Yrs	In Ground Bed	NR	N	NA	POTENTIAL	49
795 Good Intent Road	4 Yrs	Sand Mound	N	N	NA	NO	115
1650 Old Harrisburg Rd	20 Yrs	In Ground Bed	N	N	NA	NO	2
2840 Old Harrisburg Rd	33 Yrs	In Ground Bed		Y	Drainfield Replaced 4 Yrs ago	NO	4
198 Stone Jug Road	26 Yrs	In Ground Bed	N	N	NA	NO	9
155 Cavalry Field Rd.	29 Yrs	In Ground Bed	N	N	NA	NO	10
171 Hoffman Road	30+ Yrs	In Ground Bed	N	N	NA	NO	11
131 Hoffman Road	22 Yrs	Sand Mound	N	N	NA	NO	12
255 Goldenville Road	NR	In Ground Bed	N	N	NA	NO	13
899 Shrivvers Corner Rd.	NR	In Ground Bed	N	Y	Line Repaired	NO	16
730 Shrivvers Corner Road	18 Yrs	In Ground Bed	N	N	NA	NO	18
145 New Chester Road	16 Yrs	Sand Mound	N	NR	NR	NO	20

**Table 2 Septic System Survey of Straban Township
Act 537 Study
Straban Township, Adams County**

ADDRESS	AGE OF SYSTEM	TYPE OF SEWAGE SYSTEM	SIGNS OF MALFUNCTIONS	SYSTEM REPAIRED	TYPE OF REPAIR	MALFUNCTION CATEGORY	SAMPLE NUMBER
60 Flickinger Road	10 Yrs	In Ground Bed	N	Y	Replaced 10 Yrs Ago	NO	21
65 Flickinger Road	25 Yrs	In Ground Bed	N	N	NA	NO	22
280 Hoffman Road	1 Yr	Sand Mound	N	N	NA	NO	23
1820 Granite Station Rd.	20 Yrs	In Ground Bed	N	N	NA	NO	25
50 Cashman Rd	15 Yrs	Sand Mound	N	N	NA	NO	27
3822 Old Harrisburg Rd	30+	In Ground Bed	N	Y	Line Repaired	NO	31
136 Stone Jug Road	18 Yrs	In Ground Bed	N	N	NA	NO	32
404 Shrivvers Corner Rd.	8+ Yrs	Sand Mound	N	N	NA	NO	33
485 Goldenville Road	33 Yrs	In Ground Bed	N	N	NA	NO	34
737 Shrivvers Corner Rd.	20 Yrs	In Ground Bed	N	N	NA	NO	35
94 Riley Road	30 Yrs	In Ground Bed	N	N	NA	NO	44
1281 Brickcrafters Rd	30 Yrs	In Ground Bed	N	N	NA	NO	46
1120 New Chester Road	20 Yrs	In Ground Bed	N	Y	Line Repaired	NO	48
15 Sharrer Mill Road	NR	In Ground Bed	N	N	NA	NO	50
2575 Hunterstown Road	NR	In Ground Bed	N	NR	NR	NO	57
1125 Hunterstown-Hampton	12 Yrs	Sand Mound	N	N	NA	NO	61
663 New Chester Road	8 Yrs	Sand Mound	N	N	NA	NO	65
521 New Chester Road	30+ Yrs	In Ground Bed	N	Y	Line Repaired	NO	66
55 New Chester Road	20 Yrs	Sand Mound	N	N	NA	NO	67
1015 Swift Run Road	14 Yrs	Sand Mound	N	N	NA	NO	68
959 Hanover Road	10 Yrs	Sand Mound	N	N	NA	NO	69
850 Red Bridge Road	1+ Yr	Sand Mound	N	N	NA	NO	73
745 New Chester Road	2 Yrs	Sand Mound	N	N	NA	NO	74
1525 New Chester Road	7-10 Yrs	In Ground Bed	Sluggish Drains	N	NA	NO	75
1080 Hunterstown-Hampton	40-50 Yrs	In Ground Bed	Separate Tank for Sink & Laundry	N	NA	NO	80
288 Pine Tree Road	13 Yrs	Sand Mound	N	N	NA	NO	82
650 Red Bridge Road	60 Yrs	In Ground Bed	N	Y	Line Replaced	NO	84
260 Pine Tree Road	15 Yrs	In Ground Bed	N	N	NA	NO	88
1460 New Chester Road	10-15 Yrs	In Ground Bed	N	N	NA	NO	89
420 New Chester Road	2.5 Yrs	Sand Mound	N	N	NA	NO	90
1345 New Chester Road	11 Yrs	Sand Mound	N	N	NA	NO	91
1514 Hunterstown-Hampton	13+ Yrs	In Ground Bed	N	Y	Line Replaced	NO	95
340 Good Intent Road	22+ Yrs	In Ground Bed	Separate Tank for Sink & Laundry	Y	Replaced Line & Drainfield	NO	96
1370 Old Harrisburg Road	12+ Yrs	In Ground Bed	N	N	NA	NO	98
326 Schrivvers Corner Road	< 1 Yr	Sand Mound	N	N	NA	NO	101
1274 Hunterstown-Hampton	20+ Yrs	In Ground Bed	N	N	NA	NO	102
200 Carey Lane	1 Yr	Sand Mound	N	N	NA	NO	113
565 Swift Run Road	5 Yrs	Sand Mound	N	N	NA	NO	114
1133 Good Intent Road	26 Yrs	In Ground Bed	N	N	NA	NO	117
555 Rentzel Road	30 Yrs	In Ground Bed	N	Y	Replaced Tank	NO	121
257 Cashman Road	12 Yrs	Sand Mound	N	N	NA	NO	123
95 Fairview Road	3 Yrs	Sand Mound	N	N	NA	NO	124
11 Goldenville Road	20+ Yrs	Sand Mound	N	N	NA	NO	125
1973 Hunterstown-Hampton	23+ Yrs	In Ground Bed	N	N	NA	NO	126

**Table 2 Septic System Survey of Straban Township
Act 537 Study
Straban Township, Adams County**

ADDRESS	AGE OF SYSTEM	TYPE OF SEWAGE SYSTEM	SIGNS OF MALFUNCTIONS	SYSTEM REPAIRED	TYPE OF REPAIR	MALFUNCTION CATEGORY	SAMPLE NUMBER
1319 Granite Station Road	55 Yrs	In Ground Bed	N	N	NA	NO	132
1125 New Chester Road	9 Yrs	In Ground Bed	N	N	NA	NO	135
790 New Chester Road	14 Yrs	Sand Mound	N	Y	Replaced Pump	NO	136
2115 Hunterstown-Hampton	20 Yrs	In Ground Bed	N	Y	Added to Drainfield	NO	138
99 Zepp Road	17 Yrs	Sand Mound	N	N	NA	NO	139
395 Red Bridge Road	6 Yrs	Sand Mound	N	N	NA	NO	140
20 Conewago Road	NR	In Ground Bed	N	N	NA	NO	141
215 Conewago Road	3.5 Yrs	In Ground Bed	N	Y	Replaced Tank	NO	142
2105 Hunterstown-Hampton	20+ Yrs	In Ground Bed	N	N	NA	NO	143
2455 Hunterstown-Hampton	15 Yrs	Sand Mound	N	N	NA	NO	144
90 New Chester Road	NR	In Ground Bed	NR	N	NA	NO	147
185 Hunterstown-Hampton	25 Yrs	In Ground Bed	N	Y	Replaced Pump	NO	150
131 Cavalry Field Road	7 Yrs	Sand Mound	N	N	NA	NO	152
725 New Chester	6 Yrs	Sand Mound	N	N	NA	NO	153
1354 Hunterstown Road	11 Yrs	Sand Mound	N	N	NA	NO	154
107 Hoffman Road	29 Yrs	Sand Mound	N	N	NA	NO	155
225 New Chester Road	NR	Sand Mound	N	N	NA	NO	156
2939 Old Harrisburg Road	32+ Yrs	In Ground Bed	N	Y	Replaced Line	NO	157
175 Flickinger Road	20 Yrs	In Ground Bed	N	N	NA	NO	158
1195 Old Harrisburg Road	NR	In Ground Bed	N	N	NA	NO	159

**Table 3 Well Survey of Straban Township
Act 537 Study
Straban Township, Adams County**

ADDRESS	LOT SIZE (ACRES)	DUG OR DRILLED	DEPTH (ft.)	CASED	WATER TREATMENT	TREATMENT TYPE	WELL ISOLATION DISTANCE (ft.)
1690 Hanover Road	<1	Drilled	135	Y	Y	Softener	60
1384 Hunterstown Road	<1	Drilled	NR	Y	Y	UV, Softener	175
94 Riley Road	1.00	Drilled	NR	NR	Y	Softener	NR
2485 Old Harrisburg Road	35.00	NR	NR	Y	N	NA	125
125 Hunterstown Rd	0.83	Drilled	125-130	Y	Y	UV	50-60
646 Hunterstown Road	32.00	Drilled	175	Y	N	NA	1000-1500
519 Hunterstown Road	1.00	Drilled	90	Y	N	NA	150
521 New Chester Road	60.00	Drilled	290	Y	N	NA	150
663 New Chester Road	1.50	Drilled	200	Y	N	NA	200
55 New Chester Road	4+	Drilled	NR	Y	N	NA	200
1015 Swift Run Road	4.00	Drilled	165	NR	N	NA	300
959 Hanover Road	48.00	Drilled	300	Y	Y	UV, Softener	150
445 New Chester Road	1+	Drilled	100	Y	N	NA	175
1023 Highland Ave. Rd.	19.00	Drilled	84	NR	N	NA	50
1267 Highland Ave. Rd.	1.00	Drilled	NR	NR	N	NA	150
1275 Old Harrisburg Rd.	0.50	Drilled	135	Y	N	NA	45
1490 Hanover Road	2.00	Drilled	80	Y	Y	Softener	30
1560 Hanover Road	0.50	Drilled	100+	Y	Y	UV	150
241 Hoffman Road	3.00	Drilled	NR	Y	N	NA	100
2575 Hunterstown Road	2.50	Drilled	NR	Y	N	NA	150
730 Shrivvers Corner Road	30.00	Drilled	220	Y	N	NA	<200
198 Stone Jug Road	0.63	Drilled	125	N	N	NA	80-90
2080 Old Harrisburg Rd.	0.50	NR	NR	N	Y	Softener	150
137 Cashman Road	4.00	Drilled	NR	NR	N	NA	NR
470 Rentzel Road	1.50	Drilled	NR	Y	N	NA	250
282 Shrivvers Corner Rd	2.50	Drilled	NR	NR	Y	Chlorine, Softener	NR
255 Goldenville Road	114.00	Drilled	125	Y	N	NA	NR
899 Shrivvers Corner Rd.	44.00	Drilled	NR	Y	Y	Softener	200
155 Cavalry Field Rd.	1.00	Drilled	65	Y	Y	Softener	90
404 Shrivvers Corner Rd.	24.20	Drilled	180	Y	N	NA	200
737 Shrivvers Corner Rd.	12.00	Drilled	330	Y	Y	Softener	100
485 Goldenville Road	1.00	Drilled	NR	NR	Y	Softener	200

