

**Application of Pennsylvania-American Water Company for Acquisition of  
the Wastewater Assets of Upper Pottsgrove Township  
66 Pa. C.S. § 1329  
Application Filing Checklist – Water/Wastewater  
Docket No. A-2020-3021460**

22. Other requirements. Demonstrate compliance with the following:
- b. For **wastewater** system acquisitions, provide a copy of the DEP-approved Act 537 Official Sewage Facilities Plans for the affected municipalities.

**RESPONSE:**

- b. See enclosed copies of documents pertaining to the DEP-approved Act 537 Official Sewage Facilities Plans for Upper Pottsgrove attached as follows:
  - **Appendix A-22-b.1** – Act 537 Plan
  - **Appendix A-22-b.2** – DEP Approval Letter
  - **Appendix A-22-b.3** – Act 537 Plan Update Revised Implementation Schedule

In response to a request for its Act 537 Plan, Douglass Township communicated that Douglass Township has submitted an Act 537 Plan to PA-DEP in 2019, which covers the area of the two subject properties. However, the Act 537 Plan was not approved. Additional well water sampling is needed to complete the plan. Because of COVID-19; the Township has not completed this work because they felt it was not prudent to go door-to-door to collect the necessary samples. Once COVID-19 subsides, they will complete the sampling and resubmit the plan to PA-DEP for approval.

**UPPER POTTS GROVE TOWNSHIP  
MONTGOMERY COUNTY, PA**

**ACT 537 SEWAGE FACILITIES PLAN**

(Exhibit A of Upper Pottsgrove Township's Resolution 558 contained herein)

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**APRIL 2009**

**PA DEP Approval Date: January 31, 2011**

Prepared for:

**Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464**

Prepared by:



LTL PN 0520-0810



**LTL CONSULTANTS, LTD. • ENGINEERS & CODE OFFICIALS**

PO BOX 241 • ONE TOWN CENTRE DRIVE • OLEY, PA 19547  
(610) 987-9290 • FAX: (610) 987-9288

May 11, 2011

Re: Upper Pottsgrove Township Act 537 Plan  
Addendum, Executive Summary

To the reader of this plan,

This Addendum presents the communications from plan submission to the Pennsylvania Department of Environmental Protection (PADEP) in April 2009 to March 28, 2011. As this section contains vital information for the continuity of the plan it is highly recommended that this section be conferred with prior to any use.

A chronological summary of the communications is as follows:

- August 6, 2009 – PADEP first comments to initial submission of plan.
- October 8, 2009 – Response letter from LTL Consultants, Ltd.
- February 8, 2010 – PADEP second comment letter.
- April 30, 2010 – LTL Response to PADEP February 8 comments and meeting with PADEP staff on March 31. This communication includes attachments from the Township Solicitor, Lower Pottsgrove Township, and a revised map (#21).
- July 1, 2010 – PADEP third comment letter.
- August 30, 2010 – LTL Consultants response to PADEP comments including communications with the Pottstown Borough Authority Engineer (BCM Engineers) and a map of the York and Beech Street Sewer Project in Pottstown, PA.
- October 25, 2010 – PADEP fourth comments via email.
- November 29, 2010 – PADEP fifth comments letter.
- January 3, 2011 – LTL Consultants response to the October and November comments via e-letter.
- January 31, 2011 – Official PADEP approval of the Plan.
- March 28, 2011 – LTL Consultants e-letter revising the Implementation Schedule and including a final revision to the map presented in the April 30, 2010 letter.

As is set forth in Pennsylvania Act 537, these communications have become a permanent part of this plan and shall be included with all subsequent copies and printings.

Sincerely,

Leo R Scott  
Community Planner  
LTL Consultants, Ltd.



Pennsylvania Department of Environmental Protection

2 East Main Street  
Norristown, PA 19401

August 6, 2009

**Southeast Regional Office**

Phone: 484-250-5970

Fax: 484-250-5971

Mr. Jack Layne, Manager  
Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464-1829

RECEIVED  
AUG 10 2009

BY:.....*[Signature]*.....

Re: Act 537 Plan Update  
APS ID 29303, AUTH ID 795432  
Upper Pottsgrove Township  
Montgomery County

Dear Mr. Layne:

On April 22, 2009, this office received your proposed Official Sewage Facilities Plan Update for Upper Pottsgrove Township (UPT), Montgomery County, entitled *Act 537 Sewage Facilities Plan* as prepared by LTL Consultants, Ltd., dated April 2009. This plan is being submitted to the Department of Environmental Protection (Department) in accordance with the provisions set forth by Section 5 of the Pennsylvania Sewage Facilities Act and Chapter 71, the Administration of Sewage Facilities Program.

A preliminary review has indicated that the plan update is not in accordance with the provisions set forth in Chapter 71 for the following reasons:

1. Please respond to all 4 comments provided by the Lower Pottsgrove Township (LPT) Municipal Authority in their correspondence of February 18, 2009, regarding:
  - a. References in the plan to LPT's Corrective Action Plan.
  - b. The total number of additional equivalent dwelling units (EDUs) that UPT will be sending to LPT from the properties along Continental Drive and Orchard Road and the time frame for the above.
  - c. Please clarify the total number of EDUs on Map 15, the build out map.
  - d. Please provide a table to LPT which includes the total number of EDUs UPT will need from LPT and the year that they will be needed.

2. UPT sends sewage through the conveyance system in LPT. The plan must document adequate conveyance capacity for existing and future needs of both UPT and LPT. If the plan proposes increasing the capacity of the conveyance system in LPT, LPT must adopt the plan.
3. The Department has concerns regarding the Transfer of Capacity Agreement enacted on March 26, 2009, by and between the Pottstown Borough Authority (PBA) and UPT. In the 4th "Whereas" paragraph, the agreement states that the maximum three month flow is equal to the Annual Average Capacity. The Department does not concur that these numbers can be equal, which could only occur if there were no inflow and infiltration (I/I) in the system. Please provide metering information that documents the actual annual average capacity available to UPT, when their maximum 3 month flow is limited to 776,400 gallons per day. It also appears that the Transfer of Capacity Agreement needs to be modified to reflect actual available capacities.
4. The Past and Projected Sewage Flow graph designated as Figure 6 that was submitted with the plan, differs significantly from the same graph with the same designation submitted with the 2008 Chapter 94 Report. The graph submitted with the plan shows projections leveled off at less than 0.3 MGD in 2013. The graph submitted with the Chapter 94 Report shows projections climbing to more than 0.4 MGD in the same time period. Please clarify.
5. UPT currently addresses issues of on-lot sewage management via UPT Code Chapter 275, Sewers and Sewage Disposal, which places the management and repair on the owner, lessee and/or party in possession of any property on which such systems exist. The schedule of implementation indicates that a review for the need for a Sewage Management Program and Small Flow Sewage Facilities Ordinance would be delegated to the Sewer Committee 6 months after the approval of this plan update, and the Sewer Committee would then respond 18 months after the approval of this plan update to the Board of Commissioners regarding the need for the above. The Department is concerned that poor soil suitability throughout the UPT does not provide adequately for on-lot disposal systems (OLDS). Existing malfunctions have been found throughout the UPT. More systems are likely to fail without continuing operation and maintenance. A Sewage Management Program must be implemented and included as part of this Plan Update. Alternately, a rezoning of the districts to accommodate the larger lots needed for Individual Residential Spray Irrigation Systems (IRSIS) could help to alleviate the problems stemming from very limited soil suitability for other conventional on-lot disposal systems.

6. Although UPT's response to Item 2 of the Kelly Group Builder, Inc., correspondence of February 28, 2009, regarding the purchase of 238,000 gallons per day of sewer capacity from the PBA had indicated it would require a constant growth of 2.23 percent over 36 years to utilize all the purchased EDUs, the Department agrees that the purchased capacity does not reflect the current rate of growth experienced in UPT. On page 22 of the Act 537 Sewage Facilities Plan Revision, according to the Census Data for the years 1990 through 2000, UPT had experienced a rate of growth of 23.7 percent, while the overall growth of Montgomery County was 10.6 percent for the same time period. Please provide a more thorough justification for sewer capacity purchased from PBA.
7. The maps included in the plan do not adequately delineate between sewer areas and on-lot areas. There are some parcels that are listed on the Existing and Potential OLDS Map (8) as potential OLDS and also on the Sewer Growth Areas Map (13-A) as potential land developments in the sewer growth area. Also noted are many parcels that do not appear as proposed OLDS on the Potential OLDS Map or as proposed public sewer areas on the Sewer Growth Area Map. Please revise the maps to clearly specify which areas of the UPT require sewers. Please provide a specific time frame for the construction of the sewers, and a financing method for the installation of sewers wherever the need for public sewers has been identified.
8. Specifically, Map 8, Existing and Potential OLDS, has potential OLDS dispersed in sewer growth areas as indicated on Map 13-A, Sewer Growth Areas Current and Future. The maps in the plan must clearly define the proposed public sewer areas.
9. It was also noted on Map 6 that the proposed construction of the Farmington Avenue West Phase 2 sewer extension does not include the area of Farmington Avenue and Gross Road north of Evans Road. This area appears to need public sewers. Please provide justification for not including these areas with documented malfunctions in the proposed construction.
10. Likewise, please provide your rationalization for not extending public sewers from the Horseshoe Drive and Bruce Drive Developments to the area along Mock Road. According to Map 21, the soils in this area are very limited for conventional OLDS and the lots are small. This area also exhibits similar confirmed malfunctions to the Horseshoe and Bruce Drive areas.

Mr. Jack Layne, Manager

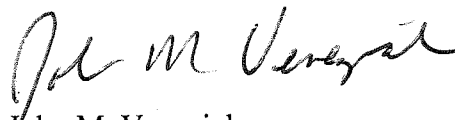
- 4 -

August 6, 2009

11. The plan proposes extending public sewers into the R-80 zoning district, an area of low density development. However, the existing R-2 zoning district along North State Road and Levengood Roads is proposed for OLDS, even though this area contains holding tanks, documented malfunctions, and significant areas designated as urbanized surfaces. Please clarify how the sewage needs of these areas are being met by the UPT.
12. Included in the base plan update was the correspondence of November 29, 2005, entitled *Neighborhood Sewage Planning Study*. This survey was sent to 59 homeowners along Horseshoe Drive, Ming Drive, and West Moyer Road between Route 100 and Gilbertsville Road. The Department questions whether this survey is representative of all of the needs of the UPT. It is the Department's recommendation that the survey be extended to include the entire UPT.
13. Page 2 of the Uniform Environmental Review, a supplement to the Upper Pottsgrove Act 537 Update, indicates that a needs analysis in the area had shown a 57 percent OLDS malfunction rate in the Farmington Avenue and Evans Road areas. This does not correspond with Map 10, the Montco SEO Documented Malfunctions. Please provide a clarification of the methodology used in determining a malfunctioning system.

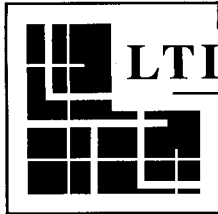
When the necessary revisions have been completed, as listed above, this Department will initiate a review in accordance with the provisions of Chapter 71, Administration of the Sewage Facilities Program.

Sincerely,



John M. Veneziale  
Sewage Planning Specialist 2  
Water Management

cc: Montgomery County Planning Commission  
Montgomery County Health Department  
Mr. Scott - LTL Consultants, Ltd.  
Pottstown Borough Authority  
Lower Pottsgrove Township  
Mr. Fair  
Ms. Swagzdis  
Planning Section  
Re 30 (AR09WQM)218-9



**LTL CONSULTANTS, LTD. • ENGINEERS & CODE OFFICIALS**

PO BOX 241 • ONE TOWN CENTRE DRIVE • OLEY, PA 19547  
(610) 987-9290 • FAX: (610) 987-9288

October 8, 2009

Mr. John M. Veneziaie  
Sewage Planning Specialist 2  
Water Management  
Pennsylvania Department of Environmental Protection  
2 East Main Street  
Norristown, PA 19401

Dear Mr. Veneziaie:

We are in receipt of your letter dated August 6, 2009. Although we understand the questions posed in the letter, we are not clear as to their origin. We have been working with the Department for the last several years to eliminate those issues pertaining to the Regal Oaks Wastewater Treatment Facility (WWTF), the Crossroads Subdivision and the overall agreement and sharing of capital costs with the Pottstown Borough Authority.

Based on the contents of your letter, we are concerned that the Department has changed its' focus with regard to Upper Pottsgrove Township and/or expanded the scope of the Act 537 Sewage Facilities Plan beyond that which was originally discussed. In simple terms, our intent was to use those findings, previously approved by the Department, from earlier sewage facilities plans and build upon that. The comments in your letter appear to push the Township to redirect efforts back into areas whose needs, or lack of needs, has already been documented and planned for. In addition your comments do not reflect those issues discussed, agreed to and subsequently resolved in our submitted Act 537 Sewage Facilities Plan, and Task Activity Report (TAR).

The purpose of this letter is to respond to the questions contained in your most recent letter. We have listed your original comment, followed by our response.

1. Please respond to all 4 comments provided by the Lower Pottsgrove Township (LPT) Municipal Authority in their correspondence of February 18, 2009, regarding:
  - a) References in the plan to LPT's Corrective Action Plan.
  - b) The total number of additional equivalent dwelling units (EDUs) that UPT will be sending to LPT from the properties along Continental Drive and Orchard Road and the time frame for the above.
  - c) Please clarify the total number of EDUs on Map 15, the build out map.
  - d) Please provide a table to LPT, which includes the total number of EDUs UPT, will need from LPT and the year that they will be needed.

**Response:**

*The response letter to Lower Pottsgrove Township (LPT) is attached for your review.*

2. UPT sends sewage through the conveyance system in LPT. The plan must document adequate conveyance capacity for existing and future needs of both UPT and LPT. If the plan proposed increasing the capacity of the conveyance system in LPT, LPT must adopt the plan.

**Response:**

*This issue was outlined in the Connection Management Plan (CMP) that was reviewed by the Department and included in the Plan. UPT has purchased allocated capacity in the LPT conveyance system. LPT placed a moratorium on UPT connections while implementing their Corrective Action Plan. Once completed, UPT will still have adequate purchased allocated capacity in the LPT conveyance system and will not require any upgrades to the LPT system to handle UPT flows. All of the projected EDU's, including those projected by developable lands, are within the purchased capacity in LPT sewers.*

3. The Department has concerns regarding the Transfer of Capacity Agreement enacted on March 26, 2009, by and between the Pottstown Borough Authority (PBA) and UPT. In the 4<sup>th</sup> "Whereas" paragraph, the agreement states that the maximum three-month flow is equal to the Annual Average Capacity. The Department does not concur that these numbers can be equal, which could only occur if there were not inflow and infiltration (I/I) in the system. Please provide metering information that documents the actual annual average capacity available to UPT, when their maximum 3-month flow is limited to 776,400 gallons per day. It also appears that the Transfer of Capacity Agreement needs to be modified to reflect actual available capacities.

**Response:**

*The relationship between the Borough and the Township is based upon 300 gpd/EDU. This is to account for the maximum three-month maximum flow that would account for I/I and large flows. This figure and the term annual average flow are only used within the confines of the legal agreement. Average Annual Flow is not used between the two parties. The Borough only monitors and disperses allocation based on 300 gpd/EDU. The identification of Annual Average Flow is an heirloom from the original agreement. Moving forward, both the Township and the Borough have discussed eliminating its discussion from the agreement.*

*The justification for the 238,000 gpd is included in the Connection Management Plan. In general, it is the capacity needed to meet the Townships' current demands and commitments.*

4. The Past and Projected Sewage Flow graph designated as Figure 6 that was submitted with the plan, differs significantly from the same graph with the same designation submitted with the 2008 Chapter 94 Report. The graph submitted with the plan shows projections leveled off at less than 0.3 MGD in 2013. The graph submitted with the Chapter 94 Report shows projections climbing to more than 0.4 MGD in the same time period. Please clarify.

***Response:***

*Figure 6 is from the Pottstown Borough Authority (PBA) Act 537 Revision, dated January 2009. In February of each year, UPT provides PBA with an annual report of its collection system of the previous year. The PBA engineer uses this information to write the Chapter 94 Report. Figure 6 was provided to PBA before the UPT 2008 data was available; therefore, it contains 2007 data and projections. Once the UPT 2008 Report was completed, the projected 2013 flow is 486,335 gpd. Figure 6 from the PBA Act 537 Revision will need to be updated to reflect the new projections. It should be noted that the new projections are still below the requested capacity.*

5. UPT currently addresses issues of on-lot sewage management via UPT Code Chapter 275, Sewers and Sewage Disposal, which place the management and repair on the owner, lessee and/or party in possession of any property on which such systems exist. The schedule of implementation indicates that a review for the need for a Sewage Management Program and Small Flow Sewage Facilities Ordinance would be delegated to the Sewer Committee 6 months after the approval of this plan update, and the Sewer Committee would then respond 18 months after the approval of this plan update to the Board of Commissioners regarding the need for the above. The Department is concerned that poor soil suitability throughout the UPT does not provide adequately for on-lot disposal system (OLDS). Existing malfunctions have been found throughout the UPT. More systems are likely to fail without continuing operation and maintenance. A Sewage Management Program must be implemented and included as part of this Plan Update. Alternately, a rezoning of the districts to accommodate the larger lots needed for Individual Residential Spray Irrigation System. (IRSIS) could help to alleviate the problems stemming from very limited soil suitability for other conventional on-lot disposal systems.

***Response:***

*The Plan acknowledges the poor soil suitability in areas of the Township. The Plan also acknowledges the need for a review and consideration of a Sewage Management Program. In addition, of those subdivisions approved, all will be connected to the collection system. Those areas with documented needs have been scheduled for sewer. In general, the Township has been gradually moving towards a more comprehensive sewage disposal system. We understand the Department's concern and sincerely explore the needs for a Sewage or On-lot Management Program.*

6. Although UPT's response to Item 2 of the Kelly Group Builder, Inc., correspondence of February 28, 2009, regarding the purchase of 238,000 gallons per day of sewer capacity from the PBA had indicated it would require a constant growth of 2.23 percent over 36 years to utilize all the purchased EDU's, the Department agrees that the purchased capacity does not reflect the current rate of growth experienced in UPT. On page 22 of the Act 537 Sewage Facilities Plan Revision, according to the Census Data for the years 1990 through 2000, UPT had experienced a rate of growth of 23.7 percent, while the overall growth of Montgomery County was 10.6 percent for the same time period. Please provide a more thorough justification for sewer capacity purchased from PBA.

***Response:***

*Reviewing the Department's question stated in Item 6, it appears that clarification is needed in the discussion between total population increase as a percentage and annually/yearly percent increase. We have stated that an annual increase of 2.23 percent per year was utilized. (Annual/average growth rate in Upper Pottsgrove Township from 1970-2000) If the annual average is compounded over 36 years, it results in a net increase of 121%. The plan does list Montgomery County's growth as 10.6 percent and Upper Pottsgrove Township as 23.07 percent from the period of 1990 through 2000. Converting these total growth rates to annual growth rates gives us a 1.01 percent annual increase for Montgomery County and a 2.15 percent annual increase for Upper Pottsgrove Township. These are less than the values we applied in our analysis.*

7. The maps included in the plan do not adequately delineate between sewer areas and on-lot areas. There are some parcels that are listed on the Existing and Potential OLDS Map (8) as potential OLDS and also on the Sewer Growth Areas Map (13-A) as potential land developments in the sewer growth area. Also noted are many parcels that do not appear as proposed OLDS on the Potential OLDS Map or as proposed public sewer areas on the Sewer Growth Area Map. Please revise the maps to clearly specify which areas of the UPT require sewers. Please provide a specific time frame for the construction of the sewers, and a financing method for the installation of sewers wherever the need for public sewers has been identified.
8. Specifically, Map 8, Existing and Potential OLDS, has potential OLDS dispersed in sewer growth areas as indicated on Map 13-A, Sewer Growth Areas Current and Future. The maps in the plan must clearly define the proposed public sewer areas.

***Response to both Item 7 and 8:***

*Since Item 7 and 8 are directly related, we have responded simultaneously to both.*

*Regarding the Existing and Potential OLDS Map (#8) – The intent of the existing and potential OLDS layer depicted is to show properties that have been identified as or have the potential for OLDS based on Montgomery County Tax Assessment information. An analysis was performed on the dataset to show residential, commercial, industrial properties that currently had existing structures and that were not identified as being connected to the Upper Pottsgrove Township Sanitary Sewer System. Pre-determined requirements of the project approved by PADEP at its onset, have indicated that neither an OLDS Needs Survey nor Well Water Sampling Protocol need be engaged. Therefore it was deemed sufficient to map known and potential OLDS using tax records and not via fieldwork costly to the Township.*

*Regarding the Sewer Growth Areas Map (13-A) – The areas indicated on Map 13-A identify the following:*

- *Areas of existing service – This encompasses properties identified as being connected to the Upper Pottsgrove Township Sanitary Sewer System via matching billing records to the Montgomery County Tax Parcel layer.*
- *Areas of planned sewer extension based on Consent Order and Agreement, previous Sewage Facilities Plans, and approved Land Development Plans. These areas are color coded to show the year of completion of construction.*
- *Areas of additional potential expansion based on land development plans currently in the planning process (various stages) – no specific timeframe is provided for these expansions due to the currently uncertain nature of the real estate market.*

*Regarding the interrelationship between Existing/Potential OLDS and Potential Land Developments – The layers discussed above are related only in the fact that larger parent parcels currently have (or may have) an OLDS present. Disconnection and replacement of any existing system by public sewer is only ancillary to the approval of each parcel's land development plan. Properties that did not fall into either category were eliminated on the basis of land use status (open space, agricultural preservation, landfill, cemetery, etc..) lack of current date on the part of Montgomery County (parcels having no pin, owner or other attributions) or other factors used in the delineation of both the Existing/Potential OLDS and Sewer Growth Areas layers.*

*The timeframes for the construction of sewers are provided in the implementation schedule in Section VIII and the Connection Management Plan approved by the Department.*

*PA Code Title 25 Chapter 71, Section 71.21(b) requires funding analysis for areas identified in the plan as needing improved sewage facilities within five years from plan submission. A cost estimate and financing method analysis for Regal Oaks Phase 2 is provided. Funding analyses for the areas planned for sewers within five to ten years are not provided.*

9. It was also noted on Map 6 that the proposed construction of the Farmington Avenue West Phase 2 sewer extension does not include the area of Farmington Avenue and Gross Road north of Evans Road. This area appears to need public sewers. Please provide justification for not including these area with documented malfunctions in the proposed construction.

**Response:**

*For Items 9-11, please note that the timeline for the scope of this Act 537 Plan was stated as ten (10) years. It is not financially feasible to provide sewers for all needs areas. With the number of needs areas in UPT, a few needs areas fall outside the immediate scope of this plan. The Act 537 Plan of Study (POS), approved by DEP on December 8, 2008, stated the areas to be covered by this Plan. The Township is aware of other potential needs areas and they will be considered in future plan revisions. The implementation schedule has been revised to include future needs studies for these areas.*

*The proposed construction of the Farmington Avenue West Phase 2 sewers is part of previously approved planning, not yet completed. The design was completed, and the project permitted prior to the two malfunctions occurring in this area. This project was placed on hold while the Township dealt with the PA DEP-mandated Regal Oaks Wastewater Treatment Facility operations and the planning, design and permitting required to convert it to a pumping station. The project has since been bid and awarded, and construction has begun. At this point in time, it is not logical to postpone this project to design for the areas north of Evans Road. UPT will consider adding this area in the future if the needs are warranted by a future Needs Study. If feasible at that time, the plan will then be revised to include this area.*

10. Likewise, please provide your rationalization for not extending public sewers from the Horseshoe Drive and Bruce Drive Developments to the area along Mock Road. According to Map 21, the soils in this area are very limited for conventional OLDS and the lots are small. This area also exhibits similar confirmed malfunctions to the Horseshoe and Bruce Drive areas.

**Response:**

*The Mock Road area had not been considered with the Bruce Drive area because of the distance between the two areas. The needs do not justify the additional construction costs for cross-country sewer lines, especially with a limited number of new connections. UPT will consider adding this area in the future if the needs are warranted by a future Needs Study. If feasible at that time, the plan will then be revised to include this area.*

11. The plan proposes extending public sewers into the R-80 zoning district, an area of low-density development. However, the existing R-2 zoning district along North State Road and Levengood Roads is proposed for OLDS, even though this area contains holding tanks, documented malfunctions, and significant areas designated as urbanized surfaces. Please clarify how the sewage needs of these areas are being met by the UPT.

**Response:**

*As stated above, the sewage needs of North State Road and Levengood Road are beyond the scope of this plan. UPT will consider adding this area in the future if the needs are warranted by a future Needs Study. If feasible at that time, the plan will then be revised to include this area.*

12. Included in the base plan update was the correspondence of November 29, 2005, entitled *Neighborhood Sewage Planning Study*. This survey was sent to 59 homeowners along Horseshoe Drive, Ming Drive, and West Moyer Road between Route 100 and Gilbertsville Road. The Department questions whether this survey is representative of all of the needs of the UPT. It is the Department's recommendation that the survey be extended to include the entire UPT.

**Response:**

*The POS does not contain a plan for a new Township-wide sanitary survey. Under Section III of the POS, it is noted that the surveys and water sampling would be from 2006, and the Task Activity Report submitted with the POS does not contain an allowance for a new study. The Neighborhood Sewage Planning Study included with the Plan was not intended to be representative of the needs of the entire Township. It was included to document the needs of those areas only. UPT does not intend to initiate a new Township-wide Needs Study at this time.*

13. Page 2 of the Uniform Environmental Review, a supplement to the Upper Pottsgrove Act 537 Update, indicates that a needs analysis in the area had shown a 57 percent OLDS malfunction rate in the Farmington Avenue and Evans Road areas. This does not correspond with Map 10, the Montco SEO Documented Malfunctions. Please provide a clarification of the methodology used in determining a malfunctioning system.

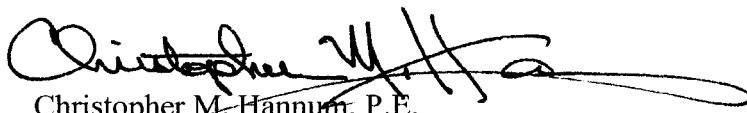
**Response:**

*The 57 percent OLDS Malfunction Rate presented in the plan was a result derived from the November 2001 Act 537 Update Special Study Revision, Section 3.3.1 which describes a Sanitary Needs survey that was performed for the Farmington Avenue Project Area with a 35% return rate. The results of the study indicated that of the 28 surveys returned, 16 surveys reported malfunctions leading to the 57% malfunction rate. A Special Study Addendum later confirmed this survey in August 2002. Both documents were approved by PADEP in 2002. All data collection and survey methods were done in Accordance with PADEP Act 537 Plan Sewage Facilities Needs Guidance.*

*The Montgomery County SEO Documented Malfunctions were included in the current plan as part of the scope of work and to maintain consistency with Chapter 71 Guidelines. Although the data add to the perspective of the report, they bear no current weight on the selection of Farmington Avenue West as a candidate for public sewers.*

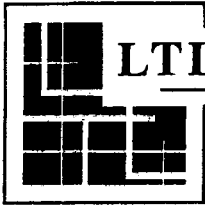
Based on your questions/comments and our responses, it is our conclusion that a meeting between the Township and the PADEP would be mutually beneficial. We will contact you to request such a meeting in the immediate future. If you have any questions, please do not hesitate to contact us.

Sincerely,



Christopher M. Hannum, P.E.  
LTL Consultants, Ltd.  
Manager, Water and Wastewater Department

cc: Jack Layne, Township Manager  
Upper Pottsgrove Board of Commissioners  
Charles Garner, Esq.  
John Bealer, Sewer Committee  
Leo Scott, LTL Consultants,  
Lisa Sweigert, LTL Consultants.  
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**LTL CONSULTANTS, LTD. • ENGINEERS & CODE OFFICIALS**

PO BOX 241 • ONE TOWN CENTRE DRIVE • OLEY, PA 19547  
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March 24, 2009

Lower Pottsgrove Township Municipal Authority  
Attn: Mr. Rodney Hawthorne, Manager  
2199 Buchert Road  
Pottstown, PA 19464

RE: Upper Pottsgrove Township Act 537 Update and  
Revision – Response to Written Comments from  
Lower Pottsgrove Township Municipal Authority

Dear Mr. Hawthorne:

We have received and reviewed your comments concerning the Upper Pottsgrove Township Act 537 Revision contained in the letter from your office dated February 18, 2009. The following responses (bold) address each comment (italics) individually.

1. ***Lower Pottsgrove Township is currently under a Corrective Action Plan (CAP). This plan is schedule for completion by late 2010. Therefore the reference to Lower Pottsgrove Township moratorium needs to be revised to state that Lower Pottsgrove Township is under a CAP. We feel that this should be revised throughout the report.***

The term “moratorium” is used in reference to Lower Pottsgrove Township’s (LPT) capacity to accept flow from Upper Pottsgrove Township (UPT). The last communication from LPT to UPT stated that LPT could not accept any new connections until further notice. UPT has not received any communication changing the status of connections.

2. ***The report mentions that under Alternate #6 Lower Pottsgrove Township will be receiving flows from Continental Drive and Orchard Road. The report states that Continental Drive is 54 EDU and Orchard Road is 15 EDU for a total of 69 EDU in 10 years. Are these the total EDU that Upper Pottsgrove Township will be adding to the current flows? And is it expected to occur in 10 years or over a 10-year period?***

The 69 EDUs indicated above are to be considered a portion of the total EDUs purchased (164). These are anticipated connections that would occur under a single project. That project would occur within the next 10 years.

3. ***The buildout sewer map shows an area labeled Lower Pottsgrove Township. In this area the number 95 appears. Is the additional EDU needed above the total of 69 EDU stated in the report?***

The 95 EDUs indicated on the map (#15) identify an approximated count of additional EDUs that may be required based on remaining undeveloped acreage. The methods employed to generate this figure are provided in the UPT Connection Management cited in this revision of the UPT Act 537 Sewage Facilities Plan (see pages 10 & 22).

Modification to the map will be made to clarify this issue. The total count of EDUs for possible connection is 164 (see next response).

4. *A table showing the number of EDU that Upper Pottsgrove Township will need from Lower Pottsgrove Township and the year when they will be needed will assist in Lower Pottsgrove Township's ability to meet the capacity need of Upper Pottsgrove Township. We will include this information in Lower Pottsgrove Township's Act 537 Plan Update.*

**EDU PROJECTIONS FOR UPPER POTTS GROVE TOWNSHIP CONNECTION TO  
LOWER POTTS GROVE TOWNSHIP**

CONTINENTAL DRIVE / ORCHARD ROAD	By 2018	69
EDU'S FROM BUILDOUT (Estimated)	Unknown	95
<b>TOTAL</b>		<b>164</b>

The only projected need from UPT to LPT is the connection of 69 EDUs from Continental Drive and Orchard Road. As stated previously, these are to be connected within the next 10 years. The Board of Commissioners has finalized no specific date within that time frame and therefore no further details can be supplied to LPT. It should be noted that all of the projected 164 EDUs (69 EDUs + 95 EDUs) are within the purchased allocation held by UPT.

The Upper Pottsgrove Township Board of Commissioners would like to thank the LPT Municipal Authority for its comments. Please feel free to contact us with any further questions.

Sincerely,



Christopher M. Hannum  
LFL Consultants, Ltd.  
Manager, Water and Wastewater Department

cc: Upper Pottsgrove Township  
Jack Layne, Township Manager  
Elwood Taylor, Chairman – Board of Commissioners  
Charles Garner, Solicitor  
File: M:\Engineering\Upper Pottsgrove Township - 20\0520-0810 Act 537 Plan Revision\Consistency Review\Response Letter to LPT Comments 032409.doc  
File: W:\upt\SEWER\2009\Response Letter to LPT Comments 032409.doc



# pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOUTHEAST REGIONAL OFFICE

February 8, 2010

Mr. Jack Layne, Manager  
Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464-1829

Re: Act 537 Plan Update  
APS ID 29303, AUTH ID 795432  
Upper Pottsgrove Township  
Montgomery County

Dear Mr. Layne:

On October 13, 2009, this office received a submission of additional information pertaining to your proposed Official Sewage Facilities Plan. This information was submitted in response to our review letter of August 6, 2009.

A preliminary review has indicated that the plan update is not in accordance with the provisions set forth in Chapter 71 and is therefore still incomplete. The following information must be provided:

1. The March 1994 agreement between Lower Pottsgrove Township (LPT) and Upper Pottsgrove Township (UPT) provided for the conveyance of 192,000 gallons per day (gpd) from UPT to Pottstown Borough via the LPT sewage conveyance system. Article III, Section A.3 on page 10 of the submitted plan states that LPT has notified UPT that they can no longer honor the full capacity listed in the 1994 agreement. LPT has issued a moratorium on further connections from UPT. Please clarify how the plan's implementation is still feasible in light of this moratorium. In addition, please clarify whether a new capacity agreement with LPT will be required. If so, please include a copy of the new agreement.
2. The township's October 8, 2009, correspondence regarding The Lower Pottsgrove Municipal Authority's comments references the purchase of 164 equivalent dwelling units (EDUs). This represents 54 EDUs for Continental Drive, 15 EDUs for Orchard Road and 95 EDUs identified as an approximate count of additional connections that may be required based on remaining undeveloped acreage. Table 1 of the 2008 Sewer System Questionnaire provided by LPT for the Pottstown Borough Chapter 94 report indicates that a total of 375 EDUs were Department of Environmental Protection (Department) approved and proposed for connection between the years 2008 and 2013. Table 4.2 on

Mr. Jack Layne, Manager

- 2 -

February 8, 2010

Page 23 of the plan update indicates that there are 238 existing connections for UPT through the LPT Sewer District. The Upper Pottsgrove Township Connection Management Plan lists the current flows from UPT through LPT as 37,197 gpd average daily flow and 44,114 gpd 3-month maximum flow.

Please clarify the existing and projected annual average flows, the number of EDUs for all projects, build out estimates and the Department approved projects that have been agreed to by both townships.

3. If the plan proposes an increase or decrease of UPT's allocated flows in the LPT conveyance system, the Lower Pottsgrove Township Planning Commission must be given the opportunity to review and comment on the plan and LPT must adopt the plan by resolution.
4. The response provided to Item 3 of our August 6, 2009, review letter is inadequate. Please provide the metering information that documents the actual annual average capacity available to UPT, when their maximum 3-month flow is limited to 776,400 gpd.
5. The Transfer of Capacity Agreement (capacity agreement) must be modified to reflect actual available capacities. In our letter of December 6, 2005 (copy enclosed), regarding the December 2005 transfer of capacity, we had required the use of annual average flows and not three month maximum flows.
6. We have concerns that the capacity provided via Transfer of Capacity Agreement is not sufficient to meet UPT's long-term needs. Please provide clarification of the ultimate number of EDUs needed, a time frame for connections, and how and when treatment capacity for the ultimate build-out will be obtained.
7. Items 9-13 of your October 8, 2009, response do not adequately address the comments raised in our August 6, 2009, letter. The Department's December 8, 2008, Plan of Study approval letter reflected a township-wide Act 537 plan revision. Specifically, a needs survey is required to provide a complete evaluation the alternatives available for the North State Road, Levensgood Road, Farmington Avenue and Gross Road (north of Evans Road) and Mock Road areas of the township. The Department's Act 537 Sewage Disposal Needs Identification document may be accessed by following this link: <http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-72495/362-0300-009.pdf>.
8. Please revise the plan's mapping to depict which areas of the township are in the on-lot area and those which will be served by public sewers.
9. Please revise the plan's implementation schedule to provide a time frame for the construction of public sewers.

Mr. Jack Layne, Manager

- 3 -

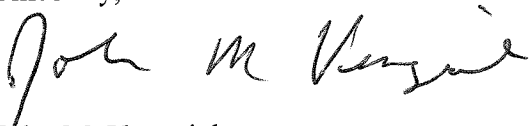
February 8, 2010

10. Please indicate both a primary and contingency funding method to be used for the installation of public sewers.
11. We recommend that UPT establish a sewage management program for those areas of the township that will not be served by public sewers.
12. Please provide justification for changes to the public sewer service areas approved in previous UPT Act 537 plans.

When the necessary revisions have been completed, as listed above, this Department will initiate a review in accordance with the provisions of Chapter 71, Administration of the Sewage Facilities Program.

If there are any questions concerning the information required, please contact me at 484.250.5175.

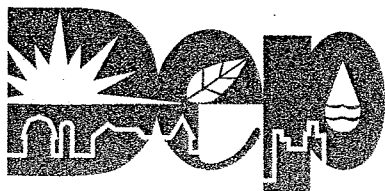
Sincerely,



John M. Venezia  
Sewage Planning Specialist 2  
Water Management

Enclosure

cc: Montgomery County Planning Commission  
Montgomery County Health Department  
LTL Consultants, LTD  
Mr. Hawthorne - Lower Pottstgrove Township  
Pottstown Borough  
Planning Section  
Re 30 (GJE10WQ)039-3



## Pennsylvania Department of Environmental Protection

2 East Main Street  
Norristown, PA 19401

DEC 06 2005

## Southeast Regional Office

484-250-5970

Fax: 484-250-5971

Mr. Jack P. Layne, Jr., Secretary  
Pottstown Borough  
100 East High Street  
Pottstown, PA 19464-9525Re: Act 537 Plan Update  
APS Id. 568557, AUTH Id. 612741  
Pottstown Borough  
Montgomery County

Dear Mr. Layne:

We have completed our review of your municipality's updated official sewage facilities plan entitled "Official Act 537 Plan Revision for Transfer of Capacity" as prepared by BCM Engineers, dated November 7, 2005. The review was conducted in accordance with the provisions of the Pennsylvania Sewage Facilities Act.

Approval of the Plan is hereby granted.

The Plan provides for the re-allocation of existing wastewater treatment capacity at the Pottstown Borough's wastewater treatment facility. No changes are proposed to the permitted annual average flow of 12.85 million gallons per day (MGD) at the treatment facility. All listed flows are in MGD:

	Current Allocation	Proposed Allocation	Change
Pottstown Borough	8.40	7.8994	-0.5006
Lower Pottsgrove	2.70	3.0750	+0.3750
Upper Pottsgrove	0.35	0.4756	+0.1256
West Pottsgrove	1.40	1.4000	No change
Totals	12.85	12.8500	

Please note that Upper Pottsgrove Township's additional allocations in the plan were listed as a maximum monthly flow of 0.1884 MGD. Act 537 Planning requires flows to be provided in annual average flows. The plan also indicates that annual average flows are calculated at 200 gallons per day per equivalent dwelling unit (gpd/edu), and that maximum monthly flows are calculated at 300 gpd/edu.



Mr. Jack P. Layne, Jr., Secretary

DEC 06 2005

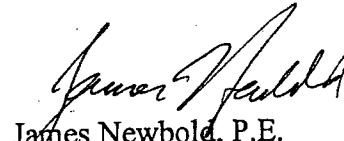
-2-

The revised annual average additional flow calculation for Upper Pottsgrove Township of 0.1256 was calculated by dividing 0.1884 by 300 and multiplying the result by 200. Please note that the annual average flows allocated to Pottstown Borough have been revised to show the reduced annual average flows allocated to Upper Pottsgrove Township.

Please be advised that all future sewage facilities planning submissions must be provided in annual average flows. While peaking factors must be provided with Water Quality Management construction and operation permit applications, peak flows may not be used for planning purposes for sizing any portions of collection, conveyance, or treatment facilities. The Department will not calculate these flows in future submissions.

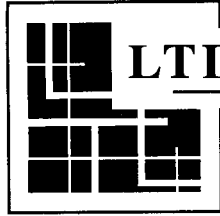
If you have any questions, please contact John M. Venezia of this office.

Sincerely,



James Newbold, P.E.  
Regional Manager  
Water Management

cc: Montgomery County Planning Commission  
Montgomery County Health Department  
Lower Pottsgrove Township  
Upper Pottsgrove Township  
West Pottsgrove Township  
BCM Engineers  
Mr. Venezia  
Ms. Moore  
Ms. Grant  
RCSOB, 11<sup>th</sup> Floor, Sewage Facilities, Attn.: John McHale  
Planning Section  
Re 30



**LTL CONSULTANTS, LTD. • ENGINEERS & CODE OFFICIALS**

PO BOX 241 • ONE TOWN CENTRE DRIVE • OLEY, PA 19547  
(610) 987-9290 • FAX: (610) 987-9288

April 30, 2010

Ms. Linda Swagzdis  
Pennsylvania Department of Environmental Protection  
Southeast Regional Office  
2 East Main Street  
Norristown, PA 19401-4915

RE: Act 537 Sewage Facilities Plan  
Upper Pottsgrove Township  
Montgomery County  
LTL W.O. No. 0520-0906

Dear Ms. Swagzdis:

We are writing in response to your letter dated February 8, 2010 and our meeting of March 31, 2010 at your offices. We have formatted our response to list your question followed by our response.