**Table 3 Well Survey of Straban Township
Act 537 Study
Straban Township, Adams County**

ADDRESS	LOT SIZE (ACRES)	DUG OR DRILLED	DEPTH (ft.)	CASED	WATER TREATMENT	TREATMENT TYPE	WELL ISOLATION DISTANCE (ft.)
2085 Old Harrisburg Rd.	1.25	Drilled	90	Y	Y	Softener	75
96 Leedy Road	1.00	Drilled	125-150	NR	Y	Softener	150
171 Hoffman Road	5.25	Drilled	NR	Y	N	NA	300
131 Hoffman Road	3.20	Drilled	260	Y	N	NA	200+
110 Hunterstown-Hampton Rd	2.50	Drilled	180	Y	Y	Copper Neutralizer & Softener	100
1820 Granite Station Rd.	16.00	Drilled	110-125	Y	Y	Softener	100
156 Hoffman Road	5.00	Drilled	70	Y	N	NA	400
280 Hoffman Road	3.20	Drilled	250	Y	Y	Iron & Sulfur	100
60 Flickinger Road	0.70	Drilled	700	Y	N	NA	70
65 Flickinger Road	1.13	Drilled	210	Y	Y	Iron	70+
145 New Chester Road	12.16	NR	NR	Y	Y	UV	100
127 Stone Jug Road	18.00	Drilled	100	Y	N	NA	200
2009 Oxford Road	<1	Drilled	120-150	Y	N	NA	100
1680 Hanover Road	1.25	Drilled	152	Y	N	NA	56-70
1299 Brickcrafters Road	1.97	Drilled	120-125	Y	N	NA	80-100
1385 Hunterstown-Hampton	18.75	Drilled	300	Y	Y	Softener	100-200
1125 Hunterstown-Hampton	5.00	Drilled	600+	Y	N	NA	100-150
50 Sharrer Mill Road	6.00	Dug	25-30	NR	Y	UV	50-75
1948 Oxford Road	1.00	Dug	8 to 9	N	N	NA	50
15 Sharrer Mill Road	<1	Drilled	NR	Y	N	NA	100-200
2481 Hunterstown-Hampton	1.5	Drilled	<100	Y	N	NA	200-300
583 Sibert Road	0.75	Drilled	NR	NR	N	NA	100-150
1281 Brickcrafters Rd	1	Drilled	100+	Y	N	NA	125-175
1120 New Chester Road	3	NR	NR	NR	N	NA	NR
1174 Old Harrisburg Rd	0.5	Drilled	152	Y	Y	Softener	60-70
1190 Old Harrisburg Road	0.75	NR	NR	NR	Y	Softener	75-100
1560 Old Harrisburg Road	1	Drilled	100	Y	Y	Softener	50
1650 Old Harrisburg Rd	106	Drilled	250	Y	Y	Softener	150-175
1907 Old Harrisburg Rd	<2	NR	NR	Y	Y	Softener	60
1908 Old Harrisburg Rd	.5+	Drilled	150	Y	Y	UV and Softener	50-60
2840 Old Harrisburg Rd	1	Drilled	139	Y	N	NA	100+
3325 Old Harrisburg Rd	0.35	Drilled	125	Y	Y	Softener	70-80
50 Cashman Rd	18	Drilled	207	Y	Y	Softener	50

**Table 3 Well Survey of Straban Township
Act 537 Study
Straban Township, Adams County**

ADDRESS	LOT SIZE (ACRES)	DUG OR DRILLED	DEPTH (ft.)	CASED	WATER TREATMENT	TREATMENT TYPE	WELL ISOLATION DISTANCE (ft.)
5 Stone Jug Road	1.5	Drilled	186	Y	Y	Softener	225
136 Stone Jug Road	10	Drilled	500	Y	Y	Softener	100
3822 Old Harrisburg Rd	4	Drilled	70-75	Y	N	NA	90-100
1587 Shrivens Corner Rd	180.00	Drilled	120+	Y	Y	Softener	50-80
423 Hunterstown-Hampton Rd	10.50	Drilled	100+	Y	N	NA	100-150
259 Pine Tree Road	2.50	Drilled	300+	Y	Y	UV, Softener	150-200
288 Pine Tree Road	2.21	Drilled	100+	Y	N	NA	200-300
650 Red Bridge Road	258.00	Drilled	160	Y	N	NA	110-120
810 Beaver Run Road	200.00	Drilled	160	Y	Y	Softener	150
1080 Hunterstown-Hampton Rc	25.00	Drilled	30	Y	Y	Softener	70+
745 New Chester Road	2.60	Drilled	NR	NR	N	NA	NR
800 Pond Bank Road	450.00	Drilled	175	Y	Y	Softener	150
850 Red Bridge Road	1.50	Drilled	150-160	Y	N	NA	250-300
2493 Hunterstown-Hampton Rc	0.80	Drilled	35	Y	N	NA	200-250
1525 New Chester Road	1.50	Drilled	350-400	Y	N	NA	NR
447 Hunterstown-Hampton Rd	10.00	Drilled	250	Y	N	NA	90
485 Woodside Road	10.00	Dug	NR	NR	N	NA	NR
434 Hunterstown-Hampton Rd	0.80	NR	NR	NR	N	NA	75-100
260 Pine Tree Road	50.00	Drilled	200-250	Y	Y	Softener	150-200
420 New Chester Road	2.33	Drilled	320	Y	Y	Softener	150-200
621 New Chester Road	21.00	Drilled	40	Y	Y	Softener	150-200
1460 New Chester Road	NR	Drilled	168	Y	N	NA	NR
1345 New Chester Road	1.00	Drilled	350-365	Y	N	NA	250-300
2095 Hunterstown-Hampton Rc	1.25	Drilled	30-50	Y	N	NA	150-300
1995A Oxford Road	<1	Dug	30-35	N	N	NA	150-200
1430 Shrivens Corner Rd	1.00	Drilled	115	Y	Y	Softener	150-200
275 Leedy Road	58.00	Drilled	NR	Y	Y	Softener	150-200
1370 Old Harrisburg Road	NR	NR	NR	NR	N	NA	150-250
340 Good Intent Road	69.00	Drilled	180	Y	Y	UV, Softener	150-200
765 Good Intent Road	3.90	Drilled	80-100	Y	N	NA	150-200
326 Shrivens Corner Road	11.00	Drilled	105	Y	N	NA	800+
1514 Hunterstown-Hampton Rc	2.00	Drilled	NR	Y	Y	Softener	150-200
1274 Hunterstown-Hampton Rc	1.00	NR	NR	NR	N	NA	225-300

**Table 3 Well Survey of Straban Township
Act 537 Study
Straban Township, Adams County**

ADDRESS	LOT SIZE (ACRES)	DUG OR DRILLED	DEPTH (ft.)	CASED	WATER TREATMENT	TREATMENT TYPE	WELL ISOLATION DISTANCE (ft.)
1030 Hunterstown Road	45.00	Drilled	160-180	Y	Y	Softener	100
240 Millhimes Road	4.00	Drilled	400	Y	N	NA	100-120
1330 Hunterstown-Hampton Rc	2.00	Drilled	120-125	NR	Y	Softener	100
525 Swift Run Road	10.00	Drilled	60	Y	Y	Softener	300
2016 Oxford Road	0.50	Drilled	30	Y	N	NA	70
63 Sharrer Mill Road	13-14	Drilled	105	Y	Y	Softener	110+
1736 Hunterstown Road	58.00	Drilled	175	Y	Y	Softener	70
565 Swift Run Road	3.00	Drilled	280	Y	N	NA	250
200 Carey Lane	10.80	Drilled	120	Y	N	NA	75-100
1265 Highland Avenue Road	0.52	Drilled	50	Y	Y	Softener	30-40
388 Leedy Road	3.00	Drilled	67	Y	Y	Softener	180-200
795 Good Intent Road	2.00	Drilled	NR	Y	Y	Softener	150-200
240 Weaner Road	3+	Drilled	250	Y	N	NA	100
1240 Good Intent Road	1.00	Drilled	NR	Y	N	NA	100
1133 Good Intent Road	106.00	Drilled	100	NR	N	NA	500
1120 Hanover Road	1.50	Drilled	45	Y	Y	Softener	50-75
1319 Granite Station Road	0.75	Drilled	31	Y	N	NA	100
1940 Hunterstown-Hampton Rc	32.00	Drilled	NR	NR	Y	Softener	NR
1125 New Chester Road	24.90	Drilled	295	Y	Y	Softener	660
790 New Chester Road	5.50	Drilled	120	Y	Y	Softener	300+
2115 Hunterstown-Hampton Rc	5.00	Drilled	80	Y	N	NA	200
1810 Hunterstown-Hampton Rc	102.00	Dug	Shallow	NR	N	NA	150-200
1973 Hunterstown-Hampton Rc	1.00	Drilled	300	Y	N	NA	100
1370 Hanover Road	1+	Drilled	200	NR	Y	Softener	120-150
1550 Hanover Road	NR	Drilled	165	Y	Y	Softener	100-120
209 Hoffman Road	4.20	Drilled	NR	Y	N	NA	25-50
860 Hunterstown-Hampton Rd	1.00	Drilled	100	Y	N	NA	100-125
11 Goldenville Road	13.00	Drilled	160	Y	Y	UV, Softener	100-150
95 Fairview Road	34.00	Drilled	350	Y	N	NA	200-300
257 Cashman Road	1.00	Drilled	125-150	Y	N	NA	100-150
555 Rentzel Road	300.00	Drilled	120	Y	Y	Softener	100-150
161 Rentzel Road	12.00	Drilled	130	Y	Y	Softener	100
45 Fidler Road	30.00	Drilled	155	Y	Y	Softener	200

**Table 3 Well Survey of Straban Township
Act 537 Study
Straban Township, Adams County**

ADDRESS	LOT SIZE (ACRES)	DUG OR DRILLED	DEPTH (ft.)	CASED	WATER TREATMENT	TREATMENT TYPE	WELL ISOLATION DISTANCE (ft.)
99 Zepp Road	1.00	Drilled	240	Y	Y	Softener	100 +
395 Red Bridge Road	15.00	Drilled	320	Y	N	NA	150
20 Conewago Road	200.00	Dug	30-40	N	Y	UV	500
215 Conewago Road	1.30	Drilled	200	Y	N	NA	50-75
2455 Hunterstown-Hampton Rc	2.30	Drilled	NR	NR	Y	Softener	300-350
2105 Hunterstown-Hampton Rc	3.00	Drilled	NR	Y	N	NA	90-120
2939 Old Harrisburg Road	7.50	Drilled	110	Y	N	NA	90-100
175 Flickinger Road	104.00	Drilled	140	Y	N	NA	70
575 Coleman Road	1.50	Dug	27	N	N	NA	30-40
184 Flickinger Road	1.00	Drilled	65-70	Y	Y	Softener	90-100
90 New Chester Road	1.50	Dug	NR	NR	N	NA	NR
185 Hunterstown-Hampton Rd	10.00	Drilled	NR	Y	Y	Softener	90-120
3603 Old Harrisburg Road	1.50	NR	NR	NR	N	NA	120-150
1900 Old Harrisburg Road	127.00	Drilled	250	Y	N	NA	300
225 New Chester Road	15.00	Drilled	NR	Y	N	NA	270-300
1354 Hunterstown Road	1.50	Drilled	240	Y	N	NA	100
55 Stone Jug Road	1.33	Drilled	250	Y	Y	Softener	150
725 New Chester Road	1.50	Drilled	350	Y	N	NA	100
131 Cavalry Field Road	2.00	Drilled	125	Y	Y	Softener	130
107 Hoffman Road	3.35	NR	NR	NR	Y	Softener	150
1195 Old Harrisburg Road	NR	Drilled	NR	Y	N	NA	90-100
311 Hoffman Road	4.00	Drilled	34	Y	N	NA	75-90

Y = YES

N = NO

NA = NOT APPLICABLE

NR = NO RESPONSE

TABLE 5
ON-LOT SEWAGE DISPOSAL SYSTEM MALFUNCTIONS

MAP #	DATE	ADDRESS	TYPE OF SYSTEM	REPAIR
1	9/24/2003	299 Culp Road	Sand Mound	Replaced Existing System
2	2/12/2003	986 Hanover Road	Sand Mound	Replaced Existing System
3	12/10/2001	515 Oak Hill Road	Sand Mound	Replaced Existing System
4	10/9/2001	1430 Old Harrisburg Road	In Ground Trench	Replaced Drain Field Lines
5	6/22/2001	145 Flickinger Road	Sand Mound	Replaced Existing System
6	8/21/2000	140 Bernstine Road	Sand Mound	Replaced Existing System
7	7/25/1999	2840 Old Harrisburg Road	In Ground Trench	Replaced Drain Field Lines

ALTERNATIVES TO PROVIDE ADEQUATE SEWAGE FACILITIES

Although the Needs Analysis performed as a part of this Act 537 Sewage Facilities Plan Update did not identify any areas requiring the establishment or extension of public sanitary sewage facilities, there are administrative, management, operational, and oversight alternatives that can be utilized by Straban Township to enhance the existing and future sewage facilities. To help identify these alternatives, a statement of the goals of Straban Township relative to the sewage facilities within the Township is offered.

Goal #1

To assure the continued efficient operation and management of on lot sewage disposal systems utilized in Straban Township.

Goal #2

To discourage the proliferation of small, development specific, privately owned and operated wastewater conveyance and treatment facilities within the Township.

Goal #3

To enhance, or prevent the degradation of, the quality and quantity of the water resources of Straban Township.

No Action Alternative

Due to the fact that no “Needs Areas” were identified in the Needs Analysis, it is estimated that short term impacts of implementing a No Action Alternative would be insignificant. With that being said, in order to meet the goals stated above, Straban Township must be proactive to avoid long term impacts resulting from implementation of a No Action Alternative. Without implementing control measures, the Township can not assure the efficient operation of on lot sewage disposal systems or control the proliferation of private treatment facilities. To wait for a subsequent plan revision to identify a “Needs Area” would concede the degradation of the Township’s water resources as system malfunctions and evidence of groundwater contamination are required to make such an identification.

Therefore, since a No Action Alternative will not assist Straban Township in achieving the stated goals of this planning, its implementation is rejected.

Alternative I – Continued Extension of Central Sewerage Service

All existing central sewerage service within Straban Township is provided by the Gettysburg Municipal Authority, White Run Regional Municipal Authority, or private entities. At this time, Straban Township neither owns nor operates any central sewerage collection or treatment facilities. Gettysburg Municipal Authority owns and operates the collection facilities along Route 30, west of US 15, collection facilities along Route 30,

east of US 15 including the Adams Commerce Center, and collection facilities in the vicinity of the Gettysburg High School on Old Route 15. All of these sewerage service areas within Straban Township drain to the Gettysburg Municipal Authority's wastewater treatment facility in Gettysburg Borough.

Additionally, Gettysburg Municipal Authority owns and operates the Hunterstown Wastewater Treatment Facility and the associated sanitary sewer collection system. This central sewer system, wholly located within Straban Township, was constructed by Adams County and Reliant Energy to provide sewage service for their development projects within the Hunterstown area of Straban Township. Adams County required central sewage service to support the new Adams County Adult Correctional Center, Emergency Management Training Center, and possibly a Co-Composting Facility. Reliant Energy required central sewers to support their gas-fired power generating facility. All of these facilities are located along Granite Station Road, in the vicinity of the Village of Hunterstown. As part of the four party agreement signed by Gettysburg Municipal Authority, Straban Township, Adams County, and Reliant Energy, the Hunterstown sewage facilities were ultimately to be conveyed to Gettysburg Municipal Authority (GMA). At the time of the agreement, Straban Township did not have the administrative entity or staff for operating wastewater facilities and did not have the desire to enter the wastewater service field. At the time it was thought that GMA, which already owned and operated sewage facilities within Straban Township, would be the best choice to own and operate the Hunterstown sanitary sewage facilities, particularly when faced with the expedited schedule of implementation for the Hunterstown project.

Following completion of the Hunterstown construction project, and in response to a surge in proposed development around the Hunterstown area, the Straban Township Supervisors became interested in gaining a greater level of control over the growth of central sewer service within the Township. They initiated discussions with GMA as to the future operation and expansion of public sewage facilities within the Township, indicating a desire to take possession of the Hunterstown facility and the collection system along Route 30, east of US 15. GMA, in the ensuing discussions, indicated that they had no intention of transferring control of any sewage facilities they owned within Straban Township over to the Township. Their position was that GMA would provide service to all areas of Straban Township that they currently serve and that any expansion of these facilities would be at the sole discretion of GMA, in negotiation with potential developers. (See Exhibit 8, Central Sewer Service Areas)

In an attempt to increase the Township's control over central sewage options within Straban Township, the Board of Supervisors established a policy requiring that all private central sewage facilities proposed by developers within the Township shall be offered for dedication to Straban Township following construction. At this time, there are two private sewer systems proposed by private developers within Straban Township that, by agreement, shall be offered for dedication (e.g. Gettysburg Commons and Snyder Developers developments).

Outside of those areas served by GMA facilities, there is a small area of Straban Township that is served by the White Run Regional Municipal Authority (WRRMA).

Straban Township is represented by a citizen of the Township on this regional Authority Board along with Mount Joy Township and Mount Pleasant Township. The WRRMA service area in Straban Township, located north of PA Route 116 and east of US Route 15, has experienced little growth due to collection system restrictions within the WRRMA system. However, due to a proposed expansion of the north collection system, additional conveyance capacity will be available in late 2008 for growth in this area of Straban Township.

Additionally there are several areas of Straban Township that are served by private sewage systems. Generally, these areas are restricted to the limits of a private development project and expansion of these facilities to serve surrounding areas is not anticipated. The ultimate goal for these areas is to have them incorporated into a publicly owned and operated central sewage system, when feasible. (See Exhibit 4)

Beyond the completion of the East Route 30 collection system expansion project, Straban Township does not foresee the extension of public sewers to serve other existing residential areas of the Township. Some extensions could occur due to developer's needs, but no public projects are proposed. The Needs Analysis included in this plan did not identify any areas of the Township as requiring public sewers to correct or prevent environmental degradation due to failing on-site septic systems or private well water quality problems. Any extensions of existing public facilities will be private projects in response to developers' needs.

In order to establish a framework for the expansion of sewers within the Township, the Straban Township Supervisors negotiated and executed an agreement with Gettysburg Municipal Authority that divides the township into “drainage basins”. These “drainage basins” are areas that drain to a common location, defined by topography and roads. Any development within a defined drainage basin must investigate conveyance of wastewater to a sewerage system within the basin, if present.

Alternative II – On-Site Septic System Management

The majority of the existing population of Straban Township meet their wastewater disposal needs by the use of individual on-site septic systems. When properly designed and maintained, these on-site systems can operate efficiently and reliably for many years. But without the proper maintenance, even a well designed system can fail after only a few years use. The key to confident reliability of these systems is the periodic removal of accumulated solids from the septic tank every two to three years. If these solids are not periodically removed, they can make their way into the leach field or sand mound where the solids can block the pore spaces in the soil, reducing infiltration. In order to reduce the incidence of surface malfunctions of on-lot systems, a Township-wide on-site system maintenance program would be implemented. This would be an expansion of the existing on-site system maintenance program already established for the East Route 30 Corridor Area, from a point 900 feet east of Flickinger Road (the extent of the permitted collection system extension along Route 30) to the Township border. This program would require each resident of the Township that utilizes an on-site septic system to have the system

inspected and pumped out to remove accumulated solids every three years. The program would divide the township into three separate sewage management districts and inspections would be sequenced so that one district, or one-third of the systems, would be inspected and pumped each year. The Township currently has adopted a Sewage Management Ordinance for the Route 30 Corridor, which shall be amended to include the entire Township. Management details of the program will be determined during the drafting of the proposed ordinance modifications, but it is anticipated that pumpings and inspections will be performed by the commercial haulers with reports being filed with the Township. Suspected or observed problems will be reported to the SEO for further investigation and correction. It is possible that a contract price for pump, haul, and inspection costs could be established between the Township and the commercial haulers and residents could contact the Township for scheduling with a participating hauler when notified of a pumping requirement.

Township ordinances would also be adopted covering the minimum design standards for private potable water wells in the Township. This would assure that wells are properly constructed to protect the quality of drinking water in the well as well as protecting the aquifer from contamination.

Additionally an ordinance would be adopted requiring a hydrogeologic report be prepared for all land developments within one-quarter mile of a well found with a nitrate concentration above 5 mg/l or that are located within the areas of the Township underlain by diabase formations. These areas are shown on Exhibit 9. This ordinance would adjust

the minimum lot size required for adequate groundwater recharge to assure homeowners that a private well developed within these areas will not exceed health-based limits for nitrate pollution due to on-site septic systems. No planning exemptions or exceptions may be utilized within these areas of the Township.

Community land-based wastewater disposal systems, including community on-lot systems, small flow treatment systems, and spray irrigation systems, are alternatives to address small clusters of failing on-lot systems where individual repairs or replacement options are not available. The use of holding tanks can also be considered on a case by case basis. Alternative or innovative methods of wastewater conveyance, such as vacuum sewers, small diameter sewers and/or low pressure sewers could also be considered to make the extension of collection facilities to a need area more cost effective. Although these are alternatives that could be considered to serve existing residences experiencing problems with on-lot systems, this plan does not identify any areas of the township that require a public project to correct problems.

Alternative III – Private Central Sewage Collection and Treatment Facilities

Although it is the desire of the Township to limit the proliferation of privately owned and operated central sewage systems, they do not have the state legislated authority to deny such proposals. Prior to constructing a private wastewater treatment facility, the developer shall be required to thoroughly evaluate all options for connecting to an existing wastewater treatment facility, whether publicly or privately operated, during

preparation of a planning module. In order to exert some control over these types of proposals, the Township will place requirements on such systems to assure a well designed and operated facility is realized. These requirements would include agreements between the developer and the Township defining Township oversight of the design, standard materials, and construction of the facilities. Financial security would be required to cover design review and construction oversight, facility construction, and initial operation of the facilities. Prior to the facilities being conveyed to a third party for ownership and/or operation, the Township would be offered dedication of the facilities by the developer or his agent. These agreements, authorized under the Municipal Planning Code, would be negotiated during the preparation of the Sewage Facilities Planning Module.

Developer constructed private wastewater treatment facilities' service areas, if allowed, would be limited to the development for which they were constructed. Without a PUC license, these facilities would not be legally able to serve any areas outside of the development. It is then plausible that if a developer wanted to build a residential development on an adjoining piece of ground to an existing development with a private WWTF, there could be two private wastewater treatment facilities on adjoining properties. If these private facilities were dedicated to the Township, they could be used to provide central sanitary sewer service to adjoining developments and other areas of the Township as needs arise.

Therefore, Straban Township is of the opinion that by accepting dedication of some of the privately constructed wastewater treatment facilities, it can better control the proliferation of private central sewage facilities and can offer opportunities to provide central sewer service to future needs areas of the Township. So at the time a private system is offered for dedication to the Township, they will evaluate the possibility of a facility providing sewer service to adjoining growth areas or for eliminating other private facilities nearby. If the Township sees the ability of a private system being expanded to act as a consolidating or expanding system, they will accept dedication. As these new municipal systems expand, existing private wastewater treatment facilities can be decommissioned and their collection systems connected to the municipal system. The negotiated agreements between the Township and developers will assure that the sewer systems dedicated to the Township are properly designed and constructed so that it operates efficiently and offers expansion possibilities to serve other areas of the Township.

The Pennsylvania Department of Environmental Protection's Chesapeake Bay Initiative is likely to have a profound effect on the proliferation of private wastewater treatment facilities and the way they are approached by municipalities. Under this state program, any new point source discharges within the Chesapeake Bay Watershed will be issued a NPDES permit with a "zero loading" for total nitrogen and total phosphorus. Current wastewater treatment technology can not achieve a zero discharge for these parameters, so PA DEP is establishing a "nutrient credit trading program". Under this proposed program, loading credits (pounds/year) can be purchased from existing facilities

discharging below their permit threshold or from non-point sources that implement “best management practices” on agricultural property. The amount of credits acquired for a new point source would establish the level of treatment necessary to comply with the NPDES permit. But the credit market is expected to be volatile, with limited availability from different sources, requiring constant trading to maintain a feasible loading, and prices being market driven by availability and demand. This represents a potential administrative nightmare and will likely discourage the development of new discharges, both private and municipal, and could impede growth in general, within the Chesapeake Bay Watershed. Such administrative difficulties could place the operation of private wastewater treatment facilities beyond the capability of a non-professional group, such as a homeowners association, and favor operation by corporate entities, such as Aqua PA. It could also discourage acceptance of dedication of new private facilities by municipalities due to the uncertainty of operational costs due to credit trading. Many issues with this policy are still undetermined, such as inter-basin transfers of loading credits and equivalencies between point sources and non-point sources.