- 1. The March 1994 agreement between Lower Pottsgrove Township (LPT) and Upper Pottsgrove Township (UPT) provided for the conveyance of 192,000 gallons per day (gpd) from UPT to Pottstown Borough via the LPT sewage conveyance system. Article III, Section A.3 on page 10 of the submitted plan states that LPT has notified UPT that they can no longer honor the full capacity listed in the 1994 agreement. LPT has issued a moratorium on further connections from UPT. Please clarify how the plan's implementation is still feasible in light of this moratorium. In addition, please clarify whether a new capacity agreement with LPT will be required. If so, please include a copy of the new agreement.*

**Response:** Upper Pottsgrove Township (UPT) and Lower Pottsgrove Township (LPT) have a current agreement for the conveyance of 192,000 gpd. Both parties have committed to honoring their portions of the agreement. Based on communications with LPT, they are currently challenged by high flows created by Inflow and Infiltration (I/I). However they are executing a Corrective Action Plan (CAP). At the completion of that CAP, we are expecting that additional flows will be accepted by LPT. Our communications with LPT are included with this letter. As can be seen, all parties are aware of the current situation and all parties plan on honoring that agreement. No new agreement is required. If for any reason LPT fails to comply with the agreement new planning would be required.

2. *The township's October 8, 2009, correspondence regarding the Lower Pottsgrove Municipal Authority's comments references the purchase of 164 equivalent dwelling units (EDUs). This represents 54 EDUs for Continental Drive, 15 EDUs for Orchard Road and 95 EDUs identified as an approximate count of additional connections that may be required based on remaining undeveloped acreage. Table 1 of the 2008 Sewage System Questionnaire provided by LPT for the Pottstown Borough Chapter 94 report indicates that a total of 375 EDU's were Department of Environmental Protection (Department) approved and proposed for connection between the years 2008 and 2013. Table 4.2 on Page 23 of the plan update indicates that there are 238 existing connections for UPT through the LPT Sewer District. The Upper Pottsgrove Township Connection Management Plan lists the current flows from UPT through LPT as 37,197 gpd average daily flow and 44,114 gpd 3-month maximum flow.*

*Please clarify the existing and projected annual average flows, the number of EDUs for all projects, build out estimates and the Department approved projects that have been agreed to by both townships.*

**Response:** As discussed in the meeting with the Department, the Township has more than sufficient capacity through the LPT system. Using the agreed to capacity of 192,000 gpd and assuming a maximum flow of 300 gpd/EDU, UPT has capacity for:

$$\frac{192,000 \text{ gpd}}{300 \text{ gpd/EDU}} = 640 \text{ EDU's}$$

Per the table on Page 14 of the "Upper Pottsgrove Township Connection Management Plan (CMP), August 2008" that was included in the Act 537 Revision, there are 238 existing EDUs flowing to LPT. In addition, the CMP also shows that the following connections will be made:

1280 North Hanover Street -	1 EDU
Continental Drive -	54 EDU
Orchard Road -	15 EDU

This brings the total planned for connections to be:

$$238 \text{ existing EDUs} + 70 \text{ EDUs} = 308 \text{ EDUs}$$

This is far below the purchased capacity of 640 EDUs.

During the meeting a question also arose regarding the "Projected Development Based on Open Space" as listed on page 14 of the CMP. These projections were done to determine the ultimate build-out in each sewer district. The ultimate build-out was completed to insure that existing agreements and infrastructure were sufficient into the future. Specifically, the Borough of Pottstown was increasing the size of the pipe in York and Beech Street. The 95 EDUs shown were utilized to insure the ultimate capacity of that pipe. The EDU count based on the "Projected Development Based on Open Space" are not part of this planning as they are beyond the 20-year time frame.

3. *If the plan proposes an increase or decrease of UPT's allocated flows in the LPT conveyance system, the Lower Pottsgrove Township Planning Commission must be given the opportunity to review and comment on the plan and LPT must adopt the plan by resolution.*

**Response:** The plan does not change any existing agreement or allocation of flow.

4. *The response provided to Item 3 of our August 6, 2009, review letter is inadequate. Please provide the metering information that documents the actual annual average capacity available to UPT, when their maximum 3-month flow is limited to 776,400 gpd.*

**Response:** As we discussed during our meeting, the current agreement between the Pottstown Borough Authority (PBA) and UPT is defined in terms of maximum monthly flow. To convert this to annual average capacity, the calculation is:

$$776,400 \text{ gpd} \times \frac{200 \text{ gpd/EDU}}{300 \text{ gpd/EDU}} = 517,600 \text{ gpd.}$$

In order to further illustrate our available capacity, we have included a copy of a recent capacity report from the PBA. The PBA processes a quarterly report to UPT in order to maintain an up-to-date accounting of the system.

5. *The Transfer of Capacity Agreement (capacity agreement) must be modified to reflect actual available capacities. In our letter of December 6, 2005 (copy enclosed), regarding the December 2005 transfer of capacity, we had required the use of annual average flows and not three-month maximum flows.*

**Response:** As stated in our response to question No. 4, the converted average annual flow is 2/3 the maximum monthly flow. The capacity agreement transfers 238,000 gpd as maximum monthly flow or as an annual average flow of 158,667 gpd. This agreement and those previously in place have been based on maximum monthly flows that are readily convertible to average annual. In the future, reference can be made to average annual flows in addition to maximum monthly. In general terms, this nomenclature does not impact the listed capacity.

6. *We have concerns that the capacity provided via Transfer of Capacity Agreement is not sufficient to meet UPT's long-term needs. Please provide clarification of the ultimate number of EDUs needed, a time frame for connections, and how and when treatment capacity for the ultimate build-out will be obtained.*

**Response:** Based on the table shown on page 14 of the CMP the total number of connections envisioned by this plan is 2,253. This excludes those listed under the heading of "Projected Development Based on Open Space." As previously stated, those connections were determined to ultimately size downstream sewers in the Borough of Pottstown. Based on the existing and new agreements between UPT and the PBA the available capacity is 776, 400 gpd as a maximum monthly flow. Converting this to EDUs:

$$\frac{776,400 \text{ gpd}}{300 \text{ gpd/EDU}} = 2,588 \text{ EDUs available}$$

Using this number, UPT has a surplus of 335 EDUs for the next 20 years.

7. *Items 9-13 of your October 8, 2009 response, do not adequately address the comments raised in our August 6, 2009 letter. The Department's December 8, 2008, Plan of Study approval letter, reflected a township-wide Act 537 plan revision. Specifically, a needs survey is required to provide a complete evaluation of the alternatives available for the North State Road, Levengood Road, Farmington Avenue and Gross Road (north of Evans Road) and Mock Road areas of the township. The Department's Act 537 Sewage Disposal Needs Identification document may be accessed by following this link: <http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-72495/362-0300-009.pdf>.*

**Response:** Township wide sampling was discussed during our initial meeting with the Department on November 26, 2008. Based on previous sampling and the aggressive schedule for the plan, sampling was deemed unnecessary by all the participants. Our submitted and approved Task Activity Report (TAR) further corroborates this. The TAR has no time or budget allocated for sampling. Therefore, no sampling was completed for this project.

The areas listed for sewer have either been previously approved for sewer, or had sampling completed at an earlier time. Continental Drive and Orchard Road were approved for sewer in the 1991 revision to the Township Plan.

Horseshoe Drive, Ming Drive and Moyer Road were previously sampled in 2006. Regal Oaks Phase II has documented (by the PADEP and the County) failing on-lot systems. It is unclear what would be gained through additional sampling.

Areas outside those listed on Page 14 of the CMP would be dealt with either through specific planning (component 3M, Module) or as future growth enables connection.

It is the contention of this plan and the UPT Board of Commissioners that the areas identified are the most in need and are feasible. To expand the plan to areas outside the reach of existing facilities is unwarranted and cannot be considered at this time.

8. *Please revise the plan's mapping to depict which areas of the township are in the on-lot area and those which will be served by public sewers.*

**Response:** Attached with this letter is the map that you requested.

9. *Please revise the plan's implementation schedule to provide a time frame for the construction of public sewers.*

**Response:** The next page contains the expanded implementation schedules that you requested. As you requested during our meeting, we have changed the timeline contingent upon the Department's approval of the plan.

**REGAL OAKS PHASE 2**

<b><u>Major Milestone</u></b>	<b><u>Date</u></b>
Aerial Survey	3.0 years from Plan Approval
Design Start	3.5 years from Plan Approval
Design and Permitting Complete	4.5 years from Plan Approval
Construction Start	4.5 years from Plan Approval
Construction Complete	5.5 years from Plan Approval

**MING DRIVE, MOYER ROAD, HORSESHOE DRIVE, BRUCE DRIVE,  
CONTINENTAL DRIVE AND ORCHARD ROAD**

<b><u>Major Milestone</u></b>	<b><u>Date</u></b>
Aerial Survey	8.0 years from Plan Approval
Design Start	8.5 years from Plan Approval
Design and Permitting Complete	9.5 years from Plan Approval
Construction Start	9.5 years from Plan Approval
Construction Complete	11.0 years from Plan Approval

The other construction items are currently in progress and will be completed by the end of the 3<sup>rd</sup> quarter 2010. All other items will be addressed in the time frame listed.

10. *Please indicate both a primary and contingency funding method to be used for the installation of public sewers.*

**Response:** Considering the current borrowing environment, it is difficult to predict the exact funding method that will be used based on the time frame shown in our response to question 9. Currently, the Township is utilizing a combination of H<sub>2</sub>O grant money, PENNVEST loans and cash on hand to complete the Regal Oaks Pump Station and Farmington Avenue West Phase 2 projects. In the future, the Township will consider these options as well as private finance as primary and secondary funding methods.

11. *We recommend that UPT establish a sewage management program for those areas of the township that will not be served by public sewers.*

**Response:** As stated in the implementation schedule, UPT will review the need and benefit of a sewage management program within six (6) months of the Plan's approval by PADEP.

12. *Please provide justification for changes to the public sewer service areas approved in previous UPT Act 537 plans.*

**Response:** As part of this plan, UPT has modified the sewer service to best reflect the intentions of the elected officials. The sewer service area was consolidated to foster and support growth in areas that are readily supported by existing infrastructure. Any expansion of the sewer service area ultimately means that the Township would be responsible for extending sewer to those areas. The Township is only now recovering from the last time this was done. From approximately 2003 through 2007, the Township expanded sewer service in cooperation with several developers.

Much of this expansion was financially shouldered by the Township with the expectation that future residents would help support the increased cost, operations and debt service.

These residents never materialized and many of these developments have been postponed indefinitely. Due to this lack of growth, the elected officials have had to increase taxes and sewer rates significantly over the past several years. To avoid this in the future, the plan focuses on areas of need without expanding beyond the financial capabilities of the Township.


Specifically, the sewer service area only incorporates areas with unresolved problems, approved modules, existing service or specialized planning needs (the Kummerer Tract and the Pine Ford Road curatives are anticipated to be age-restricted facilities). Anything outside these areas can be considered for sewer service if the zoning permits, infrastructure is readily available and a sewage-planning module is approved. For those existing residents outside the sewer service area, there would have to be an identifiable need brought to the Township's attention. If this situation arises, we assume that it could be dealt with using a Component 3M.

It is our assertion that the Township can modify its sewage facilities plan based on the direction of the elected officials in conformance with regulatory requirements set forth by the Department. Furthermore, this plan relies on existing Zoning and Subdivision and Land Development Ordinances, to regulate housing density based upon the availability of sewer. In conjunction with this plan, the intent of the Commissioners and the existing ordinances, the sewage facilities needs for the residents of UPT are consistently being met and planned for.

If in our planning, the Department feels that we have overlooked a specific area of concern, we would readily discuss that at the appropriate time. We feel that the plan in its current state addresses those areas of concern balanced against the financial capabilities of the Township.

If you have any questions, please contact me at your earliest convenience. We look forward to further communication with you on this matter.

Sincerely,



Christopher M. Hannum  
LTL Consultants, Ltd.  
Manager, Water & Wastewater Department

Enclosures

cc: Upper Pottsgrove Township Board of Commissioners  
Jack Layne, Township Manager  
Charles Garner, Solicitor  
John Bealer, Chairman (Water & Sewer Committee)  
File: M:\Engineering\Upper Pottsgrove Township - 20\0520-0906 Act 537 Respond to PADEP  
Comments\DEP L SWAGZDIS RESPONSE TO QUESTIONS 043010.doc

LAW OFFICES  
**GARNER & BAUER**

2050 EAST HIGH STREET  
POTTSTOWN, PA 19464

CHARLES D. GARNER, JR.  
PAUL A. BAUER, III  
GREGORY A. SHANTZ

(610) 970-4961  
(610) 970-4965 (FAX)

RONALD H. REYNIER\*  
MOLLY B. McNAB\*  
\*OF COUNSEL

October 8, 2008

Howard E. Kalis, III, Esquire  
FOX ROTHSCHILD  
747 Constitution Drive  
Suite 100  
Exton, PA 19341

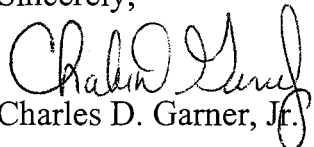
**RE: Upper Pottsgrove Township - Lower Pottsgrove Township Authority**

Dear Howard:

Thank you for your letter of October 3, 2008. The Township certainly appreciates the fact that you are aware of the commitment to provide the conveyance capacity. We certainly appreciate your efforts in attempting to resolve the situation with DEP. Unfortunately, we also have immediate issues that need to be addressed and the fact the we do not have the capacity available through Lower Pottsgrove's lines has caused us problems and necessitated the need for alternate measures that have and will cost us money that otherwise we would not perhaps have had to expend.

I will pass your letter along to the Township Commissioners but I wanted to let you know that we appreciate your efforts. Please keep us posted on the status of your capacity and conveyance issues with DEP.

Sincerely,

  
Charles D. Garner, Jr.\*

CDG,jr/ds

cc: Mr. Jack P. Layne, Jr. (enc.)  
Mr. Christopher M. Hannum, P.E. (enc.)

LAW OFFICES  
**GARNER & BAUER**

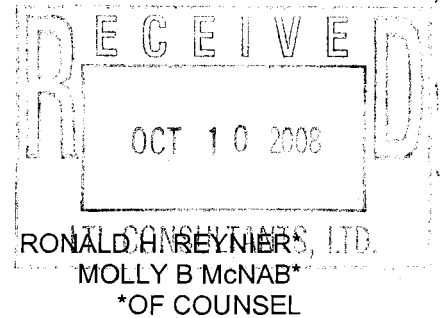
Appendix A-22-b.1

*Hannum*

2050 EAST HIGH STREET  
POTTSTOWN, PA 19464

CHARLES D. GARNER, JR.  
PAUL A. BAUER, III  
GREGORY A. SHANTZ

(610) 970-4961  
(610) 970-4965 (FAX)



October 8, 2008

Mr. Jack P. Layne, Jr.  
Township Manager  
Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464

**RE: Sewage Conveyance Agreement - Lower Pottsgrove Township**

Dear Jack:

Enclosed you will find a letter I received from Howard Kalis as Solicitor for the Lower Pottsgrove Township Municipal Authority. The letter makes clear in no uncertain terms that the Authority understands its legal obligation to provide conveyance capacity to Upper Pottsgrove Township and it understands the significance of not being able to do so.

Regardless of their good faith attempts to provide capacity, I see nothing in the foreseeable future that will allow physical connections to be implemented as would otherwise be permitted by the Inter-Municipal Agreement between the Township and the Authority. The promise for future conveyance capacity does not help the Township in the situation it is in today, assuming we take alternate steps to provide capacity where it is needed immediately.

You will recall at the last joint meeting with the Authority, there was some suggestion that the Township be somewhat more aggressive in its dealings with Lower Pottsgrove, and perhaps even request money from the Authority on this front. I would defer to the policy makers on this issue, but certainly we have their attention and perhaps it is time to schedule a meeting to speak to them on this issue. I would not schedule a meeting until we know exactly what we are asking for or we have some way to quantify our potential damages. Please let me know your thoughts.

Sincerely,

  
Charles D. Garner, Jr.

CDG,jr/ds  
Enclosure

cc: Mr. Christopher M. Hannum, P.E. (enc.)



**Fox Rothschild** LLP  
ATTORNEYS AT LAW

Eagleview Corporate Center  
747 Constitution Drive, Suite 100  
P.O. Box 673  
Exton, PA 19341-0673  
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Howard E. Kalis III  
Direct Dial: (610) 458-3117  
Email Address: hkalis@foxrothschild.com

October 3, 2008

**VIA FAX ONLY (610) 970-4965**

Charles D. Garner, Jr., Esquire  
Law Offices of Garner & Bauer  
2050 East High Street  
Pottstown, PA 19464

**Re: Upper Pottsgrove Township/Lower Pottsgrove Township Authority  
Sewage Conveyance Agreement**

Dear Chuck:

Please accept this letter as yet a further follow up as to Lower Pottsgrove's actions to place ourselves in a position to meet your requests for sewer capacity. As you know, we have never questioned your entitlement to capacity and, to the contrary, clearly acknowledge our contractual obligation to you and to those residents requiring municipal service.

While I cannot yet state, with specificity, when that capacity will be available, I am pleased to report that we are, in my opinion, making meaningful progress that will hopefully allow us to free up some capacity sooner rather than later. Without getting bogged down in a lengthy discussion, we are even now awaiting a response from DEP to our request that DEP approve a plan of remediation to address some overflows in our system. Our plan of remediation includes a joint/cooperative effort between our Authority and a group of private developers. Within the last several days I have again reached out to Jennifer Fields inquiring as to the status of several draft Agreements that we submitted for DEP's approval as far back as June. We have received informal confirmation that one of our Agreements has essentially been approved (as is) with the other Agreement possibly needing some minor revisions predicated upon some comments that are supposedly to be made by DEP's legal department. Absent some unanticipated further delay I would expect formal word from DEP within the next several weeks.

If we assume DEP approves our Agreements our next step will then be a further meeting with DEP to address the issue of how and when available capacity will be released to Lower

EX1 787867v1 10/03/08

A Fox Rothschild LLP Limited Liability Partnership

California

Delaware

Florida

Nevada

New Jersey

New York

Pennsylvania



Fox Rothschild LLP  
ATTORNEYS AT LAW

Charles D. Garner, Jr., Esquire  
October 3, 2008  
Page 2

Pottsgrove and then how Lower Pottsgrove will allocate that capacity among the various entities who are requesting that capacity. Let me emphasize that we have Upper Pottsgrove near the very top of our list for the receipt of some capacity when and as that capacity is made available to us.

The singular purpose of this letter is to reaffirm that we have not forgotten either your request or our obligation and will do everything reasonably possible – and as soon as possible – to fulfill our contractual commitment to Upper Pottsgrove Township. Should you have any further questions concerning the above, please do not hesitate to contact me. With best wishes, I remain

Very truly yours,

A handwritten signature in cursive script that reads "Howard E. Kalis III".

Howard E. Kalis III

HEK:mf

cc: Bursich Associates, Inc.  
Attn: William K. Dingman, P.E. (via fax only (215) 393-0652)  
R. Kurtz Holloway, Esquire (via fax only (610) 323-4931)  
Lower Pottsgrove Township Authority  
Rodney P. Hawthorne, Manager (via fax only (610) 323-3824)

LAW OFFICES  
**GARNER & BAUER**

Appendix A-22-b.1

2050 EAST HIGH STREET  
POTTSTOWN, PA 19464

CHARLES D. GARNER, JR.  
PAUL A. BAUER, III  
GREGORY A. SHANTZ

(610) 970-4961  
(610) 970-4965 (FAX)

RONALD H. REYNIER\*  
MOLLY B McNAB\*  
\*OF COUNSEL

August 26, 2008

Mr. Jack P. Layne, Jr.  
Township Manager  
Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464

**RE: Miscellaneous Sewer Matters/Sewer Committee**

Dear Jack:

I wanted to provide you with Howard Kalis's response to my recent correspondence concerning Upper Pottsgrove's request to utilize conveyance capacity per our Agreement with Lower Pottsgrove Township Authority. The letter obviously provides the necessary response that the Authority is attempting to be compliant.

I further understand that you and Chris are working on a response to other correspondence of the Authority related to this issue. I think it is appropriate that the Township continue to push the Authority to become compliant with the conditions contained in the Agreement and also advise DEP of any progress or lack of progress that is made on this issue. Please let me know if you have any questions.

Sincerely,

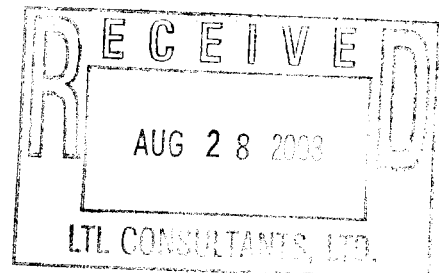
*161 Charles D. Garner Jr*

Charles D. Garner, Jr. *pm*

CDG,jr/pm

Enclosure

cc: Mr. Christopher Hannum (w/enclosure) ✓





Fox Rothschild LLP  
ATTORNEYS AT LAW

Eagleview Corporate Center  
747 Constitution Drive, Suite 100  
P.O. Box 673  
Exton, PA 19341-0673  
Tel 610.458.7500 Fax 610.458.7337  
www.foxrothschild.com

Howard E. Kalis III  
Direct Dial: (610) 458-3117  
Email Address: hkalis@foxrothschild.com

August 20, 2008

Charles D. Garner, Jr., Esquire  
Law Offices of Garner & Bauer  
2050 East High Street  
Pottstown, PA 19464

**Re: Upper Pottsgrove Township/Lower Pottsgrove Township Authority  
Sewage Conveyance Agreement**

Dear Chuck:

This will acknowledge receipt of yours of August 8<sup>th</sup> regarding the above. While Lower Pottsgrove is not yet in a position to provide the capacity that you require, please be assured this matter is not being ignored but is very a much a part of a global discussion-which involves DEP-regarding the sewage conveyance issues.

With best wishes I remain

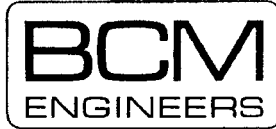
Very truly yours,


A handwritten signature in cursive script that reads "Howard E. Kalis III".

Howard E. Kalis III

cc: Bursich Associates, Inc.  
Attn: William K. Dingman, P.E. (via fax only (215) 393-0652)  
R. Kurtz Holloway, Esquire (via fax only (610) 323-4931)  
Lower Pottsgrove Township Authority  
Rodney P. Hawthorne, Manager (via fax only (610) 323-3824)

HEK:mp



A Division of  ATC

RECEIVED  
APR 21 2010

920 Germantown Pike, Suite 200  
Plymouth Meeting, PA 19462  
610-313-3100  
Fax 610-313-3151

BY: .....

April 19, 2010

Mr. Jack Layne, Manager  
Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464

Subject: Borough of Pottstown  
Wastewater Treatment Capacity  
BCM Project No. 57.50766.1931

Dear Mr. Layne:

We are hereby providing a report on the current Unused Requested Capacity available to Upper Pottsgrove, as of March 31, 2010. This quarterly report is provided in accordance with Article IV, Section 4.01 of the amended Sewage Treatment Service Agreement, dated September 13, 2004, between the Borough of Pottstown, the Pottstown Borough Authority and the Township of Upper Pottsgrove.

The list of current, proposed and potential developments was obtained from information provided by the Township, for the 2009 Chapter 94 Report. The Flow of Record is determined by data collected from sewage flow meters maintained by the Township. Please note that the Upper Pottsgrove's flow of record has increased from 0.4070 MGD to 0.4410 MGD (January, February and March 2010).

If you have any questions concerning the requested information, please feel free to contact us.

Very truly yours,

A handwritten signature in black ink, appearing to read 'T. Weld'.

Thomas L. Weld, P.E., P.L.S  
Director Engineering, Planning  
& Construction Services

TLW:sws  
Enclosure

cc: J. Bobst, Borough Manager  
R. Downie, PBA Chairman  
D. Garner, Solicitor  
D. Yerger, PBA  
C. Bowyer, BCM

chrisb\pottsii\meter\uppott\capqr1.10.doc

**POTTSTOWN BOROUGH AUTHORITY**

19-Mar-10

**UPPER POTTS GROVE ALLOCATED CAPACITY**

<b>Developer Name</b>	<b>Module Status</b>	<b>Total EDU</b>	<b>Remaining EDU (1)</b>	<b>Remaining Avg. Daily Flow (2) (gpd)</b>
<b><u>A. Ongoing Construction</u></b>				
Coddington View (Soco/Skarbek)	Y	218	66	13,200
Summer Grove (Prout Tract)	Y	73	3	600
Farmington Avenue West	Y	86	68	13,600
<b>Total Ongoing Construction (A)</b>			<b>137</b>	<b>27400</b>
<b><u>B. Proposed Construction (3)</u></b>				
Althouse Development	Y	22	22	4,400
Bachman tract	Y	38	38	7,600
Boerner Tract	Y	33	33	6,600
Sweetwater	Y	58	58	11,600
Regal Oaks Phase 1	Y	179	179	35,800
Regal Oaks Phase 2	Y	57	57	11,400
Cross Roads	Y	51	51	10,200
<b>Total Proposed Construction (B)</b>			<b>438</b>	<b>87600</b>
<b><u>C. Potential Construction</u></b>				
Kummerer Tract		138	138	27,600
409 Evans Road		7	7	1,400
Pine Ford Curatives		40	40	8,000
Woodbrook		14	14	2,800
Commerce Corner		118	118	23,600
<b>Total Potential Construction (C)</b>			<b>317</b>	<b>63,400</b>

Notes: (1) Remaining EDU as of 12/31/09, per information provided for 2009 Chapter 94

(2) Average daily flow based on 200 gpd/EDU

(3) Modules certified by Borough

Projected Flow is the sum of A + B

**POTTSTOWN BOROUGH AUTHORITY**

19-Mar-10

**UPPER POTTS GROVE ALLOCATED CAPACITY**

Updated to Represent Conditions on 3/31/10

**Based on Transfer Agreement dated 3/26/09**

		<u>Flow (mgd)</u>
Current Annual Average Flow	4/1/09 - 3/31/10	0.375
<b>Flow of Record</b>	(1)	<b>0.4410</b>
<b>Requested Capacity</b>		<b>0.7764</b>
<b>Flow of Record vs Requested Capacity</b>		<b>56.8%</b>
Flow of Record plus Projected Flow	(2)	0.6135
[Flow of Record + (A+B)x1.5]		
<b>Unused Requested Capacity</b>		<b>0.1629</b>
Requested Capacity - [Flow of Record + (A+B)x1.5]		
<b>Flow of Record plus Projected Flow vs Requested Capacity</b>		<b>79.0%</b>

Note: The 0.238 mgd transferred in March 2009 is not available to the Township until it is paid for. Available EDU's are based on new reserved capacity of 0.7764 mgd.

Unused Requested Capacity represents 543 EDU's

*Current Unused Capacity* -0.0043 mgd -14 EDU's  
(Without Regal Oaks)

Notes: 1). Highest MTMF over last 36 months recorded during Jan, Feb, Mar 2010

2). A + B = Projected Flow. MTMF peaking factor of 1.5  
based on 200 gpd AAF/EDU & 300 gpd MTMF/EDU

---

Based on Revised Agreement, dated September 13, 2004, a CAP is required when:

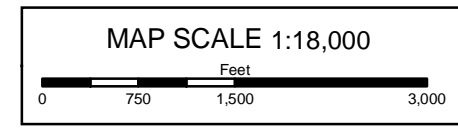
Flow of Record plus Projected Flow reaches 93% of the Requested capacity  
For Upper Pottsgrove 0.538 mgd x 93% = 0.501 mgd

Appendix A-22-b.1  
**SEWER SERVICE AND  
 ON LOT AREAS**  
**UPPER POTTS GROVE TWP.**  
**MONTGOMERY CO. PA**  
 ACT 537 UPDATE AND REVISION



**Legend**

- ROADS
- STREAMS
- MUNICIPAL BOUNDARY
- PARCEL BOUNDARIES - ON LOT AREA
- SEWER SERVICE AREA (SSA)



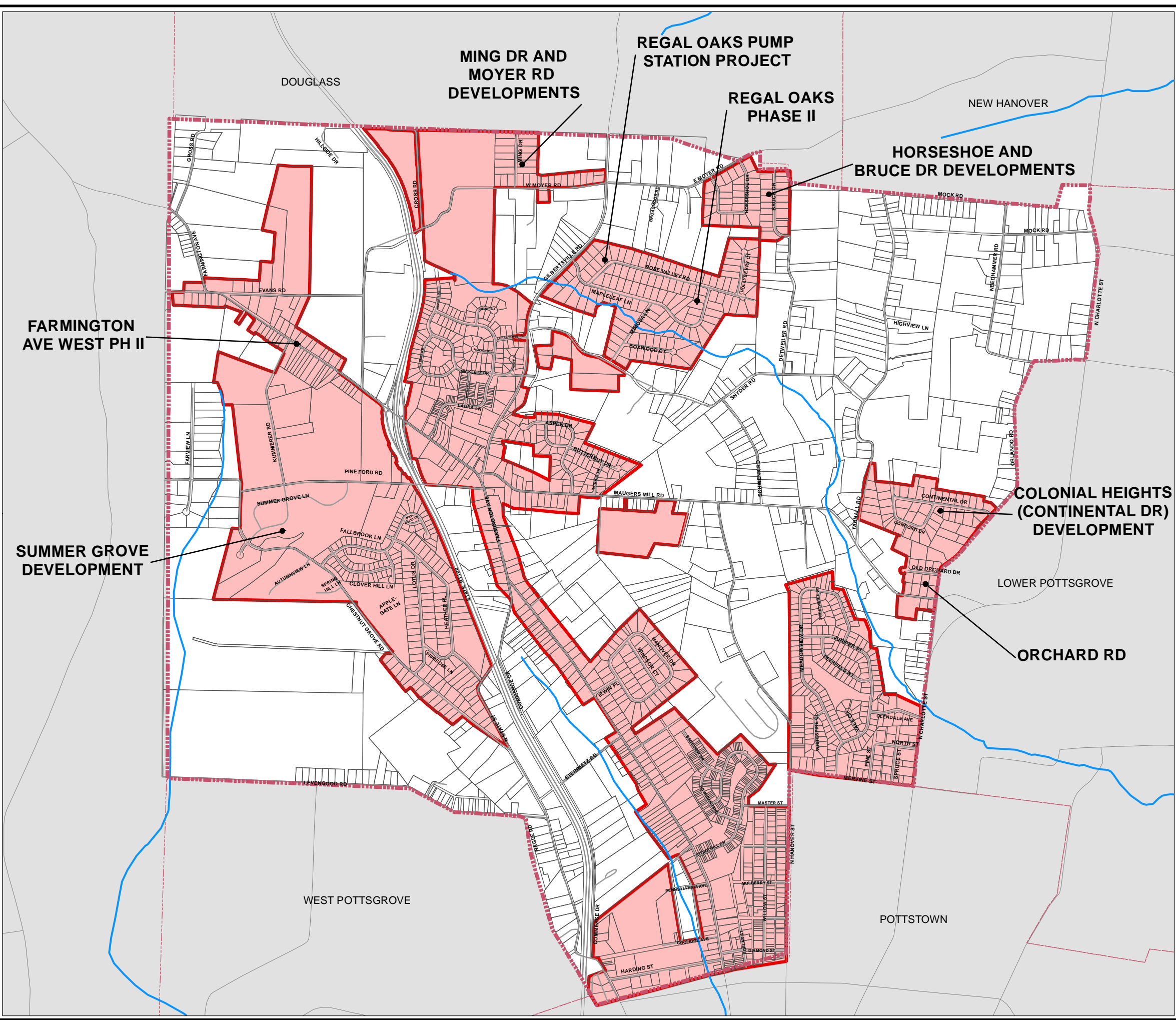
GIS DATA SOURCES:

PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY IT&S DEPARTMENT, 2007.  
 STREAMS DATA BY PADEP 2006.  
 SEWER SERVICE AREA DATA BY LTL CONSULTANTS, 2008, MODIFIED IN 2010.

USE AND PROJECTION INFORMATION:  
 THIS MAP IS INTENDED FOR REFERENCE USE ONLY, IT IS NOT INTENDED FOR USES REQUIRING ENGINEERING OR SURVEY ACCURACY.  
 ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE COORDINATE SYSTEM PENNSYLVANIA SOUTH FIPS 3702. FEET

NOTES ON PUBLICATION:  
 THIS MAP HAS BEEN GENERATED ON REQUEST BY THE PA DEPARTMENT OF ENVIRONMENTAL PROTECTION LETTER DATED 2/8/2010. THIS MAP IS INTENDED TO SPECIFICALLY ADDRESS ITEM #8 IN THE LETTER, WHICH REQUESTS THAT THE ACT 537 PLAN'S MAPPING BE REVISED "TO DEPICT WHICH AREAS IN THE TOWNSHIP ARE IN THE ON-LOT AREA AND THOSE WHICH WILL BE SERVED BY PUBLIC SEWERS."

MAP NO:  
 21





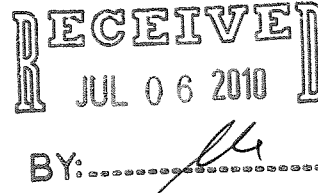
# pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOUTHEAST REGIONAL OFFICE

July 1, 2010

Ms. Jack Layne, Manager  
Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464-1829



Re: Act 537 Plan Update  
APS ID 29303, AUTH ID 795432  
Upper Pottsgrove Township  
Montgomery County

Dear Mr. Layne:

On May 4, 2010, this office received a resubmission of additional information pertaining to your proposed Official Sewage Facilities Plan. This information was submitted in response to our review letter of February 8, 2010.

A preliminary review has indicated that the plan update is not in accordance with the provisions set forth in Chapter 71 and therefore still incomplete. The following information must be provided:

1. Please provide confirmation that the *Facility Plan*, described as *Exhibit A* in Upper Pottsgrove Township's Resolution 558, enacted and adopted on April 6, 2009, is the Official Sewage Facilities Plan Update for Upper Pottsgrove Township, Montgomery County, entitled *Act 537 Sewage Facilities Plan* as prepared by LTL Consultants, Ltd., dated April 2009.
2. While the Department of Environmental Protection (Department) acknowledges the receipt of Pottstown Borough's Resolution 2009-14, which provides for the Transfer of Capacity between the Borough of Pottstown and Upper Pottsgrove Township, this resolution does not supply the means or time frame by which Pottstown Borough plans to implement the expansion of the interceptor in York and Beech Streets. The interceptor expansion is necessary in order for Upper Pottsgrove Township to completely implement its selected alternative. Therefore, the following planning information must be provided as part of the Upper Pottsgrove Township Act 537 plan update:
  - a. Please map the extent of the expansion of the above-mentioned interceptor.
  - b. Please provide a discussion of the sizing before and after the proposed expansion of this interceptor.
  - c. Please provide a revised resolution adopted by Pottstown Borough that contains language that references the expansion of the interceptor.

Ms. Jack Layne, Manager

- 2 -

July 1, 2010

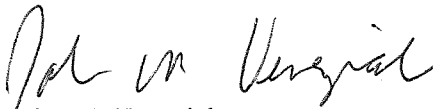
3. According to the soils data provided with the plan, large areas of Upper Pottsgrove Township are unsuitable for the installation of conventional on-lot sewage disposal systems. We understand that Upper Pottsgrove Township wishes to limit the extent of its public sewer service area based on costs and current needs. However, the combination of these 2 factors indicates that Upper Pottsgrove Township may face the need for improved sewerage facilities in the future or the need to provide enhanced oversight to assure that on-lot systems remain a viable option for nonsewered areas.

The response provided to Item 11 of our August 6, 2009, review letter is inadequate because it states only that Upper Pottsgrove Township will consider the implementation of a management program at some point in the future. Given the soils conditions present throughout the municipality and Upper Pottsgrove Township's limited public sewer service area mentioned above, it is critical for Upper Pottsgrove Township to initiate planning to provide a sewage management program for the nonsewered areas of the municipality. We note that Upper Pottsgrove Township agreed to evaluate such a program as part of its 2008 Plan of Study. Please provide a time schedule that lists milestone dates for the planning of a sewage management program, from the time of the initiation of planning to the time when the plan will be submitted to the Department. Please note that the Department is available to discuss on-lot management programs that can be designed so as not to be a burden to the township.

When the necessary revisions have been completed, as listed above, this Department will initiate a review in accordance with the provisions of Chapter 71, Administration of the Sewage Facilities Program.

If there are any questions concerning the information required, please contact me at 484.250.5175.

Sincerely,



John M. Veneziale  
Sewage Planning Specialist 2  
Water Management

cc: Montgomery County Planning Commission  
Montgomery County Health Department  
Mr. Scott - LTL Consultants, LTD  
Pottstown Borough Authority  
Ms. Swagzdis  
Lower Pottsgrove Township  
Planning Section  
Re 30 (joh10wqm)181-5



**LTL CONSULTANTS, LTD. • ENGINEERS & CODE OFFICIALS**

PO BOX 241 • ONE TOWN CENTRE DRIVE • OLEY, PA 19547  
(610) 987-9290 • FAX: (610) 987-9288

August 30, 2010

Mr. John M. Veneziale  
Pennsylvania Department of Environmental Protection  
Southeast Regional Office  
2 East Main Street  
Norristown, PA 19401-4915

RE: Act 537 Sewage Facilities Plan  
Upper Pottsgrove Township  
Montgomery County  
LTL W.O. No. 0520-0906

Dear Mr. Veneziale:

We are writing in response to your letter dated July 1, 2010. We have formatted our response to list your question followed by our response.

1. *Please provide confirmation that the Facility Plan, described as Exhibit A in Upper Pottsgrove Township's Resolution 558, enacted and adopted on April 6, 2009, is the Official Sewage Facilities Plan Update for Upper Pottsgrove Township, Montgomery County, entitled Act 537 Sewage Facilities Plan as prepared by LTL Consultants, Ltd., dated April 2009.*

**Response:** Exhibit A is the Official Act 537 Sewage Facilities Plan Update, in which Resolution 558 is contained. Attached is a revised cover sheet for the Plan, indicating same as Exhibit A of Upper Pottsgrove Township's Resolution 558, enacted and adopted on April 6, 2009.

2. *While the Department of Environmental Protection (Department) acknowledges the receipt of Pottstown Borough's Resolution 2009-14, which provides for the Transfer of Capacity between the Borough of Pottstown and Upper Pottsgrove Township, this resolution does not supply the means or time frame by which Pottstown Borough plans to implement the expansion of the interceptor in York and Beech Streets. The interceptor expansion is necessary in order for Upper Pottsgrove Township to completely implement its selected alternative. Therefore, the following planning information must be provided as part of the Upper Pottsgrove Township Act 537 Plan Update.*
  - a. *Please map the extent of the expansion of the above-mentioned interceptor.*
  - b. *Please provide a discussion of the sizing before and after the proposed expansion of this interceptor.*
  - c. *Please provide a revised resolution adopted by Pottstown Borough that contains language that references the expansion of the interceptor.*

**Response:** To the best of our knowledge, the specific information you are requesting is contained in the Pottstown Borough's last Act 537 Plan Update that was submitted to DEP separately from the Upper Pottsgrove Township Plan. Although we do not have direct access to this information, we have attempted to gather it for you.

Enclosed is the information for the York and Beech Street Interceptor Expansion, which was completed and contract closed-out on November 19, 2009.

With regard to your request for a revised resolution from Pottstown Borough, we don't have direct access to this information. However, the expansion is installed and operational. If requested we can petition the Pottstown Borough to supply DEP with a revised resolution, or the meeting minutes from adoption.

3. *According to the soils data provided with the plan, large areas of Upper Pottsgrove Township are unsuitable for the installation of conventional on-lot sewage disposal systems. We understand that Upper Pottsgrove Township wishes to limit the extent of its public sewer service area based on costs and current needs. However, the combination of these 2 factors indicates that Upper Pottsgrove Township may face the need for improved sewerage facilities in the future or the need to provide enhanced oversight to assure that on-lot systems remain a viable option for nonsewered areas.*

*The response to Item 11 of our August 6, 2009, review letter is inadequate because it states only that Upper Pottsgrove Township will consider the implementation of a management program at some point in the future. Given the soils conditions present throughout the municipality and Upper Pottsgrove Township's limited public sewer service area mentioned above, it is critical for Upper Pottsgrove Township to initiate planning to provide a sewage management program for the nonsewered areas of the municipality. We note that Upper Pottsgrove Township agreed to evaluate such a program as part of its 2008 Plan of Study. Please provide a time schedule that lists milestone dates for the planning of a sewage management program, from time of the initiation of planning to the time when the plan will be submitted to the Department. Please note that the Department is available to discuss on-lot management programs that can be designed so as not to be a burden to the Township.*

**Response:** Upper Pottsgrove Township questions the need and benefit a Sewage Management Program would offer for the following reasons.

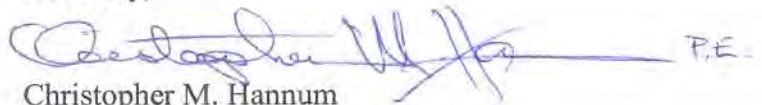
- The majority of needs areas are either: connected to sewers; planned for sewers; or are in the planning process to be connected to sewers. All currently approved modules for the Township include connection to sewers.
- For the remaining homes, the Montgomery County Health Department is the Sewage Enforcement Officer and oversees the permitting and repair or replacement of malfunctioning systems.
- For any future land development the Subdivision and Land Development Ordinance contains On-Lot Disposal System requirements, including the reservation of land for a future replacement area.

- Upper Pottsgrove Township acknowledges areas with sewage needs as part of the planning process. These areas were segregated into three categories based on those needs. These are termed immediate needs, 1<sup>st</sup> priority needs, and 2<sup>nd</sup> priority needs. The benefit of monitoring areas with known challenges is questionable.

As shown in the Plan's Implementation Schedule, Upper Pottsgrove Township respectfully requests the time to evaluate how a Sewage Management Program would affect the residents, as well as the costs and benefits to the Township.

If you have any questions, please contact me at your earliest convenience. We look forward to further communication with you on this matter.

Sincerely,



Christopher M. Hannum  
LTL Consultants, Ltd.  
Manager, Water & Wastewater Department

Enclosures

cc: Upper Pottsgrove Township Board of Commissioners  
Jack Layne, Township Manager  
Charles Garner, Solicitor  
John Bealer, Chairman (Water & Sewer Committee)  
File: M:\Engineering\Upper Pottsgrove Township - 20\0520-0906 Act 537 Respond to PADEP Comments\Correspondence\Response to DEPs 070110 comments.doc  
W:\upt\SEWER\2010\Response to DEPs 070110 comments.doc

**UPPER POTTS GROVE TOWNSHIP  
MONTGOMERY COUNTY, PA**

**ACT 537 SEWAGE FACILITIES PLAN**

(Exhibit A of Upper Pottsgrove Township's Resolution 558 contained herein)

---

**APRIL 2009**

Prepared for:

**Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464**

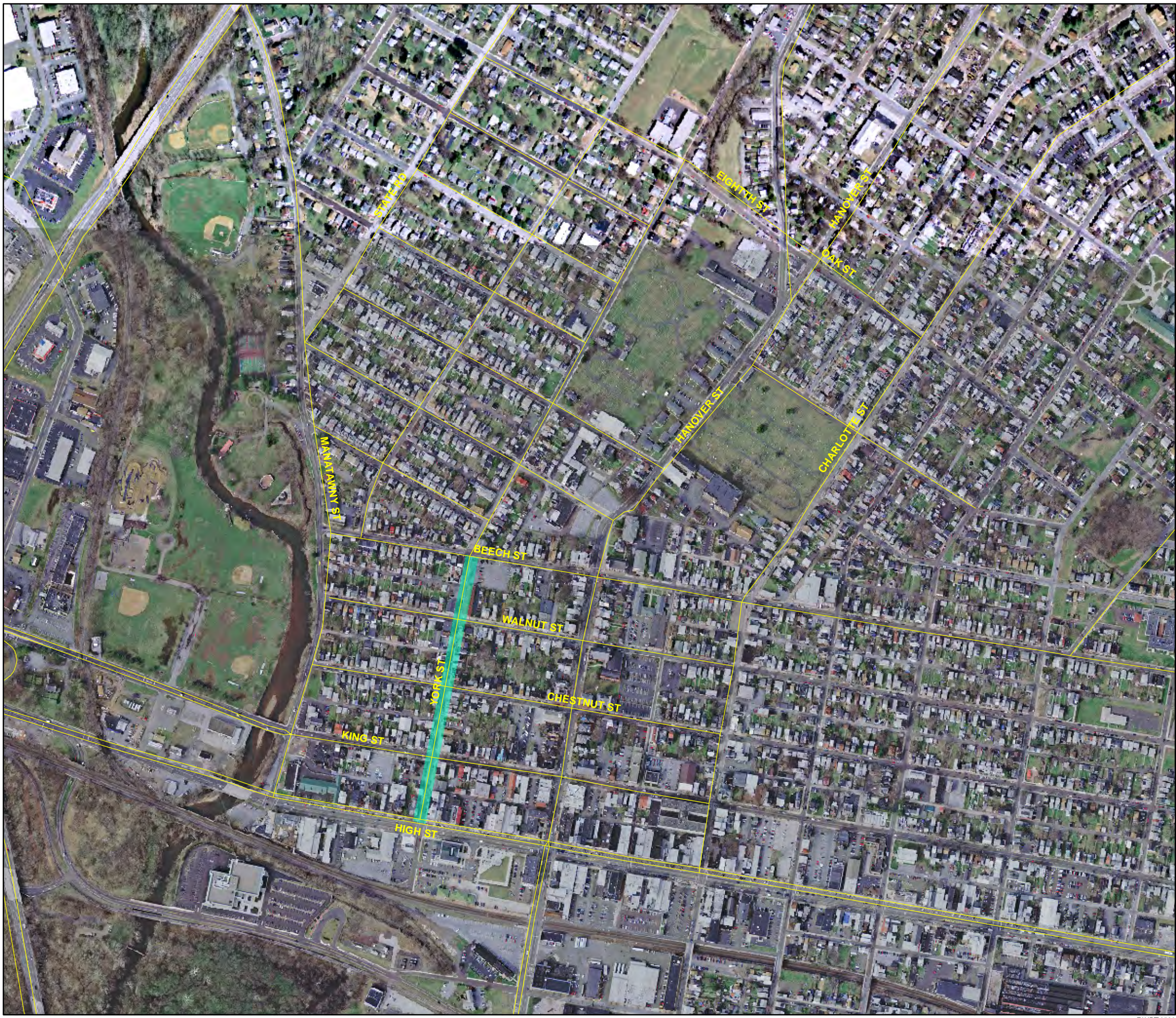
Prepared by:



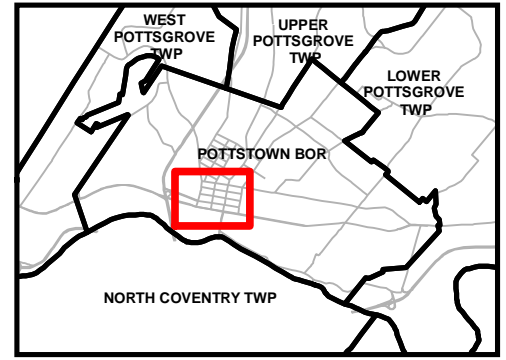
LTL PN 0520-0810

# YORK AND BEECH STREET SEWER PROJECT

UPPER POTTS GROVE TWP.  
MONTGOMERY CO. PA  
ACT 537 UPDATE AND REVISION



LOCATION MAP



### Legend

- PENNDOT ROAD CENTERLINE
- YORK AND BEECH STREET PROJECT

### GIS DATA SOURCES:

ROAD CENTERLINE DATASETS BY PENNSYLVANIA DEPARTMENT OF TRANSPORTATION 2010.  
PROJECT EXTENT LAYER BY LTL CONSULTANTS, LTD 2010.  
AERIAL PHOTOGRAPHY BY DVRPC 2005.

0 250 500 1,000

Feet

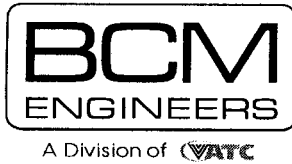
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**LTL CONSULTANTS, LTD.**  
ENGINEERS & CODE OFFICIALS

P.O. BOX 241  
ONE TOWN CENTRE DR.  
OLEY, PA 19547

(610) 857-9290  
FAX: (610) 857-9288



---

**MEMORANDUM**

Date: July 28, 2010  
To: Chris Hannum  
From: Tom Weld  
cc: Doug Yerger  
Subject: Pottstown Borough Authority  
York Street Interceptor Replacement  
Upper Pottsgrove Flows  
BCM Project No. 57.50766.3049 (3)

---

As requested, we are providing a response to the following questions that are associated with Upper Pottsgrove's Act 537 Plan.

1. What is the extent of the expansion of the interceptor in York Street?
  - The existing 21-inch York Street interceptor was replaced with a new 30-inch interceptor from Beech Street to High Street, for a total of 1,475 feet.
  - The replacement of the York Street Sewer, Contract 135, was completed and the contract closed out on November 19, 2009.
  
2. What was the capacity of the existing 21-inch York Street sewer vs. the new 30-inch sewer?
  - 21-inch Sewer - 3.24 MGD
  - 30-inch Sewer - 8.38 MGD

TLW/plk  
tlw\potts\gencor\york street 7-28-10



# pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOUTHEAST REGIONAL OFFICE

November 29, 2010



BY:.....

Mr. Jack Layne, Manager  
Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464-1829

Re: Act 537 Plan Update  
APS ID 29303, AUTH ID 795432  
Upper Pottsgrove Township  
Montgomery County

Dear Mr. Layne:

On September 1, 2010, this office received a resubmission of additional information pertaining to your proposed Official Sewage Facilities Plan. This information was submitted in response to our review letter of July 1, 2010. The following additional clarification is required:

The Department of Environmental Protection (Department) has concerns regarding your response to Item 3, the fourth bulleted item, which states the following:

Upper Pottsgrove Township acknowledges areas with sewage needs as part of the planning process. These areas are segregated into 3 categories based on those needs. These are termed immediate needs, 1st priority needs, and 2nd priority needs. The benefit of monitoring areas with known challenges is questionable.”

Please expand on the needs categories referenced above and what each of these classifications encompasses. Please provide clarification of how the benefit of monitoring areas with known challenges is questionable.

According to information provided by the Montgomery County Health Department regarding the on-lot sewage system repairs that have taken place in Upper Pottsgrove Township since October 1991, there are clusters of areas of malfunctioning systems. Some of these clusters appear to be on lots that are too small to place a replacement area to repair a malfunctioning system, while others are on soils that are not suitable for on-lot or in areas that are slated for urban use. Not all of these properties are located in planned sewer service areas. It is the Department’s position that more systems are likely to fail without continuing operation and maintenance. Please explain how the township will deal with these issues.

Mr. Jack Layne, Manager

- 2 -

November 29, 2010

When the necessary revisions have been completed, as listed above, this Department will conclude its review in accordance with the provisions of Chapter 71, Administration of the Sewage Facilities Program.

If there are any questions concerning the information required, please contact me at 484.250.5179.

Sincerely,

A handwritten signature in cursive script that reads "Linda Swagzdis".

Linda Swagzdis  
Sewage Planning Specialist I  
Water Management

cc: Montgomery County Planning Commission  
Montgomery County Health Department  
Mr. Scott - LTL Consultants, LTD  
Pottstown Borough Authority  
Planning Section  
Re 30 (joh10wqm)333-2



**LTL CONSULTANTS, LTD. • ENGINEERS & CODE OFFICIALS**

PO BOX 241 • ONE TOWN CENTRE DRIVE • OLEY, PA 19547  
(610) 987-9290 • FAX: (610) 987-9288

January 3, 2011

VIA E-MAIL

Ms. Linda Swagzdis  
Pennsylvania Department of Environmental Protection  
Southeast Regional Office  
2 E. Main Street  
Norristown, PA 19401-4915

Re: Act 537: Response to PADEP email of October  
25, 2010 and Letter of November 29, 2010

Linda,

This e-letter is to serve as our response to your email questions from October 25, 2010 and letter of November 29, 2010.

In general, we understood your concerns but would contend that the plan addresses those areas that demonstrate sewage needs. Smaller areas such as Levengood Road and North State Street have not been eliminated for future consideration, but only prioritized with less significance. If a future need develops, the Township will remedy it as it has most recently done on Farmington Avenue and Regal Oaks. As with all plans, some acknowledgement of municipal capabilities must be accounted for in the long-term goals. Simply put, Upper Pottsgrove has limited means and cannot expand their system, staffing or programs beyond that which is listed in the plan. This includes the initiation of an On-Lot Management Program (OLMP).

Currently the Township relies on the Montgomery County Health Department to investigate on-lot systems. From a practical standpoint, this system works well and minimizes the potential for redundant or duplicate efforts. Respectfully, we question the need for an additional program that would serve only a few. It should be noted that:

- a. A large portion of the Township is served by public sewer.
- b. All approved modules with pending construction will be connected to the system.
- c. The remaining areas that have demonstrated need will be connected to the sewer.

Therefore, the small minority that remains can be managed on an as-needed basis.

As stated in the Act 537 Plan (See plan p.24), Highest priority needs include properties related to the PADEP's Consent order and agreement with the Township. These properties were to be connected to the Pottstown Borough Authority system immediately. Also considered in this category is the Farmington Avenue West Phase II Project. This project completed the PADEP approved Farmington Avenue West Sewer. Work has now been completed on all First Priority Needs. This has come at a cost to the residents of approximately \$4 million in debt service.

Second Priority Needs encompass projects based on the Township's existing legal connection obligations with land developers as well as areas of serious concern regarding malfunctions and well water sampling results (See plan p.24). Existing Properties in Regal Oaks, Ming Drive, Moyer Road, Horseshoe Drive, Bruce Drive, and Colonial Heights have significant clusters of On Lot Issues (See maps 9 through 11). Both primary and second priority needs have technical alternatives planned. This comprises the most densely populated portions of the Township.

It is recognized that the majority of soils in the Township are less likely to sustain long term OLDS. However the data provided in appendix 2.2 indicates that replacement and new systems are not impossible in limiting soil types. Further, the Plan relied on previous approved revisions, studies, and Montgomery County SEO records from 2003 to 2008 for its interpretation of malfunctions. This data showed no additional confirmed malfunctions for Levengood Road. Therefore these areas did not qualify as areas of primary concern.

To date, significant debt service has been incurred by the Township's residents to address the First Priority Needs identified in the Plan. The feasibility of construction of Second Priority Needs depends on the Township's capability of bearing the financial burden as well as neighboring municipalities' ability to provide additional capacity in kind. Estimation of the potential threat to public health on Levengood Road and North State Road are deemed as of lesser severity to those mentioned above.

In response to PADEP's comments on February 8, 2010, an additional map was submitted (#21) to indicate proposed sewer service areas, OLDS areas to be managed by Montgomery County (MONTCO) Health Department SEOs, and areas requiring future study. In this map, per discussions with PADEP, Levengood Road and North State Street have been identified for further study for consideration of a future sewer option. These future study areas will be dealt with either through specific planning or as future growth enables connection.

Action in the future study areas would be warranted with identification of additional specific needs by the MONTCO Health Department. In such a case, Component 3M planning would analyze and assign alternatives. The most likely technical alternative would be connection to Pottstown Borough Authority through the West Pottsgrove Township system. This would require additional capacity development, drafting of intermunicipal agreements, and construction that has not been initiated or discussed with any of the parties.

In summary, the plan has identified the major areas of need. It has provided technical alternatives to address these areas in the most feasible manner. Current enforcement through MONTCO and use of future study areas is sufficient for management of OLDS Areas. Finally it is our assertion that OLDS Management Program implementation would be ineffective. Any such program would require additional authorized agents and use private pumping contractors for inspection and reporting. This would lead to conflicts of interest and erroneous data coming at higher cost to the public.

It is our hope that this letter resolves any remaining questions regarding this submission of the Plan. It should be noted that submission of this plan occurred nineteen months ago, in keeping with the agreed upon schedule with PADEP. Since that time, the Township has maintained the

course of completing its selected alternatives. We look forward to working with PADEP to see the planning process through.

Please be sure to contact us if any additional information is needed for your completion of review and approval for this plan.

Sincerely,



Leo R Scott  
Water & Wastewater Specialist

Cc: Chris Hannum  
Lisa Sweigert  
Charles Garner, Esq.  
Jack P. Layne  
John Veneziale

File: M:\Engineering\Upper Pottsgrove Township - 20\0520-0906 Act 537 Respond to PADEP  
Comments\Correspondence\Response to DEPs 112210 Letter 010311.doc



# pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
SOUTHEAST REGIONAL OFFICE

JAN 31 2011

Mr. Jack Layne, Manager  
Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464-1829

Re: Act 537 Plan Update  
APS ID 29303, AUTH ID 795432  
Status: ISSUED  
Upper Pottsgrove Township  
Montgomery County

Dear Mr. Layne:

We have completed our review of your municipality's updated official sewage facilities plan titled *Act 537 Sewage Facilities Plan*, as prepared by LTL Consultants, Ltd., dated April 2009. The plan was supplemented by additional information dated October 8, 2009, April 30, 2010, August 30, 2010, and January 3, 2011. The review was conducted in accordance with the provisions of the Pennsylvania Sewage Facilities Act.

Approval of the plan is hereby granted. This approval provides for the permanent connection of the Regal Oaks Pump Station, along with all areas tributary to this pump station, to public sewers. Wastewater treatment will be provided at the Pottstown Borough Wastewater Treatment Facility.

Upper Pottsgrove Township ("UPT") has completed the following items pursuant to conditions stipulated in the Department of Environmental Protection's ("Department") May 16, 2008, approval for the Crossroads Settlement Development, the February 6, 2009, amended approval for the above-referenced project, and the Department's Consent Order and Agreement of January 13, 2009:

1. The elimination and replacement of the Regal Oaks Wastewater Treatment Facility with the Regal Oaks Pump Station.
2. The elimination of the Cherry Tree Pump Station via the rerouting of the existing flows to the Regal Oaks Pump Station.
3. The expansion of the York/Beech Street Interceptor to accommodate the additional flows listed in the Act 537 Plan.
4. The transfer of capacity of 238,000-gallon per day from Pottstown Borough Authority ("PBA") to UPT.

JAN 31 2011

Mr. Jack Layne, Manager

- 2 -

The future connections proposed for the 5–10-year time frame are depicted on Map 11, *Sewer Service and On-lot Areas*. The plan provides for the implementation of the following:

1. The inclusion of the Kummerer Tract and the Pine Ford Road Curatives Subdivisions in the municipal sewer service area. The Pine Ford Road Pump Station (“PFRPS”) will be upgraded as part of the improvement planned by UPT. UPT must secure a Department permit for the anticipated capacity upgrade to the PFRPS. The pump station must be capable of handling peak instantaneous flows with any one pump out of service. Please note that either sewage facilities planning modules or planning exemptions will be required to address the specifics of the 2 new land developments.
2. The Farmington Avenue West Sewer Project Phase 2 will be completed.
3. The connection of Regal Oaks Phase 2, the on-lot portion within Regal Oaks, to the existing collection system within 5 years.
4. The sewer extension to serve Ming Drive/Moyer Road and Horseshoe and Bruce Drives will be completed within 10 years.
5. The sewer extensions to Continental and Old Orchard Drives will be completed with 10 years.
6. The remaining areas of the UPT that have demonstrated a need for improved sewerage facilities will be connected to public sewers on an as-needed basis. Please note that additional sewage facilities planning will be required to connect areas not already addressed by this plan.

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, P.O. 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.

JAN 31 2011

Mr. Jack Layne, Manager

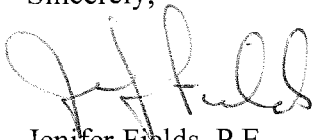
- 3 -

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 contact Ms. Linda Swagzdis of this office at 484.250.5179.

Sincerely,



Jenifer Fields, P.E.  
Regional Manager  
Water Management

cc: Montgomery County Planning Commission  
Montgomery County Health Department  
Mr. Scott - LTL Consultants, Ltd.  
Pottstown Borough Authority  
Mr. Hawthorne - Lower Pottsgrove Township  
Mr. Fair  
Ms. Swagzdis  
Ms. Moore  
Mr. McHale - RCSOB  
Planning Section  
Re 30 (joh11wqm)024


**LTL CONSULTANTS, LTD. • ENGINEERS & CODE OFFICIALS**

 PO BOX 241 • ONE TOWN CENTRE DRIVE • OLEY, PA 19547  
 (610) 987-9290 • FAX: (610) 987-9288

March 28, 2011

VIA E-MAIL

 Ms. Linda Swagzdis  
 Pennsylvania Department of Environmental Protection  
 Water Management Program  
 Southeast Regional Office  
 2 East Main St.  
 Norristown, PA

 Re: Upper Pottsgrove Township  
 Act 537 Plan Update  
 Revised Implementation Schedule

Ms. Swagzdis,

Upper Pottsgrove Township is in receipt of the Department's approval of its Act 537 Plan Update (Plan). The Plan was submitted to DEP in April 2009 and approved in January 2011. This lapse in time has prompted an update of the Implementation Schedule, most of which was previously presented in terms of DEP approval of the Plan.

In order to avoid misunderstandings in the future, LTL Consultants is providing a copy of the new Implementation Schedule for your records. The updated schedule does not change the Plan, but rather states the dates by which the milestones will be achieved. These dates are in concurrence with the terms of the Department's approval letter as well.

<b><u>Major Milestone</u></b>	<b><u>Date</u></b>
Start Regal Oaks Pump Station Project Construction	DONE
Regal Oaks Pump Station Completion and Decommissioning of Cherry Tree Pump Station	DONE
Review of the need for Sewage Management Program and Small-Flow Sewage Facilities Ordinances delegated to Sewer Committee	BY July 31, 2011
Farmington Avenue West Construction	DONE
Sewer Committee responds to the BOC about the need for Sewage Management Program and Small-Flow Sewage Facilities Ordinances	BY July 31, 2012
Regal Oaks Phase 2	By January 31, 2016
Ming Drive/Moyer Road	By January 31, 2021
Horseshoe and Bruce Drives	By January 31, 2021
Continental and Orchard Drives	By January 31, 2021

In addition to the changes in the implementation schedule, there are a few items in your approval letter that require clarification.

1. The map referenced on page 2 of the letter should be Map 22 Sewer Service and On-Lot Areas.
2. The Pine Ford Road Pump Station upgrades were completed in the summer of 2010. (WQM Permit No. WQG02460506).
3. The Farmington Avenue West Phase 2 Sewer Project was completed in the summer of 2010.

If you have any questions regarding the schedule, please contact me at 610-987-9290. Thank you for your time.

Sincerely,



Leo R Scott  
Water & Wastewater Specialist

Cc: Jack Layne

Upper Pottsgrove Township Board of Commissioners

Charles Garner

Chris Hannum

Lisa Sweigert

File: M:\Engineering\Upper Pottsgrove Township - 20\0520-0521 Miscellaneous\Correspondence\UPT revised implementation schedule to DEP032811.doc

## Appendix A-22-b.1

**Lisa Sweigert**

---

**From:** Leo Scott [lscott@ltlconsultants.com]  
**Sent:** Monday, March 28, 2011 4:37 PM  
**To:** Lisa Sweigert; 'Linda Swagzdis'  
**Cc:** upt-manager@comcast.net; 'Chuck Garner'; Chris Hannum  
**Subject:** RE: Upper Pottsgrove Township, Montgomery County  
**Attachments:** MAP #22 PublicSewer\_OLDS\_Areas032811.pdf

Lisa and Linda,

Please find attached the Final Version of Map #22. If you have difficulty printing please let me know and I will send hardcopy.

Thanks,

Leo R Scott  
GIS Analyst  
LTL Consultants, Ltd.  
One Town Centre Drive  
PO Box 241  
Oley, PA 19547  
(610)987-9290

---

**From:** Lisa A. Sweigert [mailto:lasweigert@ltlconsultants.com]  
**Sent:** Monday, March 28, 2011 4:23 PM  
**To:** Linda Swagzdis  
**Cc:** upt-manager@comcast.net; Chuck Garner; 'Chris Hannum'; 'Leo Scott'  
**Subject:** Upper Pottsgrove Township, Montgomery County

Ms. Swagzdis,

Attached you will find correspondence on behalf of Upper Pottsgrove Township, Montgomery County.

Regards,  
*Lisa*

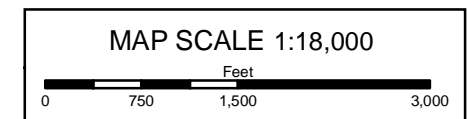
Lisa A. Sweigert  
Municipal Engineer  
LTL Consultants, Ltd.  
610-987-9290

Appendix A-22-b.1  
**SEWER SERVICE AND  
 ON LOT AREAS**  
**UPPER POTTS GROVE TWP.**  
**MONTGOMERY CO. PA**  
 ACT 537 UPDATE AND REVISION



**Legend**

- ROADS
- STREAMS
- MUNICIPAL BOUNDARY
- PARCEL BOUNDARIES - ON LOT AREA
- SEWER SERVICE AREA (SSA)



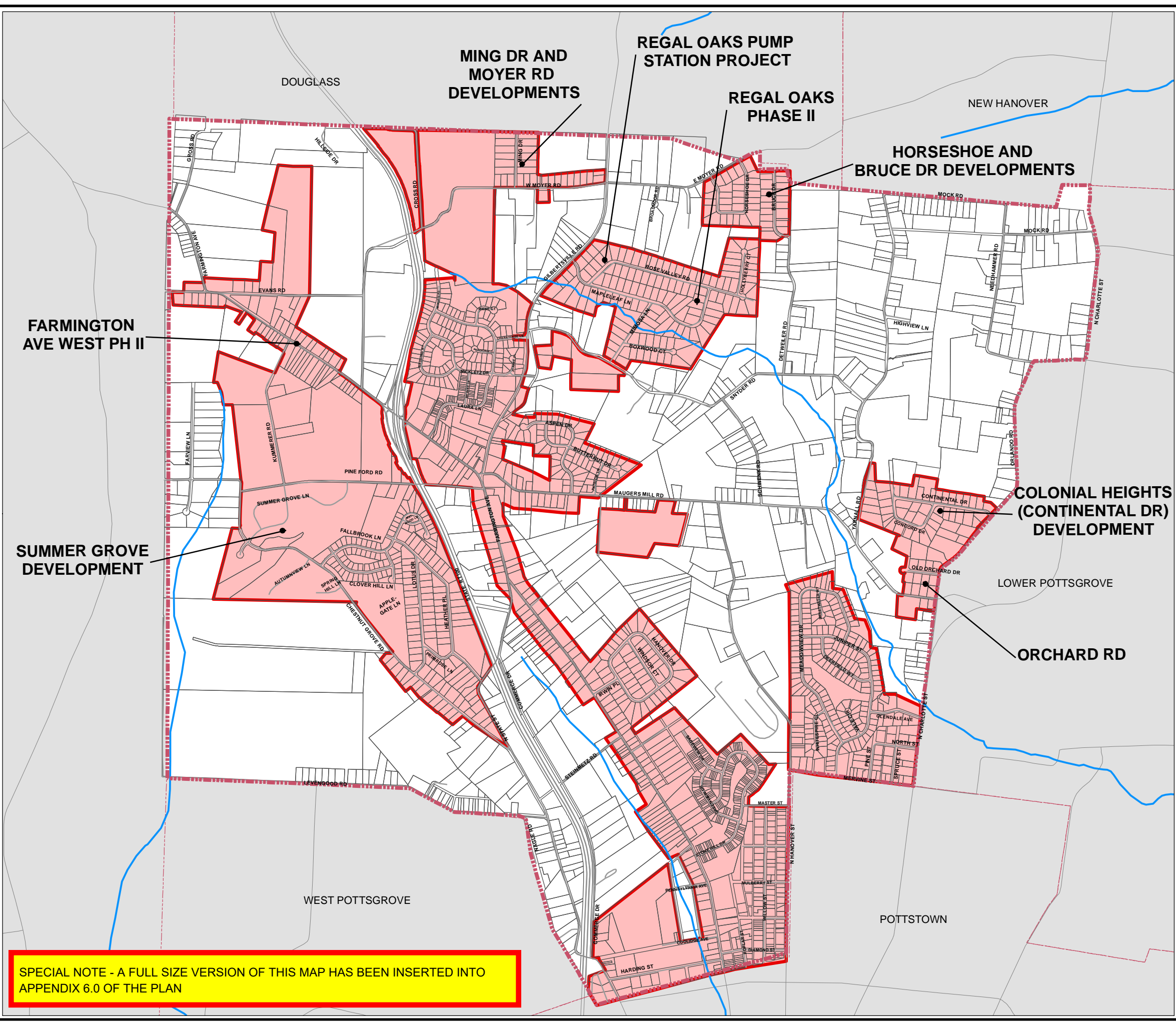
GIS DATA SOURCES:  
 PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY IT&S DEPARTMENT, 2007.  
 STREAMS DATA BY PADEP 2006.  
 SEWER SERVICE AREA DATA BY LTL CONSULTANTS, 2008, MODIFIED IN 2010.

USE AND PROJECTION INFORMATION:  
 THIS MAP IS INTENDED FOR REFERENCE USE ONLY, IT IS NOT INTENDED FOR USES REQUIRING ENGINEERING OR SURVEY ACCURACY.  
 ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE COORDINATE SYSTEM PENNSYLVANIA SOUTH FIPS 3702. FEET

NOTES ON PUBLICATION:  
 THIS MAP HAS BEEN GENERATED ON REQUEST BY THE PA DEPARTMENT OF ENVIRONMENTAL PROTECTION LETTER DATED 2/8/2010. THIS MAP IS INTENDED TO SPECIFICALLY ADDRESS ITEM #8 IN THE LETTER, WHICH REQUESTS THAT THE ACT 537 PLAN'S MAPPING BE REVISED "TO DEPICT WHICH AREAS IN THE TOWNSHIP ARE IN THE ON-LOT AREA AND THOSE WHICH WILL BE SERVED BY PUBLIC SEWERS."

Final map version completed on March 28, 2011.

MAP NO:  
 22



**SPECIAL NOTE - A FULL SIZE VERSION OF THIS MAP HAS BEEN INSERTED INTO APPENDIX 6.0 OF THE PLAN**

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**PA DEP CHECKLIST**



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 Upper Pottsgrove Township Act 537 Sewage Facilities Plan Update and Revision
2. Brief Project Description Update of the Sewage Facilities Plan by Requirement of PADEP set forth in the May 16, 2008 letter for the Crossroads Settlement Development Planning Module for Land Development.

#### B. Client (Municipality) Information

Municipality Name	County	City	Boro	Twp
Upper Pottsgrove Township	Montgomery	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Municipality Contact Individual - Last Name	First Name	MI	Suffix	Title
Taylor	Elwood			President, Board of Commissioners
Additional Individual Last Name	First Name	MI	Suffix	Title
Layne	Jack	P	Jr	Township Manager
Municipality Mailing Address Line 1	Mailing Address Line 2			
1409 Farmington Avenue				
Address Last Line -- City	State	ZIP+4		
Pottstown	PA	19464-1829		
Phone + Ext.	FAX (optional)	Email (optional)		
(610) 323-8675 EXT.201	(610) 327-1967	upt-manager@comcast.net		

#### C. Site Information

Site (or Project) Name	(Municipal Name) Act 537 Plan
Upper Pottsgrove Township, Montgomery County	
Site Location Line 1	Site Location Line 2

#### D. Project Consultant Information

Last Name	First Name	MI	Suffix
Hannum	Christopher	M	PE
Title	Consulting Firm Name		
Manager, Water and Wastewater Department	LTL Consultants, Ltd.		
Mailing Address Line 1	Mailing Address Line 2		
One Town Centre Drive	P.O. Box 241		
Address Last Line - City	State	ZIP+4	Country
Oley	PA	19547	USA
Email	Phone + Ext.	FAX	
channum@ltlconsultants.com	(610) 987 - 9290	(610) 987-9288	

**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>ii</u>	1. <b>Table of Contents</b>
_____	<u>viii - x</u>	2. <b>Plan Summary</b>
_____	<u>x</u>	A. Identify the proposed service areas and major problems evaluated in the plan. (Reference - Title 25, §71.21.a.7.i).
_____	<u>x</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>xi</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>xi</u>	D. Identify the municipal commitments necessary to implement the Plan. (Reference Title 25, §71.21.a.7.iii).
_____	<u>xi</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>xiii</u>	3. <b>Municipal Adoption: Original</b> , 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>xiv</u>	4. <b>Planning Commission / County Health Department Comments:</b> 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>xv</u>	5. <b>Publication:</b> 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>xvi</u>	6. <b>Comments and Responses:</b> 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>xi &amp; 43</u>	7. <b>Implementation Schedule:</b> 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>xvii</u>	8. <b>Consistency Documentation:</b> 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
_____	<u>1</u>	<b>I. Previous Wastewater Planning</b>
_____	<u>1</u>	A. Identify, describe and briefly analyze all past wastewater planning for its impact on the current planning effort:
_____	<u>1</u>	1. Previously undertaken under the Sewage Facilities Act (Act 537). (Reference-Act 537, Section 5 §d.1).
_____	<u>1</u>	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.
_____	<u>1</u>	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.
_____	<u>2</u>	4. Through planning modules for new land development, planning “exemptions” and addenda. (Reference-Title 25, §71.21.a.5.i.A).
_____	<u>3</u>	<b>II. Physical and Demographic Analysis utilizing written description and mapping</b> (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).
_____	<u>3</u>	A. Identification of planning area(s), municipal boundaries, Sewer Authority/Management Agency service area boundaries. (Reference-Title 25, §71.21.a.1.i).
_____	<u>3</u>	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).
_____	<u>4 &amp; 29</u>	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).
_____	<u>4</u>	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).
_____	<u>5</u>	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).
_____	<u>6</u>	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.

- 6
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.
- 8
**III. Existing Sewage Facilities in the Planning Area - Identifying the Existing Needs**
- 8
A. Identify, map and describe municipal and non-municipal, individual and community sewerage systems in the planning area including:
- 8
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).
- 8
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).
- 8
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).
- 10
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).
- 11
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).
- 11
6. Disposal areas, if other than stream discharge, and any applicable groundwater limitations. (Reference-Title 25, §71.21.a.4.i & ii).
- 11
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:
- 11
1. The types of onlot systems in use. (Reference-Title 25, §71.21.a.2.ii.A).
- 11 - 12
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).
- 13
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).

- 13
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).
- 14
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).
- 14
C. Identify wastewater sludge and septage generation, transport and disposal methods. Include this information in the sewage facilities alternative analysis including:
- 14
1. Location of sources of wastewater sludge or septage (Septic tanks, holding tanks, wastewater treatment facilities). (Reference-Title 25 §71.71).
- 14
2. Quantities of the types of sludges or septage generated. (Reference-Title 25 §71.71).
- 14
3. Present disposal methods, locations, capacities and transportation methods. (Reference-Title 25 §71.71).
- 15
**IV. Future Growth and Land Development**
- 15
A. Identify and briefly summarize all municipal and county planning documents adopted pursuant to the Pennsylvania Municipalities Planning Code (Act 247) including:
- 15
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).
- 19
2. Zoning or subdivision regulations that establish lot sizes predicated on sewage disposal methods. (Reference – Title 25§71.21.a.3.iv).
- 19
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.
- 20
B. Delineate and describe the following through map, text and analysis.
- 20
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).
- 21
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).
- 21 - 26
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).

- \_\_\_\_\_ 26 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
  
- \_\_\_\_\_ 26 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).
  
- \_\_\_\_\_ 27 **V. Identify Alternatives to Provide New or Improved Wastewater Disposal Facilities**
  - A. Conventional collection, conveyance, treatment and discharge alternatives including:
    - \_\_\_\_\_ 28 1. The potential for regional wastewater treatment. (Reference-Title 25, §71.21.a.4).
    - \_\_\_\_\_ 29 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).
    - \_\_\_\_\_ 29 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).
      - \_\_\_\_\_ 29 a. Repair. (Reference-Title 25, §71.21.a.4.ii.A).
      - \_\_\_\_\_ 29 b. Upgrading. (Reference-Title 25, §71.21.a.4.ii.B).
      - \_\_\_\_\_ 29 c. Reduction of hydraulic or organic loading to existing facilities. (Reference-Title 25, §71.71).
      - \_\_\_\_\_ 29 d. Improved operation and maintenance. Reference-Title 25, §71.21.a.4.ii.C).
      - \_\_\_\_\_ 29 e. Other applicable actions that will resolve or abate the identified problems. (Reference-Title 25, §71.21.a.4.ii.D).
    - \_\_\_\_\_ 29 4. Repair or replacement of existing collection and conveyance system components. (Reference-Title 25, §71.21.a.4.ii.A).
    - \_\_\_\_\_ 29 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).
    - \_\_\_\_\_ 29 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:
    - \_\_\_\_\_ 30 1. Soil and slope suitability. (Reference-Title 25, §71.21.a.2.ii.C).
    - \_\_\_\_\_ 31 2. Preliminary hydrogeologic evaluation. (Reference-Title 25, §71.21.a.2.ii.C).
    - \_\_\_\_\_ 31 3. The establishment of a sewage management program. (Reference-Title 25, §71.21.a.4.iv). See also Part "F" below.
    - \_\_\_\_\_ 31 4. The repair, replacement or upgrading of existing malfunctioning systems in

# Appendix A-22-b.1

- \_\_\_\_\_ 31 areas suitable for onlot disposal considering: (Reference-Title 25, §71.21.a.4).
- \_\_\_\_\_ 31 a. Existing technology and sizing requirements of Title 25 Chapter 73. (Reference-Title 25, §73.31-73.72).
- \_\_\_\_\_ 31 b. Use of expanded absorption areas or alternating absorption areas. (Reference-Title 25, §73.16).
- \_\_\_\_\_ 31 c. Use of water conservation devices. (Reference-Title 25, §71.73.b.2.iii).
- \_\_\_\_\_ 31 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).
- \_\_\_\_\_ 31 1. Treatment and discharge requirements. (Reference-Title 25, §71.64.d).
- \_\_\_\_\_ 32 2. Soil suitability. (Reference-Title 25, §71.64.c.i).
- \_\_\_\_\_ 32 3. Preliminary hydrogeologic evaluation. (Reference-Title 25, §71.64.c.2).
- \_\_\_\_\_ 32 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.
- \_\_\_\_\_ 32 D. The use of community land disposal alternatives including:
- \_\_\_\_\_ 31 1. Soil and site suitability. (Reference-Title 25, §71.21.a.2.ii.C).
- \_\_\_\_\_ 32 2. Preliminary hydrogeologic evaluation. (Reference-Title 25, §71.21.a.2.ii.C).
- \_\_\_\_\_ 32 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.
- \_\_\_\_\_ 32 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.
- \_\_\_\_\_ 32 E. The use of retaining tank alternatives on a temporary or permanent basis including: (Reference- Title 25, §71.21.a.4).
- \_\_\_\_\_ 32 1. Commercial, residential and industrial use. (Reference-Title 25, §71.63.e).
- \_\_\_\_\_ 32 2. Designated conveyance facilities (pumper trucks). (Reference-Title 25, §71.63.b.2).
- \_\_\_\_\_ 32 3. Designated treatment facilities or disposal site. (Reference-Title 25, §71.63.b.2).
- \_\_\_\_\_ 32 4. Implementation of a retaining tank ordinance by the municipality. (Reference-Title 25, §71.63.c.3). See Part "F" below.
- \_\_\_\_\_ 32 5. Financial guarantees when retaining tanks are used as an interim sewage disposal measure. ( Reference-Title 25, §71.63.c.2).
- \_\_\_\_\_ 14 & 32 F. Sewage Management Programs to assure the future operation and maintenance of existing and proposed sewage facilities through:
- \_\_\_\_\_ 14 & 32 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).
- \_\_\_\_\_ 14 & 32 2. Required inspection of sewage disposal systems on a schedule established by the municipality. (Reference-Title 25, §71.73.b.1.).
- \_\_\_\_\_ 14 & 32 3. Required maintenance of sewage disposal systems including septic and aerobic treatment tanks and other system components on a schedule

- \_\_\_\_\_ 14 & 32 established by the municipality. (Reference-Title 25, §71.73.b.2).
- \_\_\_\_\_ 14 & 32 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.
- \_\_\_\_\_ 14 & 32 5. Establishment of joint municipal sewage management programs. (Reference-Title 25, §71.73.b.8).
- \_\_\_\_\_ 14 & 32 6. Requirements for bonding, escrow accounts, management agencies or associations to assure operation and maintenance for non-municipal facilities. (Reference-Title 25, §71.71).
- \_\_\_\_\_ 32 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:
    - \_\_\_\_\_ 33 a. Land use designations. (Reference-Title 25, §71.21.a.4).
    - \_\_\_\_\_ 33 b. Densities. (Reference-Title 25, §71.21.a.4).
    - \_\_\_\_\_ 33 c. Municipal ordinances and regulations. (Reference-Title 25, §71.21.a.4).
    - \_\_\_\_\_ 33 d. Improved enforcement. (Reference-Title 25, §71.21.a.4).
    - \_\_\_\_\_ 33 e. Protection of drinking water sources. (Reference-Title 25, §71.21.a.4).
  - \_\_\_\_\_ 33 2. Consideration of a local comprehensive plan to assist in producing sound economic and consistent land development. (Reference-Title 25, §71.21.a.4).
  - \_\_\_\_\_ 33 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).
  - \_\_\_\_\_ 33 4. Evaluation of existing local agency programs and the need for technical or administrative training. (Reference-Title 25, §71.21.a.4).
- \_\_\_\_\_ 33 H. A no-action alternative which includes discussion of both short-term and long-term impacts on: (Reference-Title 25, §71.21.a.4).
  - \_\_\_\_\_ 33 1. Water Quality/Public Health. (Reference-Title 25, §71.21.a.4).
  - \_\_\_\_\_ 33 2. Growth potential (residential, commercial, industrial). (Reference-Title 25, §71.21.a.4).
  - \_\_\_\_\_ 33 3. Community economic conditions. (Reference-Title 25, §71.21.a.4).
  - \_\_\_\_\_ 33 4. Recreational opportunities. (Reference-Title 25, §71.21.a.4).
  - \_\_\_\_\_ 33 5. Drinking water sources. (Reference-Title 25, §71.21.a.4).
  - \_\_\_\_\_ 33 6. Other environmental concerns. (Reference-Title 25, §71.21.a.4).
- \_\_\_\_\_ 34 **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).
    - \_\_\_\_\_ 34 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.