The private systems that would be dedicated to the township would be dedicated without cost to the Township. They would be larger systems, would have an existing customer base, and would have a maintenance bond in place to assure that the equipment and construction are without major faults. This would greatly reduce the cost to the Township for accepting dedication of a sanitary sewer system. If the existing customer base is insufficient to support the system at the time of dedication, due to the developer’s phasing of the development, a provision for the developer to support the facility for those

units unconnected shall be included in the original developer's agreement. The costs to operate and maintain a dedicated sanitary sewer system would then come from the systems existing customer base and any expansion would be financed by the new customers connected to the system.

SELECTED ALTERNATIVES

The Straban Township Act 537 Plan has three stated goals:

Goal #1

To assure the continued efficient operation and management of on-lot sewage disposal systems utilized in Straban Township.

Goal #2

To discourage the proliferation of small, development specific, privately owned and operated wastewater conveyance and treatment facilities within the Township.

Goal #3

To enhance, or prevent the degradation of, the quality and quantity of the water resources of Straban Township.

In order to meet these goals, multiple alternatives will be necessary. Straban Township will implement Alternatives I, II, and III, as discussed previously, in an effort to achieve the goals of this Act 537 Plan.

In an effort to meet Goal #1, Straban Township shall implement a township-wide on-site septic management program, as discussed in Alternative II, previously. This program will require a pumping and physical inspection of every septic system within the Township

every three years. This will assure that these on-site septic systems are maintained properly and that those needing repairs will be promptly addressed before serious groundwater contamination can occur.

The Township will need the use of a database management software to track compliance and schedule pump notices, but no additional administrative personnel would be necessary to manage the septic management program. Pumpings and inspections would be conducted by commercial septic haulers and inspection reports would be submitted to the Township by the commercial haulers. System repairs would be handled through the Township's Sewage Enforcement Officer. The Septic Management Program will act to collect additional information on the general health of the Township's existing on-lot septic systems and assist in identifying any area of the Township where a community disposal system may be proper and necessary to correct on-lot system problems. This program will also allow the confirmation of apparent on-lot system problems (malfunction indications/evidence and graywater discharges) that were indicated on the random sampling conducted as part of this Plan development. As these systems are inspected and pumped, the locations will be flagged in the data base so that the specific concerns identified in the survey can be examined in the field by the inspector or the Township's SEO. This will allow these potential problems to be confirmed and corrected, if needed, in a phased manner and honor the study's assertion that the survey was for information gathering and not a compliance action. For those systems that are found as malfunctioning, the use of replacement systems, repairs, or holding tanks, as well as

community systems and sewer extensions using alternative/innovative methods, shall be considered.

Goal #2 will be more difficult to achieve. Without the legal authority to deny a developer the ability to construct a package treatment facility for his individual development, Straban Township must be more creative in how it acts to discourage this alternative. The Township's first priority is to assure that if a private wastewater treatment facility is to be constructed, it is constructed using quality materials and workmanship, and is of an appropriate process to consistently meet the anticipated effluent limits. This will be assured by the adoption of standard specifications for the design and construction of wastewater treatment and conveyance facilities. Additionally, agreements between the developer and the Straban Township Supervisors will be required during the Planning Module approval process that agree to municipal review of the design and construction of the sewage facilities and establish financial guarantees that the facility will be constructed and operated as designed and intended. The agreement will also establish that the sewage facilities will first be offered for dedication to Straban Township prior to their conveyance to a third party for ownership and operation.

Straban Township's willingness to accept dedication of a privately constructed wastewater treatment and conveyance system is a key component in the Township's ability to control the proliferation of development specific wastewater treatment facilities. Once the Township becomes the owner and operator of a privately constructed wastewater system, that system can be extended to serve adjoining properties that are

developed. This would not be possible for a private facility being operated by the developer or a property owners' association, unless they possessed a Public Utility Commission license. The ability to expand an existing swage system to accommodate the development of adjacent properties will discourage the construction of additional development specific central wastewater systems by making a conveyance facility expansion a more cost effective option than building a private system.

Straban Township's negotiated agreement with Gettysburg Municipal Authority will also assist the Township in minimizing the proliferation of private treatment facilities. The agreement divides the Township into "drainage basins", defined by topography and highway corridors. If there is a public sewage system within the drainage area where a development is being proposed, the developer will be required to closely evaluate the potential of extending the existing system to provide service to the proposed development project. Several basins have GMA sewers, including Benners Run, Route 30 East, and Rock Creek Basin. The Hunterstown Wastewater Treatment Facility, owned and operated by GMA, serves the Upper Beaver Dam Creek basin. These basins account for about 50% of the land area of Straban Township. The remaining basins, including Upper Rock Creek, Lower Beaver Dam Creek, and New Chester basins, have no public sewers at this time. Upper Rock Creek, where the Gettysburg Commons development has been approved, may soon have public sewers if the Gettysburg Commons' system is dedicated to the Township, as is anticipated. The Snyder development proposal, located in the Lower Beaver Dam Creek basin, is also proposing a large sewer system that could be

dedicated to the Township and eventually expanded to serve the basin, if desired. (See Exhibit 9)

These actions and policies by Straban Township, along with the effects of the Pennsylvania Department of Environmental Protection's Chesapeake Bay Strategy, should make the option of extending existing public sewers more competitive with an option of constructing a private treatment system.

The third goal of the Township's Act 537 Plan is the overall goal of any water resource management plan. This document only deals with the disposal of wastewater and the management of that disposal so as to protect the water resources of the Township. But the fact is that as wastewater disposal volumes increase, the utilization of the limited potable water resources within the Township is accordingly increasing. The discussed alternatives for implementation address the maintenance of groundwater quality in the Township through the Septic System Maintenance Program and a requirement for a hydrogeologic study within a ¼ mile radius from a drinking well with a nitrate concentration of 5 mg/l or greater.

The Act 537 Plan does not address the protection of the quantity of water resources within the Township, as this is generally beyond the scope of a sewage facilities plan. But it is difficult to not discuss water resource quantities when methods of sewage handling will impact those quantities. In Straban Township, the sole source of potable water for those residents not connected to a public (GMA) water system is groundwater. As more

residences are connected to sewer systems, the groundwater utilized is released, following treatment, into surface drainageways that carry the water towards the oceans. In order to maximize groundwater quantities, the Township should look for ways to encourage wastewater facility owners and operators to ground apply treated wastewater to supplement groundwater supplies as opposed to discharging it to surface waters. Groundwater recharge of stormwater is now a Best Management Practice (BMP) for the Monocacy Stormwater Management Plan and should be a wastewater BMP for areas that rely extensively on groundwater for its potable water.

It is difficult for a municipality to influence land developers to utilize a wastewater disposal option, spray or drip irrigation, which will result in greater construction and operation costs. Due to the generally poor soil percolation rates found in the soils of Straban Township, drip and spray irrigation systems require a significant area of land for effluent disposal. A requirement for as much as 4 acres per 10,000 gpd for a spray field is not unusual. Additionally, offline effluent storage facilities, to hold effluent when environmental conditions (snow cover or recent rain) do not allow effluent application to the spray fields, would further increase construction costs over a stream discharge proposal. To a developer, the loss of potential home sites to a spray field could be the difference between a cost effective project and no project. The state's Chesapeake Bay Initiative may have a larger influence on the analysis of land-based effluent disposal options, due to the requirement for new stream discharges to meet a "zero loading" for total nitrogen and total phosphorus. A need to find and purchase nutrient credits to offset a new discharge may make a spray or drip irrigation proposal more cost effective than a

stream discharge. To truly encourage land based disposal, special grant funding, as an alternative or innovative treatment method, or some type of permitting advantage, could be established by PA DEP to help offset construction cost disadvantages of these land-based proposals.

Supervisors could also consider requesting a hydrogeologist's report on groundwater supply for proposed developments above a threshold density and a requirement for a central water system for high density developments with central sewers, such as the cluster requirement for certain zoning districts in the Township's new zoning ordinance.

INSTITUTIONAL EVALUATION

The existing administrative staff at Straban Township is adequate to manage the administration of the proposals selected within this Act 537 Sewage Facilities Plan. However, when a sewage collection and treatment system is dedicated to the Township, there will be some additional measures necessary to administer, operate and maintain these facilities. This could include the hiring of an operations and maintenance staff for the treatment facility. It may be necessary to form a municipal authority to own, operate, and maintain the wastewater system. With the Supervisors busy with Township-wide matters, it may be more efficient to appoint a board to oversee public wastewater facilities. Straban Township has previously completed some preliminary steps in the formation of a municipal authority which will allow them to quickly react once a dedication is imminent.

There are also financial advantages to the creation of a municipal authority in the acquisition of loans and grants. Staff for operations and maintenance will need to be acquired for these public facilities as well as possibly additional administrative staff. Due to the process involved in the creation of such an entity, the Board of Supervisors may want to take up a discussion of this issue prior to an offer of dedication of these types of facilities. To act to make these proposed administrative changes at this time is considered premature. Although the Township is a party to several developer's agreements with contingencies to accept dedication of private sanitary sewer systems (Snyder development, Gettysburg Commons), due to the recent dip in the housing market that has greatly slowed or halted construction on these projects, it will probably be five years before one of these systems are in a position to be dedicated to the Township.

Since this Act 537 Sewage Facilities Plan does not propose any public construction projects, there is no need for a financial analysis of the selected alternatives. The bulk of the actions proposed by this plan are administrative and require only action by the Board of Supervisors to enact them and administrative actions by the Township staff to implement them. Financing concerns will arise after the Township accepts dedication of a wastewater treatment facility and looks to extend collection facilities to eliminate a private facility or to connect existing homes with on-lot system problems. At that time it would probably be advantageous to conduct a feasibility study of Act 537 special study to examine the alternatives available for this project. At that time, financial alternatives would be examined to fund this type of project.

CONSISTENCY DETERMINATION

A. Plans Developed and Approved under Section 4 and 5 of the Clean Streams Law or

Section 208 of the Clean Water Act – The proposed alternatives for this Act 537 Plan Revision are consistent with these sections of the referenced acts. None of this plan's alternatives proposes a construction project, so no new pollutant loadings to area streams are proposed. Any construction of new wastewater treatment or conveyance facilities will be by land developers and will go through individual review at the state and local level. The administrative proposals of this plan (on-lot management ordinance, well ordinance, standard construction specifications, etc.) will act to reduce the discharge of pollutants to surface waters within the township.

B. Municipal Wasteload Management under Chapter 94 – The two existing municipal wastewater treatment facilities impacted by this plan revision, the Gettysburg Wastewater Treatment Facility and the Hunterstown Wastewater Treatment Facility, are both owned and operated by the Gettysburg Municipal Authority. The Municipal Wasteload Management (Chapter 94) Reports for these two facilities were reviewed during preparation of this plan revision. Both facilities have available capacity and are capable of expanding the available capacity, if required, to accommodate a development proposal. The plan alternatives do not propose any additional loadings to these facilities, but merely delineate the future service areas of these facilities within Straban Township. Since the plan alternatives do not propose additional loadings to these facilities, the plan is consistent with Chapter 94.

- C. State Water Plan Developed under the Water Protection Planning Act and the Pennsylvania Administrative Code** – This Act 537 Plan Revision is consistent with the State Water Plan since it shares the common goal of protecting the quality and quantity of water resources within the Straban Township. No water quantity or quality problems for Straban Township are identified by the State Water Plan.
- D. Comprehensive Plans Developed Pursuant to the Municipalities Planning Code** – Straban Township recently updated their Comprehensive Plan, adopting it in May, 2005. The Township is also working on revised zoning and subdivision and land development ordinances, so that all of these planning documents will complement each other. The timing of this Act 537 Plan Revision is also in keeping with this effort to modernize and coordinate the municipal planning tools within the Township. Therefore, this Act 537 Plan Revision is consistent with the Comprehensive Plan by design.
- E. Previous Plans Developed under Title II of the Clean Water Act or Titles II & VI of the Water Quality Act of 1987** – This Act 537 Plan Revision is consistent with the referenced plans since there are no previous plans of this type developed for Areas within Straban Township.
- F. Anti-Degradation Requirements Contained in Chapter 93, 95, and 102** – This Act 537 Plan Revision is consistent with Chapter 93, 95, and 102 since the plan proposes no new or increased discharges to surface waters of the Township. Any increases precipitated by land development proposals will be evaluated individually by the treatment facility owner and the

PA DEP prior to its approval. All existing or future discharges must obtain an NPDES permit that establishes pollutant discharge levels that are protective of the streams designated use.

The On-Lot Septic System Management Ordinance will act to eliminate un-permitted discharges of sewage to surface waters by assuring that all residences have a properly operating system.

G. Pennsylvania's Prime Agricultural Land Policy – This Act 537 Plan Revision is consistent with this policy since it does not propose any construction that would jeopardize prime agricultural lands. Any land development proposal within the township would be individually evaluated for its impact on prime agricultural lands during the plan approval process.

H. Plans Adopted by the County and Approved by DEP under the Storm Water

Management Act – Straban Township is unique, geographically, in that there are parts of two major watersheds of the Chesapeake Bay within its boundaries, the Potomac River watershed and the Susquehanna River watershed. Presently, there is a storm water management plan for the Monocacy River watershed, a tributary of the Potomac River, has been adopted by Straban Township. This plan is applied throughout the township at this time since there is no plan completed for the Conewago Creek watershed at this time. The Act 537 Plan Revision is consistent with this plan since its implementation will not impact storm water within the Township.

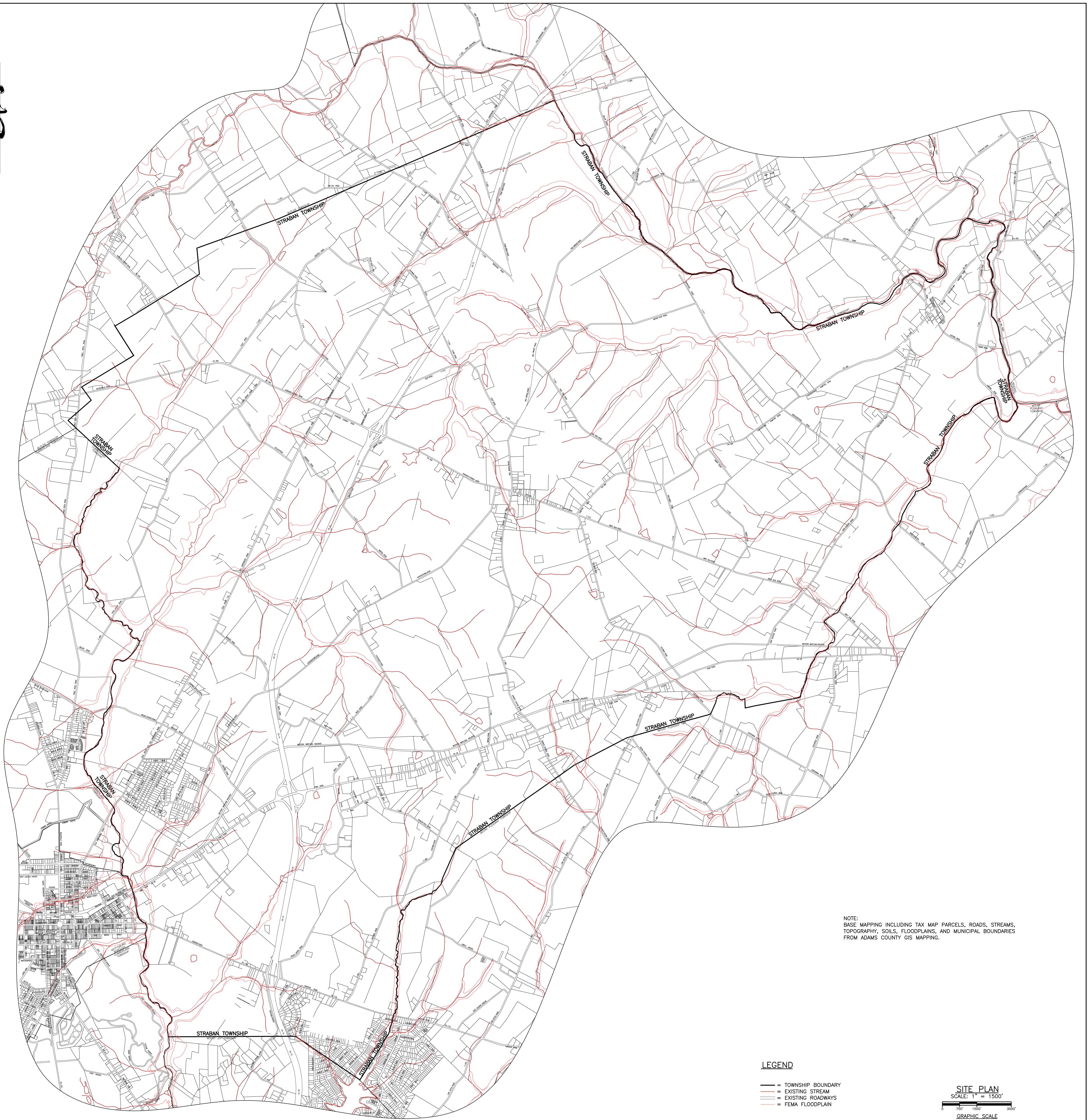
I. Wetland Protection under Chapter 105 – The Act 537 Plan Revision is consistent with Wetland Protection since the plan proposes no construction activities that would impact

wetlands. Individual land development plans will be reviewed for wetland impacts as they are reviewed by the Township.

J. Protection of Plant and Animal Species of Concern as Designated by the Department of Conservation and Natural Resources, Bureau of Forestry, Pennsylvania Game Commission, Pennsylvania Fish and Boat Commission, and/or Contained in the

Pennsylvania Natural Diversity Inventory – The Act 537 Plan Revision is consistent with the Preservation of habitat for threatened and endangered species since the alternatives propose no actions that would disturb the habitat of these organisms. Any land development plan proposal would be separately reviewed with respect to these species of concern at the time they are being reviewed for approval by the Township.

K. The Pennsylvania Historic Preservation Act – The Act 537 Plan Revision is consistent with the protection of archeological resources since the plan’s alternatives do not propose any construction activities that would disturb these resources. Individual land development plans submitted to the township will be reviewed for consistency with these requirements during the plan review process.



NOTE:
 BASE MAPPING INCLUDING TAX MAP PARCELS, ROADS, STREAMS,
 TOPOGRAPHY, SOILS, FLOODPLAINS, AND MUNICIPAL BOUNDARIES
 FROM ADAMS COUNTY GIS MAPPING.

LEGEND

- TOWNSHIP BOUNDARY
- EXISTING STREAM
- EXISTING ROADWAYS
- FEMA FLOODPLAIN

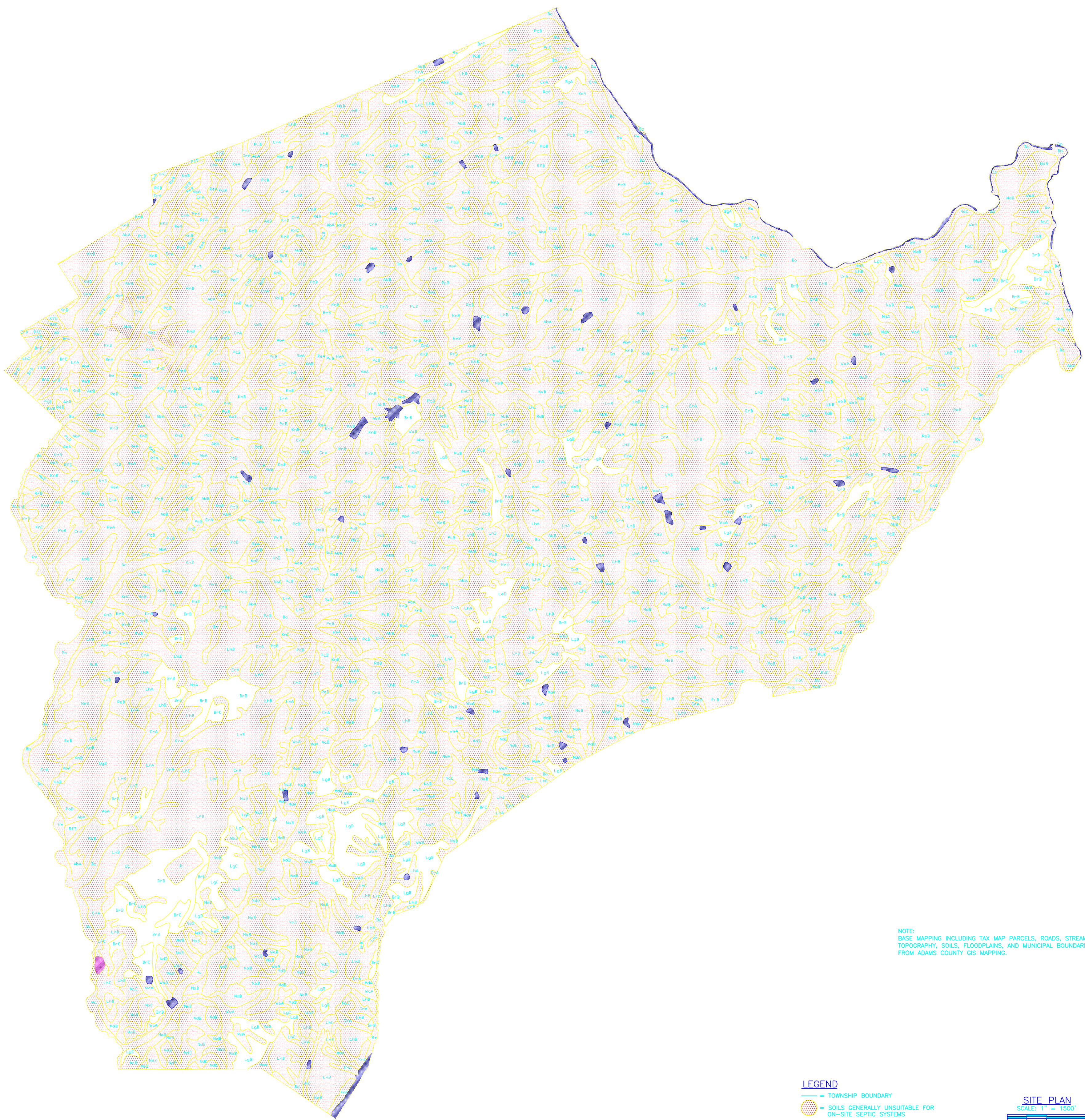
SITE PLAN
 SCALE: 1" = 1500'
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 GRAPHIC SCALE

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 PH. (717) 334 - 9137

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DRAWN BY:	DATE:	NO.	DESCRIPTION
FSI	07/10/06		
DESIGNED BY:	CHECKED BY:		
PFH	WFH		

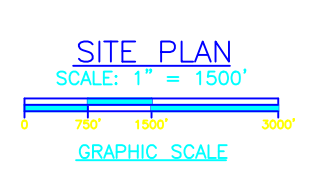
EXHIBIT 1 - FEMA 100-YEAR FLOODPLAINS
STRABAN TOWNSHIP ACT 537 PLAN REVISION
STRABAN TOWNSHIP, ADAMS COUNTY, PA

SCALE
 AS SHOWN
 SHEET NO.
 1 OF 1



NOTE:
BASE MAPING INCLUDING TAX MAP PARCELS, ROADS, STREAMS,
TOPOGRAPHY, SOILS, FLOODPLAINS, AND MUNICIPAL BOUNDARIES
FROM ADAMS COUNTY GIS MAPPING.