- \_\_\_\_\_ 34 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.
- \_\_\_\_\_ 34 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.
- \_\_\_\_\_ 34 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.
- \_\_\_\_\_ 35 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.
- \_\_\_\_\_ 35 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.
- \_\_\_\_\_ 35 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.
- \_\_\_\_\_ 35 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.
- \_\_\_\_\_ 35 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.
- \_\_\_\_\_ 35 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.
- \_\_\_\_\_ 35 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.

- \_\_\_\_\_ 35 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.
- \_\_\_\_\_ 36 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).
- \_\_\_\_\_ 36 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).
- \_\_\_\_\_ 37 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).
- \_\_\_\_\_ 39 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).
- \_\_\_\_\_ 39 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).
- \_\_\_\_\_ 39 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).
- \_\_\_\_\_ 39 G. Evaluate administrative organizations and legal authority necessary for plan implementation. (Reference - Title 25, §71.21.a.5.vi.D.).
- \_\_\_\_\_ 40 **VII. Institutional Evaluation**
- \_\_\_\_\_ 40 A. Provide an analysis of all existing wastewater treatment authorities, their past actions and present performance including:
  - \_\_\_\_\_ 40 1. Financial and debt status. (Reference-Title 25, §71.61.d.2).
  - \_\_\_\_\_ 40 2. Available staff and administrative resources. (Reference-Title 25, §71.61.d.2)
  - \_\_\_\_\_ 40 3. Existing legal authority to:
    - \_\_\_\_\_ 40 a. Implement wastewater planning recommendations. (Reference-Title 25, §71.61.d.2).
    - \_\_\_\_\_ 40 b. Implement system-wide operation and maintenance activities. (Reference-Title 25, §71.61.d.2).
    - \_\_\_\_\_ 40 c. Set user fees and take purchasing actions. (Reference-Title 25, §71.61.d.2).
    - \_\_\_\_\_ 40 d. Take enforcement actions against ordinance violators. (Reference-Title 25,

§71.61.d.2).

- \_\_\_\_\_ 40 e. Negotiate agreements with other parties. (Reference-Title 25, §71.61.d.2).
- \_\_\_\_\_ 40 f. Raise capital for construction and operation and maintenance of facilities. (Reference-Title 25, §71.61.d.2).
- \_\_\_\_\_ 40 B. Provide an analysis and description of the various institutional alternatives necessary to implement the proposed technical alternatives including:
  - \_\_\_\_\_ 40 1. Need for new municipal departments or municipal authorities. (Reference-Title 25, §71.61.d.2).
  - \_\_\_\_\_ 40 2. Functions of existing and proposed organizations (sewer authorities, onlot maintenance agencies, etc.). (Reference-Title 25, §71.61.d.2).
  - \_\_\_\_\_ 40 3. Cost of administration, implementability, and the capability of the authority/agency to react to future needs. (Reference-Title 25, §71.61.d.2).
- \_\_\_\_\_ 40 C. Describe all necessary administrative and legal activities to be completed and adopted to ensure the implementation of the recommended alternative including:
  - \_\_\_\_\_ 40 1. Incorporation of authorities or agencies. (Reference-Title 25, §71.61.d.2).
  - \_\_\_\_\_ 40 2. Development of all required ordinances, regulations, standards and inter-municipal agreements. (Reference-Title 25, §71.61.d.2).
  - \_\_\_\_\_ 40 3. Description of activities to provide rights-of-way, easements and land transfers. (Reference-Title 25, §71.61.d.2).
  - \_\_\_\_\_ 41 4. Adoption of other municipal sewage facilities plans. (Reference-Title 25, §71.61.d.2).
  - \_\_\_\_\_ 41 5. Any other legal documents. (Reference-Title 25, §71.61.d.2).
  - \_\_\_\_\_ 41 6. Dates or timeframes for items 1-5 above on the project's implementation schedule.
- \_\_\_\_\_ 41 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).

**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:

- \_\_\_\_\_ 42 1. Existing wastewater disposal needs. (Reference-Title 25, §71.21 a.6).
- \_\_\_\_\_ 42 2. Future wastewater disposal needs. (five and ten years growth areas). (Reference-Title 25, §71.21 a.6).
- \_\_\_\_\_ 42 3. Operation and maintenance considerations. (Reference-Title 25, §71.21 a.6).
- \_\_\_\_\_ 42 4. Cost-effectiveness. (Reference-Title 25, §71.21 a.6).
- \_\_\_\_\_ 42 5. Available management and administrative systems. (Reference-Title 25, §71.21 a.6).
- \_\_\_\_\_ 43 6. Available financing methods. (Reference-Title 25, §71.21 a.6).

- |  |           |  |
|--|-----------|--|
| _____  | <u>43</u> | 7. Environmental soundness and compliance with natural resource planning and preservation programs. (Reference-Title 25, §71.21.a.6).  |
| _____  | <u>43</u> | 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)   |
| _____  | <u>43</u> | 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)   |
| <b>IX. Environmental Report (ER) generated from the Uniform Environmental Review Process (UER)</b> |           |  |
| _____  | <u>44</u> | 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. <i>Note: An ER is required only for Wastewater projects proposing funding through any of the funding sources identified in the UER.</i> |

**ADDITIONAL REQUIREMENTS FOR PENNVEST PROJECTS**

Municipalities that propose to implement their official sewage facilities plan updates with PENNVEST funds must meet six additional requirements to be eligible for such funds. See A Guide for Preparing Act 537 Update Revisions (362-0300-003), Appendix N for greater detail or contact the DEP regional office serving your county listed in Appendix J of the same publication.

DEP Use Only	Indicate Page #(s) in Plan	Item Required
_____	<u>44</u>	1. Environmental Impact Assessment. (Planning Phase) The Uniform Environment Review (UER) replaces the Environmental Impact Assessment that was a previous requirement for PENNVEST projects.
_____	<u>45</u>	2. Cost Effectiveness (Planning Phase) The cost-effectiveness analysis should be a present-worth (or equivalent uniform annual) cost evaluation of the principle alternatives using the interest rate that is published annually by the Water Resources Council. Normally, for PENNVEST projects the applicant should select the most cost-effective alternative based upon the above analysis. Once the alternative has been selected the user fee estimates should be developed based upon interest rates and loan terms of the selected funding method.
_____		3. Second Opinion Project Review. (Design Phase)
_____		4. Minority Business Enterprise/Women's Business Enterprise (Construction Phase)
_____		5. Civil Rights. (Construction Phase)
_____		6. Initiation of Operation/Performance Certification. (Post-construction Phase)

**PLAN SUMMARY****A. PURPOSE**

The purpose of this plan is to respond to recent regulatory actions and to guide sewer facilities within Upper Pottsgrove Township (UPT). At a minimum, this document does the following:

1. Plan for sewage facilities within UPT for the next ten (10) years.
2. Respond to the Pennsylvania Department of Environmental Protection letter of May 16, 2008, by planning for:
  - a. The elimination and replacement of the Regal Oaks Wastewater Treatment Facility (ROWTF) with a pump station that will accept flows from the following areas:

<u>AREA</u>	<u>EDU's</u>
Regal Oaks (Phase 1)	179*
Woodbrook	94
Cherry Tree Subdivision	126
Cross Roads Subdivision	51
Althouse Subdivision	22
Sweetwater Subdivision	58
Gilbertsville Road	7
Total	537

\*calculated EDU's, per the inter-municipal agreement, 300 gpd/EDU

- b. The elimination of the Cherry Tree Pump Station (CTPS) by rerouting the existing flows to the new pumping station at the ROWTF site.
    - c. The expansion of the York/Beech Street main with regard to UPT financial and inter-municipal responsibilities. This line will be expanded to incorporate the additional flows anticipated by this Plan. The Pottstown Borough Authority (PBA) and their engineer will be responsible for the separate planning, permitting, design and construction of the modifications to the York/Beech Street main.
3. Plan for the connection of two additional subdivisions into the Pine Ford Road Pump Station (PFRPS). These include the Kummerer Tract (138 EDU's) and the Pine Ford Road Curatives (40 EDU's).
4. Plan for the transfer of capacity of 238,000 gallons per day (gpd) from PBA to UPT, with the immediate purchase of 375 EDU's (112,500 gpd). Refer to Appendices 5.2 and 5.3. These include the following new connections:

<u>AREA</u>	<u>EDU's</u>
Regal Oaks (Phase 1)	179*
Kummerer Tract	138
Pine Ford Road Curatives	40
409 Evans Road	7
Current Capacity Need	3
1280 North Hanover Street	1
Gilbertsville Road	7
Total	375

\*calculated EDU's, per the inter-municipal agreement, 300 gpd/EDU

5. Plan for the future (5-year) connections of Regal Oaks (Phase 2). Currently the Regal Oaks Subdivision has 57 homes that are not connected to the collection system. Based on a recent review of these systems, it is anticipated that connection to the proposed Regal Oaks Pump Station will be required. However, this plan does not call for the transfer of capacity from PBA for this area at this time. This capacity shall be negotiated in the future.
6. Plan for the long-term (10-year) connection of the following areas:

<u>AREA</u>	<u>EDU's</u>
Continental Drive	54
Orchard Road	15
Bruce Drive	21
Ming Drive/Moyer Road	29
Horseshoe Drive	18
Total	137

These areas have been noted in previous plan updates. However, due to their locale they will require the significant expansion of the collection system before they can be incorporated. In addition, many of these areas would utilize the Lower Pottsgrove Township (LPT) collection system. Currently the LPT collection system has become restricted for use by UPT

due to high flows caused by inflow and infiltration. Therefore, it is not practical to schedule these areas until this issue has been resolved.

## **B. PLANNING AREA DESCRIPTION**

Upper Pottsgrove Township is a rural municipality located in Montgomery County. The Township has a variety of land uses. Those include: older residential uses on both large and small lots, newer residential uses on lots of one acre and greater, and both small commercial and agricultural uses. Population density is approximately 813 residents per square mile. The 1,459 housing units located in the Township equate to approximately 289 homes per square mile. Appendix 6.0 Map No. 1 depicts the project areas location and general topography.

At the present time, a good portion of the Township is served by public sewer. The remainder consists of individual on-lot sewage disposal systems (OLDS). The majority of these systems are functioning properly. However, there are a few locations in the Township that are known to have sewage disposal problems and therefore are of particular concern to the Township. These areas include Regal Oaks, Gilbertsville Road, Bruce Drive, Horseshoe Drive, Ming Drive and Moyer Road, Continental Drive and Orchard Drive. An evaluation of site-specific repair and septic system management, versus public sewage alternatives, was conducted.

This Act 537 Plan studied the entire Township. As required, special consideration was given to the Regal Oaks and Cherry Tree Subdivisions. The data from the documented malfunctions, well water and on-lot system surveys (limited to a portion of the Township), and soils analyses were examined to distinguish a delineation of problem areas.

The Study Area's delineation (UPT) can be seen in Appendix 6.0 Map 1.

## **C. CHOSEN ALTERNATIVE**

Several alternatives were reviewed as part of this plan. The chosen alternative will address the ROWTF and the CTPS in the immediate future, and the northern portion of the Township and the areas of Continental Drive and Orchard Drive in the next 10 years.

The sewage from the CTPS (which will be decommissioned), Ming Drive/Moyer Road, and Horseshoe and Bruce Drives will flow to the Regal Oaks WWTF location. From here, a new pumping station will pump the flows to the Farmington Avenue main. The second part of this option involves a gravity collection system to serve Continental and Orchard Drives. The chosen alternative will be constructed over a 10-year period as follows:

1. The Regal Oaks Pumping Station project, including the replacement of 1100 linear feet of ten-inch (10") sewer main along Farmington Avenue with eighteen-inch (18") mains, will begin immediately.
2. Regal Oaks Phase 2 will be connected to the collection system within five (5) years (2013).

3. The extension to Ming Drive/Moyer Road, and Horseshoe and Bruce Drives will be constructed within ten (10) years (2018).
4. Due to the moratorium on connections in LPT, the extension to Continental and Old Orchard Drives will be completed within ten (10) years (2018). This will give LPT the time necessary to address the I/I and capacity issues with their collection system, and have the moratorium lifted.
5. The Kummerer Tract and the Pine Ford Road Curatives subdivisions are planned for immediate connection to the PFRPS.
6. UPT will fulfill their legal, administrative and financial responsibilities to the PBA including:
  - a. Transfer of capacity for an additional 238,000 gpd. Refer to Appendices 5.2 and 5.3.
  - b. Purchase of 375 EDU's (112,500 gpd) immediately.
  - c. Payment of the UPT portion of the York/Beech Street main modifications.

#### **D. CHOSEN ALTERNATIVE COST**

The chosen alternative is broken into two (2) phases. The initial phase includes all of the connections listed in the previous section as immediate. The total construction cost for this alternative is \$1,181,000.

The total project cost including engineering, legal, easement acquisition, capacity purchase and other inter-municipal requirements is \$3,087,000. These costs represent all of expenditures required to complete both phases of the project. Annual user fees will be increased to \$800 / edu.

#### **E. MUNICIPAL IMPLEMENTATION COMMITMENTS**

Upper Pottsgrove Township has the resources to implement the recommendation of this plan including the ability to borrow money and self-liquidate based on the ability to tax.

#### **F. SCHEDULE OF IMPLEMENTATION – MAJOR MILESTONES**

<b>Major Milestone</b>	<b>Date</b>
Start Regal Oaks Pump Station Project Construction	5/16/09
Regal Oaks Pump Station Completion and Decommissioning of Cherry Tree Pump Station	4/16/2010
Review of the need for Sewage Management Program and Small-Flow Sewage Facilities Ordinances delegated to Sewer Committee	6 months after Plan approval
Farmington Avenue West Construction	By December 2013
Sewer Committee responds to the BOC about the need for Sewage Management Program and Small-Flow Sewage Facilities Ordinances	18 months after Plan approval
Regal Oaks Phase 2	By December 2013

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Ming Drive/Moyer Road	By December 2018
Horseshoe and Bruce Drives	By December 2018
Continental and Orchard Drives	By December 2018

This schedule is an expanded version of that which was agreed to with PA DEP, and is consistent with the recent Consent Order and Agreement reached between the PA DEP and Upper Pottsgrove Township.

**MUNICIPAL ADOPTION**

RESOLUTION NO. 558

A RESOLUTION OF THE UPPER POTTS GROVE TOWNSHIP BOARD OF COMMISSIONERS (HEREINAFTER "MUNICIPALITY") AMENDING ITS ACT 537 SEWAGE FACILITIES PLAN TO RESPOND TO RECENT REGULATORY ACTIONS AND PLAN FOR SEWAGE DISPOSAL WITHIN THE TOWNSHIP FOR THE NEXT TEN (10) YEARS.

**WHEREAS**, Section 5 of the Act of January 24, 1966, P.L. 1535, No. 537, known as the "Pennsylvania Sewage Facilities Act," as amended, and the Rules and Regulations of the Department of Environmental Protection (Department) adopted thereunder, Chapter 71 of Title 25 of the Pennsylvania Code, requires the municipality to adopt an Official Sewage Facilities Plan providing for sewage services adequate to prevent contamination of waters and/or environmental health hazards with sewage wastes, and to revise said plan whenever it is necessary to meet the sewage disposal needs of the municipality; and /

**WHEREAS**, LTL Consultants, Ltd., has prepared an Act 537 Sewage Facilities Plan revision, which provides for sewage facilities within Upper Pottsgrove Township; and

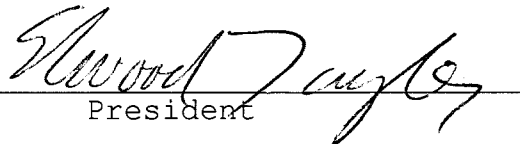
**WHEREAS**, the alternative of choice to be implemented is a plan for sewage facilities within the Township over the next ten (10) years, based upon recent regulatory actions, which includes the conversion of the existing Regal Oaks Wastewater Treatment Facility to a pump station; and

**WHEREAS**, Upper Pottsgrove Township finds that the Facility Plan described above and more specifically set forth in Exhibit "A", attached hereto, conforms to the applicable zoning, subdivision, and other municipal ordinances and plans and to a comprehensive program of pollution control and water quality management within Upper Pottsgrove Township.

**NOW, THEREFORE, BE IT RESOLVED** that the Commissioners of Upper Pottsgrove Township hereby adopt and submit to the Department of Environmental Protection for its approval as the "Official Plan" of the municipality, the above referenced plan, and as identified in Exhibit "A". The municipality hereby assures the Department of the complete and timely implementation of said plan as required by law (Section 5, Pennsylvania Sewage Facilities Act, as amended).

**ENACTED and RESOLVED**, this 6<sup>th</sup> day of April, 2009.

**UPPER POTTS GROVE TOWNSHIP  
BOARD OF COMMISSIONERS**

BY:   
President

ATTEST:   
Secretary

**POTTSTOWN BOROUGH  
MONTGOMERY COUNTY, COMMONWEALTH OF PENNSYLVANIA**

**RESOLUTION # 2009 - 14**

**RESOLUTION OF THE COUNCIL OF POTTSTOWN BOROUGH, MONTGOMERY  
COUNTY, PENNSYLVANIA (hereinafter "the municipality").**

WHEREAS, Section 5 of the Act of January 24, 1966, P.L. 1535, No. 537, known as the "Pennsylvania Sewage Facilities Act," as amended, and the Rules and Regulations of the Department of Environmental Protection (Department) adopted thereunder, Chapter 71 of Title 25 of the Pennsylvania Code, requires the municipality to adopt an Official Sewage Facilities Plan providing for sewage services adequate to prevent contamination of waters and/or environmental health hazards with sewage wastes, and to revise said plan whenever it is necessary to meet the sewage disposal needs of the municipality; and

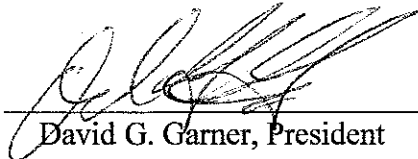
WHEREAS, BCM Engineers has prepared an Official Act 537 Plan which provides for Transfer of Capacity between the Borough of Pottstown and Upper Pottsgrove Township; and

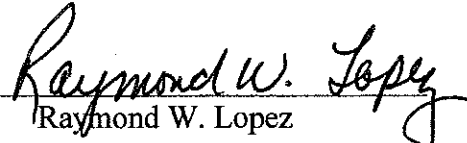
The alternative of choice to be implemented is for Upper Pottsgrove to purchase 238,000 gallons per day of maximum three month flow, from the Borough of Pottstown to meet future growth needs in the Township. This total flow of 238,000 gallons per day was previously reserved for infill and expansion of existing buildings within the Borough. However, the Borough is retaining an allocation of 9,123,600 gallons per day of max three month flow in the treatment plant, which is 3,463,600 gallons per day over the Borough's existing flow and is adequate to meet the Borough's future needs. To effect this transfer of capacity, the Sewage Transfer Agreement has been prepared and approved by the affected parties. There is no capital cost required to implement the Plan.

WHEREAS, Pottstown Borough finds that the Facility Plan described above conforms to applicable zoning, subdivision, other municipal ordinances and plans and to a comprehensive program of pollution control and water quality management.

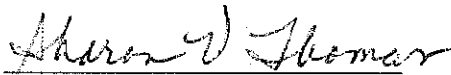
NOW, THEREFORE, BE IT RESOLVED that the Council of Pottstown Borough hereby adopts and submits to the Department of Environmental Protection for its approval as the "Official Plan" of the municipality, the above referenced Facility Plan. The municipality hereby assures the Department of the complete and timely implementation of the said plan as required by law. (Section 5, Pennsylvania Sewage Facilities Act as amended).

THE BURGESS AND TOWN COUNCIL  
OF THE BOROUGH OF POTTSTOWN

BY:   
David G. Garner, President  
Pottstown Borough Council

ATTEST:   
Raymond W. Lopez  
Borough Manager

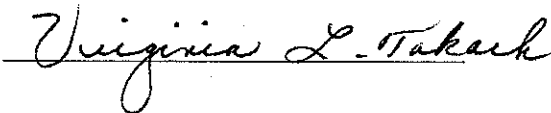
Approved this 13<sup>th</sup> day of  
April, A.D. 2009

  
Sharon V. Thomas  
Mayor

I, VIRGINIA L. TAKACH, Secretary, Pottstown Borough Council, hereby  
certify that the foregoing is a true copy of the Borough's Resolution No. 2009-14, adopted  
APRIL 13, 2009.

AUTHORIZED SIGNATURE

BOROUGH SEAL



**PLANNING COMMISSION COMMENTS**



# Lower Pottsgrove Township Municipal Authority

2199 BUCHERT ROAD ▪ POTTSTOWN, PA. 19464 ▪ 610-323-0436 ▪ Fax: 610-323-3824

February 18, 2009

Mr. Jack P. Layne, Jr.  
Upper Pottsgrove Township  
1409 Farmington Ave.  
Pottstown, PA 19464



BY: *[Signature]*

RE: Review Upper Pottsgrove Township Draft Act 537

Dear Mr. Layne:

As you requested in your January 28, 2009 correspondence, we are providing our comments on the January 2009 draft of the Act 537 Sewage Facilities Plan for Upper Pottsgrove Township. We offer the following comments:

1. Lower Pottsgrove Township is currently under a Corrective Action Plan (CAP). This plan was approved by PaDEP on May 8, 2007. The plan is scheduled for completion by late 2010. Therefore the reference to Lower Pottsgrove Township moratorium needs to be revised to state that Lower Pottsgrove Township is under a CAP. We feel that this should be revised throughout the report.
2. The report mentions that under Alternate #6 Lower Pottsgrove Township will be receiving flows from Continental Drive and Orchard .road.. The report states that Continental Drive is 54 EDU and Orchard Road is 15 EDU for a total of 69 EDU in 10 years. Are these the total EDU that Upper Pottsgrove Township will be adding to the current flows? And is it expected to occur in 10 years or over a 10 year period?
3. The buildout sewer map shows an area labeled Lower Pottsgrove Township. In this area the number 95 appears. Is this the additional EDU needed above the total of 69 EDU stated in the report?
4. A table showing the number of EDU that Upper Pottsgrove Township will need from Lower Pottsgrove Township and the year when they will be needed will assist in Lower Pottsgrove Township's ability to meet the capacity need of Upper Pottsgrove Township. We will include this information in Lower Pottsgrove Township's Act 537 Plan Update.

Thank you for your time in considering our comments. Should you have any questions or need further information, please feel free to contact me at (610) 323-0436.

Very truly yours,

**LOWER POTTS GROVE TOWNSHIP**

Rodney Hawthorne  
Manager

pc: Mr. William K. Dingman, P.E., Bursich Associates, Inc.  
Mr. Christopher Hannum, P.E., LTL Consultants, Ltd.

# Appendix A-22-b.1

## COUNTY OF MONTGOMERY

### Commissioners

James R. Matthews

*Chairman*

Joseph M. Hoeffel    Bruce L. Castor, Jr.

Joseph M. DiMino, DO

*Director of Health/Medical Director*



### **MONTGOMERY COUNTY HEALTH DEPARTMENT**

1430 DeKalb Street, PO Box 311

Norristown, PA 19404-0311

Phone: 610-278-5117    Fax: 610-278-5167

TDD: 610-631-1211

www.health.montcopa.org

February 18, 2009

Leo R. Scott, Jr.

LTL Consultants, Ltd.

PO Box 241

One Town Centre Drive

Oley, PA 19547

Re:    Upper Pottsgrove Township Act 537 Sewage Facilities Plan  
      Upper Pottsgrove Township, Montgomery County

Dear Mr. Scott:

The Montgomery County Health Department (MCHD) has reviewed the Act 537 Sewage Facilities Plan for Upper Pottsgrove Township, Montgomery County. MCHD has no objections at this time to the proposed Plan.

In reference to the "Malfunction Points Upper Pottsgrove Map" included in Appendix 6.0, MCHD would like to comment that a confirmed malfunction exists at 2263 Horseshoe Drive, and recommends it be included in this map.

Please contact me at 610-970-5040 extension 4215 if you have any questions.

Sincerely,

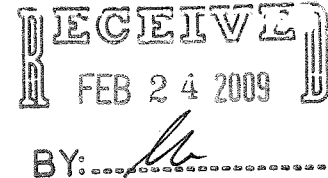
Jennifer Mercurio

Environmental Health Specialist

Division of Water Quality Management

jmercuri@mail.montcopa.org

XC:    Department of Environmental Protection  
      Upper Pottsgrove Township  
      John Peffer, Field Supervisor  
      File



**MONTGOMERY COUNTY PLANNING COMMISSION**

MAR 20 2009

box 311 ♦ norristown ♦ pennsylvania ♦ 19404-0311 ♦ 610-278-3722

office location: suite 201 ♦ one montgomery plaza ♦ swede &amp; airy streets ♦ norristown pa

FAX 610-278-3941 ♦ Website [www.montcopa.org/plancom](http://www.montcopa.org/plancom)

March 18, 2009

MCPC 537 Number: 09-1978  
Act 537 Sewage Facilities Plan Revision  
Upper Pottsgrove Township  
Date revision received by the  
County Planning Commission: 01/29/2009

Mr. Jack P. Layne, Manager  
Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464-1829

Dear Mr. Layne:

We have reviewed this application for a revision to the Township's Sewage Facilities Plan in accordance with regulations issued under Act 537, "The Pennsylvania Sewage Facilities Act," as requested. We are forwarding this letter as a report of our review and recommendations.

**BACKGROUND**

Upper Pottsgrove Township (UPT) proposes to update its Act 537 Sewage Facilities Plan to respond to recent regulatory actions and plan for sewage facilities within the Township for the next ten years. The Township currently owns one sewage treatment facility (Regal Oaks Wastewater Treatment Facility) and a separate collection and conveyance system within its borders. The collection system consists of gravity lines, three pump stations, and associated force mains. UPT has agreements for conveyance with Lower Pottsgrove Township (LPT) and conveyance and treatment with Pottstown Borough Authority (PBA).

Projected population growth and land development pressures within Upper Pottsgrove Township are expected to strain the Township's current capabilities to sustain sewer service at its present level. In addition, UPT is facing problems with its Regal Oaks Wastewater Treatment Facility (ROWTF) which serves the Regal Oaks development and discharges to Sprogel's Run. Due to pre-existing inflow and infiltration (I/I) the plant is operating beyond its design capacity and is challenged to maintain water quality. The average daily flow processed by ROWTF is 35,067 gpd; however, the rated capacity of the plant as listed in its previous NPDES permit is 17,900 gpd. Additionally, the facility was issued a more stringent NPDES permit and the new criteria

will be difficult to meet with the existing facilities when they become effective in April 2010. The system is currently operating under a Corrective Action Plan (CAP) to deal with I/I and capacity issues.

Upper Pottsgrove Township is facing other sewage facilities issues. In 2008, UPT was notified that LPT could not honor the full capacity listed in their inter-municipal agreement due to high flows caused by I/I and issued a moratorium on future connections. Additionally, there are a few locations in the Township that are experiencing on-lot sewage disposal problems including Regal Oaks, Gilbertsville Road, Bruce Drive, Horseshoe Drive, Ming Drive, Moyer Road, Continental Drive, and Orchard Drive.

On May 16, 2008 the Upper Pottsgrove Township received a letter from the Pennsylvania Department of Environmental Protection (DEP) in response to the Crossroads Development module which required Upper Pottsgrove Township and the Pottstown Borough Authority to permit and build a new Regal Oaks pump station and decommission the Cherry Tree Pump Station and Regal Oaks Wastewater Treatment Facility. It also required the Township to complete a Corrective Action Plan and a Connection Management Plan and forward them to PBA and DEP. Furthermore, the DEP letter required that UPT and Pottstown Borough update their Act 537 Sewage Facilities Plans.

This draft Act 537 Plan revision for UPT identifies several alternatives to address the above problems and the DEP letter. The selected alternative will:

- Plan for the elimination and replacement of the Regal Oaks Wastewater Treatment Facility with a pump station that will pump flows to the Farmington Avenue main and that will accept flows from Regal Oaks (Phase 1), Woodbrook, Cherry Tree Subdivision, Althouse Subdivision, Cross Roads Subdivision, Sweetwater Subdivision, and several properties on Gilbertsville Road.
- The elimination of the Cherry Tree Pump Station by rerouting existing flows to the new pumping station at the ROWTF site.
- Expand the York/Beech Street main with regard to the Township's financial and inter-municipal responsibilities to incorporate the additional flows anticipated by this plan.
- Plan for the connection of two additional subdivisions (Kummerer Tract and Pine Ford Curatives) into the Pine Ford Road Pump Station.
- Plan for the transfer of 238,000 gpd of capacity from Pottstown Borough Authority to Upper Pottsgrove Township with the purchase of 375 EDUs (112,500 gpd) for new connections. (UPT has 397 EDUs remaining within the last agreement with PBA.)
- Plan for the future connections (5-year) of Regal Oaks Phase 2 which will require a transfer of capacity to be negotiated with PBA in the future for the 57 homes that will be connected.
- Plan for the long term connection (10-year) of Continental Drive, Orchard Drive, Bruce Drive, Ming Drive/Moyer Road, and Horseshoe Drive. Continental Drive and Orchard Drive would utilize the Lower Pottsgrove Township collection system. However, due to the moratorium on new connections in LPT due to high flows caused by inflow and infiltration, the ten year timeframe will give LPT time to resolve the I/I and capacity issues within their collection system and have the moratorium lifted.

## COMMENTS/ISSUES

### Capacity Transfer Agreement

As per conversation with the Pottstown Borough Authority, it has been brought to our attention that the transfer of capacity request from Pottstown Borough to Upper Pottsgrove Township is still under review by the Authority. The Official Act 537 Plan Revision for Upper Pottsgrove Township should not be adopted until the Pottstown Borough Authority has officially authorized the transfer and a Sewage Capacity Transfer Agreement has been prepared and authorized by all parties. A copy of the Capacity Transfer Agreement should be included with the Act 537 Plan Revision.

### Public Water and Sewer Concurrency

This Act 537 Plan revision calls for the extension of sewer lines in some areas of the Township that are currently served by private wells. Pottstown Borough Authority and Superior Water Company supply public water to some areas of the Township not on wells. When the Township extends sewer lines it should also concurrently extend public water lines in order to prevent the depletion of groundwater resources. Public water is often needed in a “sewered” area because all effluent will be transported and disposed of in areas other than where the water was withdrawn. If water is withdrawn from these areas via wells and not allowed to recharge back into the underlying aquifers, ground water mining can occur and the groundwater supply can become depleted.

### Growth Areas Map

Although map #13 shows existing and future land developments in the Township, it would benefit by also showing five and ten year growth areas either on the same map or a separate map. This would allow a reader to better understand the time frame and phasing for the extension of public sewer in the Township.

### Comprehensive Plan Consistency

Future Land Use Maps in both the Montgomery County Comprehensive Plan (2005) and the Pottstown Metropolitan Regional Comprehensive Plan (2005) currently show some areas of the Township proposed for public sewer as “Rural Resource.” However, both plans are currently being revised and these areas will be shown as Suburban Residential. Therefore, the Upper Pottsgrove Act 537 Plan revision will be consistent with both plans.

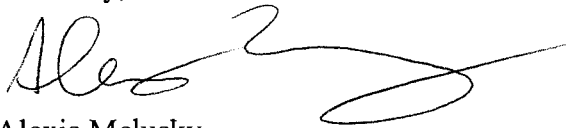
### 537 Plans

The draft Act 537 Plan revision for Upper Pottsgrove states that Pottstown Borough is preparing a revision to their Act 537 Plan and will be upgrading a section of their sewer line downstream of UPT to handle additional flows from the Township. The Borough should keep in mind the goals and visions of the County’s adopted Comprehensive Plan and the Regional Comprehensive Plan throughout the Act 537 planning process and a draft copy should be submitted to our office for review.

**RECOMMENDATION**

We recommend that the Township withhold approval of the proposed Act 537 Sewage Facilities Plan Revision until a Sewage Transfer Agreement has been approved by all parties and that the above comments have been taken into consideration by the Township. Once these issues have been addressed to the satisfaction of the Township and DEP, we have no objection to this 537 Plan Revision provided that it is in accordance with all applicable DEP rules and regulations. Should there be any questions regarding the content of this letter, please contact me at (610) 278-3740.

Sincerely,

A handwritten signature in black ink, appearing to read 'Alexis', with a long, sweeping horizontal line extending to the right.

Alexis Melusky  
Environmental Planner  
(610) 278-3740  
[amelusky@montcopa.org](mailto:amelusky@montcopa.org)

c: Clinton Cleaver, DEP, SERO  
Leo Scott, LTL Consultants LTD  
Raymond Lopez, Manager, Pottstown Borough

*Township of Upper Pottsgrove*

MONTGOMERY COUNTY, PENNSYLVANIA

1409 Farmington Avenue      Pottstown, PA 19464  
Phone: 610-323-8675              Fax: 610-327-1967

March 23, 2009

Chris Hannum  
Senior Project Manager  
LTL Consultants, Ltd.  
One Town Centre Drive  
P.O. Box 241  
Oley, PA 19547

Re: Act 537 Approval

Dear Chris,

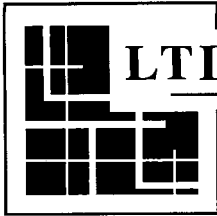
This letter serves as formal notification that the Upper Pottsgrove Planning Commission unanimously approved a motion at our February 9, 2009 meeting confirming that the proposed Act 537 Plan dated January 9, 2009 met all the current Township zoning and planning requirements.

Thank you.

Sincerely,



Elwood Taylor  
President, Board of Commissioners  
Chairman, Planning Commission



**LTL CONSULTANTS, LTD. • ENGINEERS & CODE OFFICIALS**

PO BOX 241 • ONE TOWN CENTRE DRIVE • OLEY, PA 19547  
(610) 987-9290 • FAX: (610) 987-9288

March 26, 2009

Ms. Alexis Melusky  
Environmental Planner  
Montgomery County Planning Commission  
Box 311  
Norristown, PA 19404-0311

RE: Upper Pottsgrove Township Act 537  
W.O. No. 0520-0810

Dear Ms. Melusky:

Thank you for your review of the Upper Pottsgrove Township Act 537 Sewage Facilities Plan. Attached with this letter are our responses to your comments included in your letter dated March 18, 2009. Your original comment is listed in bold and our response follows

**Capacity Transfer Agreement**

**As per conversation with the Pottstown Borough Authority, it has been brought to our attention that the transfer of capacity request from Pottstown Borough to Upper Pottsgrove Township is still under review by the Authority. The Official Act 537 Plan Revision for Upper Pottsgrove Township should not be adopted until the Pottstown Borough Authority has officially authorized the transfer and a Sewage Capacity Transfer Agreement has been prepared and authorized by all parties. A copy of the Capacity Transfer Agreement should be included with the Act 537 Plan Revision.**

The Capacity Transfer Agreement is completed and signed. This Agreement was approved previously by the Upper Pottsgrove Township Board of Commissioners and is recorded in the minutes. A copy of the executed agreement will be included in the Plan submitted to the PADEP.

**Public Water and Sewer Concurrency**

**This Act 537 Plan revision calls for the extension of sewer lines in some areas of the Township that are currently served by private wells. Pottstown Borough Authority and Superior Water Company supply public water to some areas of the Township not on wells. When the Township extends sewer lines it should also concurrently extend public water lines in order to prevent the depletion of groundwater resources. Public water is often needed in a "sewered" area because all effluent will be transported and disposed of in areas other than where the water was withdrawn. If water is withdrawn from these areas via wells and not allowed to recharge back into the underlying aquifers, groundwater mining can occur and the groundwater supply can become depleted.**

The Township is considering the extension of Public water to the areas noted within the Plan. In 2006 and 2007 the Township extended water service up Farmington Avenue. The Township has applied for an H<sub>2</sub>O PA Grant for the extension of water mains into the Regal Oaks Subdivision. It is the Township's intent to provide public water in areas of need and as a method of minimizing impact to the aquifer.

## **Growth Areas Map**

**Although Map #13 shows existing and future land developments in the Township, it would benefit by also showing five and ten-year growth areas either on the same map or a separate map. This would allow a reader to better understand the time frame and phasing for the extension of public sewer in the Township.**

We have attached this modified map to this response. It will be included in the final document adopted by Resolution and submitted to the PADEP.

## **Comprehensive Plan Consistency**

**Future Land Use Maps in both the Montgomery County Comprehensive Plan (2005) and the Pottstown Metropolitan Regional Comprehensive Plan (2005) currently show some areas of the Township proposed for public sewer as "Rural Resource". However, both plans are currently being revised and these areas will be shown as Suburban Residential. Therefore, the Upper Pottsgrove Act 537 Plan revision will be consistent with both plans.**

We concur with this conclusion and have no response to the statement.

## **537 Plans**

**The draft Act 537 Plan revision for Upper Pottsgrove states that Pottstown Borough is preparing a revision to their Act 537 Plan and will be upgrading a section of their sewer line downstream of UPT to handle additional flows from the Township. The Borough should keep in mind the goals and visions of the County's adopted Comprehensive Plan and the Regional Comprehensive Plan throughout the Act 537 planning process and a draft copy should be submitted to our office for review.**

Included in Appendix 5-2 is a copy of the Borough's planning revision. It was agreed upon jointly between Upper Pottsgrove Township, the Borough and the PADEP that this would be the most efficient and expedient manner in which to handle the Borough's portion of the planning. In general, the Borough's portion of the planning is focused solely on a transfer of existing treatment plant capacity from them to the Township. This plan was advertised and jointly put on display at both the Township and the Borough for public comment.

We hope that these responses clarify the issues listed. If you have any questions, please do not hesitate to contact me.

Sincerely,



Christopher M. Hanrum  
LTL Consultants, Ltd.  
Manager, Water and Wastewater Department

cc: Upper Pottsgrove Township Board of Supervisors  
Jack Layne, Township Manager  
John Bealer  
Charles Garner, Esq., Township Solicitor  
Tom Weld, BCM  
Leo Scott, LTL  
Lisa Sweigert, LTL  
File: W:\upt\SEWER\2009\act 537 plan response to montg co pc 032609.doc

**Leo Scott**

---

**From:** Leo Scott [lscott@ltlconsultants.com]  
**Sent:** Thursday, March 26, 2009 3:14 PM  
**To:** 'jmercuri@mail.montcopa.org'; Linda Swagzdis (lswagzdis@state.pa.us)  
**Cc:** Chris Hannum; Lisa Sweigert; 'Jack Layne'; 'Elwood Taylor'; Clinton Cleaver (fcleaver@state.pa.us)  
**Subject:** Upper Pottsgrove Township Act 537 Update and Revision: Response to Montgomery County Health Department Agency Review Comment

Jennifer,

In response to your letter of February 18th.

We will include the confirmed malfunction you have indicated at 2263 Horseshoe Dr. in the "Malfunction Points Upper Pottsgrove Map."

Thank you for your review of the plan and for your guidance in this effort.

Please feel free to contact me with any questions you may have.

Regards,

Leo R Scott Jr.  
GIS Analyst / Administrative Assistant to the Engineer  
LTL Consultants, Ltd.  
One Town Centre Drive  
P.O. Box 241  
Oley, PA 19547  
(610) 987-9290  
FAX (610)987-9288  
[lscott@ltlconsultants.com](mailto:lscott@ltlconsultants.com)

**PROOF OF PUBLICATION**

# THE MERCURY

Publishers of The Mercury, The Penny Pincher and Real Estate Today

## PROOF OF PUBLICATION OF NOTICE

Under Act No. 587, Approved May 6, 1929

STATE OF PENNSYLVANIA  
COUNTY OF MONTGOMERY SS:

Mary Ann Matalavage, of The Mercury, of the County and State aforesaid, being duly sworn, deposes and says that THE MERCURY, a newspaper of general circulation published at 24 N. Hanover Street, Borough of Pottstown, County and State aforesaid, was established September 29, 1931 since which time, THE MERCURY has been regularly issued in said County, and that the printed notice of publication attached hereto is exactly the same as printed and published in the regular editions and issues of the said THE MERCURY on the following dates; viz.

*February 1, 2009*

Affiant further deposes that he/she is duly authorized by THE MERCURY, a newspaper of general circulation, to verify the foregoing statement under oath, and affiant is not interested in the subject matter of the aforesaid notice of advertisement, and that all allegations in the foregoing statements as to time, place and character of publication are true.

Copy of Notice or Publication

Upper Pottsgrove Township Act 537 Sewage Facilities Plan Revision Public Review and Comment  
The Upper Pottsgrove Township Board of Commissioners (BOC) hereby notifies the public that an Official Act 537 Sewage Facilities Plan Revision for Upper Pottsgrove Township (UPT) is on file at the Town-

ship Building. UPT is considering the revision for adoption. The public may review the revision and submit written comments to Linda Coleman, Secretary, Upper Pottsgrove Township at 1409 Farmington Avenue, Pottstown, PA 19464 for UPT residents, and 100 East High Street, Pottstown, PA 19464-19525 for Pottstown Borough Residents.