- LEGEND**
- - - - - TOWNSHIP BOUNDARY
 - SOILS GENERALLY UNSUITABLE FOR ON-SITE SEPTIC SYSTEMS
 - WATER FEATURES



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BLS	07/10/06		
DESIGNED BY:	CHECKED BY:		
PPH	WPH		

EXHIBIT 2 - UNSUITABLE SOILS FOR ON-SITE SEPTIC SYSTEMS

STRABAN TOWNSHIP ACT 537 PLAN REVISION
STRABAN TOWNSHIP, ADAMS COUNTY, PA

SCALE
AS SHOWN

SHEET NO.
1 OF 1

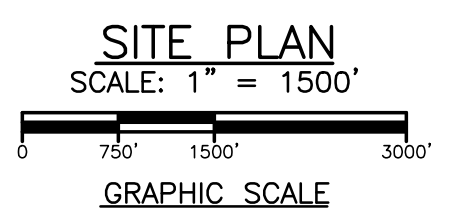


NOTE:
 BASE MAPPING INCLUDING TAX MAP PARCELS, ROADS, STREAMS,
 TOPOGRAPHY, SOILS, FLOODPLAINS, AND MUNICIPAL BOUNDARIES
 FROM ADAMS COUNTY GIS MAPPING.

LEGEND

- = TOWNSHIP BOUNDARY
- = EXISTING ROADWAYS
- = SLOPES GENERALLY UNSUITABLE FOR ON-SITE SEPTIC SYSTEMS

COUNTOUR INTERVAL = 5 FEET

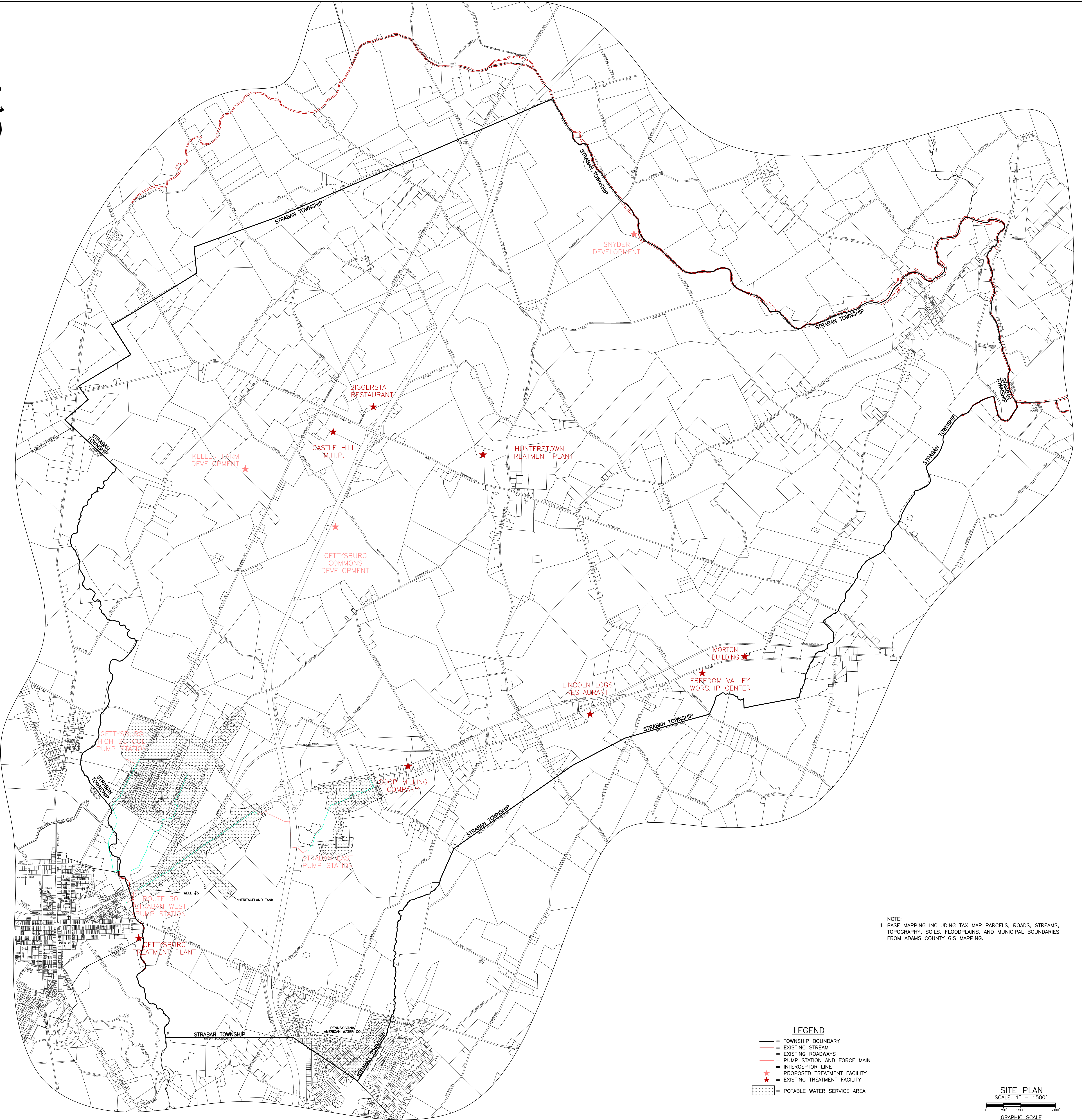


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DESIGNED BY:	CHECKED BY:		
PFH	WFH		

EXHIBIT 3 - SLOPE RESTRICTIONS
 STRABAN TOWNSHIP ACT 537 PLAN REVISION
 STRABAN TOWNSHIP, ADAMS COUNTY, PA

SCALE
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 1 OF 1



NOTE:
1. BASE MAPPING INCLUDING TAX MAP PARCELS, ROADS, STREAMS, TOPOGRAPHY, SOILS, FLOODPLAINS, AND MUNICIPAL BOUNDARIES FROM ADAMS COUNTY GIS MAPPING.

- LEGEND**
- = TOWNSHIP BOUNDARY
 - = EXISTING STREAM
 - = EXISTING ROADWAYS
 - = PUMP STATION AND FORCE MAIN
 - = INTERCEPTOR LINE
 - ★ = PROPOSED TREATMENT FACILITY
 - ★ = EXISTING TREATMENT FACILITY
 - ▨ = POTABLE WATER SERVICE AREA

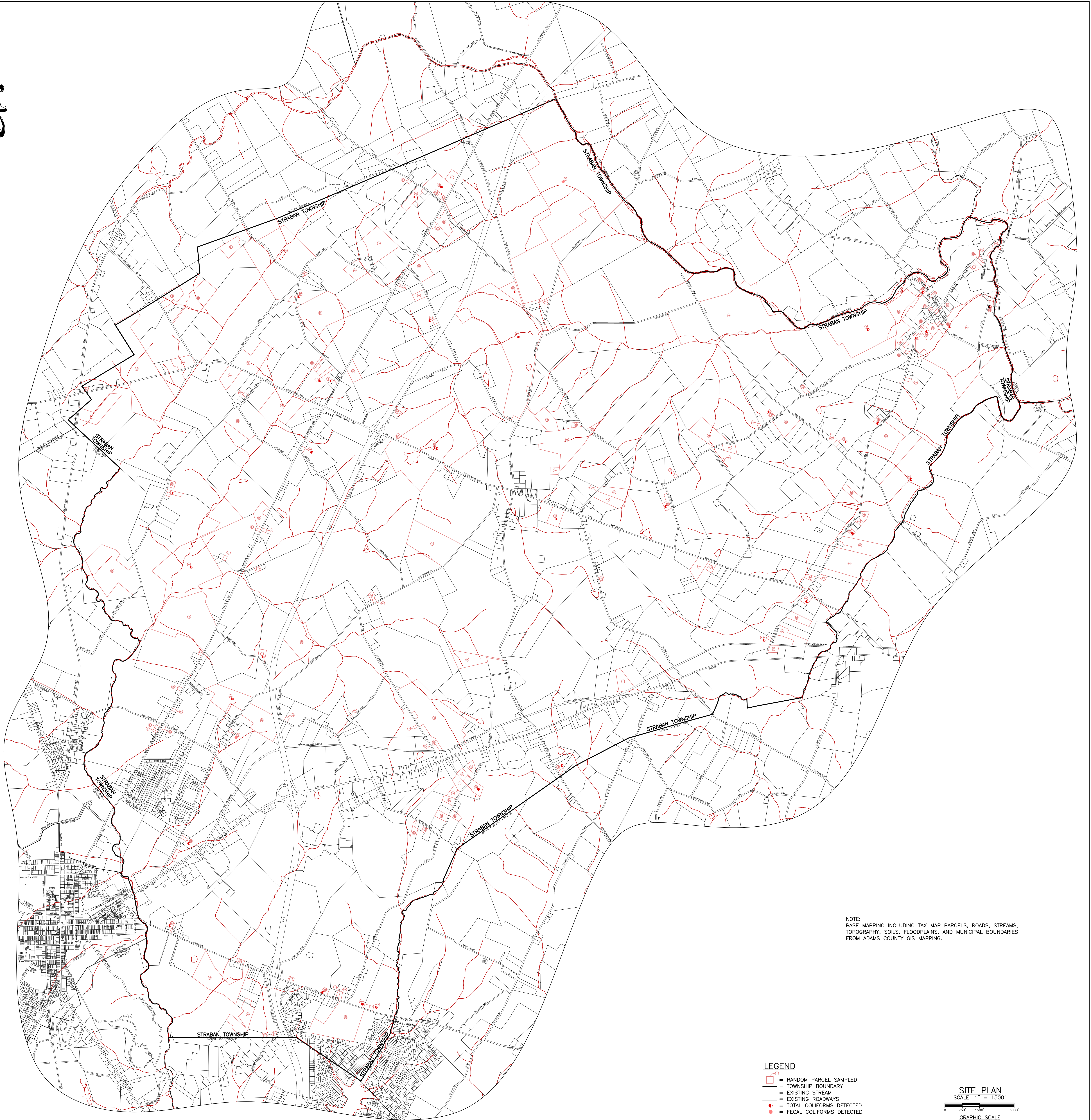
SITE PLAN
SCALE: 1" = 1500'
GRAPHIC SCALE

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EXHIBIT 4 - SANITARY SEWER AND POTABLE WATER SYSTEMS
STRABAN TOWNSHIP ACT 537 PLAN REVISION
STRABAN TOWNSHIP, ADAMS COUNTY, PA

SCALE AS SHOWN
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 FROM ADAMS COUNTY GIS MAPPING.