The BOC will respond to comments before adoption.

The revision's purpose is to respond to regulatory actions and to guide sewer facilities within UPT. Goals include planning for sewerage facilities within UPT for the next ten (10) years and responding to infrastructure overload issues identified by the Pennsylvania Department of Environmental Protection (PADEP).

The subdivisions of Regal Oaks and Cherry Tree Farms are identified as areas for immediate remediation. Other areas of concern are Ming Dr., Moyer Rd., Horseshoe Dr., Bruce Dr., Colonial Heights, and Orchard Dr.

The plan analyzes conventional public and on-lot sewage disposal alternatives. Geographic, environmental, and economic considerations have led to the following alternatives.

1. Replace the Regal Oaks Wastewater Treatment Facility (WWTF) with a pump station (PS), eliminate the Cherry Tree PS, connect both systems, and direct the resulting flow to Pottstown Borough Authority's (PBA) WWTF for treatment. Estimated quarterly fees range from \$226 to \$262 per equivalent dwelling unit (EDU). Tapping fees are estimated at \$2500 per new connection. Costs are dependent on outside funding.

2. Draft intermunicipal agreements between UPT and PBA for the expansion of infrastructure in the Borough to manage increased flow from UPT and to transfer sewage capacity from PBA to UPT, initiating an immediate purchase of capacity for existing needs and reserve capacity for future needs.  
3. Provide a plan to connect all remaining properties in Regal Oaks to the system within five (5) years.  
4. Provide plans to connect the Ming Dr., Moyer Rd., Horseshoe Dr., Bruce Dr., Colonial Heights and Orchard Dr. areas within ten (10) years.  
PADEP (Chapter 71) requires this notification. A thirty-day period is established from February 2 through March 3, 2009 to allow public comment on the proposed Plan. Review is welcome on weekdays from 8:00 am to 4:30 pm at the UPT Municipal Building at 1409 Farmington Avenue and the Pottstown Borough Hall at 100 East High Street.

*Mary Ann Matalavage*

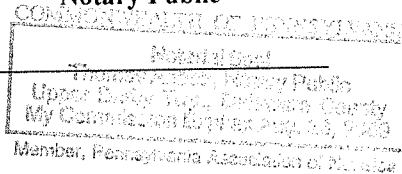
Mary Ann Matalavage, Classified Manager

Sworn to and subscribed before me this 21<sup>st</sup>

day of February, 2009.

*[Signature]*  
Notary Public

My Commission Expires:



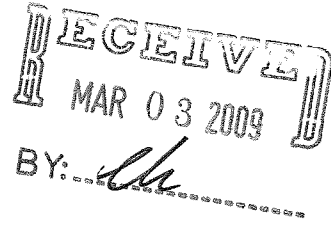
**WRITTEN PUBLIC COMMENTS AND RESPONSES**



**Kelly Group Builders, Inc.**  
PO Box J  
Newtown Square, PA 19073

February 28, 2009

Ms. Linda Coleman  
Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464



**Via US Mail and Fax**

**Re: Comments on Upper Pottsgrove Township  
Act 537 Sewage Facilities Plan Revision- dated 2009**

Dear Ms. Coleman:

We are submitting the following comments to the Act 537 Sewage plan dated January 2009.

1. The plan does not properly plan for sewage facilities and growth plans that will occur in the Township over the next 10 years. The Township has a history of seriously underestimating its future sewer needs which has required numerous costly Act 537 revisions and infrastructure upgrades.
2. The purchase of 238,000 gallons per day of sewer capacity will not be enough to handle the future needs of the Township for the next 5 years.
3. We have property that is zoned for nearly 600 homes or EDUs or 180,000 gallons per day and is contained in the current 537 sewer service area. Only a small portion of the proposed sewer requirement for those projects is included in the purchase of the 238,000 gpd from the Borough of Pottstown. Many of the projects have existing sewer service at the property line. The majority of these projects are not listed in the table 4.1 Current and Future Subdivisions even though the Township is aware of these properties.
4. The estimate of \$ 3,087,000 for the construction of the Regal Oaks Pump station is grossly underestimated. The amount that has been included for the upgrading of the Farmington Avenue Sewer Phase IV is insufficient to complete the project. The 10" sewer pipe on Farmington Avenue has already experienced numerous surcharges and will need to be replaced before the Regal Oaks Pump Station is constructed. Previous estimates have been in excess of \$500,000 for this replacement project and actually installed price may be closer to \$700,000.

February 28, 2009  
Ms. Linda Coleman  
Page 2

5. The Township has no permission for additional connections to the Phase I sewer replacement project that was performed by our firm. We are entitled to reimbursement for a significant portion of the \$700,000 cost to replace the Township pipe. Repayment of this \$700,000 will reduce the net amount of tapping fees the Township will receive and further diminish their ability to satisfy debt service.
6. The Township sewer fund is presently grossly under capitalized. Adequate reserves for normal operation, replacement and capital for I & I work is presently not available. Presently there are not sufficient funds or reserves in place for the adequate maintenance and future replacement of the existing sanitary facilities. The addition of the Regal Oaks Pump station will further overload the financial stress of the Township sewer fund.
7. The Township assumes that residents of Regal Oaks will be willing to pay a \$2,500 sewer connection fee. I am not aware of any formal notification to households in Regal Oaks concerning this matter.
8. The Township Engineer has consistently refused to adequately address the 10 year projected sewer needs of the entire Township. It has been past policy to ignore sewer demands so that additional fees and costs will be paid to the engineer for constantly requiring updates to the Act 537 plan and designing sewer system upgrades. This is another example of improper planning and adoption of an ACT 537 Plan that will again need to be updated in a few years.
9. The Township has collected nearly \$250,000 in capacity fees for our Pine Ford road project even though they do not have any sewer capacity left to allocate to new developments. Furthermore, under a best case scenario, the Township will not be able to connect this development for years to come. The Township has repeatedly refused a refund to us of our capacity deposit.

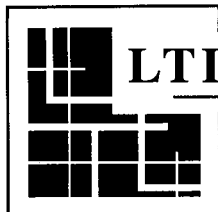
Please feel free to contact me if you have any questions.

Sincerely,



Richard G. Mingey

cc: Gregg Adeleman



**LTL CONSULTANTS, LTD. • ENGINEERS & CODE OFFICIALS**

PO BOX 241 • ONE TOWN CENTRE DRIVE • OLEY, PA 19547  
(610) 987-9290 • FAX: (610) 987-9288

March 25, 2009

Kelly Group Builders, Inc.  
Attn: Mr. Richard G. Minge  
PO Box J  
Newton Square, PA 19073

RE: Upper Pottsgrove Township Act 537 Update and  
Revision, 2009 - Response to Public Comments.

Dear Mr. Minge:

This response is in reference to your letter of February 29, 2009. The following addresses your comments, using the same numbering sequence used in your letter. Your comments are paraphrased in italics.

1. *The plan does not properly plan for sewage facilities and growth plans that will occur in the Township over the next 10 years. The Township has a history of seriously underestimating its future sewer needs which has required numerous costly Act 537 revisions and infrastructure upgrades.*

This plan was produced to meet the requirements created by the Consent Order and Agreement (CO&A) between the Pennsylvania Department of Environmental Protection (PADEP) and Upper Pottsgrove Township. This plan coordinates the sewage facilities for the known problem areas and those areas that may be developed. The plan stipulates an immediate, five-year and ten-year time frame to address those areas identified. This plan is supported by a Connection Management Plan. Currently, the Township has only utilized approximately 50 percent of its purchased capacity from the Borough. The Township has never used public funds or taxation to speculate on sewer needs. The Township has only supported a purchased capacity for those areas that have demonstrated a need for sewer. In some instances, the Township has purchased capacity for a specific subdivision project. However, this is typically done when agreements are in place or plans have been approved.

2. *The purchase of 238,000 gallons per day of sewer capacity will not be enough to handle the future needs of the Township for the next 5 years.*

The purchase of 238,000 gallons per day is based on the projected build-out listed in the Connection Management Plan of 2,588 EDUs. The current system has approximately 1,150 connected EDUs. This capacity would more than double the current need. We have calculated that it would require consistent growth of 2.23 percent over 36 years to utilized all of the 2,588 EDU's.

- 3. We have property that is zoned for nearly 600 homes or EDU's of 180,000 gallons per day and is contained in the current 537 sewer service area. Only a small portion of the proposed sewer requirement for those projects is included in the purchase of the 238,000 gpd from the Borough of Pottstown. Many of the projects have existing sewer service at the property line. The majority of these projects are not listed in the Table 4.1 Current and Future Subdivisions even though the Township is aware of these properties.***

There is no current plan on file at the Township that reflects any subdivision consisting of 600 EDUs. There are also no current plans that would include these 600 homes that have received final or planning module approval.

- 4. The estimate of \$3,087,000 for the construction of the Regal Oaks Pump station is grossly underestimated. The amount that has been included for the upgrading of the Farmington Avenue Sewer Phase IV is insufficient to complete the project. The 10" sewer pipe on Farmington Avenue has already experienced numerous surcharges and will need to be replaced before the Regal Oaks Pump Station is constructed. Previous estimates have been in excess of \$500,000 for this replacement project and actually installed price may be closer to \$700,000.***

The unit costs used for the estimates in the Act 537 Sewage Facilities are based on several years of cost trending. In addition, unit prices from Farmington West Phase I were reviewed and utilized. This project was bid and completed in 2008. We anticipate that the costs for the project to be of this order-of-magnitude.

There is no Farmington Avenue Sewer Phase IV included in this project. Farmington Avenue Phase IV was completed in 2007.

We have no documentation regarding any surcharges that have occurred since the piping on Farmington Avenue was increased from 10" to 18".

- 5. The Township has no permission for additional connections to the Phase I sewer replacement project that was performed by our firm. We are entitled to reimbursement for a significant portion of the \$700,000 cost to replace the Township pipe. Repayment of this \$700,000 will reduce the net amount of tapping fees the Township will receive and further diminish their ability to satisfy debt service.***

The Act 537 Plan Revision makes no claim to the ownership of the pipe.

- 6. The Township sewer fund is presently grossly under capitalized. Adequate reserves for normal operation, replacement and capital for I & I work is presently not available. Presently, there are not sufficient funds or reserves in place for the adequate maintenance and future replacement of the existing sanitary facilities. The addition of the Regal Oaks Pump Station will further overload the financial stress of the Township sewer fund.***

The rates were recently increased from \$180 per quarter to \$200 per quarter. The funding of sewer infrastructure is adequate to meet present and future needs.

- 7. The Township assumes that residents of Regal Oaks will be willing to pay a \$2,500 sewer connection fee. I am not aware of any formal notification to households in Regal Oaks concerning this matter.***

This statement appears correct.

8. ***The Township Engineer has consistently refused to adequately address the 10 year projected sewer needs of the entire Township. It has been past policy to ignore sewer demands so that additional fees and costs will be paid to the engineer for constantly requiring updates to the Act 537 Plan and designing sewer system upgrades. This is another example of improper planning and adoption of an Act 537 Plan that will again need to be updated in a few years.***

The Township is only utilizing approximately 50% of the facilities purchased 5 years ago. Worst case projections show the Township to be within 3% of the overall allotted capacity purchased from the Borough. With regard to changing 537 plans, the Township has made modifications to their plan as development has changed the make-up and layout of the area. The issues surrounding the Regal Oaks Subdivision Wastewater Treatment Facility mostly drove this recent change. The Township was required by the PADEP to assume responsibility of this facility after the original developer walked away from his responsibilities.

9. ***The Township has collected nearly \$250,000 in capacity fees for our Pine Ford Road project even though they do not have any sewer capacity left to allocate to new developments. Furthermore, under a best case scenario, the Township will not be able to connect this development for years to come. The Township has repeatedly refused a refund to us of our capacity deposit.***

This issue is a legal assertion on the author's part and is not part of the scope or responsibility of the Act 537 Sewage Facilities Plan. There is sufficient capacity at the Pottstown Borough Authority Treatment facility to accept flows from the noted project.

We would like to thank you for your participation in the Upper Pottsgrove Township Act 537 Plan Revision process.

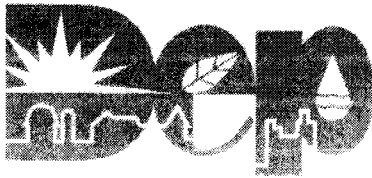
Sincerely,



Christopher M. Hannum, PE  
LTL Consultants, Ltd.  
Manager, Water, Wastewater Department

- cc. Jack Layne, Manager, Upper Pottsgrove Township  
Charles Garner, Solicitor, Upper Pottsgrove Township  
Elwood Taylor, Chairman, Upper Pottsgrove Township Board of Commissioners  
File:M:\Engineering\Upper Pottsgrove Township - 20\0520-0810 Act 537 Plan  
Revision\Consistency Review\Response to Public Comment Act 537 plan 031209.doc  
File:W:\upt\SEWER\2009\Response to Public Comment Act 537 plan 032509.doc

**CONSISTENCY DETERMINATION**



05-22-08 11:16 RCVD  
Pennsylvania Department of Environmental Protection

2 East Main Street  
Norristown, PA 19401  
May 16, 2008

**Southeast Regional Office**

Phone: 484-250-5970  
Fax: 484-250-5971

Ms. Cindy Saylor, Secretary  
Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464-1829

Re: Planning Module for Land Development  
Crossroads Settlement Development  
DEP Code 1-46956-148-3J  
Status: ISSUED  
APS ID 622592, SITE ID 693805  
Upper Pottsgrove Township  
Montgomery County

Dear Ms. Saylor:

Approval is hereby granted by the Department of Environmental Protection (Department) for the above-referenced revision to the Upper Pottsgrove Township Official Sewage Facilities Plan. In accordance with the Pennsylvania Sewage Facilities Act and Title 25, Chapter 71 of the Department's Rules and Regulations, Upper Pottsgrove Township (Township) is responsible for implementing this revision as per the approved planning module.

This revision provides for adequate sewage facilities planning to permit the development of 51 new townhouses on 14.5 acres. This project is located at Cross and West Moyer Roads in Upper Pottsgrove Township, Montgomery County.

This project will be connected to the Upper Pottsgrove Township Authority collection system and will generate 12,750 gallons of sewage per day (gpd) to be treated at the Pottstown Borough Authority Wastewater Treatment Facility.

This revision provides sewage facilities planning approval (1) for a temporary connection for the Crossroads Settlement Subdivision to the Cherry Tree Pump Station, (2) for the conversion of the existing Regal Oaks Wastewater Treatment Plant to a pump station (Regal Oaks Pump Station) and force main that will convey flows to the Pottstown Authority Wastewater Treatment Facility, (3) for the decommissioning of the Cherry Tree Pump Station, and (4) for the diversion of all sewage flows from the Cherry Tree Pump Station to the Regal Oaks Pump Station.

Ms. Cindy Saylor, Secretary

- 2 -

May 16, 2008

This revision provides adequate sewage facilities planning for the construction of the Regal Oaks Pump Station and associated force main with annual average sewage flows of 100,650 gpd (70,000 gpd from previously approved flows at the Cherry Tree Pump Station, 12,750 gpd from Crossroads, and 17,900 gpd from Regal Oaks). Upper Pottsgrove Township must secure a Department permit for the construction and operation of the proposed sewage pumping station.

Please review the enclosed Sewage Pumping Station Guidance before submitting your Part II Permit Application. The Department recommends a minimum peaking factor of 3.8 for pumping stations serving new land development with this proposed design flow. Significant Inflow and Infiltration from existing service areas require higher peaking factors. The pump station must be capable of handling peak instantaneous flows with any one pump out of service. Detailed justification must be submitted with permit applications for proposals that use alternate design standards from the enclosed guidance.

This approval is granted in part in order to abate the current pollution and public health issues associated with the existing Regal Oaks Wastewater Treatment Facility and to provide for those sewage flows to be conveyed to and treated at the Pottstown Borough Authority Wastewater Treatment Facility.

This revision allows for sewage flows from the Crossroads Settlement Development to flow temporarily through the Cherry Tree Pump Station until completion of the Regal Oaks Pump Station. However, additional sewage facilities planning must be completed by the Township to address additional capacity needs at the Regal Oaks Pump Station and the Pottstown Borough Authority Wastewater Treatment Facility for (1) additional connection needs for existing onlot malfunctions within the Regal Oaks development, and (2) additional existing needs and new land development needs within the proposed Regal Oaks Pump Station service area.

Please be advised that the addition of flows from Crossroads Settlement Development to the total allocated flows at the Cherry Tree Pump Station results in a projected hydraulic overload at the pumping station. Until such time as the Cherry Tree Pump Station is decommissioned, it will be necessary for the Township, as permittee, to submit a Corrective Action Plan (CAP) and Connection Management Plan (CMP) in order to comply with Section 94.22 of Chapter 94.

This approval is granted subject to the following conditions:

1. Within 60 days of this approval, the Township must copy the Department on a request for conveyance and treatment capacity from the Pottstown Borough Authority for the connection of the sewage flows currently treated by the Regal Oaks Wastewater Treatment Facility to the Pottstown Borough Authority's Wastewater Treatment Facility. The request must specifically request the connections as an exception to the limit on current allocations, consistent with the exceptions to bans and prohibitions provided under Chapter 94, Section 94.57, relating to connections which are necessary to eliminate a public health hazard.

2. Within 60 days of this approval, the Township must submit a Plan of Study and Task Activity Report with a commitment and time schedule to complete an official Act 537 Plan Update Revision that addresses both conveyance and treatment capacity for all of the proposed Regal Oaks Pump Station sewer service area. The Plan Update Revision must be submitted within 12 months of the date of this approval and include an implementation schedule consistent with the milestone requirements listed in Items 10, 11, and 12, below. The required official plan must be approved as required by the Pennsylvania Sewage Facilities Act (35 P.S. Sections 750.1-750.20) and the regulations thereunder in Chapter 71 (relating to administration of the sewage facilities planning program) and must be consistent with the requirements of the Department and the Federal government regarding area-wide planning and sewerage facilities.
3. Within 60 days of this approval, the Township must submit a CAP to the Department, consistent with the requirements of Chapter 94, Section 94.22. The CAP should include a program for control of new connections to the projected overloaded facilities and a schedule showing the dates for each step to be taken by the permittee to prevent the sewerage facilities from becoming hydraulically or organically overloaded. The CAP must be consistent with the Act 537 official plan requirements referenced above in Item 2. The CAP must include milestones that meet the minimum time frames required below in Items 5 through 12, below.
4. Within 60 days of this approval, along with the above-referenced CAP, the Township must submit to the Department a CMP that limits new connections to and extensions of the sewerage facilities based upon remaining available capacity.
5. Within six months of this approval, the Township must submit a Water Quality Part II Permit application to the Department for the conversion of the Regal Oaks Wastewater Treatment Plant to a pump station as well as for the force main that will connect this pump station to the Pottstown collection system. The permit application must request capacity for average sewage flows of 100,650 gpd, consistent with this approval, but should include design capacity for the current estimates of total needs for the proposed sewer service area, based on the current status of the official plan required under Item 2, above.
6. Within 12 months of this approval, the Township must commence construction of the Regal Oaks Pump Station and force main.
7. Within 12 months of this approval, the official Act 537 Plan Update Revision required under Item 2, above, must be completed, adopted by the Township, and submitted to the Department.

8. Within 18 months of this approval, the Regal Oaks Pump Station and force main must be completed and the sewage flows from the existing Regal Oaks Wastewater Treatment Facility must be diverted to the pump station and the Pottstown Borough Authority's Wastewater Treatment Facility.
9. In accordance with the CAP and the implementation schedule required by the official Act 537 Plan Update Revision required under Item 2, above, the Township must implement the CAP and the 537 Plan in coordination with Pottstown Borough and the Pottstown Borough Authority.
10. The CAP and the 537 Plan must include specific dates, not to exceed 18 months from the date of this approval, for the submission of permits for the expansion of the sewer interceptor within Pottstown Borough that is required to mitigate wet weather flows and to provide capacity for Regal Oaks and long-term new development needs in the Township.
11. The CAP and the 537 Plan must include specific dates, not to exceed 24 months from the date of this approval, for commencing construction for the expansion of the sewer interceptor within Pottstown Borough that is required to mitigate wet weather flows and to provide capacity for Regal Oaks and long-term new development needs in the Township.
12. The CAP and the 537 Plan must include specific dates, not to exceed 36 months from the date of this approval, for completing the expansion of the sewer interceptor within Pottstown Borough that is required to mitigate wet weather flows and to provide capacity for Regal Oaks and long-term new development needs in the Township.

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, P.O. 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.

Ms. Cindy Saylor, Secretary

- 5 -

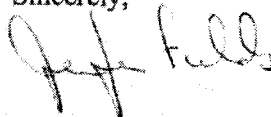
May 16, 2008

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 feel free to contact Ms. Kelly Boettlin of our office at 484-250-5184.

Sincerely,



Jenifer Fields, P.E.  
Regional Manager  
Water Management

Enclosure

cc: Montgomery County Planning Commission  
Montgomery County Health Department  
Montgomery County Conservation District  
Mr. Mingey - Kelly Group Builders  
Wilkinson & Associates, Inc.  
Pottstown Borough Authority  
Ms. Boettlin  
Ms. Moore  
Planning Section  
Re 30 (GJE08WQ)137-4



Office of Chief Counsel  
2 East Main Street  
Norristown, PA 19401

January 13, 2009

Southeast Regional Counsel

Telephone: (484) 250 - 5871  
Facsimile: (484) 250 - 5931

Charles D. Garner, Jr., Esquire  
Law Offices  
Garner and Bauer  
2050 East High Street  
Pottstown, PA 19464

Re: Consent Order and Agreement  
Regal Oaks STP - NPDES Permit No. PA0050342  
Upper Pottsgrove Township, Montgomery County

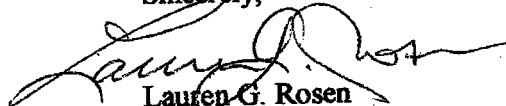
Dear Mr. Garner:

Enclosed please find a fully executed copy of the January 13, 2009 Consent Order and Agreement between the Department of Environmental Protection and your client, Upper Pottsgrove Township ("CO&A").

Pursuant to the terms of the CO&A, your client will remit payment in the amount of two thousand and fifty dollars (\$2050) within 30 days of the date of the CO&A. Payment should be sent in the manner described in paragraph 4 of the CO&A.

If you have any questions or comments, please contact me directly at (484) 250-5871.

Sincerely,



Lauren G. Rosen  
Assistant Counsel

cc. Mr. Goldberg, WM, w/enclosure  
Ms. Fields, Regional Manager WM, w/out enclosure  
Mr. Jardel, WM, w/out enclosure  
Mr. D. Garner, Esquire, w/out enclosure  
1954 E. High St., Ste. 3  
Pottstown, PA 19464

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

**In the Matter of:**

Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464

: Water Management Program/Sewage/Operations  
: Regal Oaks Subdivision Sewage Treatment Plant  
:

**CONSENT ORDER AND AGREEMENT**

This Consent Order and Agreement (CO&A) is entered into this 13<sup>th</sup> day of January 2009, by and between the Commonwealth of Pennsylvania, Department of Environmental Protection (Department), and Upper Pottsgrove Township (Upper Pottsgrove).

The Department has found and determined the following:

A. The Department is the agency with the duty and authority to administer and enforce the Clean Streams Law, Act of June 22, 1937, P.L. 1987, as amended, 35 P.S. § 691.1 et seq. (Clean Streams Law); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, as amended, 71 P.S. § 510-17 (Administrative Code) and the rules and regulations promulgated thereunder.

B. Upper Pottsgrove exists under the laws of the Commonwealth of Pennsylvania with their offices located in Upper Pottsgrove Township, Montgomery County. The mailing address is 1409 Farmington Avenue, Pottstown, PA 19464. Upper Pottsgrove is considered a "municipality" as that term is defined in Section 1 of the Clean Streams Law, 35 P.S. § 691.1.

C. On March 1, 2007, Upper Pottsgrove took ownership and began to operate a sewage treatment plant (Regal Oaks) located in Upper Pottsgrove Township, Montgomery County, which discharges to Sprogels Run, a water of the Commonwealth.

D. Regal Oaks receives sewage, within the meaning of that term as defined in Section 1 of the Clean Streams Law, supra, 35 P.S. § 691.1, from a collection system which serves the Regal Oaks Subdivision. On March 1, 2007, Upper Pottsgrove took ownership and began to operate the collection system tributary to the Regal Oaks.

E. On January 14, 2002, the Department issued National Pollutant Discharge Elimination System Permit No. PA0050342, (NPDES Permit) to The Quick Group that authorized the discharge of treated effluent to Sprogels Run and set effluent limits and monitoring requirements for the discharge.

F. The Discharge Monitoring Reports (DMRs) submitted by The Quick Group, for the reporting periods of February 2002 through January 2007, reflect flows in excess of the hydraulic design capacity for Regal Oaks.

G. In January 2006 Upper Pottsgrove's consultant conducted an investigation of Regal Oaks and its associated sanitary sewer collection system. The investigation concluded that Regal Oaks becomes hydraulically overloaded during precipitation events and is unable to properly treat the wastewater which is discharged to it from the sanitary sewer collection system. It was also concluded that the sanitary sewer collection system is plagued with excessive amounts of Infiltration/Inflow (I/I).

H. On March 21, 2006, the Department performed a stream survey in Sprogels Run which receives the treated effluent from Regal Oaks. The survey revealed the presence of sewage solids in the stream for approximately one-quarter of a mile downstream of the effluent pipe. The survey also revealed that macroinvertebrate taxa abundance and diversity was considerably reduced approximately 100 meters downstream of Regal Oaks' discharge, compared to the macroinvertebrate community upstream of Regal Oaks' discharge.

I. During the March 21, 2006 stream survey and site visit, Department personnel noted that a manhole located just outside the confines of Regal Oaks had been overflowing into Sprogels Run.

J. An administrative conference was held with representatives of The Quick Group on May 30, 2006 to discuss corrective actions necessary to abate the I/I problems in the collection system. During this meeting, the owner of The Quick Group, Mr. Ronald Isenhart, stated that he did not have financial capability to properly operate and maintain Regal Oaks and the sanitary sewer collection system tributary to Regal Oaks.

K. On July 21, 2006, the Department and representatives of Upper Pottsgrove met to discuss the ongoing noncompliance at Regal Oaks, and The Quick Groups inability to properly operate and maintain Regal Oaks and its sanitary sewer collection system. At this meeting the Department informed Upper Pottsgrove that Upper Pottsgrove would be responsible for the operation and maintenance of Regal Oaks and its collection system given The Quick Group's financial condition.

L. On January 4, 2007, the Department and representatives of Upper Pottsgrove met to discuss the short-term and long-term measures that would be taken to remedy the problems at Regal Oaks and in the collection system. Upper Pottsgrove agreed to provide the Department with its short-term measures that would be undertaken to resolve the issues at the Plant and within the collection system. In addition, Upper Pottsgrove agreed that a NPDES Permit Transfer Form would be completed by it and The Quick Group.

M. On January 5, 2007, the Department received The Quick Group's portion of the NPDES Permit Transfer Form.

N. On February 21, 2007, the Department received Upper Pottsgrove's portion of the NPDES Permit Transfer Form.

O. On January 25, 2008 the Department officially reissued the NPDES Permit, identified in paragraph E, to Upper Pottsgrove.

P. Part B, Section III(B)(2) of the NPDES Permit requires that the Department receive DMRs within 28 days from the end of each monitoring period.

Q. Sections 201, 202, and 401 of the Clean Streams Law, 35 P.S. §§ 691.201, 691.202, and 691.401, prohibit the discharge of sewage, or other polluting substances into waters of the Commonwealth, except as provided under the Clean Streams Law and the rules and regulations of the Department.

R. Section 611 of the Clean Streams Law, 35 P.S. § 691.611 states that it shall be unlawful to fail to comply with any rule or regulation of the Department or to fail to comply with any order or permit or license of the department, to violate any of the provisions of this act or rules and regulations adopted hereunder, or any order or permit or license of the department.

S. On June 19, 2008 the Department and Upper Pottsgrove executed a Three Thousand Dollar (\$3,000) Consent Assessment of Civil Penalty for violations of 35 P.S. §§ 201, 202, 401, 611, which occurred at Regal Oaks on January 18, 2008, January 31, 2008, February 13, 2008 and that were identified during the Department's review of Regal Oaks February 2008 DMRs.

T. On June 30, 2008, August 1, 2008 and August 27, 2008 the Department issued Upper Pottsgrove Notices of Violation (NOVs) for Permit effluent limit exceedances self-reported by Upper Pottsgrove in Regal Oaks' DMRs for the months of May, June and July of 2008.

U. On August 15, 2008 the Department issued Upper Pottsgrove an NOV for late submittal of Regal Oaks' DMRs during sixteen of the prior twenty-eight months.

V. The discharge of sewage into waters of the Commonwealth described in paragraphs H and I and the Permit effluent limit exceedances described in paragraph T were not authorized by permit or regulation, and constitute violations of Sections 201 and 202 of the Clean Streams Law, 35 P.S. §§ 691.201 and 691.202.

W. Causing or allowing pollution of the waters of the Commonwealth, as described in paragraph H, I and T, is a violation of Section 401 of the Clean Streams Law, 35 P.S. § 691.401.

X. The late submittal of DMRs, as described in paragraph U, constitutes a failure to comply with Part B, Section III(B)(2) of the NPDES Permit and constitutes a timing violation of the NPDES Permit.

Y. The violations described in paragraphs V, W and X, constitute unlawful conduct under Section 611 of the Clean Streams Law, 35 P.S. § 691.611; a statutory nuisance under Section 601 of the Clean Streams Law, 35 P.S. § 691.601; and subject Upper Pottsgrove to civil penalty liability under Section 605 of the Clean Streams Law, 35 P.S. § 691.605.

After full and complete negotiation of all matters set forth in this Consent Order and Agreement (CO&A) and upon mutual exchange of covenants contained herein, the parties desiring to avoid litigation and intending to be legally bound, it is hereby **ORDERED** by the Department and **AGREED** to by Upper Pottsgrove as follows:

**1. Authority.** This CO&A is an Order of the Department authorized and issued pursuant to Section 5 of the Clean Streams Law, 35 P.S. § 691.5; and Section 1917-A of the Administrative Code, *supra*.

**2. Findings.**

a. Upper Pottsgrove agrees that the findings in paragraphs A through E, G, K, L, M, N, O, P, Q, R, S, T, U are true and correct and, in any matter or proceeding involving Upper Pottsgrove and the Department, Upper Pottsgrove shall not challenge the accuracy or validity of these findings.

b. The parties do not authorize any other persons to use the findings in this CO&A in any matter or proceeding.

**3. Corrective Action.** Upper Pottsgrove agrees to implement the following measures in accordance with the following schedule:

**a. Long-Term Measures:**

<u>Milestone Event(s)</u>	<u>Milestone Date</u>
Submittal of Water Quality Management (WQM) Part II Permit application for the conversion of Regal Oaks to a pump station with a force main connection into the sanitary sewer collection system owned and operated by the Pottstown Borough Authority.	January 16, 2009
Start construction of the facilities approved by the WQM Part II Permit.	Within 60 days of issuance of the WQM Part II Permit, but not earlier than May 16, 2009.
Complete construction of the facilities of approved by the WQM Part II Permit.	Fifteen (15) months from the issuance of the WQM Part II Permit, but not earlier than April 16, 2010.

**b. Short-term Measures:**

<u>Milestone Event(s)</u>	<u>Milestone Date</u>
Incorporation of grinder pumps in the influent pump station wet well.	Within 90 days of execution of the CO&A
Incorporation of flow-paced chlorine feed prior to the chlorine contact tank.	As soon as reasonably practical but not later than 21 days after execution of the CO&A

**c. Status Reports:** By May 1, 2009 Upper Pottsgrove shall provide the Department with a status report that will describe, in detail, the progress made towards completing the Milestone Events referenced above.

**4. Penalties.** Within 30 days of the date of this CO&A, Upper Pottsgrove shall pay a penalty of **TWO THOUSAND AND FIFTY DOLLARS (\$2,050.)**. This payment is in settlement of the Department's claim for civil penalties for the violations set forth in paragraph paragraphs V, W, X and Y above, covering the period January 25, 2008 through August 31, 2008. The payment shall be made by corporate check or the like made payable to the Commonwealth of PA - Clean Water Fund and sent to:

Mr. Jesse Goldberg  
Environmental Protection Compliance Specialist  
Department of Environmental Protection  
2 East Main Street  
Norristown, PA 19401

**5. Stipulated Penalties**

a. In the event Upper Pottsgrove fails to comply in a timely manner with any term or provision of this CO&A, Upper Pottsgrove shall be in violation of this CO&A and, in addition to other applicable remedies, shall pay a civil penalty for each violation as specified below:

1. Between the execution date of this CO&A and the and July 28, 2010, subject to the conditions of paragraph 12 hereof, Upper Pottsgrove shall make a payment to the Clean Water Fund in the amount of **ONE HUNDRED DOLLARS (\$100)** per day for each day of noncompliance with the milestone schedule dates specified in paragraph 3 of this CO&A.

2. Between the execution date of this CO&A and July 28, 2010, subject to the conditions of paragraph 12 hereof, Upper Pottsgrove shall pay into the Clean Water Fund FIVE HUNDRED DOLLARS (\$500) for each documented sanitary sewer overflow that occurs in the sanitary sewer collection system, or at Regal Oaks. This includes any overflow of any treatment unit at Regal Oaks.

b. Between the execution date of this CO&A and July 28, 2010, subject to the conditions of paragraph 12 hereof, Upper Pottsgrove shall make a payment to the Clean Water Fund for each monthly average violation of the NPDES Permit in accordance with the table listed in Attachment A of this CO&A

c. Between the execution date of this CO&A and July 28, 2010, subject to the conditions of paragraph 12 hereof, Upper Pottsgrove shall, notwithstanding the penalty amounts set forth in the preceding paragraphs, pay into the Clean Water Fund ONE HUNDRED DOLLARS (\$100) for each and every violation of the pH and Dissolved Oxygen NPDES limits.

d. The Department reserves the right to assess additional civil penalties and/or to bring any action at law or equity for pollution incidents at or from the Regal Oaks, which result from willful actions of Upper Pottsgrove or its agents and/or for pollution incidents which have an adverse impact on the receiving stream or which adversely affect public health, safety, and welfare.

e. Stipulated penalty payments for schedule violations shall be payable monthly on or before the fifteenth day of each succeeding month, and shall be forwarded to Mr. Jesse Goldberg, Environmental Protection Compliance Specialist, PA Department of Environmental Protection, 2 East Main Street, Norristown, PA 19401. Stipulated penalty payments for effluent violations shall be payable monthly on or before the 28th day of each succeeding month and shall be accompanied by a copy of the DMR for that month.

f. Any payment under this paragraph shall neither waive Upper Pottsgrove's duty to meet its obligations under this Consent Order and Agreement (CO&A) nor preclude the Department from commencing an action to compel Upper Pottsgrove's compliance with the terms and conditions of this CO&A. The payment resolves only Upper Pottsgrove's liability for civil penalties arising from the violation of this CO&A for which the payment is made.

g. Stipulated civil penalties shall be due automatically and without notice.

**6. Additional Remedies.**

a. In the event Upper Pottsgrove fails to comply with any provision of this CO&A, the Department may, in addition to the remedies prescribed herein, pursue any remedy available for a violation of an order of the Department, including an action to enforce this CO&A.

b. The remedies provided by this paragraph and paragraph 4 (Stipulated Civil Penalties) are cumulative and the exercise of one does not preclude the exercise of any other. The failure of the Department to pursue any remedy shall not be deemed to be a waiver of that remedy. The payment of a stipulated civil penalty, however, shall preclude any further assessment of civil penalties for the violation for which the stipulated civil penalty is paid.

7. **Reservation of Rights.** The Department reserves the right to require additional measures to achieve compliance with applicable law. Upper Pottsgrove reserves the right to challenge any action which the Department may take to require those measures.

8. **Liability of Operator.** Upper Pottsgrove shall be liable for any violations of the CO&A, including those caused by, contributed to, or allowed by its officers, agents, employees, or contractors. (Except as provided in paragraph 9(c)), Upper Pottsgrove also shall be liable for any violation of this CO&A caused by, contributed to, or allowed by its successors and assigns.

9. **Transfer of Site.**

a. The duties and obligations under this CO&A shall not be modified, diminished, terminated, or otherwise altered by the transfer of any legal or equitable interest in the sanitary sewer collection system or the Plant or any part thereof.

b. If Upper Pottsgrove intends to transfer any legal or equitable interest in the sanitary sewer collection system or the Plant which is affected by this CO&A, Upper Pottsgrove shall serve a copy of this CO&A upon the prospective transferee of the legal and equitable interest at least thirty (30) days prior to the contemplated transfer and shall simultaneously inform the Regional Office of the Department of such intent.

c. The Department in its sole discretion may agree to modify or terminate Upper Pottsgrove's duties and obligations under this CO&A upon transfer of the sanitary sewer collection system or the Plant. Upper Pottsgrove waives any right that it may have to challenge the Department's decision in this regard.

10. **Correspondence with Department.** All correspondence with the Department concerning this CO&A shall be addressed to:

Regional Water Quality Manager  
Department of Environmental Protection  
2 East Main Street  
Norristown, PA 19401  
484-250-5970 Fax: 484-250-5971

**11. Correspondence with Upper Pottsgrove.** All correspondence with Upper Pottsgrove concerning this CO&A shall be addressed to:

Mr. Jack P. Layne, Jr.  
Township Manager  
Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464

610-323-8675      Fax: 610-327-1967

Upper Pottsgrove shall notify the Department whenever there is a change in the contact person's name, title, or address. Service of any notice or any legal process for any purpose under this CO&A, including its enforcement, may be made by mailing a copy by first class mail to the above address.

**12. Force Majeure.**

a. In the event that Upper Pottsgrove is prevented from complying in a timely manner with any time limit imposed in this CO&A solely because of a strike, fire, flood, act of God, or other circumstances beyond Upper Pottsgrove's control and which Upper Pottsgrove, by the exercise of all reasonable diligence, is unable to prevent, then Upper Pottsgrove may petition the Department for an extension of time. An increase in the cost of performing the obligations set forth in this CO&A shall not constitute circumstances beyond Upper Pottsgrove's control. Upper Pottsgrove's economic inability to comply with any of the obligations of this CO&A shall not be grounds for any extension of time.

b. Upper Pottsgrove shall only be entitled to the benefits of this paragraph if it notifies the Department within five working days by telephone and within 10 working days in writing of the date it becomes aware or reasonably should have become aware of the event impeding performance. The written submission shall include all necessary documentation, as well as a notarized affidavit from an authorized individual specifying the reasons for the delay, the expected duration of the delay, and the efforts which have been made and are being made by Upper Pottsgrove to mitigate the effects of the event and to minimize the length of the delay. The initial written submission may be supplemented within 10 days of its submission. Upper Pottsgrove's failure to comply with the requirements of this paragraph specifically and in a timely fashion shall render this paragraph null and of no effect as to the particular incident involved.

c. The Department will decide whether to grant all or part of the extension requested on the basis of all documentation submitted by Upper Pottsgrove and other information available to the Department. In any subsequent litigation, the Upper Pottsgrove shall have the burden of proving that the Department's refusal to grant the requested extension was an abuse of discretion based upon the information then available to it.

13. **Severability.** The paragraphs of this CO&A shall be severable and should any part hereof be declared invalid or unenforceable, the remainder shall continue in full force and effect between the parties.

14. **Entire Agreement.** This CO&A shall constitute the entire integrated agreement of the parties. No prior or contemporaneous communications or prior drafts shall be relevant or admissible for purposes of determining the meaning or intent of any provisions herein in any litigation or any other proceeding.

15. **Attorney Fees.** The parties agree to bear their respective attorney fees, expenses, and other costs in the prosecution or defense of this matter or any related matters, arising prior to execution of this CO&A.

16. **Modifications.** No changes, additions, modifications, or amendments of this CO&A shall be effective unless they are set out in writing and signed by the parties hereto.

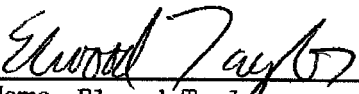
17. **Titles.** A title used at the beginning of any paragraph of this CO&A may be used to aid in the construction of that paragraph, but shall not be treated as controlling.

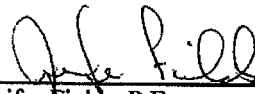
18. **Decisions under Consent Order.** Any decision which the Department makes under the provisions of this CO&A is intended to be neither a final action under 25 Pa. Code Section 1021.2, nor an adjudication under 2 Pa.C.S. Section 101. Any objection which Upper Pottsgrove may have to the decision will be preserved until the Department enforces this CO&A.