- LEGEND**
- = RANDOM PARCEL SAMPLED
 - = TOWNSHIP BOUNDARY
 - = EXISTING STREAM
 - = EXISTING ROADWAYS
 - = TOTAL COLIFORMS DETECTED
 - = FECAL COLIFORMS DETECTED

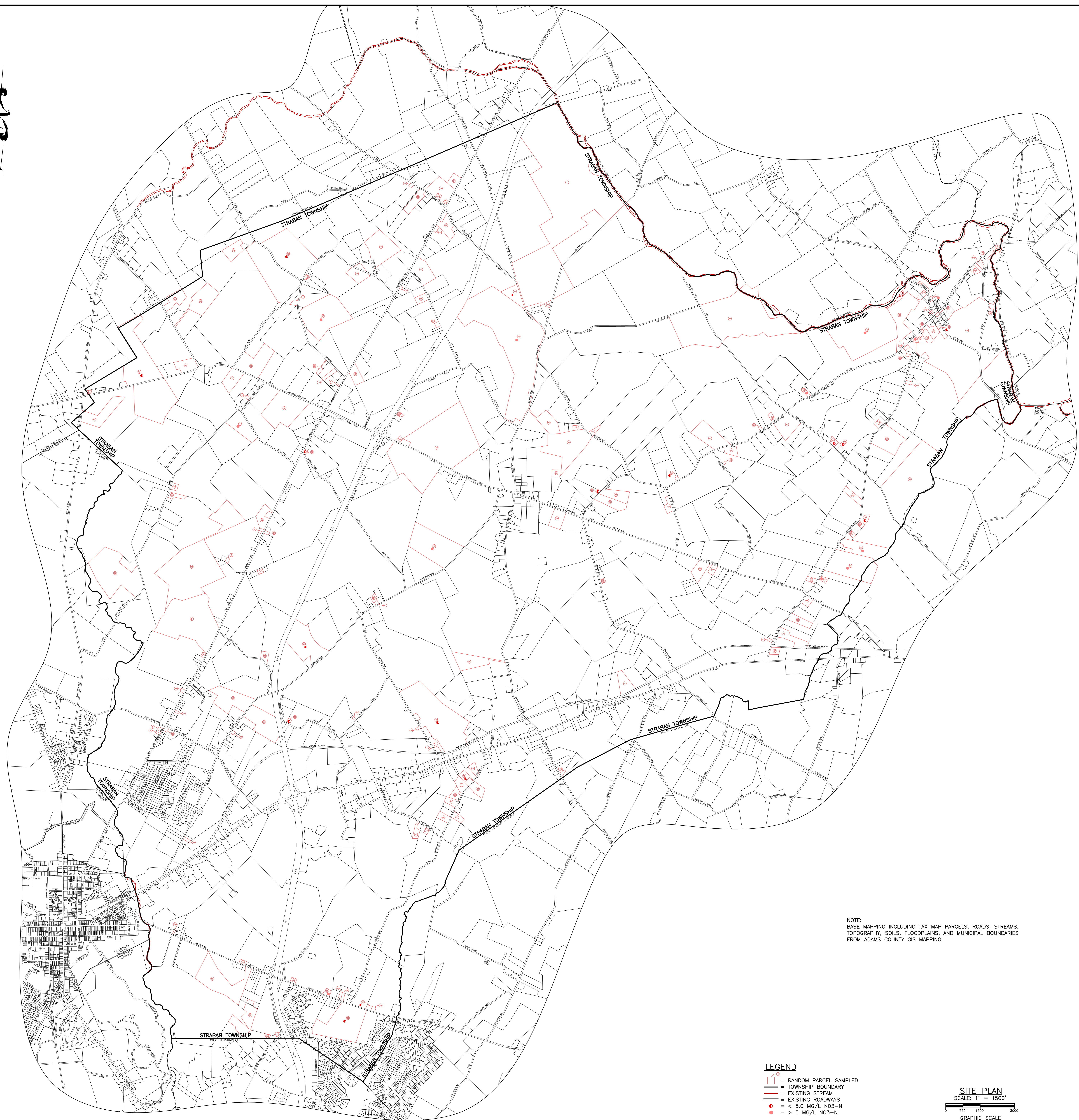
SITE PLAN
 SCALE: 1" = 1500'
 GRAPHIC SCALE

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PFH	WFH		

EXHIBIT 5 - TOTAL AND FECAL COLIFORM RESULTS
 STRABAN TOWNSHIP ACT 537 PLAN REVISION
 STRABAN TOWNSHIP, ADAMS COUNTY, PA

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DESIGNED BY: PFH	CHECKED BY: WFH

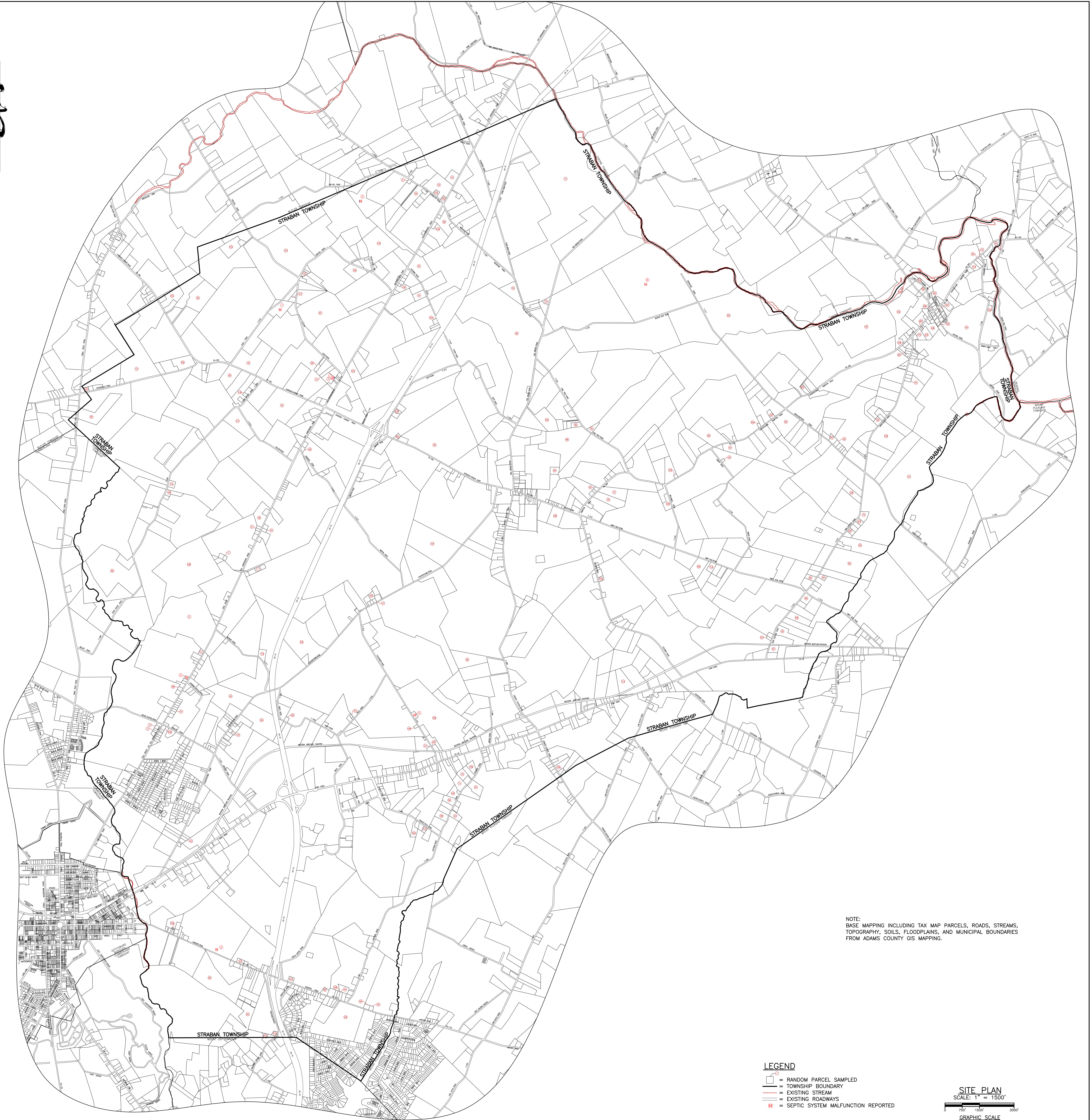
REVISIONS	
NO.	DATE

**EXHIBIT 6 - POTABLE WELL
NITRATE CONCENTRATIONS**

STRABAN TOWNSHIP ACT 537 PLAN REVISION
STRABAN TOWNSHIP, ADAMS COUNTY, PA

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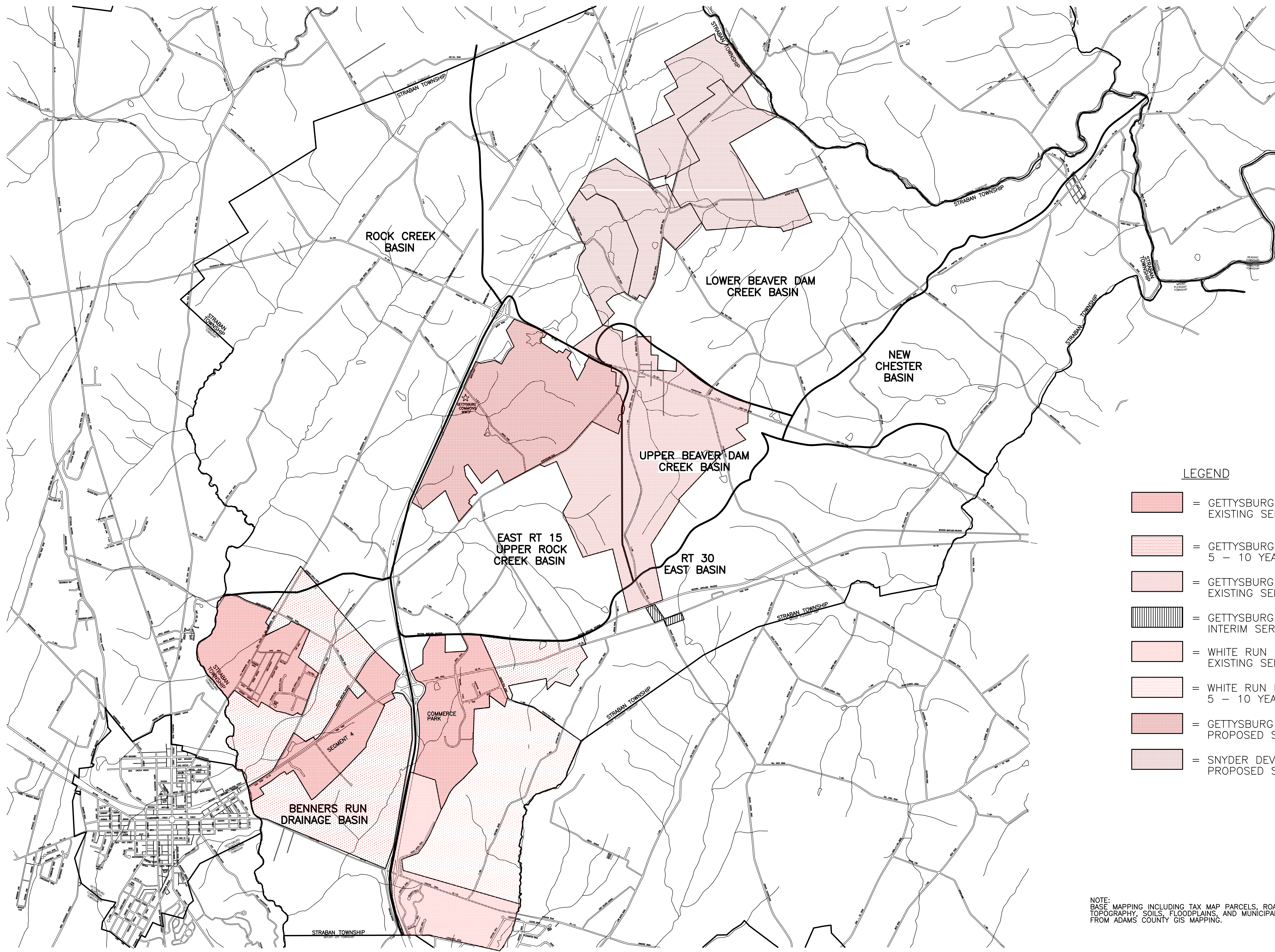
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DESIGNED BY:	CHECKED BY:		
PFH	WFH		

**EXHIBIT 7 - ON-LOT SEPTIC SYSTEM
 CONFIRMED MALFUNCTIONS**

STRABAN TOWNSHIP ACT 537 PLAN REVISION
 STRABAN TOWNSHIP, ADAMS COUNTY, PA

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AS SHOWN

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1 OF 1

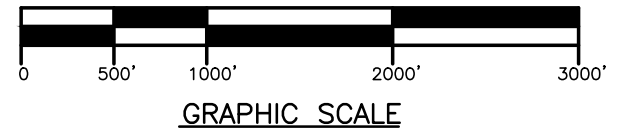


LEGEND

- = GETTYSBURG MUNICIPAL AUTHORITY (GETTYSBURG WWTF) EXISTING SERVICE AREA
- = GETTYSBURG MUNICIPAL AUTHORITY (GETTYSBURG WWTF) 5 - 10 YEAR SERVICE AREA
- = GETTYSBURG MUNICIPAL AUTHORITY (HUNTERSTOWN WWTF) EXISTING SERVICE AREA
- = GETTYSBURG MUNICIPAL AUTHORITY (HUNTERSTOWN WWTF) INTERIM SERVICE AREA
- = WHITE RUN REGIONAL MUNICIPAL AUTHORITY EXISTING SERVICE AREA
- = WHITE RUN REGIONAL MUNICIPAL AUTHORITY 5 - 10 YEAR SERVICE AREA
- = GETTYSBURG COMMONS (PRIVATE) WWTF PROPOSED SERVICE AREA
- = SNYDER DEVELOPMENT (PRIVATE) WWTF PROPOSED SERVICE AREA

NOTE: BASE MAPPING INCLUDING TAX MAP PARCELS, ROADS, STREAMS, TOPOGRAPHY, SOILS, FLOODPLAINS, AND MUNICIPAL BOUNDARIES FROM ADAMS COUNTY GIS MAPPING.