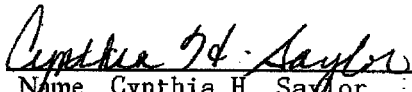
**IN WITNESS WHEREOF**, the parties hereto have caused this Consent Order and Agreement to be executed by their duly authorized representatives. The undersigned representatives of Upper Pottsgrove certify under penalty of law, as provided by 18 Pa.C.S. § 4904, that they are authorized to execute this Consent Order and Agreement on behalf of Upper Pottsgrove; that Upper Pottsgrove consents to the entry of this Consent Order and Agreement as a final **ORDER** of the Department; and that Upper Pottsgrove hereby knowingly waives its right to appeal this Consent Order and Agreement and to challenge its content or validity, which rights may be available under Section 4 of the Environmental Hearing Board Act, the Act of July 13, 1988, P.L. 530, No. 1988-94, 35 P.S. § 7514; the Administrative Agency Law, 2 Pa.C.S. § 103(a); and Chapters 5A and 7A, or any other provision of law. Signature by Upper Pottsgrove's attorney certifies only that the agreement has been signed after consulting with counsel.

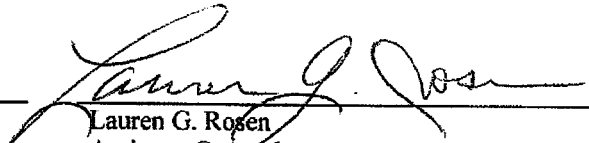
**FOR UPPER POTTS GROVE  
TOWNSHIP:**

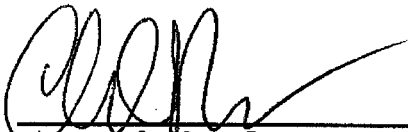
**FOR THE COMMONWEALTH OF  
PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL  
PROTECTION**

  
Name Elwood Taylor  
President or Vice President

  
Jenifer Fields, P.E.  
Regional Manager  
Water Management

  
Name Cynthia H. Saylor  
Secretary or Treasurer

  
Lauren G. Rosen  
Assistant Counsel  
Southeast Regional Counsel

  
Attorney for Upper Pottsgrove  
Charles D. Garner, Jr.



Pennsylvania Department of Environmental Protection

2 East Main Street  
Norristown, PA 19401

February 6, 2009

Phone: 484-250-5970

Fax: 484-250-5971

**Southeast Regional Office**

Ms. Cindy Saylor, Secretary  
Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464-1829

Re: Planning Module for Land Development  
Crossroads Settlement Development  
DEP Code 1-46956-148-3J REV  
Status: ISSUED  
APS ID 622592, SITE ID 693805  
Upper Pottsgrove Township  
Montgomery County

Ms. Saylor:

*This letter supercedes the Department of Environmental Protection's (Department) May 16, 2008, approval of the above-referenced revision to Upper Pottsgrove Township's Official Sewage Facilities Plan. The Department's May 16, 2008, approval is null and void for all intents and purposes.*

The conditions listed in the Department's May 16, 2008, approval, that are under the jurisdiction of Upper Pottsgrove Township (UPT), have either been met by UPT or are covered under the January 13, 2009, Consent Order and Agreement (CO&A) between UPT and the Department. This approval is granted subject to UPT's compliance with the CO&A.

This approval is also granted subject to compliance by the Pottstown Borough Authority (PBA) with a revised task schedule submitted by UPT and PBA, dated December 1, 2008, entitled Upper Pottsgrove/PBA Crossroad Planning Module Task Schedule, with the following additions that are consistent with the January 13, 2009, CO&A.

The task schedule includes sewer system modifications by PBA within Pottstown Borough that are needed in order to convey sewage flows from UPT to PBA's Wastewater Treatment Facility. PBA's WQM Part II Permit Application for the sewer system modifications was submitted to the Department on January 7, 2009. According to the revised task schedule and agreed upon changes consistent with the January 13, 2009, CO&A, PBA must commence construction of the modifications within 60 days of the Department's permit issuance, but not earlier than May 16, 2009, and PBA must complete the construction within fifteen (15) months of the Department's permit issuance, but not earlier than April 16, 2010.

Please note, the Corrective Action Plan (CAP) and Connection Management Plan (CMP) submitted by UPT, as required under the referenced conditions of approval, did not adequately address the Cherry Tree Pump Station projected overload. It is the Department's understanding that revisions to the CAP and CMP are pending and UPT anticipates submitting the by mid February 2009.

RECEIVED  
FEB 10 2009

BY: *[Signature]*

Ms. Cindy Saylor, Secretary

- 2 -

February 6, 2009

Approval is hereby granted by the Department for the above-referenced revision to the UPT Official Sewage Facilities Plan. In accordance with the Pennsylvania Sewage Facilities Act and Title 25, Chapter 71 of the Department's Rules and Regulations, UPT is responsible for implementing this revision as per the approved planning module.

This revision provides for adequate sewage facilities planning to permit the development of 51 new townhouses on 14.5 acres. This project is located at Cross and West Moyer Roads, UPT, Montgomery County.

This project will be connected to the UPT Authority collection system and will generate 12,750 gallons of sewage per day (gpd) to be treated at the PBA Wastewater Treatment Facility.

This revision provides sewage facilities planning approval (1) for a temporary connection for the Crossroads Settlement Subdivision to the Cherry Tree Pump Station, (2) for the conversion of the existing Regal Oaks Wastewater Treatment Plant to a pump station (Regal Oaks Pump Station) and force main that will convey flows to the PBA Wastewater Treatment Facility, (3) for the decommissioning of the Cherry Tree Pump Station, and (4) for the diversion of all sewage flows from the Cherry Tree Pump Station to the Regal Oaks Pump Station.

This revision provides adequate sewage facilities planning for the construction of the Regal Oaks Pump Station and associated force main with annual average sewage flows of 100,650 gpd (70,000 gpd from previously approved flows at the Cherry Tree Pump Station, 12,750 gpd from Crossroads, and 17,900 gpd from Regal Oaks). UPT must secure a Department permit for the construction and operation of the proposed sewage pumping station. The Department recommends a minimum peaking factor of 3.8 for pumping stations serving new land development with this proposed design flow. Significant Inflow and Infiltration from existing service areas require higher peaking factors. The pump station must be capable of handling peak instantaneous flows with any one pump out of service. Detailed justification must be submitted with permit applications for proposals that use alternate design standards.

This approval is granted in part in order to abate the current pollution and public health issues associated with the existing Regal Oaks Wastewater Treatment Facility and to provide for those sewage flows to be conveyed to and treated at the PBA Wastewater Treatment Facility.

This revision allows for sewage flows from the Crossroads Settlement Development to flow temporarily through the Cherry Tree Pump Station until completion of the Regal Oaks Pump Station. However, additional sewage facilities planning must be completed by UPT to address additional capacity needs at the Regal Oaks Pump Station and the PBA Wastewater Treatment Facility for (1) additional connection needs for existing on-lot malfunctions within the Regal Oaks development, and (2) additional existing needs and new land development needs within the proposed Regal Oaks Pump Station service area.

Ms. Cindy Saylor, Secretary

- 3 -

February 6, 2009

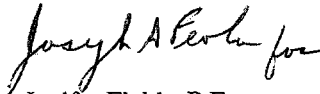
Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 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 feel free to contact Ms. Kelly Boettlin of our office at 484-250-5184.

Sincerely,



Jenifer Fields, P.E.  
Regional Manager  
Water Management

cc: Montgomery County Planning Commission  
Montgomery County Health Department  
Montgomery County Conservation District  
Mr. Mingey - Kelly Group Builders  
Wilkinson & Associates, Inc.  
Pottstown Borough Authority  
Mr. Garner  
Ms. Boettlin  
Mr. Cleaver  
Ms. Walker  
Ms. Moore  
Ms. Rosen  
Planning Section  
Re 30 (AR09WQM)035-5



Commonwealth of Pennsylvania  
Pennsylvania Historical and Museum Commission  
Bureau for Historic Preservation  
Commonwealth Keystone Building, 2nd Floor  
400 North Street  
Harrisburg, PA 17120-0093  
www.phmc.state.pa.us

Appendix A-22-b.1

DEC 24 2008

December 23, 2008

Christopher P. Pelka, PE  
LTL Consultants, Ltd.  
PO Box 241  
One Town Centre Drive  
Oley, PA 19547

TO EXPEDITE REVIEW USE  
BHP REFERENCE NUMBER

Re: File No. ER 2009-0483-091-A  
DEP, Regal Oaks Pump Station, Upper  
Pottsgrove Twp., Montgomery Co.

Dear Mr. Pelka:

The Bureau for Historic Preservation has reviewed the above named project under the authority of the Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 et seq. (1988). This review includes comments on the project's potential effect on both historic and archaeological resources.

Based on an evaluation by our staff, there is a high probability that significant archaeological sites are located in this project area. These resources could be adversely affected by project activities. Although there are no recorded archaeological sites within the project boundaries, the soil type, topographic setting, slope direction, and distance to water of the project area are similar to the settings of known archaeological sites in the vicinity. A Phase I archaeological survey of the project area to locate potentially significant archaeological resources is recommended but not required.

If a survey is not conducted and you encounter archaeological resources during construction, you must stop the project, notify the Pennsylvania Historical and Museum Commission's Bureau for Historic Preservation and the Department of Environmental Protection and allow the Bureau for Historic Preservation 60 days to conduct a survey to determine the significance of the archaeological resources. If the Bureau determines that the resources are significant, you must submit a mitigation plan to protect the significant resources on the site. We will review the plan within 30 days.

If this project will require any federal permits or will receive federal funding, the federal agency, under the National Historic Preservation Act of 1966, may require the appropriate surveys to be conducted. If the project will need an Army Corp of Engineers permit, this would be a **Category III** activity. We suggest that you consider conducting the survey early in the development or planning process to avoid delays in the future. Guidelines and instructions for conducting Phase I surveys are available on our web site at <http://phmc.state.pa.us/bhp/Inventories/ArchaeologicalGuidelines.pdf> or from our office upon request.

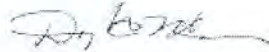
Page 2  
December 23, 2008  
Mr. Christopher P. Pelka, PE

The Bureau for Historic Preservation will keep the Determination Notice and the materials you submitted in its files. Please attach this letter to your copy of the Notice and materials then submit the entire package of materials to DEP. Thank you for notifying us of your proposed activity.

There may be historic buildings/structures/districts/objects eligible for the National Register of Historic Places located in the project area. However, in our opinion, the activity described in your proposal should have no effect on such resources. Should the scope and/or nature of the project activities change, the Bureau for Historic Preservation should be contacted immediately.

If you need further information regarding archaeological resources, please contact Mark Shaffer at (717) 783-9900. If you need further information concerning historic structures, please contact Ann Safley at (717) 787-9121.

Sincerely,



Douglas C. McLearn, Chief  
Division of Archaeology &  
Protection

CC: DEP, Southeast Region  
DCM/lmm



Commonwealth of Pennsylvania  
Pennsylvania Historical and Museum Commission  
**Bureau for Historic Preservation**  
Commonwealth Keystone Building, 2<sup>nd</sup> Floor  
400 North Street  
Harrisburg, PA 17120-0093  
[www.phmc.state.pa.us](http://www.phmc.state.pa.us)

Appendix A-22-b.1

January 27, 2009

Conestoga-Rovers & Associates, Inc.  
Attn: Scott E. Bush, PWS  
410 Eagleview Blvd., Suite 110  
Exton, PA 19341

RE: ER# 2009-0483-091-B  
DEP: Regal Oaks Pump Station Project  
Upper Pottsgrove Township, Montgomery  
County

Dear Mr. Bush:

The Bureau for Historic Preservation has reviewed the above named project under the authority of the Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 *et seq.* (1988). This review includes comments on the project's potential effect on both historic and archaeological resources. Our comments are as follows:

We have re-evaluated the potential effects of project activities on archaeological resources. In our opinion, this project will have no effect on such resources. This supersedes our correspondence of December 23, 2008 to LTL Consultants, in which it was suggested there is a high probability that significant archaeological sites are located in this project area.

As per the aforementioned December 23, 2008 correspondence, in our opinion, project activities will also have no effect on historic buildings/structures/districts/objects located within the project area.

If you have any questions or comments regarding our review, please contact Mark Shaffer at (717) 783-9900.

Sincerely,

*Mark Shaffer for*

Douglas C. McLearn, Chief  
Division of Archaeology and Protection

cc: DEP, Southeast Region

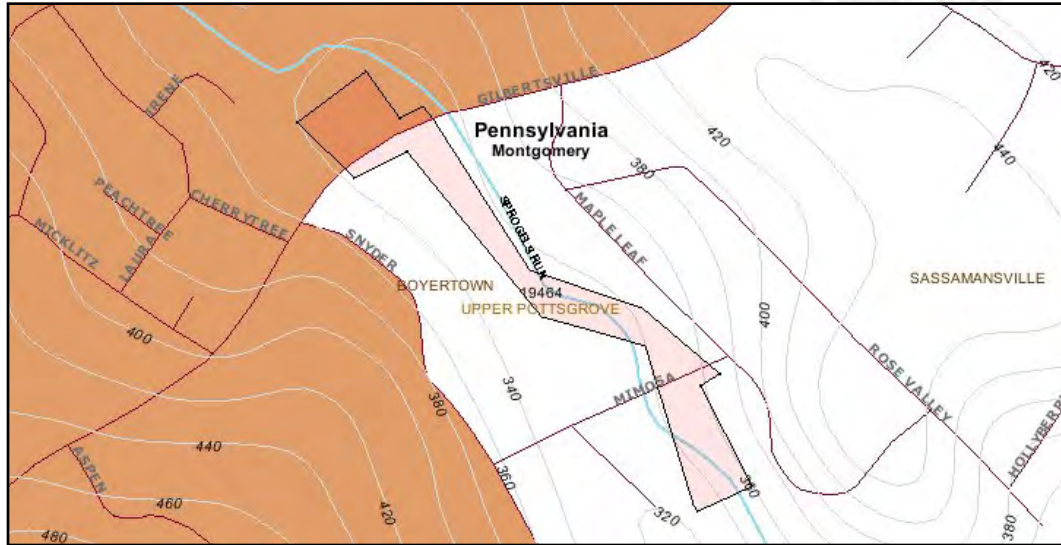
## PNDI Project Environmental Review Receipt

Project Search ID: 20081030165288

Project Name: Regal Oaks Pump Station

Date: 10/30/2008 4:28:55 PM

## Project Location

**Project Name:** Regal Oaks Pump Station**On Behalf Of:** Self**Project Search ID:** 20081030165288**Date:** 10/30/2008 4:28:44 PM**# of Potential Impacts:** 0**Jurisdictional Agency:****Project Category:** Development, Other**Project Location****Decimal Degrees:** 40.2859 N, -75.62813 W**Degrees Minutes Seconds:** 40° 17' 9.2" N, 75° 37' 41.3" W**Lambert:** 660949.24920785, 478484.97577262 ft**ZIP Code:** 19464**County:** Montgomery**Township/Municipality:** UPPER POTTS GROVE**USGS 7.5 Minute Quadrangle ID:** 197**Quadrangle Name:** BOYERTOWN**Project Area:** 12.0 acres

## Location Accuracy

Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Receipt is solely responsible for the project location and thus the correctness of the Project Review Receipt content.

## 0 Known Impacts

Under the Following Agencies' Jurisdiction:  
None

**Pennsylvania State Programmatic General Permit (PASPGP)**

Please note that regardless of PNDI search results, projects requiring a Chapter 105 DEP individual permit or GP 5, 6, 7, 8, 9 or 11 in certain counties (Adams, Berks, Bucks, Carbon, Chester, Cumberland, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York) are required by DEP to comply with the bog turtle habitat screening requirements of the PASPGP.

## PNDI Project Environmental Review Receipt

Project Search ID: 20081030165288

Project Name: Regal Oaks Pump Station

Date: 10/30/2008 4:28:55 PM

Pennsylvania Natural Diversity Inventory (PNDI) records do **NOT** indicate any known impacts on special concern species and resources within the project area. DEP requires a signed copy of this receipt with permit applications being submitted as indication that an environmental review has been conducted and completed. See DEP PNDI policy at [www.naturalheritage.state.pa.us](http://www.naturalheritage.state.pa.us) for more information.

Based on the information you provided, no further coordination is required by the Pennsylvania Game Commission, the Pennsylvania Fish and Boat Commission, or the Pennsylvania Department of Conservation and Natural Resources with regard to special concern species, natural communities, or outstanding geologic features. This response does not reflect potential agency concerns regarding impacts to other ecological resources, such as wetlands.

**Based on the project-specific information you provided**, no impacts to federally listed, proposed, or candidate species are anticipated. Therefore, no further consultation under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.* is required with the U.S. Fish and Wildlife Service. Because no take of federally listed species is anticipated, none is authorized. For a list of species that could occur in your project area (but have not been documented in PNDI), please see the county lists of threatened, endangered, and candidate species. A field visit or survey may reveal previously undocumented populations of one or more threatened or endangered species with a project area. If it is determined that any federally listed species occur in your project area, the U.S. Fish and Wildlife Service requires that you initiate consultation to identify and resolve any conflicts. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

These determinations were based on the project-specific information you

provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the information you provided does not accurately reflect this project, or if project plans change, DEP and the jurisdictional agencies require that another PNDI review be conducted.

**This response represents the most up-to-date summary of the PNDI data files and is good for one(1) year from the date of this PNDI Project Environmental Review Receipt.**

**DISCLAIMER**

The PNDI environmental review website is a preliminary environmental screening tool. It is not a substitute for information obtained from a field survey of the project area conducted by a biologist. Such surveys may reveal previously undocumented populations of species of special concern. In addition, the PNDI only contains information about species occurrences that have actually been reported to the Pennsylvania Natural Heritage Program.

**TERMS OF USE**

Upon signing into the PNDI environmental review website, and as a condition of using it, you agreed to certain terms of use. These are as follows:

The web site is intended solely for the purpose of screening projects for potential impacts on resources of special concern in accordance with the instructions provided on the web site. Use of the web site for any other purpose or in any other way is prohibited and subject to criminal prosecution under federal and state law, including but not limited to the following: Computer Fraud and Abuse Act of 1986, as amended, 18 U.S.C. Â§ 1030; Pennsylvania Crimes Code, Â§ 4911 (tampering with public records or information), Â§ 7611 (unlawful use of computer and other computer crimes), Â§ 7612 (disruption of service), Â§ 7613 (computer theft), Â§ 7614 (unlawful duplication), and Â§ 7615 (computer trespass).

**PNDI Project Environmental Review Receipt**

Project Search ID: 20081030165288  
Project Name: Regal Oaks Pump Station  
Date: 10/30/2008 4:28:55 PM

The PNHP reserves the right at any time and without notice to modify or suspend the web site and to terminate or restrict access to it.

The terms of use may be revised from time to time. By continuing to use the web site after changes to the terms have been posted, the user has agreed to accept such changes.

This review is based on the project information that was entered. The jurisdictional agencies and DEP require that the review be redone if the project area, location, or the type of project changes. If additional information on species of special concern becomes available, this review may be reconsidered by the jurisdictional agency.

**PRIVACY and SECURITY**

This web site operates on a Commonwealth of Pennsylvania computer system. It maintains a record of each environmental review search result as well as contact information for the project applicant. These records are maintained for internal tracking purposes. Information collected in this application will be made available only to the jurisdictional agencies and to the Department of Environmental Protection, except if required for law enforcement purposes—see paragraph below.

This system is monitored to ensure proper operation, to verify the functioning of applicable security features, and for other like purposes. Anyone using this system consents to such monitoring and is advised that if such monitoring reveals evidence of possible criminal activity, system personnel may provide the evidence to law enforcement officials. See Terms of Use.

**Print this Project Review Receipt using your Internet browser's print function and keep it as a record of your search.**

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

Project applicant on whose behalf this search was conducted:

**APPLICANT**

**Contact Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**City, State, Zip:** \_\_\_\_\_

**Phone:** \_\_\_\_\_

**Email:** \_\_\_\_\_

**PERSON CONDUCTING SEARCH (if not applicant)**

**Contact Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**City, State, Zip:** \_\_\_\_\_

**Phone:** \_\_\_\_\_

**Email:** \_\_\_\_\_

The following contact information is for the agencies involved in this Pennsylvania Natural Diversity Inventory environmental review process. Please read this entire receipt carefully as it contains instructions for how to contact these agencies for further review of this particular project.

PNDI Project Environmental Review Receipt

Project Search ID: 20081030165288

Project Name: Regal Oaks Pump Station

Date: 10/30/2008 4:28:55 PM





# Pennsylvania Fish & Boat Commission

**Division of Environmental Services  
Natural Diversity Section**  
450 Robinson Lane  
Bellefonte, PA 16823-9620  
(814) 359-5237 Fax: (814) 359-5175

March 5, 2009

**IN REPLY REFER TO**  
SIR# 31004

SCOTT BUSH  
CONESTOGA-ROVERS & ASSOCIATES  
410 EAGLEVIEW BOULEVARD, SUITE 110  
EXTON, PA 19341

**RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species  
REGAL OAKS SEWER PLANT DECOMMISSIONING  
NEW GRAVITY SEWER LINE, DECOMMISSION EXISTING CHERRY STREET  
PUMP STATION, DECOMMISSION REGAL OAKS WWTP  
Bog Turtle Habitat Survey  
UPPER POTTS GROVE Township, MONTGOMERY County, Pennsylvania**

Dear Mr. BUSH:

I reviewed your recent correspondence regarding the above-referenced project. Based on records maintained in the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files, the bog turtle (*Glyptemys mühlenbergii*, state endangered, federal threatened) is known from the vicinity of the proposed project site.

You conducted a bog turtle habitat evaluation at the subject project site and concluded that suitable habitat for bog turtles did not occur on-site. According to your report, the vegetation, hydrology, and soils are not consistent with wetlands known to support bog turtles. One small area contained a Phragmites patch marginally suitable for bog turtles, but it was small, isolated, and 190 feet from the proposed gravity sewer line. I concur with the conclusions of the Phase 1 habitat assessment; the wetland habitat onsite is not suitable for bog turtles. Therefore, I do not foresee the proposed project resulting in adverse impacts to the bog turtle or any other rare or protected species under Pennsylvania Fish and Boat Commission jurisdiction.

Note that this office performed no field inspection of the project area. Consequently, comments in this letter are not meant to address other issues or concerns that might arise concerning matters under Pennsylvania Fish and Boat Commission jurisdiction or that of other authorities. Please call us at 814-359-5237 if you have any additional concerns regarding this response. Thank you for your cooperation and attention to this matter of threatened and endangered species conservation.

Sincerely,

Christopher A. Urban, Chief  
Natural Diversity Section

CAU/mr  
**Our Mission:**

[www.fish.state.pa.us](http://www.fish.state.pa.us)

*To protect, conserve and enhance the Commonwealth's aquatic resources and provide fishing and boating opportunities.*



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Pennsylvania Field Office  
315 South Allen Street, Suite 322  
State College, Pennsylvania 16801-4850

March 19, 2009

Scott Bush  
Conestoga-Rovers  
410 Eagleview Blvd.  
Suite 110  
Exton, PA 19341

RE: USFWS Project #2009-0671

Dear Mr. Bush:

This responds to your letter dated February 3, 2009, which provided the Fish and Wildlife Service with information regarding the Regal Oaks sewer plant decommissioning in Upper Pottsgrove Township, Montgomery County, Pennsylvania. The proposed project is within the known range of the bog turtle (*Clemmys muhlenbergii*), a species that is federally listed as threatened. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species.

A Phase 1 bog turtle habitat survey was conducted by you on November 11 and 16, 2008. According to your survey report, the wetlands occurring within the project boundaries do not contain potential bog turtle habitat. Therefore, based on this information, we conclude that implementation of the proposed project will not affect the bog turtle.

This determination is valid for two years from the date of this letter. If the proposed project has not been fully implemented prior to this, an additional review by this office is recommended. Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to endangered and threatened species under our jurisdiction, and is not to be construed as addressing potential Service concerns under the Fish and Wildlife Coordination Act or other authorities.

*To avoid potential delays in reviewing of your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.*

Please contact Bonnie Dershem of my staff at 814-234-4090 if you have any questions or require further assistance regarding this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "David Densmore", followed by a long horizontal line extending to the right.

David Densmore  
Supervisor



Pennsylvania Department of Environmental Protection

2 East Main Street  
Norristown, PA 19401  
January 25, 2008

**Southeast Regional Office**

Phone: 484-250-5970

Fax: 484-250-5971

**CERTIFIED MAIL NO. 7001 2510 0005 9958 3568**

Mr. Jack Layne, Manager  
1409 Farmington Avenue  
Pottstown, PA 19464

RECEIVED  
JAN 30 2008

BY:.....

Re: Regal Oaks Wastewater Treatment Plant  
NPDES Permit No. PA0050342  
Upper Pottsgrove Township  
Montgomery County

Dear Mr. Layne:

Your NPDES discharge permit is enclosed.

The permit is valid for five years. You must reapply for renewal six months before the expiration date on the first page of the permit.

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, P.O. 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.**

Mr. Jack Layne, Manager

- 2 -

January 25, 2008

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 Mr. Paul Kallus at 484-250-5196.

Sincerely,



Jenifer Fields, P.E.  
Regional Manager  
Water Management

Enclosure

cc: Operations Section  
Data Systems and Analysis  
Montgomery County Health Department  
Mr. Hannum  
Mr. Goldberg  
File  
Re (GJE07WQ)235-6



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WATER SUPPLY AND WASTEWATER MANAGEMENT

**AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
DISCHARGE REQUIREMENTS FOR PUBLICLY OWNED  
TREATMENT WORKS (POTWs)**

**NPDES PERMIT NO: PA0050342**

In compliance with the provisions of the Clean Water Act, 33 U.S.C. Section 1251 *et seq.* ("the Act") and Pennsylvania's Clean Streams Law, *as amended*, 35 P.S. Section 691.1 *et seq.*,

**Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464**

is authorized to discharge from a facility known as **Regal Oaks STP**, located at **161 Boxwood Court**, in **Upper Pottsgrove Township, Montgomery County** to the **Sprogels Run** in Watershed **3D** in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts A, B and C hereof.

**THIS PERMIT SHALL BECOME EFFECTIVE ON February 1, 2008**

**THIS PERMIT SHALL EXPIRE AT MIDNIGHT ON January 31, 2013**

The authority granted by this permit is subject to the following further qualifications:

1. If there is a conflict between the application, its supporting documents and/or amendments and the terms and conditions of this permit, the terms and conditions shall apply.
2. Failure to comply with the terms, conditions or effluent limitations of this permit is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.
3. A complete application for renewal of this permit, or notice of intent to cease discharging by the expiration date, must be submitted to DEP at least 180 days prior to the above expiration date (unless permission has been granted by DEP for submission at a later date), using the appropriate NPDES permit application form.

In the event that a timely and complete application for renewal has been submitted and DEP is unable, through no fault of the permittee, to reissue the permit before the above expiration date, the terms and conditions of this permit, including submission of the Discharge Monitoring Reports (DMRs), will be automatically continued and will remain fully effective and enforceable against the discharger until DEP takes final action on the pending permit application.

4. This NPDES permit does not constitute authorization to construct or make modifications to wastewater treatment facilities necessary to meet the terms and conditions of this permit.

DATE PERMIT ISSUED January 25, 2008

ISSUED BY 

DATE PERMIT AMENDMENT ISSUED \_\_\_\_\_

TITLE: **Water Management Program Manager**

**PART C****I. OTHER REQUIREMENTS**

1. This permit authorizes the discharge of treated sewage until such time as facilities for conveyance and treatment at a more suitable location are installed and are capable of receiving and treating the permittee's sewage. Such facilities must be in accordance with the applicable municipal official plan adopted pursuant to Section 5 of the Pennsylvania Sewage Facilities Act, the Act of January 24, 1956, P.L. 1535, as amended. When such municipal sewerage facilities become available, the permittee shall provide for the conveyance of the sewage to these sewerage facilities, abandon the use of the sewage treatment plant thereby terminating the discharge authorized by this permit, and notify the DEP accordingly. This permit shall then, upon notice from the DEP, terminate and become null and void, and shall be relinquished to the DEP.
2. If, at anytime, the DEP determines that the discharge permitted herein creates a public nuisance or causes environmental harm to the receiving water of the Commonwealth, the DEP may require the permittee to adopt such remedial measures as will produce a satisfactory effluent. If the permittee fails to adopt such remedial measures within the time specified by the DEP, the right to discharge herein granted shall, upon notice by the DEP, cease and become null and void.
3. The approval herein given is specifically made contingent upon the permittee acquiring all necessary property rights by easement or otherwise, providing for the satisfactory construction, operation, maintenance, and replacement of all sewers or sewerage structures associated with the herein approved discharge in, along, or across private property, with full rights of ingress, egress and regress.
4. The attention of the permittee is directed to the fact that the herein approved discharge is directed to a small stream which affords a limited dilution potential. If the effluent creates a health hazard or nuisance, the permittee shall upon notice from the DEP, provide such additional treatment as may be required by the DEP.
5. If there is a change in ownership of this facility or in permittee name, an application for transfer of permit must be submitted to the DEP.
6. The permittee will ensure that applied chlorine dosages, used for disinfection or other purposes, are optimized to the degree necessary such that the total residual chlorine (TRC) in the discharge effluent does not cause an adverse stream impact. In doing so, the permittee shall consider relevant factors affecting required chlorine dosage, such as wastewater characteristics, mixing and contact times, desired result of chlorination, and expected impact on the receiving water body. The TRC data shall be recorded daily and maintained at the facility.  
  
If the DEP determines or receives documented evidence that levels of TRC in the permittee's effluent are causing adverse water quality impacts in the receiving water, the permittee shall be required to institute necessary additional steps to reduce or eliminate such impact.
7. Collected screenings, slurries, sludges, and other solids shall be handled and disposed of in compliance with 25 Pa. Code, Chapters 271, 273, 275, 283, and 285 (relating to permits and requirements for landfilling, land application, incineration, and storage of sewage sludge), Chapters 262, 263, and 264 (related to permits and requirements for landfilling and storage of hazardous sludge) and applicable Federal Regulations, the Federal Clean Water Act, RCRA, and their amendments.

8. Instantaneous maximum limitations are imposed to allow for a grab sample to be collected by the appropriate regulatory agency to determine compliance. The permittee does not have to monitor for the instantaneous maximum limitation except for the parameters pH, total residual chlorine, and fecal coliform. However, if grab samples are collected for parameters normally monitored through composite sampling, the results must be reported.
9. Parameters with a sampling frequency of twice per month must be sampled at least 10 days apart. If more than the required two samples are taken, then only two must be at least 10 days apart. All samples taken must be reported.
10. The DEP may identify and require certain discharge specific data to be submitted before the expiration date of this permit. Upon notification by the DEP, the permittee will have 12 months from the date of the notice to provide the required data. These data, along with any other data available to the DEP, will be used in completing the Watershed TMDL/WLA Analysis and in establishing discharge effluent limits. In the event that DEP requires the submission of data pursuant to this condition, the permittee shall have the right to appeal or otherwise contest the requirement.
11. The facility shall be operated under the charge of a responsible operator(s) certified under the Pennsylvania Water and Wastewater Systems Operations Certification Act (Act 11). The operator(s) shall comply with the continuing education requirements required under the regulations and guidelines related to Act 11.

12. Operations and Maintenance Plan

The facility operator shall develop and update yearly a treatment facility operations and maintenance plan. Said plan shall be in writing or in an electronic format. Upon request, this plan shall be submitted to DEP for review. For the purpose of this section, a key wastewater process includes equipment or process that if it fails could cause the discharge of raw wastewater, wastewater that fails to meet NPDES permit conditions, or a failure that could threaten human or environmental health. Included in this definition shall also be any piece of equipment or process that if it should fail, would cause the destruction of wastewater treatment process or equipment that would ultimately lead to the discharge of raw wastewater or wastewater that fails to meet NPDES permit conditions or any condition that may threaten human or environmental health. Said plan shall include:

- Process control strategy that includes a schedule for process control sampling, monitoring, testing, and recordkeeping. The process control strategy shall take into account the specific type of treatment system and shall monitor the efficiency of all biological and physical treatment units.
- A monitoring and compliance plan that details how key wastewater processes shall be monitored and adjusted while the facility is staffed. This plan should include standard operating procedures for any staff members that may not be properly certified.
- A monitoring plan that identifies key processes and equipment that indicates how key processes will be monitored while the treatment facility is not staffed.
- For treatment plants that are impacted by wet weather flows, the operator shall develop and implement a wet weather operations strategy that minimizes or eliminates the wash out of solids from the treatment system while maximizing the flow through the treatment plant.

- An emergency operations plan that identifies how the facility will be operated during times of emergency. The plan should define the potential threats to the facility and how those threats are to be dealt with. The plan should be designed to minimize loss of life and property damage to the facility and should include preventative measures where appropriate. This plan shall also include emergency contact numbers for local emergency response, plant personnel, critical suppliers, vendors and DEP contacts at a minimum. In the development of this plan, a vulnerability assessment of the facility should be conducted and security issues should be addressed as a part of the overall plan. The operator must make the owner aware of potential threats and vulnerabilities.
- A preventative maintenance plan that includes a schedule for preventative maintenance for all equipment within the treatment system. A spare parts inventory shall be included as a part of this plan.
- An emergency maintenance plan that details how key processes will be repaired or replaced in the event of a failure.
- A solids management plan that details how solids produced by the facility will be wasted, treated, and ultimately disposed of.

13. Laboratory Certification

The Environmental Laboratory Accreditation Act of 2002 requires that all environmental laboratories register with the DEP. An environmental laboratory is any facility engaged in the testing or analysis of environmental samples required by a statute administered by the DEP relating to the protection of the environment or of public health, safety, and welfare.

14. For the purpose of reporting instantaneous maximum concentration for fecal coliform, and for monthly data sets of 10 or more sample results, disregard the highest 10 percent of the sample results. With the remaining results, list the highest sample result as the I-max on the DMR. For facilities that take less than 10 samples per month, use the highest sample result of all sample results.
15. The permittee shall utilize the full hydraulic capacity of the treatment facilities to avoid in-plant bypassing of treatment units during high flows. In addition, the implementation of bypass procedures shall only occur after the first flush has subsided.
16. Effluent **composite** sampling shall be collected during each bypass period or when the wet-weather operations strategy is implemented. Sampling shall be conducted as follows:
- a. Effluent sample shall be analyzed for the parameters: CBOD<sub>5</sub>, TSS, and Ammonia.
  - b. Effluent composite samples shall be taken for the duration of the bypass event or for the duration of the time that the wet-weather operations strategy is being implemented.
  - c. The results of the sample analysis shall be submitted along with daily Operations Reports with the monthly Discharge Monitoring Report and the annual Chapter 94 report.

- d. The Department of Environmental Protection (Department) acknowledges that there may be occasions when the sample holding times might be exceeded with respect to the sampling, which is performed during a bypass event or an event where the wet-weather operations strategy is being implemented. However, all data should be used in the completion of the monthly Discharge Monitoring Report and a note placed in the comment section that one or more samples have exceeded the holding time. These holding time exceedances may possibly contribute to a violation being noted on the monthly Discharge Monitoring Report. For compliance purposes, the Department will only consider the samples which achieved the appropriate holding times for determining compliance with the effluent limits contained in this permit.

Re 30 (GJE07)129-22C

# *Township of Upper Pottsgrove*

MONTGOMERY COUNTY, PENNSYLVANIA

1409 Farmington Avenue      Pottstown, PA 19464  
Phone: 610-323-8675      Fax: 610-327-1967

January 13, 2009

Ms. Sandy Orth  
PA Department of Community and Economic Development  
Center for Business Financing – Site Development Division  
H2O PA Program  
Commonwealth Keystone Building  
400 North Street, 4<sup>th</sup> Floor  
Harrisburg, PA 17120-2005

RE:    Upper Pottsgrove Township Planning  
      Commission Consistency Review of Sewer  
      Projects for H2O PA Program Funding

Dear Ms. Orth,

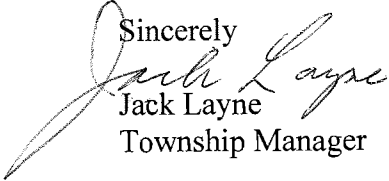
The Upper Pottsgrove Township Planning Commission, per request from the Board of Commissioners, has reviewed the following projects for consistency with the Pottstown Metropolitan Regional Comprehensive Plan (adopted by the Township in 2005), the Montgomery County Comprehensive Plan and local land use regulations that impact the area:

- Farmington Avenue West Sewer Project Phase 1
- Farmington Avenue West Sewer Project Phase 2
- Regal Oaks Pumping Station Project
- Regal Oaks Sewer Project Phase 2
- Regal Oaks Water Project

We have found that these projects are consistent with the above-mentioned plans and regulations. Further, we recognize their necessity for the preservation of the

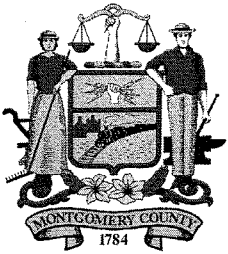
health, safety, and welfare of the residents in the area. The Upper Pottsgrove Township Planning Commission strongly supports and recommends H2O PA Program funding be provided for this application.

Sincerely

A handwritten signature in cursive script that reads "Jack Layne". The signature is written in black ink and is positioned to the left of the printed name and title.

Jack Layne  
Township Manager

Cc: Upper Pottsgrove Township Board of Commissioner  
Upper Pottsgrove Township Planning Commission

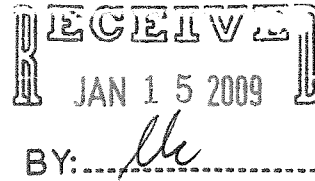


**MONTGOMERY COUNTY PLANNING COMMISSION**

box 311 • norristown • pennsylvania • 19404-0311 • 610-278-3722  
office location: suite 201 • one montgomery plaza • swede & airy streets • norristown pa  
FAX 610-278-3941 • Website [www.planning.montcopa.org](http://www.planning.montcopa.org)

January 13, 2009

Jack B. Layne, Manager  
Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464-1829



Dear Mr. Layne:

At the request of the Township we have reviewed the following projects:

- Farmington West Sewer Project (Phases 1 & 2)
- Regal Oaks Pumping Station
- Regal Oaks Sewer Project (Phase 2)
- Regal Oaks Water Project

We find that these projects are consistent with the Pottstown Metropolitan Area Regional Comprehensive Plan (2005), which is Upper Pottsgrove's adopted comprehensive plan. It is also consistent with the Montgomery County Comprehensive Plan (2005). If you have any questions, please don't hesitate to contact me.

Sincerely,

Drew Shaw, Chief, Environmental Planning  
610.278.3733 – [dshaw@montcopa.org](mailto:dshaw@montcopa.org)



# Borough of Pottstown

Borough Hall, 100 East High Street  
Pottstown, Pennsylvania 19464-9525  
(610) 970-6500

February 9, 2009

Upper Pottsgrove Township  
Board of Commissioners  
1409 Farmington Avenue  
Pottstown, PA 19464

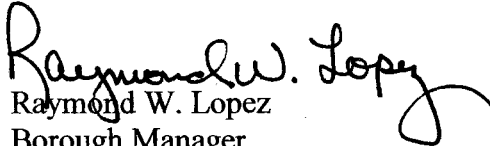
RE: Projects for H2O PA Program

Dear Commissioners:

Please accept this letter on behalf of Pottstown Borough Council and the Pottstown Planning Commission regarding your submission of projects for the H2O PA Grant Program. We find that these projects are consistent with the Pottstown Metropolitan Area Regional Comprehensive Plan of 2005.

If you have any questions, please feel free to contact my office.

Sincerely,

  
Raymond W. Lopez  
Borough Manager

RWL:vt  
cc: Jack P. Layne, Jr.  
LTL Consultants  
Charles D. Garner, Jr.



## Appendix A-22-b.1

### COUNTY COMMISSIONERS

James R. Matthews, *Chairman*  
Joseph M. Hoeffel  
Bruce L. Castor Jr.

### PRESERVATION BOARD

Curtis N. Kratz, *Chairman*  
Robert A. Ayerle  
John R. Harris  
A. Harris Mosher  
Jonathan E. Rinde, Esq.

## MONTGOMERY COUNTY AGRICULTURAL LAND PRESERVATION BOARD

---

February 5, 2009

Mr. Leo Scott, Jr.  
LTL Consultants, Ltd.  
P.O. Box 241  
One Town Centre Drive  
Oley, PA 19547

Dear Mr. Scott:

The Montgomery County Agricultural Land Preservation Board staff has reviewed the two Upper Pottsgrove projects you described, as requested.

The first mentioned project, Farmington Avenue West Sewer Project, phase 2, does not interfere with any preserved farmland. However, it is in the proximity of two farms with Agricultural Security Area (ASA) designation: the Thomas Smola farm on 256 Mickletz Road (Upper Pottsgrove Township Block 1, Unit 49 & Block 2, Unit 5) and the Michael Stewartz farm at 385 Evans Road (Upper Pottsgrove Township Block 1, Unit 34). It does not appear that these farms will be negatively impacted by the sewer project, but we wanted to make you aware of this designation

The second named nearby project, the Regal Oaks Pumping Station, also does not interfere with any preserved farmland. The closest ASA farms are the LeFever farm in two adjacent parcels at 185 & 145 Mangers Mill Rd. (Upper Pottsgrove Twp. Block 9, Unit 6 and Block 8, Unit 24) and the farm formerly owned by the Stauffer family on Snyder Road, now belonging to Upper Pottsgrove Township (Block 8, Unit 8). It does not appear that these farms will be negatively impacted by the pumping station project.

If you have any questions, please feel free to call our office at 610-278-3754.

Sincerely,

A handwritten signature in cursive script that reads "Elizabeth Emlen".

Elizabeth Emlen  
Senior Farmland Preservation Administrator

cc: Drew Shaw, MCPC

**I. PREVIOUS WASTEWATER PLANNING****A. PAST WASTEWATER PLANNING****1. Previously Undertaken Under Act 537**

The most recent Act 537 Plan for Upper Pottsgrove Township was completed in November 1991 by BCM Engineers. This plan recommended the construction of two new interceptor systems (Farmington Avenue and Sprogel's Run drainage basins). These would flow through Pottstown Borough Authority (PBA) and Lower Pottsgrove Township (LPT) sewers (respectively) and ultimately to the PBA Treatment Facility. The recommendations of this plan were phased into 5- and 10-year projects respectively. The previously proposed sewer system descriptions are located in Appendix 1.0, as well as a brief discussion of planned versus built to-date.

In 1995 a Special Study was conducted to evaluate sewage facility alternatives for the Northwest Farmington Avenue and Evans Road areas, which were not included in the sewer service area in the 1991 Plan. There had been on-lot system malfunctions and the soils are generally unsuitable for these types of subsurface systems. The recommendation of this study was a sewer extension to these areas.

In 2001 another Special Study was performed to revise the chosen alternative's sewer system design from the 1995 Special Study, and to add Chestnut Grove Road to the service area. An Addendum to this Special Study was completed August 2002. This consisted of a door-to-door survey Needs Analysis.

Since the original plan was adopted, several agreements with surrounding municipalities have been executed, and remain in place. These agreements furnished capacity, conveyance, or both. LPT agreed to transport 192,000 gpd from UPT to the PBA Treatment Facility. In July 2005 the PBA agreed to treat and convey 538,400 gpd based on a Maximum Three-Month Flow (MTMF). The PBA submitted an Act 537 Amendment to PA DEP in 2005 for transfer of excess capacity to contributory municipalities. The capacities in that plan matched the capacities in the agreements. DEP approved the PBA plan in 2006.

**2. Wastewater Planning Not Carried Out**

Appendix 1.0 contains a discussion of the planned and not completed recommendations of the 1991 Act 537 Plan and the 2001 Special Study.

**3. Anticipated Wastewater Planning**

There are two potential subdivisions at this time - the Kummerer Tract and Pine Ford Road Curatives. Both have submitted Planning Modules that are pending with the PA DEP.

4. Planning Performed Through Planning Modules

All subdivisions go through the DEP planning module process. Currently there are no outstanding subdivisions, requiring modules, that are not contained within this Plan.

## **II. PHYSICAL AND DEMOGRAPHIC ANALYSIS**

### **A. PLANNING AREA IDENTIFICATION**

Upper Pottsgrove Township is located near the western corner of Montgomery County. The Municipality is approximate five square miles in area. Upper Pottsgrove Township is bound to the northeast by Douglass and New Hanover Townships, to the southeast by Lower Pottsgrove Township, and on the southwest by West Pottsgrove Township. On the northwest the Township is bounded by Douglass Township in Berks County. Directly to the south of Upper Pottsgrove Township lies the Borough of Pottstown. Appendix 6.0 Map No.1 provides the project location and topography.

The Township can be characterized as a predominantly rural suburban community for the larger metropolitan area of Pottstown Borough. Residential is the dominant land use within the Township. More intensive land uses (i.e. higher density residential, commercial and Industrial) are found closer to the boundaries of Lower Pottsgrove Township and Pottstown Borough, and along the major transportation corridors of PA State Route 100, Farmington Avenue, and Mauger's Mill Road.

Projected population growth and land development pressures are expected to strain the Township's current capabilities to sustain sewer service at its present level. Given the restricted suitability for on-lot facilities in undeveloped areas, identified malfunctioning on-lot systems, and increased need for protection of surface waters, further need will arise for access to sanitary sewer infrastructure to sustain growth.

### **B. IDENTIFICATION OF PHYSICAL CHARACTERISTICS**

The major geographic characteristics of Upper Pottsgrove Township, in terms of a community-planning program are: soil characteristics, subsurface geology, topography, drainage patterns, and ground water sources. Collectively, these constitute the physical framework within which current and future sustainability related to development must occur. To the extent that these physical characteristics are favorable, growth and development may proceed without undue difficulty.

Upper Pottsgrove Township represents part of the 483 square mile area of Montgomery County. At 5 square miles, Upper Pottsgrove Township comprises only 1% of the area of the county. Two primary tributaries for Manatawny Creek flow from the Township as well as headwaters for Sprugel's Run. Both creeks flow into the Schuylkill River, which in turn flows to the Delaware River.

All of Upper Pottsgrove Township lies within the Delaware River Region, Lower Delaware Basin, and Schuylkill River Sub-basin as defined by the United States Geological Survey, National Hydrography Dataset. A map of the Township's hydrography is included in Appendix 6.0 Map No. 1A. As defined by the Delaware River Basin Commission (DRBC), the Township contains portions of five watersheds. In the north, the Township Boundary intersects small portions of the Ironstone Creek, Minister Creek, and

Swamp Creek watersheds. A ridgeline dividing the Township north to south demarks the boundary of the Sprogel's Run watershed to the east and the Manatawny Creek Watershed to the West.

Sprogel's Run is designated for protection as a Warm Water Fishery, and the unnamed tributaries to Manatawny Creek are designated as Cold Water Fishery by PA Code Title 25 Chapter 93.

### **C. SOILS**

Soil conditions prevailing in the Township are important in the consideration of OLDS. The United States Department of Agriculture, Natural Resources Conservation Service (NRCS) has identified 25 major soil types within the Township. Full descriptions of each soil type are provided in Appendix 2.1. Appendix 6.0 Map No. 2 shows major soil series. Appendix 6.0 Map No. 2A indicates locations of Prime Agricultural Soils and Soils of Statewide Importance.

Upper Pottsgrove Township is located on three soil associations, Reaville-Penn-Klinesville, Lehigh-Brecknock-Croton, and Neshaminy-Mount-Lucas-Watchung. The majority of the soils in the Township are Brecknock, Croton, or Lehigh series soils. The Brecknock series consists of deep to moderately deep, well-drained, dark grayish-brown Channery silt loams. These Soils developed on hard, gray or black metamorphosed shale, called hornfels. They are gently sloping to steep and are on broad topped hills and low ridges. Adjacent to these soils are the deep, poorly drained nearly level or gently sloping soils formed on shale and sandstone that make up the Croton series. These soils are located on broad uplands, on low-lying flats, in depressions, and on concave lower slopes. The croton subsoil is thick and slowly permeable, impeding downward movement of water and growth of roots. The Lehigh series consist of moderately deep to deep soils that are moderately well drained or somewhat poorly drained. These soils also have formed on hornfels as mentioned above. They have a slowly permeable layer in the subsoil, restricting the downward movement of water. These soils are located on low ridges on broad-topped hills. Soil series information is included in Appendix 2.1.

### **D. GEOLOGIC FEATURES**

Appendix 6.0 Map No. 3 identifies the location of geologic formations within the Township. The geologic formations that underlie Upper Pottsgrove Township were formed approximately 150 to 180 million years ago during the Triassic period of the Mesozoic era. The Triassic rocks of Montgomery County are part of the largest Triassic basin in the eastern United States, which extends from the Hudson River in southeastern New York, across New Jersey, southeastern Pennsylvania, Maryland, and into northern Virginia. The Triassic rock formation found under the topography of Upper Pottsgrove Township is the Brunswick Formation. The Brunswick Formation consists of irregularly bedded, soft, red shale interbedded with fine-grained red sandstone. The Brunswick Formation is susceptible to weathering and erodes into gently rolling topography, characterized by broad, shallow valleys. In addition, diabase dikes and sills are found in the

Brunswick Formation. The diabase formed narrow dikes characterized as black, dense, and very fine-grained. The sills are often much thicker than the dikes and are generally greenish-gray and medium to coarse grained in nature.

The southern two-thirds of the Township is underlain by the Brunswick formation. It has been altered to dark hornfels near diabase intrusives and basalts, covering the majority of the area. Diabase is more prominent in the northern portion of the Township.

Underlying rock formations play an important role in the availability of groundwater. Groundwater is found mainly in secondary openings such as joint planes, interconnected pores, crevices, and voids in the rock. Most of the groundwater movement within the Brunswick Formation is due to vertical joint planes that cross at various angles throughout the beds. These joints provide a series of interconnected channels through which groundwater can easily flow. Diabase, which is a metamorphic rock, has different characteristics from that of Brunswick Formations. Diabase has no joint planes and very few interconnected pores and crevices. As a result, groundwater flows slowly.

A number of wells in the Brunswick Formation can yield enough water for domestic and industrial/municipal uses. Wells in the diabase region may not be sufficient for domestic use, and these residences may require other methods to obtain sufficient potable water.

## **E. TOPOGRAPHY**

Appendix 6.0 Map No. 4 illustrates the floodplain and steep slope areas in the Township. The floodplain boundaries are representative of the areas that are prone to flooding in a 100-year flood. The steep slope areas are representative of those areas that have slopes greater than or equal to fifteen percent (15%) and slopes greater than or equal to twenty-five percent (25%).

Steep slope data was derived using USGS 30 Meter resolution digital elevation models (DEMs). While useful in delineating areas that may have generally steep slopes, DEMs should not be used for site-specific analysis. It should be recognized that for site-specific analysis of steep slopes, land survey or other remote sensing resources must be employed.

Floodplain data must also be taken in the same regard. The Federal Emergency Management Agency 100 year floodplain (used in this study) contains locations in which no flood elevations have been recorded. For site-specific analyses a floodplain study is recommended.

The existence of floodplains, steep slopes, low soil depth to bedrock, and hydric soils prevent the use of most conventional on-lot subsurface disposal systems. Steep slopes impose restrictions relative to suitability of subsurface disposal systems and techniques. Subsurface disposal is not permitted on slopes in excess of twenty-five percent (25%).

**F. POTABLE WATER SUPPLIES**

Appendix 6.0 Map No. 5 indicates the location and nature of public water supplies in the Township. Public water supply in Upper Pottsgrove Township began in the early to mid nineties. At the time of the adoption of the Upper Pottsgrove Township Act 537 Plan in 1991, public water supply was relegated to areas nearest Pottstown Borough, served by the Pottstown Borough Authority System. An estimated 990 properties are located within the potable water service areas.

Prior to the growth of the public water system, water supply has been supported by groundwater via use of wells. The presence of diabase geology in the Township prevents the drilling of wells.

The two providers of potable water to the Township are the Pottstown Borough Authority to the south and Superior Water Company to the North and East.

Pottstown Borough Authority (PBA) draws its water from the Schuylkill River and the water is treated at the Borough of Pottstown Water Filtration Plant in West Pottsgrove Township. Its service area includes West Pottsgrove Township, Lower Pottsgrove Township, and the Borough of Pottstown. In 2000, average daily usage was 3.9 mgd. The predicted average daily usage in 2025 in the Montgomery County Comprehensive Plan was 4.8 mgd. With a capacity of 8 mgd, there is to be no deficit for supply in the foreseeable future.

Superior Water Company began service in Upper Pottsgrove Township in 1995. Its service area includes New Hanover, and Douglass Township. Superior water draws from groundwater sources in northern Montgomery and Berks Counties. The average daily use in 2000 was found to be 0.23 mgd and was projected to be 0.89 mgd in 2025. Capacity for Superior Water Company was found to be 1.012 mgd, resulting in no deficit for the foreseeable future.

**G. WETLANDS / HYDRIC SOILS**

Wetlands in Upper Pottsgrove Township are shown graphically in Appendix 6.0 Map No. 6, and are based on the U.S. Department of the Interior "National Wetlands Inventory." Hydric soils are defined by the Natural Resources and Conservation Service (NRCS) as soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part. The importance of presence of hydric soils is cited as follows:

A combination of the hydric soil, hydrophytic vegetation, and hydrology properties define wetlands as described in the National Food Security Act Manual (Soil Conservation Service, 1994) and the Corps of Engineers (COE) Wetlands Delineation Manual (Environmental Laboratory, 1987) and COE Regional Supplements. Presence of Hydric Soils indicates the potential for wetland conditions and must be considered when planning for any type of building or construction project. Further, regulation of OLDSS

and Spray Irrigation disposal are greatly influenced by the presence of both wetlands and hydric soils.

Wetlands catalogued in the National Wetlands Inventory (NWI) are primarily located along Sprugel's Run and along Tributary 01656 to Manatawny Creek. Inventoried wetlands consist of nine man-made ponds, five forested wetlands, and three areas of non-forested wetlands.

The majority of soil series in Upper Pottsgrove Township are found to be partially or entirely hydric in nature. As is noted in section VB the presence of hydric soils in the Township greatly lend to the lack of soil suitability for OLDS.

### III. EXISTING SEWAGE FACILITIES IN PLANNING AREA

#### A. SEWAGE SYSTEMS IN PLANNING AREA

##### 1. Existing Wastewater Facilities

There is one sewage treatment facility and a separate collection and conveyance system within UPT. Both are owned and operated by UPT. Appendix 6.0 Map No.7 identifies both the existing system and all users of public sewer facilities in the Township.

##### Regal Oaks Wastewater Treatment Facility

On April 1, 2007 the responsibility and National Pollutant Discharge Elimination System (NPDES) permit (PA0050342) for discharge from the Regal Oaks Wastewater Treatment Facility (ROWTF) was transferred to UPT. This plant serves the Regal Oaks Development off of Gilbertsville Road in the north part of the Township. Prior to that time the plant was operated by a private entity. The Township was required to take over when the previous owner was unable to continue due to financial constraints. See Section III.A.3 below.

##### UPT Collection System and Inter-municipal Agreements

As discussed in Section I, UPT has agreements for conveyance with LPT, and conveyance and treatment with PBA. UPT owns and maintains the collection system within the Township borders. The collection system consists of 6", 8", 10" and 18" gravity lines, three pump stations and associated force mains. The existing pumping stations are located as follows: southeast of the Irene Court cul-de-sac is the CTPS; Pine Ford Road between Kummerer Road and Rt. 100 is the PFRPS; and on Hollyberry Court is the Hollyberry Court Pump Station (HCPS).

##### 2. Existing Wastewater Treatment Processes

The existing ROWTF consists of a pumping station, equalization, aeration, clarification, chlorination and dechlorination. Discharge is to Sprogel's Run.

##### 3. Existing Wastewater Problems

##### ROWTF

Due to pre-existing Inflow and Infiltration (I/I) the plant is operating beyond its design capacity and is challenged to maintain water quality. In addition, the facility was issued a more stringent NPDES permit. The criteria listed in the new permit will be difficult to consistently meet with the existing facilities when they become effective in April of 2010. The interim and final limitations from the NPDES permit are listed below.

**TABLE 3.1 - INTERIM LIMITS (from 1/25/08 through 3/31/10)**

PARAMETER	Monthly Average	Instantaneous Maximum
Flow	Monitor and Report	Monitor and Report
CBOD <sub>5</sub> (5/1–10/31)	15 mg/l	30 mg/l
CBOD <sub>5</sub> (11/1–4/30)	25 mg/l	50 mg/l
Suspended Solids	30 mg/l	60 mg/l
Ammonia Nitrogen as N (5/1–10/31)	2.5 mg/l	5.0 mg/l
Ammonia Nitrogen as N (11/1–4/30)	7.5 mg/l	15.0 mg/l
Total Residual Chlorine	0.024 mg/l	0.048 mg/l
Dissolved Oxygen	Minimum of 5.0 mg/l at all times	
pH	Within the range of 6 to 9 standard units at all times	
Fecal Coliform	200/100 ml as a geometric average	

**TABLE 3.2 - FINAL LIMITS (from 4/30/10 through expiration)**

PARAMETER	Monthly Average	Instantaneous Maximum
Flow	Monitor and Report	Monitor and Report
CBOD <sub>5</sub>	10 mg/l	20 mg/l
Suspended Solids	10 mg/l	20 mg/l
Ammonia Nitrogen as N (5/1–10/31)	2.0 mg/l	4.0 mg/l
Ammonia Nitrogen as N (11/1–4/30)	6.0 mg/l	12.0 mg/l
Phosphorus as P (5/1–10/31)	0.5 mg/l	1.0 mg/l
Phosphorus as P (11/1–4/30)	1.0 mg/l	2.0 mg/l
Total Residual Chlorine	0.024 mg/l	0.048 mg/l
Dissolved Oxygen	Minimum of 5.0 mg/l at all times	
pH	Within the range of 6 to 9 standard units at all times	
Fecal Coliform	200/100 ml as a geometric average	

Based on the Chapter 94 Wasteload Management Report published in March 2008, the Average Daily Flow (ADF) processed by the ROWTF was 35,067 gpd. The rated capacity of the plant, as listed in the previously issued permit, is 17,900 gpd. The flows are nearly two (2) times the permitted capacity of the treatment facility. Due to these higher flows the plant records higher values for those parameters listed on the NPDES permit. Without major modifications to the sewer infrastructure within the Regal Oaks

development and the ROWTF, this problem will persist. A Corrective Action Plan was completed as a result of a sewer line televising project. The first part of that plan included relining portions of the collection system within the development. Flows have since decreased during wet weather but still remain high. The remaining parts of the plan are progressing.

#### UPT Collection System and Inter-Municipal Agreements

Although the Township is generally within its allocated capacity with each agreement, there are concerns over the future of this status. In 2008 the Township was notified that LPT could not honor the full capacity listed in their agreement and issued a moratorium on further connections. The Township was also notified by the PBA that, based on *projected* flows, the Township did exceed their allocated capacity. As per the agreement the Township was required to complete a Corrective Action Plan (CAP) to mitigate flows. The Township completed the CAP and forwarded it to the PBA and the PA DEP. It should be noted that the actual flows to the PBA treatment facility are approximately 56% of the purchased capacity based on an average daily flow. UPT was also required to complete a Connection Management Plan, which was submitted to PBA and PA DEP.

#### 4. Scheduled or In-Progress Upgrades or Expansions

The Township is currently extending sewer service to the Farmington Avenue sewer main. The remaining construction will extend service along Farmington Avenue West and Evans Road. Along with this project, the Pine Ford Road Pump Station will be upgraded as previously permitted (upgrade the pumps to handle 330 gpm).

The PA DEP responded to the Crossroads Development module by letter dated May 16, 2008, which required that UPT and the PBA had to complete the following major items:

- Submit a Corrective Action Plan to reduce flows from UPT
- Submit a Connection Management Plan
- Update both the UPT and Pottstown Borough Act 537 Sewage Facilities Plans
- Update the necessary inter-municipal agreements for expanded capacity.
- Permit and build the new Regal Oaks pump station.
- Decommission the CTPS.
- Redistribute the flows that currently go to the CTPS (Cherry Tree and Woodbrook Developments).
- Permit and build expanded facilities within the Pottstown Borough to accept greater flows from UPT.

The above list summarizes the completed/planned upgrades for the UPT and PBA collection systems.

5. Operation and Maintenance Requirements

All of the above facilities are municipally-owned and operated in accordance with the respective permits. In addition, both systems have current CAPs to deal with I/I and capacity issues.

There are no existing ordinances for small flow facilities. UPT plans to investigate the need for a Small Flow Sewage Treatment Facilities (SFSTF) Ordinance, which would set operation and maintenance requirements for such. This is included in the implementation schedule in Section VIII.

6. Alternate Disposal Areas

There are no facilities for which this section is applicable at this time. Any future proposals will be reviewed on a case-by-case basis with coordination from the Montgomery County Health Department and PA DEP.

**B. INDIVIDUAL AND COMMUNITY OLDS**

1. Existing On-Lot Systems

Appendix 6.0 Map No. 8 identifies existing and potential properties for OLDS. The OLDS in Upper Pottsgrove Township consist of standard in-ground septic tanks (followed by drain fields, in-ground beds or trenches, or elevated sand mounds), cesspools, and holding tanks. Out of the 23 respondents to the sanitary needs survey provided to Ming Drive, Moyer Road, and Horseshoe Drive study the average system age was found to be 37 years. Most were identified as having a septic tank / drain field or sand mound type system with one respondent providing that a cesspool is present on their property. Known well depths were reported being between 98 and 180 feet with the majority of results being close to 100 feet.

2. Sanitary Survey

Survey forms were sent out in winter 2005 to 60 homeowners at Ming Drive, Moyer Road west of Gilbertsville Road, and Horseshoe Drive, requesting homeowner participation in a program to sample wells for bacteria and nitrates, providing the results to the property owners free of charge. Twenty-two (22) surveys were returned, making the return rate 36%. According to the DEP Sewage Disposal Needs Identification book (Needs Book), a 15% return rate would be required to be representative. Field verifications of the mail surveys were conducted when well sampling was performed and 22 surveys were verified. That equates to 36% of returned surveys were field verified. A copy of the letter to the residents and the survey form is located in Appendix 3.0. A map of the malfunctions in these study areas is shown in Appendix 6.0 Map No. 9.

The data from the documented malfunctions, well water and on-lot system surveys, and soils analysis were examined together to confirm these problem areas. Appendix 6.0 Map No. 10 indicates the location of the malfunctions reported.

The documented malfunctions in Upper Pottsgrove Township during the last five (5) years are tabulated as follows.

**TABLE 3.3**  
**DOCUMENTED MALFUNCTIONS**

**MONTGOMERY COUNTY SEO CONFIRMED MALFUNCTIONS**

SiteAddress	Repair Type	Tank Type	System	Issued	Status
908 Commerce Dr	Minor Repair	Other	In Ground Bed/Trench	1/5/2007	Complete
1937 Yarnall Road	Minor Repair	Other	In Ground Bed/Trench	9/17/2007	Complete
1998 Yarnall Road	Major Repair - Absorption Area	Septic	Elevated Sandmound Bed/Trench	8/18/2003	Complete
1923 Yarnall Rd	Major Repair - Other	Septic		8/26/2003	Complete
297 Continental Drive	Major Repair - Absorption Area	Septic	Alternates-other	5/26/2004	Complete
1699 Farmington Avenue	Major Repair - Other	Septic		9/7/2004	Complete
203 Maugers Mill road	Major Repair - Other	Septic		11/22/2004	Complete
1231 North State Street	Major Repair - Absorption Area	Septic	Experimental	5/4/2005	Incomplete
1981 Gross Road	Major Repair - Absorption Area	Septic	Alternates-other	5/24/2005	Incomplete
1360 N State Street	Minor Repair	Septic		8/4/2005	Complete
2160 Needhammer road	Minor Repair	Septic	In Ground Bed/Trench	8/8/2005	Complete
259 North Street	Major Repair - Other	Septic		8/23/2005	Complete
261 Continental Drive	Major Repair - Absorption Area	Septic	Alternates-other	9/27/2005	Complete
1399 N Hanover Street	Major Repair - Absorption Area	Septic	Alternates-other	4/7/2006	Complete
76 Mapleleaf Ln.	Minor Repair	Septic	In Ground Bed/Trench	12/13/2006	Incomplete
119 E. Moyer Rd.	Major Repair - Absorption Area	Septic	Elevated Sandmound Bed/Trench	5/18/2007	Incomplete
470 Mock Road	Major Repair - Other	Septic		5/23/2007	Complete
1360 State Street	Minor Repair	Septic	Subsurface Sand Bed/Trench	10/16/2007	Complete
135 Maple Leaf Lane	Major Repair - Absorption Area	Septic	In Ground Bed/Trench	5/12/2008	Complete
144 Snyder Road	Major Repair - Absorption Area	Septic		10/8/2008	Complete
1954 Gilbertsville Road	Major Repair - Other	Septic		10/15/2008	Complete
1388 Farmington Avenue	Minor Repair			10/1/2004	Complete
499 Maugers Mill Road	Minor Repair			2/21/2006	Complete
259 North Street	Minor Repair			9/11/2006	Complete
761 Gilbertsville Road	Minor Repair			9/25/2006	Complete
2263 Horseshoe Dr	Confirmed Malfunction	Septic	In Ground Bed	Feb 2009	Incomplete

**MONTGOMERY COUNTY SEO REPORTED HOLDING TANKS**

1374 Commerce Drive	Major Repair - Other	Holding	Holding	6/9/2004	Complete
1169 North State Street	Major Repair - Other	Holding	Holding	8/4/2004	Complete
1879 Farmington Avenue	Major Repair - Other	Holding	Holding	6/6/2006	Complete
1160 N. State Street	Major Repair - Other	Holding	Holding	1/29/2007	Complete
478 Mock Road	Major Repair - Other	Holding	Holding	5/23/2007	Complete
2220 Horseshoe Drive	Major Repair - Other	Holding	Holding	7/20/2007	Complete

The resolution of all malfunctions is the responsibility of the Montgomery County Health Department.

3. Comparison of Existing and Appropriate Systems

The types of OLDS installed throughout the Township range from cesspools to permitted septic tank/drainfield systems. The verified Ming Drive, Moyer Road, and Horseshoe Drive sanitary surveys reported all systems to have had a septic tank. Most systems were found to have drain fields and / or in-ground beds and trenches. The soils analysis for OLDS in this area of the Township indicates that conditions are very limited for in-ground beds, trenches, and sand mounds.

4. Individual Water Supply Survey

A well sampling program was implemented (via the mail survey discussed above) to collect and analyze groundwater samples taken in the areas of Ming Drive, Moyer Road and Horseshoe Drive.

Water sample collection was performed by LTL Consultants, Ltd. in accordance with industry standards. All samples were analyzed for total coliform, fecal coliform (if total coliform result was positive), and nitrates. The laboratory used for the analyses was Suburban Water Testing Labs (PADEP Certification # 06208). Along with the laboratory results, the property owners were also provided guidance regarding maximum contaminant levels and a well disinfection procedure.

The following table summarizes the water supply testing results. A well sampling map for can be found in Appendix 6.0 Map 11.

**TABLE 3.4 - WELL WATER SAMPLES**

<b>Wells Sampled</b>	22	% of area
<b>Wells w/ Total Coliform</b>	3	13% of all samples
<b>Wells w/ Fecal Coliform</b>	1	4 % of all samples
<b>Wells &lt; 5 ppm Nitrates</b>	1	4% of all samples
<b>Wells 5-10 ppm Nitrates</b>	1	4% of all samples
<b>Wells &gt;10 ppm Nitrates</b>	0	0% of all samples

The data from the documented malfunctions, well water and on-lot system surveys, and soils analysis were examined to determine if on-lot systems were still a valid alternative for these areas.

The results indicate a pending need for sewers in these areas.

5. On-Lot Sewage Management Program

Upper Pottsgrove Township currently addresses issues of OLDS management via Upper Pottsgrove Township Code Chapter 275, Sewers and Sewage Disposal. This chapter places responsibility of maintenance and repair of Individual and Community OLDS on the owner, lessee and or party in possession of any property on which such OLDS exist.

Upper Pottsgrove Township plans to investigate the need for an On-lot Sewage Management Program. The Board of Commissioners will delegate this investigation to the Sewer Committee. This is included in the Implementation Schedule for this Plan.

**C. IDENTIFICATION OF SLUDGE GENERATION & DISPOSAL**

1. Sources of Sludge

The sources of sludge in Upper Pottsgrove Township are the ROWTF and septic tank pumping.

2. Quantities of Sludge

The amount of sludge generated at the ROWTF is approximately 137 gpd @ 1.5% solids, or approximately 17 #/day.

3. Present Disposal Methods

Sludge is hauled from the ROWTF by a licensed hauler. Since operations of the plant are contracted, the disposal of the sludge can vary depending on contracts held by the operations group. By the terms of the agreement all sludge is disposed at a permitted facility.

#### **IV. FUTURE GROWTH AND LAND DEVELOPMENT**

##### **A. MUNICIPAL AND COUNTY PLANNING DOCUMENTS**

###### **1. Land-Use Plans and Zoning Map**

The following documents identify guidelines and regulations for residential, commercial, industrial, agricultural, recreational, and open space areas.

Montgomery County's Comprehensive Plan of 2005 recognizes land use characteristics and changes to land use in Upper Pottsgrove Township and throughout the County. It recognizes that infrastructure sustainability, municipal and regional character, and natural resource preservation are of primary concern. The plan provides guidelines for location of land use districts and direction of development in all future land use areas indicated. Future Land use goals include promoting properly timed and density controlled development into appropriately sustainable areas, preservation of open space and natural features, the preservation of economic growth, and provision of community services and infrastructure.

The County's Comprehensive Plan is, by necessity, more generalized than the Upper Pottsgrove Township Comprehensive and Open Space plans. However the more site-specific, future land use designations in these plans are generally consistent with the overall direction of the County Plan.

The Pottstown Metropolitan Regional Comprehensive Plan (PMRCP) of 2005, adopted by Upper Pottsgrove Township is consistent with and addresses similar issues as covered by Montgomery Comprehensive Plan. Regarding land use and development, the plan addresses concentrating housing in designated growth areas, preservation of open space and natural resources. Community facility goals and objectives refer to limitation of sewer and water to designated growth and need areas. Secondly sewer and water facilities should be extended simultaneously. The plan also encourages performance zoning, cluster zoning and the use of Transfer of Development Rights (TDR) for protection of open space and natural resources.

It is found that Upper Pottsgrove Township's Zoning Ordinance, and Open Space plan are consistent with this plan.

Upper Pottsgrove Township's Open Space Plan was drafted by the Montgomery Planning Commission and approved by the Township in September of 2006. This plan recognizes that land use characteristics have changed greatly since the previous plan in 1995, seeing a large conversion of undeveloped land to residential and agricultural land uses. The Open Space Plan calls for the extension of parks and open space as well as greenway and trail expansion. The plan inventories key historic and physical features. Growth areas have been evaluated and policies of growth

management have been committed. The primary recommendations for the preservation of open spaces and farmland come in the form of land acquisition techniques. Once land is purchased it is intended that the land come under permanent preservation. Land acquisition is proposed in three primary areas: The westernmost corner of the Township presently owned by SCA Services of PA Inc., areas presently under development in the Kummerer Tract and under consideration for development at 409 Evans Rd, and lands south and east of the Cherry Tree development extending to lands owned by the Pottsgrove School District.

The Upper Pottsgrove Township Zoning Ordinance originally drafted in 1976 is designed to limit and restrict to specify zoning districts and to regulate buildings and structures according to their construction and nature of land use prescribed to each zone. Appendix 6.0 Map 12 indicates UPT's zoning districts. The Township provides for residential, commercial, and industrial development. An overview of each zoning district is contained in the following summary.

**SS - Steep Slope Conservation District (Overlay)** – The specific intent of this district is to conserve and protect steep slope areas (15% or greater) from inappropriate development and excessive grading, as well as to permit and encourage the use of steep slope areas for open space purposes. This is done by various land development restrictions and performance standards.

**FP – Floodplain Conservation District (Overlay)** – The specific intent of this district is to conserve and protect floodplain areas, subject to and necessary for the containment of floodwaters, as well as to permit and encourage the use of floodplains for open space purposes. This is done by various land development restrictions and performance standards.

**R-1 – Residential District** – Permitted uses in the R-1 District Single-family Detached Dwellings based on either Neighborhood Lotting, Standard Lotting, or Conditional Use Lots (these will be discussed below), Open Space, Class One Institutional Uses, Agricultural, and Accessory Uses.

**Neighborhood Lotting** – A form of cluster zoning, permitting higher density development on parcels greater than 5 acres when lots are contained within the sewer service area determined by the Township Act 537 Plan.

Individual neighborhoods developed under this land use shall have no less than five (5) and no more than twenty five (25) dwelling units surrounded by open space.

**Standard Lotting** – Standard lotting is based on a Natural Features Net Out of land based on types of natural features present as well as sewer service type. Standard Lotting allows for a

maximum density of 1 dwelling unit per acre and a minimum lot size of 1 acre per lot after the net out is performed.

**R-80 – Low Density Residential District** – The intent of this district is to direct low-density development to areas that are more rural in character and to pursue goals of parks, and open space protection. Permitted uses within the R-80 district are as follows: Single Family Detached dwellings with minimum lot areas of 80,000 square feet per dwelling, Agriculture, Open Land Uses, Game Farms / Fish Hatcheries, and Parks and Recreation.

**R-2 – Residential District** – The intent of this district is permit development of medium density, single family detached homes and create neighborhood identity and character. Permitted uses in the R-2 District are as follows: Single Family Detached Homes relegated to half acre lots and limited Agricultural Land Uses.

**R-3 – Residential District** – The intent of this district is to provide for medium to density development, including single family detached homes on 20,000 square foot lots, and multi-family homes on further reduced sizes per lot (twins at 7,000 square feet, duplexes at 7,000 square feet, and Townhouses at 2,000 square feet) to be located at close proximity to infrastructure. Cluster development is also permitted in this zone. All R-3 developments are required to be serviced by public water and sanitary sewer disposal.

**R-4 – Residential Zoning District** – The intent of this district is to provide for the highest density of residential development (Town Houses and Garden Apartments). All uses permitted in the R-3 District with exception to Cluster Development and including Garden Apartments are conditionally permitted on ten acre tracts. Commercial office and Class one and two institutional uses are permitted as well.

**CL – Cluster Development District** – An optional approach to development in R-2 and R-3 Districts, the Cluster Development District allows for density bonuses of a maximum lot area reduction of 25%. The use of lot area reduction is intended to permanently preserve common open space and protect right of ways, wetlands, floodplains, and steep slope areas.

**CO – Commercial Office District** – The intent of the Commercial Office District is to provide for a variety of commercial and office facilities for the Township and surrounding trade area. Various retail and service industry uses are permitted. Class one, two, and three institutional uses are permitted by special exception rules. Single-family detached dwellings as in R-2 are permitted. Gasoline service stations and other highway-oriented activities are permitted by special exception. Minimum lot size for all uses is ten thousand (10,000) square feet, excepting gasoline and highway uses, which are thirty thousand (30,000) square feet.

**LI - Limited Industrial District** – The intent of this district is to provide for a variety of nonpolluting and smaller scale industrial, research and development, and office facilities. Lot size is set at a minimum of one acre per lot with a maximum building coverage of fifty percent (50%). Single-family detached dwellings are not permitted. Solid waste management facilities and mobile home parks are permitted by conditional use. Classes one, two, and three institutional uses are permitted under special exception rules. Excepting the previous, all other uses in the Commercial Office District as well as uses not permitted in all other districts are permitted.

The Upper Pottsgrove Township Subdivision and Land Development Ordinance of 2008 (SALDO) is a tool to promote development that is in conformance with Township land-use plans. The primary goals of the SALDO are included below

1. To assist the orderly, efficient, integrated and harmonious development of the Township.
2. To assure sites suitable for building purposes and human habitation.
3. To coordinate proposed roads with existing roads, parks, and features of the township Road Map including all amendments.
4. To provide adequate open spaces for traffic, recreation, light and air, and for proper distribution of population thereby creating conditions favorable to the health, safety, and general welfare of the citizens of the Township.
5. To ensure conformance of subdivision and land development plans with the development of public facilities in the Township.
6. To secure equitable handling of all subdivision and land development plans providing uniform procedures and standards.
7. To ensure the layout and management of the subdivision or land development plan is in conformance with the Township's adopted comprehensive plan and the Zoning Ordinance, and to any regulations, maps adopted by the Township.

The SALDO uses building performance standards, development plan standards and requirements for approval. The document enables Township officials with powers to review, permit, approve, inspect, and enforce rules intended for sustainable, orderly, and conservation related development. Specific protections are allotted to natural features including floodplains, wetlands, stormwater

management, slope / grading issues, and sustainability of sanitary sewer disposal. Requirements for sanitary sewage disposal are found in SALDO Section 310-29.

2. Zoning and SALDO Regulations

The Upper Pottsgrove Township Zoning Ordinance indicates lot size predicated on availability and type of sewage disposal for standard lotting in the R-1 District. This is found in section 350-70.A. Sites developed with on-lot disposal systems must deduct from .33 to .66 percent of developable land based on soil type. Sites developed on land with public sewer receive no deduction. This subsequently regulates density of development on the site as opposed to changes in actual lot size. While the remaining zoning districts in the ordinance provide for the inclusion of public or community sewer for certain land uses, no specific indication of lot size reduction is provided.

Although the Upper Pottsgrove Township SALDO includes regulation for sanitary sewer construction in section 310-29, no lot size regulation exists based on presence or scope of sewage disposal. The SALDO does provide approval of subdivisions and development on requirements provided in the Zoning Ordinance.

3. Floodplains, Stormwater Mgmt., Special Protection Areas

Upper Pottsgrove Township Stormwater Management Ordinance (Ordinance Number 377 of January 2005) provides enabling legislation to the Township for the regulation of land use activities that affect stormwater impacts. Regulation is accomplished by crating performance standards, stormwater planning regulations, and best management practices to be applied before during and after construction of approved development. This ordinance also enables officials to issue permits, and perform inspections and enforcement procedures. Guidelines for low impact development practices are also included in the appendix of the ordinance.

Upper Pottsgrove Township Act 167: Swamp creek Watershed Stormwater Management Ordinance, adopted in August 2007 (Also Adopted by Montgomery County in September 2006). This ordinance provides for a comprehensive watershed protection plan for waters in the Swamp Creek Watershed. Performance and design standards, planning requirements for development, permitting and inspections, erosion and sediment control BMPs and low impact development guidelines are all expanded from Upper Pottsgrove Township Stormwater Management Ordinance #377 in this document. The Swamp Creek Watershed Stormwater Management Ordinance has been found to be consistent with Montgomery County's Comprehensive Plan and Act 167 Stormwater Ordinance.

As mentioned above, the Upper Pottsgrove Township Zoning Ordinance provides for the protection of floodplain, stormwater management and special protection areas via the implementation of the Floodplain Conservation District Overlay. Limitations include but are not limited the prohibition of building of free standing buildings, roads, parking areas, OLDS, wells, and utilities without variance or special review by the Township Engineer.

The Upper Pottsgrove Township SALDO indicates limitations and guidelines to development found in section 310-26. This section requires developers to construct and install drainage and stormwater management practices or modify plans to meet the SALDO's performance requirements. The requirements that the SALDO addresses are to maintain pre-development runoff volumes, reduce pre-development peak rates of discharge, manage impacts close to the source of runoff, minimize nonpoint source loading, and minimize impacts on stream pressures.

**B. EXISTING AND FUTURE GROWTH AREA, LAND USE, POPULATION PROJECTION, ZONING AND PLANNING NEEDS**

1. Existing Development

The Upper Pottsgrove Township Land Development Map (Appendix 6.0 Map No. 13) identifies all developments as either completed, under construction, proposed construction with approved planning modules, probable construction without approved planning modules, and tentatively proposed development. These developments and subdivisions are listed in Table 4.1 on the next page.

<b><u>TABLE 4.1 - CURRENT AND FUTURE SUBDIVISIONS</u></b>		
<b>DEVELOPMENT NAME</b>	<b>DEVELOPMENT STATUS</b>	<b>NUMBER OF LOTS</b>
CHERRY TREE	COMPLETED	126
CHESTNUT GROVE	COMPLETED	74
COLONIAL HEIGHTS	COMPLETED	34
FARVIEW	COMPLETED	27
GREENGATE	COMPLETED	61
HORSESHOE DRIVE	COMPLETED	18
MAUGERS MILL	COMPLETED	58
MING DRIVE	COMPLETED	18
ORCHARD DR	COMPLETED	8
REGAL OAKS	COMPLETED	236
SHANNON'S RIDGE	COMPLETED	20
TURNBERRY (SUNNYSIDE) FARMS	COMPLETED	192
WINDSOR HEIGHTS	COMPLETED	57
CODDINGTON VIEW (SOKO SKARBK)	UNDER CONSTRUCTION	218
SUMMER GROVE	UNDER CONSTRUCTION	73
409 EVANS ROAD	PROPOSED CONSTRUCTION - APPROVED MODULE	7
ALTHOUSE	PROPOSED CONSTRUCTION - APPROVED MODULE	22
BACHMAN	PROPOSED CONSTRUCTION - APPROVED MODULE	38
BOERNER TRACT	PROPOSED CONSTRUCTION - APPROVED MODULE	33
CROSSROADS	PROPOSED CONSTRUCTION - APPROVED MODULE	51
SWEETWATER	PROPOSED CONSTRUCTION - APPROVED MODULE	58
KUMMERER TRACT	PROBABLE CONSTRUCTION - NO APPROVED MODULE	138
PINE FORD CURATIVES	PROBABLE CONSTRUCTION - NO APPROVED MODULE	40
HANOVER ESTATES	TENTATIVE PLAN	35

## 2. Land Use and Zoning

The Zoning Districts established by the Zoning Ordinance are listed above in Section IV.A.1. Appendix 6.0 Map No. 12 is the Upper Pottsgrove Township Zoning Map.

## 3. Future Growth Area

Existing and future land development is shown in Appendix 6.0 Map No.13. This map is grouped by Planning Module Status. Expansion of sewer service in UPT based on the Implementation

Schedule of the selected alternative is found in Appendix 6.0 Map No. 13A.