SCALE: 1" = 2000'



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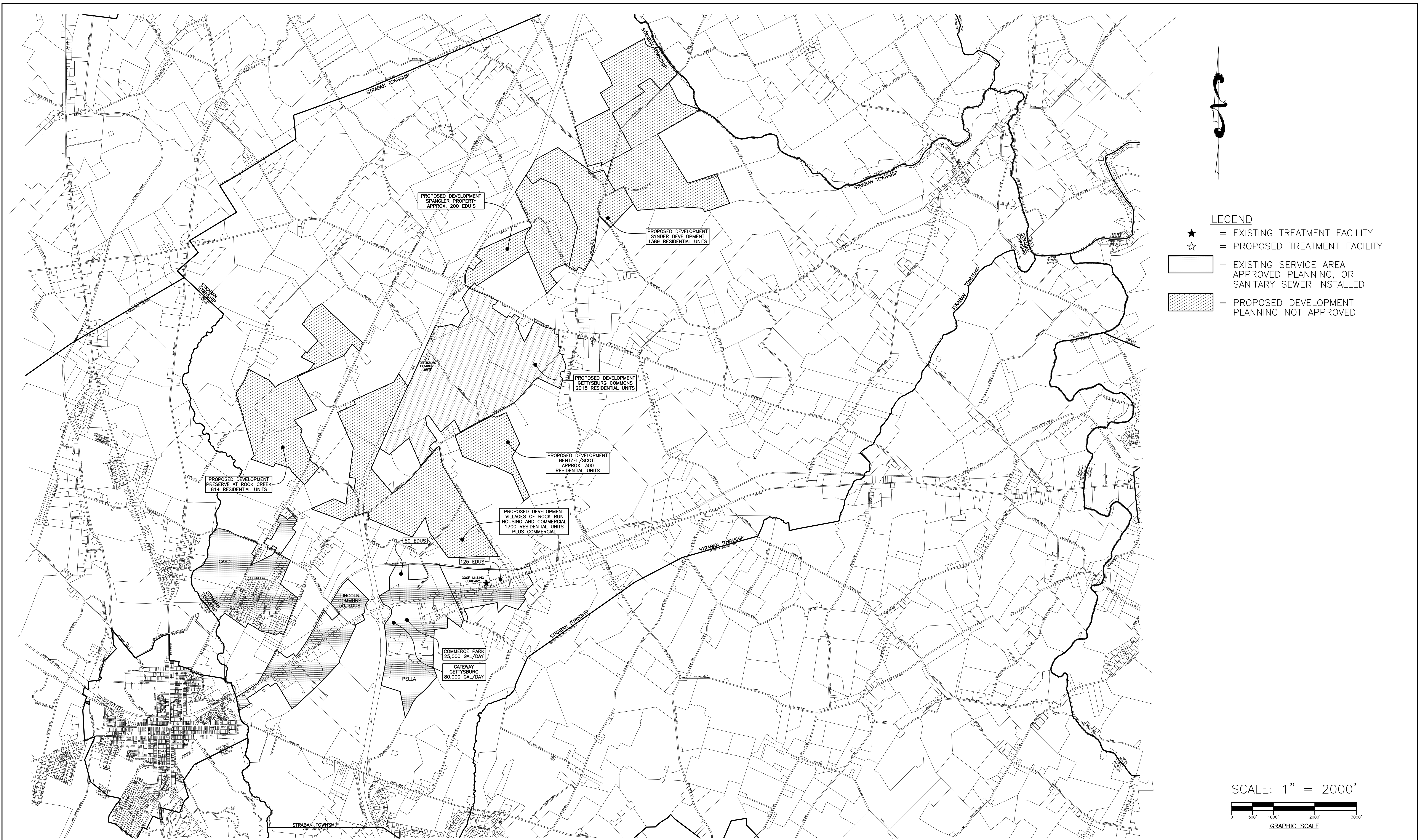
PLAN PREPARATION		REVISIONS	
DRAWN BY:	DATE:	NO.	DATE
FSI	07/10/06		
DESIGNED BY:	CHECKED BY:		
PFH	WPH		

EXHIBIT 8 - CENTRAL WATER & SANITARY SEWER SYSTEMS EXISTING AND PROPOSED SERVICE AREAS

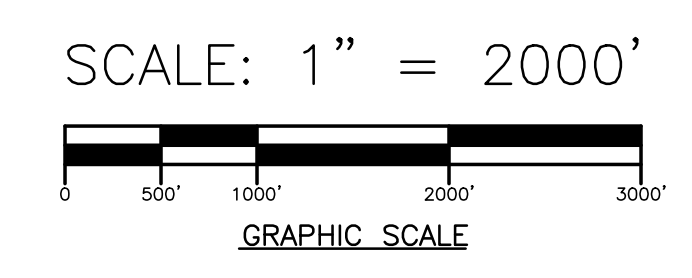
STRABAN TOWNSHIP ACT 537 PLAN REVISION
 STRABAN TOWNSHIP, ADAMS COUNTY, PA

SCALE AS SHOWN

SHEET NO. 1 OF 1



- LEGEND**
- ★ = EXISTING TREATMENT FACILITY
 - ☆ = PROPOSED TREATMENT FACILITY
 - [Hatched Box] = EXISTING SERVICE AREA APPROVED PLANNING, OR SANITARY SEWER INSTALLED
 - [Diagonal Line Box] = PROPOSED DEVELOPMENT PLANNING NOT APPROVED



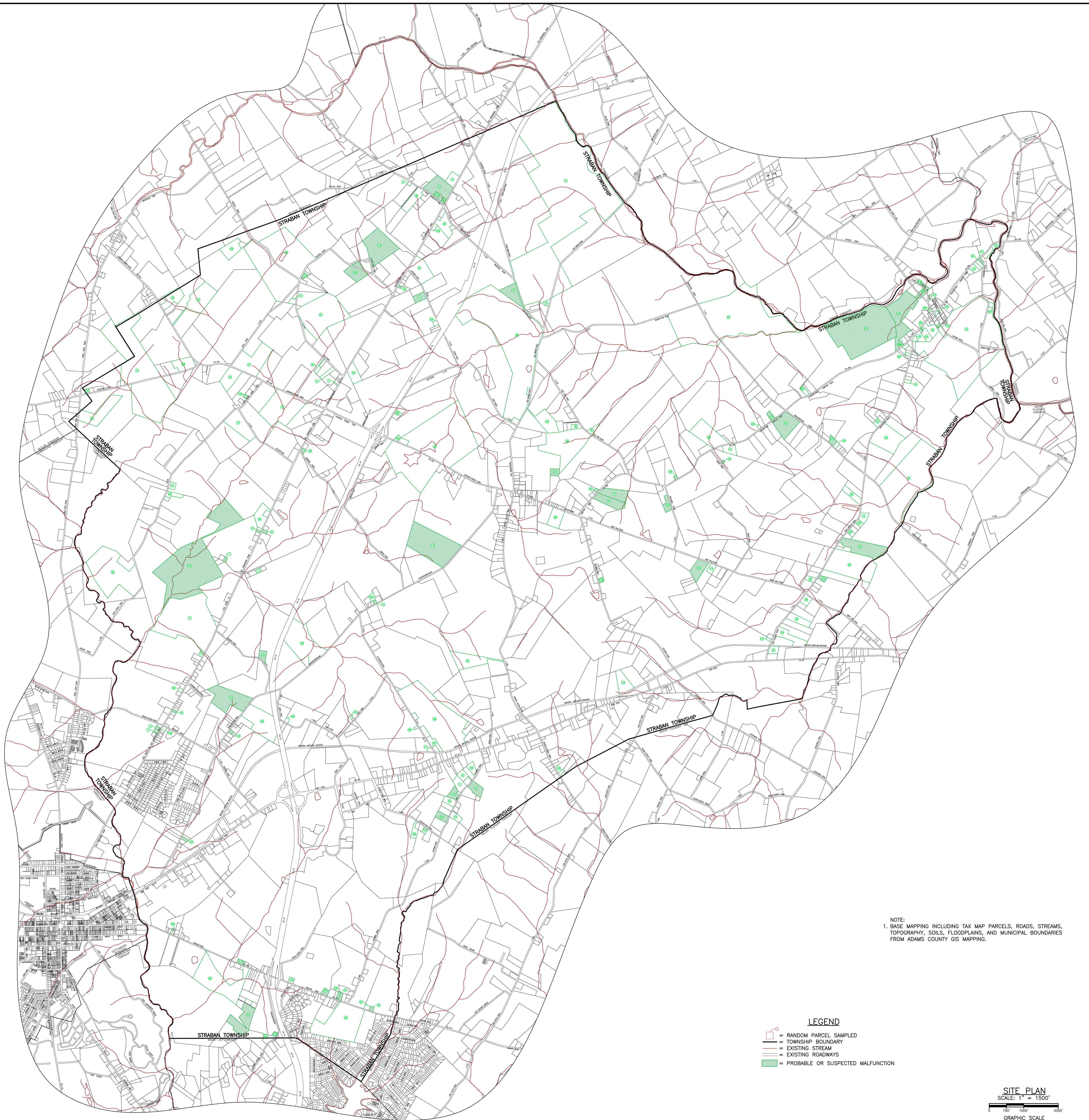
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DRAWN BY:	DATE:	NO.	DATE
FSI	01/11/06		
DESIGNED BY:	CHECKED BY:	DESCRIPTION	
PFH	WPH		

EXHIBIT 10 - DEVELOPMENTS EXISTING AND FUTURE

STRABAN TOWNSHIP ACT 537
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SCALE AS SHOWN
 SHEET NO. 1 OF 1



NOTE:
1. BASE MAPPING INCLUDING TAX MAP PARCELS, ROADS, STREAMS, TOPOGRAPHY, SOILS, FLOODPLAINS, AND MUNICIPAL BOUNDARIES FROM ADAMS COUNTY GIS MAPPING.

- LEGEND**
- = RANDOM PARCEL SAMPLED
 - = TOWNSHIP BOUNDARY
 - = EXISTING STREAM
 - = EXISTING ROADWAYS
 - = PROBABLE OR SUSPECTED MALFUNCTION

SITE PLAN
SCALE: 1" = 1500'
GRAPHIC SCALE

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PLAN PREPARATION		REVISIONS	
DRAWN BY:	DATE:	NO.	DESCRIPTION
FSI	10/18/07		
DESIGNED BY:	CHECKED BY:		
PFH	WFH		

**EXHIBIT 11 - SEPTIC SYSTEM SURVEY
PROBABLE AND SUSPECTED MALFUNCTIONS**

**STRABAN TOWNSHIP ACT 537 PLAN REVISION
STRABAN TOWNSHIP, ADAMS COUNTY, PA**

SCALE
AS SHOWN

SHEET NO.
1 OF 1