Local populations, housing, and employment trends depict how an area, its residents, housing stock and economy, all change over a period of time. These trends help determine planning and zoning policy as well as requirements per type of land use for the municipality. Upper Pottsgrove Township has been growing at a rate 13.1% more than that of Montgomery County as a whole.

The latest available Census Data for Upper Pottsgrove Township is for the year 2000 (U.S. Census). According to the data, the population of Upper Pottsgrove Township in 2000 was 4,102. This represents a positive change of 787, or a growth rate of 23.7% since 1990. Montgomery County growth was 10.6% from 1990 to 2000.

The growth rates seen above are unsustainable for long periods. Therefore another method of projecting growth was used.

In the Connection Management Plan (CMP), the Township was separated into five (5) sewer districts (Refer to Appendix 6.0 Map No. 14). These districts are named the Farmington Avenue, Goose Run, Lower Pottsgrove, Pine Ford Road and the Regal Oaks Sewer Districts. They were named for either the pump station they discharge to, the municipality that receives the flow or a geographical feature. These districts were formulated to better organize the sewage needs and to give the Township administrative nomenclature that can be utilized in the future.

The CMP contained an ultimate build-out analysis, briefly summarized below.

The goal of the build-out analysis was to identify and quantify the potential for future sewer needs. In the case of this study, the build-out analysis followed three specific stages. The first stage repaired missing data and grouped all related land-uses into categories. Secondly, these land-use categories were used to perform a site suitability study. The amount of buildable lots were then calculated within each parcel, omitting environmentally prohibitive lands and conducting a 40% net out of land for possible development requirements such as rights of way, roads, open space and storm water control.

Table 4.2 summarizes all of the current and future sewage needs of UPT. Refer to Appendix 6.0 Map No. 15.

**TABLE 4.2 – CURRENT AND FUTURE SEWAGE NEEDS**

Subdivision/Area of Concern	Remaining	
	EDU's	Sewer District
<b>Existing Connections</b>		
Pine Ford Road Sewer District	192	Pine Ford Road Sewer District
Goose Run Sewer District	0	Goose Run Sewer District
Lower Pottsgrove Sewer District	238	Lower Pottsgrove Sewer District
Farmington Avenue Sewer District	523	Farmington Avenue Sewer District
Regal Oaks Sewer District	197	Regal Oaks Sewer District
<b>TOTAL</b>	<b>1150</b>	
<b>Under Construction</b>		
Coddington View	72	Farmington Avenue Sewer District
Summer Grove	29	Pine Ford Road Sewer District
Woodbrook	23	Regal Oaks Sewer District
<b>Proposed Construction w/ Approved Module</b>		
Althouse	22	Regal Oaks Sewer District
Bachman	38	Farmington Avenue Sewer District
Boerner	33	Pine Ford Road Sewer District
Farmington Avenue West	86	Pine Ford Road Sewer District
Sweetwater	58	Regal Oaks Sewer District
Crossroads	51	Regal Oaks Sewer District
<b>Remaining Connections Based on Last Agreement</b>	<b>412</b>	
<b>High Priority Needs Areas</b>		
Regal Oaks Phase 1	179	Regal Oaks Sewer District
Gilbertsville Road	7	Regal Oaks Sewer District
409 Evans Road	7	Pine Ford Road Sewer District
1280 North Hanover Street	1	Lower Pottsgrove Sewer District
<b>TOTAL</b>	<b>194</b>	
<b>Probable Construction w/o Module or Plan Approval</b>		
Kummerer Tract (Probable)	138	Pine Ford Road Sewer District
Pineford Currative (Probable)	40	Pine Ford Road Sewer District
<b>TOTAL</b>	<b>178</b>	
<b>Secondary Priority Needs Areas</b>		
Continental Drive	54	Lower Pottsgrove Sewer District
Orchard Road	15	Lower Pottsgrove Sewer District
Regal Oaks Phase 2	57	Regal Oaks Sewer District
Bruce Drive	21	Regal Oaks Sewer District
Horseshoe Drive	18	Regal Oaks Sewer District
Ming Drive/Moyer Road	29	Regal Oaks Sewer District
Miscellaneous Development	150	Farmington Avenue Sewer District
<b>TOTAL</b>	<b>344</b>	
<b>Projected Development Based on Open Space</b>		
Pine Ford Road Sewer District	74	Pine Ford Road Sewer District
Goose Run Sewer District	78	Goose Run Sewer District
Lower Pottsgrove Sewer District	95	Lower Pottsgrove Sewer District
Farmington Avenue Sewer District	59	Farmington Avenue Sewer District
Regal Oaks Sewer District	27	Regal Oaks Sewer District
<b>TOTAL</b>	<b>333</b>	

Based on Table 4.2 the Township's needs are broken down in the following manner:

#### Existing Needs

The Township has 397 EDU's remaining within the last agreement with PBA. As noted previously these can be met based on the current flows and no modifications to the agreement are required.

#### High Priority Needs

Regal Oaks Phase 1 and the homes associated with Gilbertsville Road will need to be connected as soon as the infrastructure is in place to receive them. This will require the construction of the Regal Oaks pump station and the completed expansion of the Borough main on York/Beech Street. This is scheduled to be designed, permitted and completed by April of 2010.

This would increase the flow to the Borough by 186 EDU's.

#### Probable Construction Needs

The Kummerer Tract and the Pine Ford Road Curatives will need immediate capacity. The Pine Ford Road Curatives were given capacity as part of legal proceedings. In order to comply with this, the Township has to connect this area as soon as possible. The Kummerer Tract is needed based on the funding that comes with it. The developer has made non-formalized commitments to assist in the cost of the work being done to expand the sewer capacity to the Township. Without this funding the Township would not have the means to take on this type of project in the time frames discussed in this plan.

By allowing these areas immediate access to the collection system the Township takes the calculated risk that all of the developments with module approval will not connect prior to April of 2010. Currently there are 397 EDU's remaining to be connected under the previous agreement with the Borough. For this assumption to fail, the Township would have to see the construction of over 200 units per year. This type of growth has not been experienced within the Township. Based on the benefit this risk provides, it appears logical. It should be noted that the Township does not plan on granting sewer connection permits that would increase the connected EDU's beyond the capacity held under the agreement. Once the Regal Oaks pump station and the Borough's expansion are complete this issue becomes resolved.

This would increase the flow to the Borough by 178 EDU's.

#### Secondary Priority Needs

As part of this document the Township has planned for the needs for these areas. Their connection will be contingent on the

completion of an Act 537 Sewage Facilities Plan and its adoption by both the Township and the Borough.

These areas would increase the connected EDU's by 344. Sixty-nine of these EDU's would flow through LPT. 275 EDU's would flow directly through Farmington Avenue.

Projected Development Needs

The analysis done on the open parcels shows a need for an additional 333 EDU's. This would increase the total EDU count in the Township from the current 1,150 to a total build-out of 2,588 EDU's. Based on housing records from Montgomery County the Township experienced a housing growth at a rate of 2.23 percent per year (1970-2000). Assuming that this rate continues the build-out time-frame is calculated using a simple rate function:

$$2,588 \text{ EDU's} = 1,150 \text{ EDU's} * (1.0223)^n$$

Solving for n returns a value of 36.7 years.

Sub-surface infrastructure like sewers should be designed for a 50-year life. By using the same equation and solving for growth with a term of 50 years:

$$\text{Total EDU's} = 1150 \text{ EDU's} * 1.0223^{50}$$

$$\text{Total EDU's} = 3,464 \text{ EDU's}$$

It is assumed that this build out would be proportioned in the same manner as the growth currently seen in the Township. This would mean that the flow going through Farmington Avenue would grow at the same rate as that going to LPT. Currently 79 percent of the connected EDU's are going through Farmington Avenue. Therefore, of the 3,464 units projected, 2,737 would go through Farmington Avenue in the future.

UPT is negotiating an agreement with PBA for transfer of capacity of 238,000 gpd. Of this capacity, 112,500 gpd, or the equivalent of 375 EDU's, will be purchased immediately. Refer to Appendix 5.3. This purchase would cover the following areas:

<u>AREA</u>	<u>EDU's</u>
Regal Oaks (Phase 1)	179*
Kummerer Tract	138
Pine Ford Road Curatives	40
409 Evans Road	7
Current Capacity Need	3
1280 North Hanover Street	1
Gilbertsville Road	7

\*calculated EDU's, per the inter-municipal agreement, 300 gpd/EDU

#### 4. Zoning, SALDO, and Plans Relating to Protection of Resources

As indicated above, the following documents provide guidelines and regulation pertaining to the protection of natural resources in Upper Pottsgrove Township.

- Montgomery County Comprehensive Plan (2005)
- Pottstown Metropolitan Regional comprehensive Plan (2005)
- Upper Pottsgrove Township Open Space Plan (2006)
- Upper Pottsgrove Township Zoning Ordinance (1976 as amended)
- Upper Pottsgrove Township Subdivision and Land Development Ordinance (2008)
- Upper Pottsgrove Stormwater Management Ordinance (2005)
- Upper Pottsgrove Township Act 167, Swamp Creek Watershed Stormwater Management Ordinance (2007)

#### 5. Sewage Planning for the 5- and 10-year Future Planning Periods

Extended sewage planning based on existing and proposed wastewater system growth is addressed in the following:

- Montgomery County Comprehensive Plan (2005) and the Pottstown Metropolitan Regional comprehensive Plan (2005) indicate the relationship to areas in which future sewer will be provided. Both Comprehensive Plans project trends and set future land use and infrastructure planning goals for 2025.
- Upper Pottsgrove Township Connection Management Plan (2008) analyzes land use and potential sewer capacity requirements based on new infrastructure life cycles. These projections were used to calculate capital cost estimates and potential EDU purchasing from PBA.

## V. ALTERNATIVES TO PROVIDE NEW OR IMPROVED WASTEWATER DISPOSAL FACILITIES

The alternatives for this plan were developed with the purposes of alleviating sanitary sewer issues in the Township, addressing regulatory compliance concerns for the Regal Oaks Wastewater Treatment Facility and the Cherry Tree Pumping Station, and addressing existing and future sewer capacity. Four alternatives involved regional wastewater treatment. The remaining five involved UPT constructing and operating their own wastewater treatment facility.

The options and brief descriptions are as follows:

**TABLE 5.1 - ALTERNATIVES SUMMARY**

No.	Option Name	Description
1	BMMA	Collects Regal Oaks, Bruce Drive, Horseshoe Drive, Ming Drive and Moyer Road, & Cherry Tree to a new pump station at the Regal Oaks WWTF site, then Pumps to BMMA; ROWTF and CTPS decommissioned.
2	Sprogel Gravity	Collects same areas as No. 1, then flow by gravity along Sprogel's Run to Lower Pottsgrove; ROWTF and CTPS decommissioned.
3	Sprogel WWTF	Collects same areas as No. 1, then flow by gravity along Sprogel's Run to a new Sprogel's Run WWTF near Snyder Road; ROWTF and CTPS decommissioned.
3A	Sprogel WWTF A	Construct Sprogel WWTF per No. 3, above, then collect Orchard/Continental to LPT via gravity.
3B	Sprogel WWTF B	Construct Sprogel WWTF per No. 3, above, then collect Orchard/Continental by gravity & pump up to Sprogel WWTF.
4A	Goose Run A	Collects Cherry Tree, Pine Ford Road & surrounding developments, then treats at a new Goose Run WWTF; CTPS expanded, PFRPS decommissioned.
4B	Goose Run B	Collects same areas as No. 1, then pumps to Pine Ford Road, then by gravity to a new WWTF on Goose Run; ROWTF, PFRPS and CTPS decommissioned.
5	Waste Mgmt	Collects same as No. 4B, then sends to Waste Mgmt down Manatawny St.
6	Regal Oaks Pumping Station	Construct Regal Oaks Pumping Station; collect flows from Regal Oaks and Cherry Tree; pump to Farmington Avenue main via Gilbertsville Road; ROWTF and CTPS decommissioned. Connect other areas of the Township as well.

Of the nine alternatives, eight were rejected as follows below.

*No. 1 BMMA Pumping (See Appendix 6.0 Map No. 16) - - The BMMA Pumping Option is rejected due to poor economics and BMMA dependence.*

*No. 2 Sprogel's Run Gravity Option (See Appendix 6.0 Map No. 17)* - The Sprogel's Run Gravity Option is very favorable; although it was rejected in favor of its modified version presented under Regal Oaks Pumping Station (No.6).

*Nos. 3, 3A, 3B(See Appendix 6.0 Map No. 18), 4A and 4B (See Appendix 6.0 Map No.19) UPT-owned WWTF Options* - Requests for preliminary effluent limits were sent to PA DEP for these options and the response was unfavorable for discharge to any stream located in UPT. The proposed flows compared to the stream flows, would require extraordinary and cost-prohibitive treatment processes. Thus, all WWTF options were rejected.

*No. 5 Waste Management Option* - The Waste Management Option was rejected due to impasses with downstream capacity.

The remaining alternative is as follows.

*No. 6 Regal Oaks Pump Station Option (See Appendix 6.0 Map No. 20)* – The Regal Oaks Pump Station (ROPS) option is a revised version of the Sprogel's Run Gravity Option No. 2. In this version the sewage from the CTPS (which will be decommissioned), Ming Drive/Moyer Road, and Horseshoe and Bruce Drive flows to the ROWTF location. From here, a new pumping station will pump the flows to the Farmington Avenue main. In order for there to be downstream capacity for these flows, 1,100 feet of the Farmington Avenue gravity main must be replaced (10" to 18" pipe) as part of this project (ROPS Project). The remaining parts of this option involve the connection of the remaining on-lot systems in Regal Oaks; a sewer extension to serve existing properties north of Regal Oaks; and a gravity collection system to serve Continental and Orchard Drives. This option will be constructed over a 10-year period as follows:

- The ROPS Project (ROPS, the interceptor from the CTPS, and the replacement of a portion of the Farmington Avenue main) will begin immediately.
- Regal Oaks Phase 2 (current on-lot systems) will be connected to the collection system within five (5) years.
- The extension to Ming Drive/Moyer Road, and Horseshoe and Bruce Drives will be constructed within ten (10) years (2018).
- Due to the moratorium on connections in LPT, the extension to Continental and Orchard Drives will be completed within ten (10) years (2018). This will give LPT the time necessary to address the I/I and capacity issues within their collection system, and have the moratorium lifted.

## **A. CONVENTIONAL COLLECTION, CONVEYANCE, TREATMENT AND DISCHARGE ALTERNATIVES**

### **1. Regional Wastewater Treatment**

Options 1, 2, 5 & 6 involved regional treatment, or treatment at a facility not owned by UPT. The owner and UPT would enter into an agreement for the use of their facilities for conveyance and

treatment. This is how the UPT collection system is operated at this time, with the Pottstown Borough Authority.

Other regional options involved the Berks-Montgomery Municipal Authority and the Waste Management Facility in Pottstown. The additional cost of new agreements, as well as necessary downstream upgrades made these options financially infeasible. Treatment at the PBA facility is more economical because of existing infrastructure and agreements.

2. Sewer Extension Potential

All the options considered involve sewer extensions to some extent. The sewer extensions rely on existing infrastructure agreements and administrative entities. For details refer to Appendix 4.1.

3. Potential for Continued Use of Existing Facilities

All of the considered alternatives use existing facilities to some extent. This is discussed with each individual option in Appendix 4.1.

4. Repair Existing Collection System Components

Parts of the Farmington Avenue sewer main have been upgraded. An 1,100-foot section remains to be upgraded. The PFRPS is permitted and scheduled for an upgrade. This has been placed on hold due to the urgency of the ROPS Project. The upgrade will be completed as part of the Farmington Avenue Phase 2 project.

UPT is currently operating under a Corrective Action Plan (CAP) to reduce I/I in the collection system.

5. Need for New Systems

The need for new systems will be as discussed with each individual option in Appendix 4.1. UPT does not see the need for constructing any new separate systems at this time. New systems will be limited according to requirements set forth in the Zoning and SALDO Ordinances.

6. Use of Innovative Collection/Conveyance to Serve Needs Areas Using Existing WWTF.

The use of individual grinder pumps is permitted where necessary. An agreement with UPT must be signed prior to installation. UPT has a standardized agreement developed. Refer to Appendix 5.1.

**B. USE OF OLDS INCLUDING SPRAY IRRIGATION SYSTEMS**

The use of OLDS is the current method of sewage disposal in approximately fifty (50) percent of Upper Pottsgrove Township. Spray Irrigation systems for individual lots would be reviewed on a case-by-case basis and must demonstrate compliance with DEP design standards. Upper Pottsgrove Township does not have an ordinance in place regulating spray irrigation systems.

## 1. Soil/Slope Suitability

Suitability for OLDS including spray irrigation systems was analyzed using suitability from the United States Department of Agriculture, National Resource Conservation Service (USDA/NRCS) Soil Survey Geographic (SSURGO) Database. Suitability analysis is depicted in Appendix 6.0 Map No. 21. The following criteria were quantified by NRCS to study OLDS suitability for dominant soil types in each soil map unit:

- Depth To Water Table
- Depth To Bedrock
- Content of Rock Fragments
- Flooding
- Slope
- Saturated Hydraulic Conductivity (Ksat)

More in-depth discussion of each system type studied and analysis methods used by USDA/NRCS are provided in Appendix 2.2.

A soil suitability study was performed based on aggregated soil map unit data provided by the USDA/NRCS for six conventional OLDS types. These types are as follows:

- In Ground Beds
- In-Ground Trenches
- Sand Mound Bed or Trench Systems
- Spray Irrigation Systems
- Sub-Surface Sand Filter Bed Systems
- Sub-Surface Sand Filter Trench System

NRCS descriptions of map units and aggregation methodology are provided in Appendix 2.2. Suitability ratings for each OLDS type in each map unit were overlaid to give an overall soil suitability ranking for conventional systems as a whole.

Suitability classifications are provided below.

- **Ranking 4: “Little to No Limitations”** – soils that are very suitable for the specified OLDS and very low maintenance is expected.
- **Ranking 3: “Slightly Limited”** – soils that are suitable for the specified OLDS. Limitations are minor and can be easily overcome. Good system performance and low maintenance are expected.
- **Ranking 2: “Moderately Limited”** – soils that have features that are somewhat favorable for the specified OLDS. Specialized design, planning and installation can overcome

limitations. Fair performance and moderate maintenance of the system are expected.

- **Ranking 1: “Very Limited”** Soil has one or more features that are unfavorable for the specified OLDS. Limitations generally cannot be overcome without major modifications or reclamation of the soil, extreme design or high cost installation. Poor performance and frequent maintenance is expected.
- **Ranking 0: “No Data”** – Soil conditions in urbanized areas where data do not meet sampling criteria for the specific OLDS.

Findings from the suitability analysis indicate that

- **No Data:** Developed areas identified by NRCS have been designated as having No Data. Indications for suitability in these areas are found to be inconclusive and have been omitted from the study. The No Data pattern remains identical for all OLDS Types throughout the Study.
- **In Ground Beds, In Ground Trench, Sub-Surface Sand Filter Beds and Trenches** – The available soil types for these specific OLDS are indicated to be very limited with little suitability value. These comprise the majority of soils throughout the township excepting areas that are identified having No Data.
- **Sand Mound: Bed and Trench** – Soil types in Upper Pottsgrove Township are mostly indicated to be very limited with scatterings of soils that are moderately and slightly limited.

2. Preliminary Hydrogeologic Evaluations

UPT requires Preliminary Hydrogeologic Evaluations when required by PA DEP regulation.

3. Sewage Management Programs

The need for a Sewage Management Program will be investigated by Upper Pottsgrove Township. Refer to Section III.B.5 of this Plan.

4. Repair/Replacement/Upgrading Of Existing Malfunctioning Systems in Areas Suitable for OLDS

The Montgomery County Health Department oversees the resolution of malfunctioning OLDS.

**C. USE OF SMALL FLOW TREATMENT FACILITIES (FOR INDIVIDUAL HOMES OR CLUSTERS OF HOMES)**

The use of SFSTF will be reviewed on a case-by-case basis. UPT BOC plans to delegate the investigation of the need for a SFSTF Ordinance to

the Sewer Committee. This is included in the implementation schedule in Section VIII.

1. Treatment and Discharge Requirements

Treatment and discharge requirements would be set as required by PA DEP.

2. Soil Suitability

Soil suitability regulations for SFSTFs are provided in PADEP Technical Guidance Document 362-0300-002 Small Flow Treatment Facilities Guidance Manual. Section I.B indicates that SFSTF permits are granted to systems in areas that have been shown as not suitable for the installation of individual or community on-lot sewage treatment systems permitted by local agencies under the Pennsylvania Sewage Facilities Act. The Sewage Enforcement Officer (SEO) employed by the municipality performs testing for potential OLDS use. Only if soils have proven unsuitable for OLDS use, a denial letter is to be issued and the application for a SFSTF may be made.

In the case of soils in Upper Pottsgrove Township, OLDS suitability has shown that soils are highly limiting for most conventional systems, thus increasing the potential for application for SFSTF permits.

3. Preliminary Hydrogeologic Evaluation

UPT requires Preliminary hydrogeologic evaluations when required by PA DEP regulation.

4. O&M Requirements through Sewage Mgmt. Program

The need for O&M Requirements for SFSTFs through a Sewage Management Program will be investigated by the Sewer Committee, during the review for the need of such ordinances.

**D. USE OF COMMUNITY LAND DISPOSAL ALTERNATIVES**

In general for the flows considered in all of the alternatives, the land requirements for a spray irrigation facility became infeasible from both an economic and site selection standpoint. Any potential use of a community land disposal system would be reviewed on a case-by-case basis, with the coordination of the PA DEP and MCHD. Refer to Section V.C.2-4 above.

**E. USE OF RETAINING TANKS**

The use of retaining tanks in Upper Pottsgrove Township is permitted in accordance with General Code Chapter 275 Article IX Holding Tanks.

Section 275-50.A – “The collection and transportation of all sewage from any improved property utilizing a holding tank shall be done solely or under the direction and control of [UPT Commissioners], and the disposal thereof shall be made only at such site... as may be approved by the DEP of the Commonwealth of Pennsylvania.”

**F. SEWAGE MANAGEMENT PROGRAM**

The Sewage Management Program is discussed in Section III.B.5.

**G. NON-STRUCTURAL COMPREHENSIVE PLANNING ALTERNATIVES**

Non-structural planning alternatives consist of mechanisms such as zoning ordinances and subdivision and land development ordinances that may impact sewage disposal in the municipality. These alternatives are as follows:

**1. Modification to Comprehensive Plans**

Upper Pottsgrove Township has adopted the Pottstown Metropolitan Regional Comprehensive Plan (2005). This document provides goals and objectives of timed infrastructure and land development that are consistent with the Townships sewage management planning.

**2. Consideration for Local Comprehensive Plan**

The Township has found that the PMRCP is sufficient to guide sewage management and does not intend to adopt a Local Comprehensive Plan at this time.

**3. Municipal Subdivision and Zoning Regulations**

The Upper Pottsgrove Township SALDO and Zoning Ordinances both address issues of development pressure as well as controlled infrastructure growth.

**4. Local Agency Program and Training**

No current programs or training exist or are intended as a result of adoption of the selected alternatives

**H. NO ACTION ALTERNATIVE**

A “No Action” Alternative would recommend that Upper Pottsgrove Township “Do nothing”. This would result in negative effects in both the short- and long-terms. Increases in the amount of OLDS malfunctions will result in the heightened risk of bacterial and mineral contamination of ground (wells) and surface waters. Sprogel’s Run, a 303d-listed stream, is a main concern. It is in an area where it is subject to contamination from malfunctioning OLDS, and the failing ROWTF discharges to it. Doing nothing would cause further impairment to Sprogels Run, and further risks to public health.

UPT is under a Consent, Order and Agreement (dated January 13, 2009) to replace the ROWTF with a pump station. Defying the COA would bring civil fines and penalties, to be paid with tax dollars. Raising taxes would change the economic conditions by taking more money out of peoples’ pockets, thus fueling the downturn in economic growth.

All of this would lead to negative social, economic and community growth factors. The No Action Alternative is not an option.

**VI. EVALUATION OF ALTERNATIVES**

Of the nine alternatives considered, five were rejected as discussed in Section V. The remaining treatment plant options were evaluated for consistency with the water quality standards and effluent limitations which may be imposed in the NPDES permit. Requests for preliminary effluent limits were sent to PA DEP and the response was unfavorable for discharge to any stream located in UPT. The proposed discharge flow would require extraordinary and cost-prohibitive treatment processes. Thus, all WWTF options were rejected. The only remaining option is the Regal Oaks Pumping Station, which will be the alternative evaluated for consistency here.

**A. TECHNICALLY FEASIBLE ALTERNATIVE – CONSISTENCY****1. Clean Streams Law and Clean Water Act**

No plans completed under these laws could be located. However, the installation of sewers is protective of human health and the environment.

**2. Municipal Wasteload Management Plans**

UPT has conducted studies and developed a Corrective Action Plan and Connection Management Plan as required by the agreement with the PBA, as well as DEP requirements. This alternative was carefully considered with regard to these planning documents and relative Chapter 94 Reports of PBA and LPT.

The PBA prepared a revision to their Act 537 Plan, and will be upgrading a section of sewer line downstream of UPT, to handle additional flows from UPT. The agreement between UPT and PBA was revised to increase the reserve capacity for UPT. The PBA WWTF has the capacity necessary for the additional flows from UPT. Refer to Appendix 5.2.

LPT is currently under a connection ban due to insufficient capacity in the sewage collection system. This situation was carefully considered when the alternative was developed. Continental Drive and Orchard Road will not be sewerred until 2018 to allow LPT time to resolve the capacity issues and lift the ban on connections.

**3. Title II – Clean Water Act**

No plans completed under these laws could be located. However, the installation of sewers is protective of human health and the environment.

**4. Comprehensive Plan Consistency**

The selected alternative has been found to be consistent with the Pottstown Metropolitan Regional Comprehensive Plan and also the Montgomery County Comprehensive Plan.

5. Anti-Degradation Requirements  
The use of existing infrastructure and treatment facilities is consistent with anti-degradation requirements.
6. State Water Plan  
Research and discussion with PADEP Southeastern Regional Office staff indicate that there are no specific State Water Plan Issues related to Upper Pottsgrove Township.
7. Pennsylvania Prime Agricultural Land Policy  
Prime agricultural soils are shown on the soils map in Appendix 6.0 Map No. 2A, and are scattered throughout Upper Pottsgrove Township.
8. County Stormwater Management Plans  
The chosen alternative was found to be consistent with the best management practices indicated in the Montgomery County Stormwater Management Plan (Chapter 5 of the County Water Management Plan). The chosen alternative is also consistent with the Swamp Creek Watershed Stormwater Management Ordinance adopted by both the Township and Montgomery County.
9. Wetland Encroachments  
Appendix 6.0 Map No. 6 shows hydric, or wetland, soils. According to the data provided by the NWI, no wetland encroachments exist in the area of the selected alternative. Site surveys of the project site however found that encroachments exist. Currently applications are being made to the PADEP for permits to encroach on the existing wetlands found in the survey.
10. Pennsylvania Natural Diversity Inventory  
A PNDI review was conducted for the construction of the new pumping station, force main and gravity collection system associated with the chosen alternative. No potential conflicts were found. A copy of the report can be found in the Consistency Determination section of this plan.
11. Historical and Archaeological Resource Protection.  
A Cultural Resource Notice was submitted to the Pennsylvania Historical and Museum Commission for the chosen alternative. A copy of the response can be found in the Consistency Determination section of this plan.

## **B. RESOLUTION OF INCONSISTENCIES**

The Montgomery County Planning Commission will review the proposed plan and provide comments. Their comments will be provided and considered prior to plan adoption.

**C. WATER QUALITY ALTERNATIVE EVALUATION**

1. Water Quality Standards

The elimination of a compliance-challenged treatment facility (ROWTF) and pumping station (CTPS) is consistent with protecting water quality.

2. Effluent Limitations

No new treatment facilities are proposed, therefore effluent limitations are not applicable.

3. Technical, Legislative, and Legal Requirements

No technical or legislative requirements were identified. Upper Pottsgrove Township would meet all legal requirements. All necessary permitting will be received prior to construction.

**D. COST ESTIMATES**

The engineer's cost estimate breakdowns for the identified alternatives are provided in Appendix 4.2. A detailed cost estimate is provided in Table 6.1 below for the chosen alternative.

TABLE 6.1 – Regal Oaks Pump Station Cost Estimate

**IMMEDIATE CONNECTIONS ONLY**

Item No.	Item Description	Schedule of Values		Amount
		Quantity	Unit Price	
1	Bonds and Insurance	LS	\$ 20,000.00	\$ 20,000.00
2	M & D	LS	\$ 10,000.00	\$ 10,000.00
3	12" SDR Gravity in Road (lf)	50	\$ 90.00	\$ 4,500.00
4	12" SDR Gravity in Unpaved (lf)	3100	\$ 85.00	\$ 263,500.00
5	Stream crossing (lf)	80	\$ 150.00	\$ 12,000.00
6	Manholes (ea)	20	\$ 3,500.00	\$ 70,000.00
7	8" SDR Force main (lf)	5800	\$ 45.00	\$ 261,000.00
8	6" SDR Lateral Mains (lf)	300	\$ 65.00	\$ 19,500.00
9	Landscaping Allowance	LS	\$ 25,000.00	\$ 25,000.00
10	Regal Oaks P.S. install system	LS	\$ 200,000.00	\$ 200,000.00
11	Regal Oaks WWTF demo	LS	\$ 75,000.00	\$ 75,000.00
12	Cherry Tree P.S. disassemble	LS	\$ 25,000.00	\$ 25,000.00
13	Road /Shoulder Restoration (lf)	3370	\$ 30.00	\$ 101,100.00
14	Easement Restoration (lf)	2730	\$ 6.00	\$ 16,380.00
15	Penn DOT Mill & Overlay (sy)	3700	\$ 13.00	\$ 48,100.00
16	Line Painting	LS	\$ 15,000.00	\$ 15,000.00
17	Inspection and Testing Allowance	LS	\$ 15,000.00	\$ 15,000.00

<b>Total Construction Line Items</b>	<b>\$ 1,181,080.00</b>
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Construction Contingency (10%)	\$ 118,108.00
<b>Total Construction Line Items</b>	<b>\$ 1,299,188.00</b>
Engineering/Admin/Legal, 30%	\$ 389,756.40
Beech/York Street Expansion Costs	\$ 840,000.00
Farmington Avenue Modifications	\$ 440,000.00

<b>Total Project Costs</b>	<b>\$ 3,087,052.40</b>
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## E. FUNDING ANALYSIS

The calculations for the funding scenarios of the chosen alternative, Option No. 6, can be reviewed in Appendix 4.3, and were calculated based on a grant / no grant basis for each of the following programs.

- Municipal Bonds @ 6% for 20 years
- USDA Rural Utilities Service loan @5.5% for 20 years
- Pennsylvania Infrastructure Investment Authority (PENNVEST) loan @ 1% for 20 years
- PENNVEST loan @ 5% for 20 years

Funding for the selected alternatives were calculated based on the four most frequently used infrastructure funding programs available to the Township. A provision is made at the end of the funding analysis section for the consideration of the newly enacted H<sub>2</sub>O PA Water / Wastewater funding program. It can be simply stated that if H<sub>2</sub>O PA funding is obtained, the total cost of the project may be cut in half.

### **USDA Rural Development Agency Rural Utilities Service (RUS)**

The USDA Rural Development Agency provides 75% grants and 90% loans for rural public entities in need of sewer, stormwater, and solid waste disposal facilities. Loans have a 40-year maximum term and three borrower selectable rates are based on an index of current market yields for municipal obligations.

The agency is also authorized by the Rural Development Act to provide grant funds to private non-profit organizations for Financing Water and Wastewater Projects via disbursement of revolving loans or grants to eligible entities. Predevelopment costs of wastewater projects and short-term small capital projects that are not part of the regular operation and maintenance of current wastewater systems are eligible under this program. The maximum amount of financing is \$100,000.00 to be paid at a maximum term of 10 years.

**Pennsylvania Infrastructure Investment Authority (PENNVEST) –** PENNVEST issues low interest loans and grants to public and private applicants for the building, and repair of water and waste water systems. Grants are issued on a basis of economic and environmental needs of the area. PENNVEST Loans are based on the following:

- Loans up to \$11 million per project for one municipality
- Up to \$20 million for more than one municipality
- Up to \$350,000 for design and engineering
- Up to 100% of the total project costs

PENNVEST provides the following conditions for loans

- 1% or 5% interest rate, depending upon the resulting user rates in the community
- Terms depending upon the useful life of the asset being financed
- Disbursement based upon reimbursable expenses

Calculations have been made for a grant-funding scenario of 9.5% based on average percentages of the PENNVEST board approvals in October 2008. Loan rates were analyzed at 1% and 5% based on PENNVEST guidelines.

**DCED COMMUNITY DEVELOPMENT BLOCK GRANTS (CDBG)** – In accordance with PA Act 179, DCED allocates monies primarily to counties and municipalities not eligible for HUD CDBG's these are known as Act 179 entitled communities. Non-entitled communities are encouraged to apply for a competitive grant. All projects covered under HUD CDBGs are applicable. Grants are 75% matching in nature, not exceeding \$500,000. Application review for non-Act 179 entitled communities (Upper Pottsgrove Township is a non Act 179 entitled community) occurs two to three times annually.

Initial analysis of the 2000 US Census data indicates that the Regal Oaks Development does not fall in a census block group that has the threshold percentage of medium to low income residents.

**H<sub>2</sub>O – PA WATER / WASTEWATER INFRASTRUCTURE FUNDING PROGRAM** – Established in the PA General Assembly in July 2008, the H<sub>2</sub>O PA Program provides 50 Percent matching grants for water, wastewater, and stormwater infrastructure projects. The Commonwealth Financing Authority Board has been selected to provide final approval of all grants. Review and recommendation for grant applications will be done by PENNVEST, PADEP and DCED. The minimum cost for any fundable project is \$500,000 and maximum grant allowance per project is \$20 million. Matching funds for any approved grant may be taken from outside sources such as PENNVEST grant or loans. The Township is currently making application for H<sub>2</sub>O PA funding for the chosen alternative.

**RESULTS OF THE FUNDING ANALYSIS** - Final analysis of the funding alternatives indicate that the alternative providing the least annual debt service per EDU was RUS funding with 45% grant. The second least debt service per EDU was PENNVEST funding at 1% for 20 years with a 9.5% grant. Due to the emergency nature of the project and order from PADEP to complete construction by 2010, greater weight may be given towards grant consideration from PENNVEST. However, given that grant monies are becoming scarce in the present economy it would be more realistic to consider a PENNVEST loan @ 1% for 20 years with no grant funding.

In February of 2009, an application was made to PENNVEST for funding of the ROPS project, the replacement of 1,100 linear feet of gravity mains on Farmington Avenue, capital contributions for the York and Beech Streets Expansion project in Pottstown Borough, and a significant portion

of the Transfer of Capacity Rights Agreement between the Township and PBA.

PENNVEST funding is also being sought for the Farmington Avenue West Sewer Project Phase II (Selected alternative of the November 2001 Revision of the Plan) to be implemented subsequent to the ROPS Project.

As of February 2009, the Township is currently investigating the possibility of using Community Development Block Grant funding to support individuals who may not be financially able to connect to the proposed Farmington Avenue West Phase II portion of the system.

## **F. IMPLEMENTATION APPROACHES**

### **1. Activities Necessary to Abate Public Health Hazards**

The residents with wells that tested positive for fecal coliform contamination were immediately notified and given guidance for well disinfection.

### **2. Phasing**

The chosen option for this plan will need to be completed in phases as follows:

The Regal Oaks Pumping Station project will begin immediately. This will include the needed modifications to Farmington Avenue's gravity main as mentioned above.

Regal Oaks Phase 2 will be connected to the sewer system within five (5) years.

The extension to Ming Drive/Moyer Road, and Horseshoe and Bruce Drives will be constructed within ten years (2018).

Due to the moratorium on connections in LPT, the extension to Continental and Orchard Drives will be completed within ten years (2018). This will give LPT the time necessary to address the I/I and capacity issues with their collection system, and have the moratorium lifted.

The second phase of Regal Oaks (existing on-lot users) will be completed in five (5) years.

## **G. ADMINISTRATIVE ORGANIZATIONS AND LEGAL AUTHORITY**

Upper Pottsgrove Township Board of Commissioners (BOC) will be the administrative and legal agency responsible for plan implementation. The BOC will delegate the investigation into the need for a Sewage Management Program, as well as a SFSTF Ordinance, to the Sewer Committee.

**VII. INSTITUTIONAL EVALUATION****A. EXISTING WASTEWATER TREATMENT AUTHORITIES**

## 1. Financial and Debt Status

The financial and debt status of UPT is a matter of public record and can be reviewed at any time. There is sufficient funding to complete this plan and maintain the system.

## 2. Available Staff and Administrative Resources

The UPT BOC has the resources to manage the sewage collection system and administrative tasks related to inter-municipal agreements, as they have done since the system has been in place.

## 3. Existing Legal Authority

UPT BOC has the legal authority to implement the recommendations of this plan.

**B. INSTITUTIONAL ALTERNATIVES NECESSARY TO IMPLEMENT PLAN**

## 1. Need for New Municipal Departments and Authorities

UPT currently has a Public Works Department that will continue to operate and maintain the collection system and pump stations.

## 2. Functions of Proposed Organizations

There are no proposed organizations.

## 3. Cost of Administration, Implementation and Capacity of Board to React to Future Needs.

Administrative costs were considered, and will be paid through user fees. The Township has the ability to implement the recommendations of this Plan through the Sewer Committee and Board of Commissioners.

**C. ADMINISTRATIVE AND LEGAL ACTIVITIES**

## 1. Incorporation of Authorities or Agencies

All required agencies are in place.

## 2. Development of Ordinances, Regulations, Standards and Agreements

The ordinances that need to be investigated are the Sewage Management Program Ordinance, and the SFSTF Ordinance. The BOC will delegate this investigation to the Sewer Committee.

## 3. Providing Right-of-Way, Easements, and Land Transfers

Easements for the sewer lines have been in place for about thirty years. Some may need to be updated, depending on the permitting requirements along the stream.

4. Adoption of Other Municipal Sewage Facilities Plans

This plan is being written in conjunction with the Pottstown Borough Authority's Act 537 Plan Revision. Once both are completed, they will be endorsed as part of the overall regional plan.

5. Other Legal Documents

There is no need to develop any other legal documents.

6. Dates and Time Frames

Refer to Implementation Schedule, Section VIII.C.

**D. PROPOSED INSTITUTIONAL ALTERNATIVE**

The proposed institutional alternative recommended for this plan is the UPT BOC administering and implementing the recommendations of this plan.

**VIII. IMPLEMENTATION SCHEDULE AND SELECTED ALTERNATIVE JUSTIFICATION****A. SELECTED TECHNICAL ALTERNATIVE**

The technical recommendation of this plan is as follows:

- The review of the need for a Sewage Management Program will be delegated to the sewer Committee.
- The review of the need for a Small-Flow Sewage Facilities Ordinance will be delegated to the Sewer Committee.
- The ROPS Project (as described in Section V. page 28) will be constructed and the ROWTF decommissioned.
- The CTPS will be decommissioned.
- The Farmington Avenue West Sewer Project (Phase II) will be completed.
- The PFRPS will be upgraded.
- Regal Oaks Phase 2 will be connected to the proposed ROPS within the next five (5) years.
- The Township will prepare for the connection of Ming Drive/Moyer Road, Horseshoe and Bruce Drives, and Continental and Orchard Drives in the next ten (10) years.

1. Existing Wastewater Disposal Needs

The wastewater disposal needs of Upper Pottsgrove Township are documented in Section III.

2. Future Wastewater Disposal Needs

The Township plans to design infrastructure for the future needs on all sewer projects. Refer to Table 4.2.

3. Operation and Maintenance Considerations

All of the above facilities are municipally-owned and operated in accordance with the respective permits. In addition, both the Regal oaks collection system and the Township collection system have current CAPs to deal with I/I and capacity issues.

4. Cost Effectiveness

The recommendations of this plan appear to be the most cost effective option with respect to achieving the goals of protecting the health of the residents and the natural resources of Upper Pottsgrove Township.

5. Available Management and Administrative Systems

Existing Township personnel will manage the collection system.

## 6. Available Financing Methods

The sewage collection system operation and maintenance are financed by the taxes and fees associated with on-lot permits.

## 7. Environmental Soundness

The recommendations of this plan will have no significant adverse environmental or natural resource impacts. In fact, they will eliminate a public health risk and decrease the contamination of well water by malfunctioning on-lot sewage systems. They will also eliminate the impact on Sprogel's Run created by the ROWTF.

**B. CAPITAL FINANCING PLAN**

As current application to the H2O PA program is ongoing for the selected alternative. PENNVEST Funds are also currently being sought. The financial effect of H2O PA grant funding is unknown. For implementation of the selected alternative, outside funding is required. At this time, exact capital to be applied to the project is unclear based on the anticipation of grant or loan funding.

Grant funding through H2O PA and PENNVEST sources will be allocated during the project implementation. Matching funds from the Township (if applicable) are also intended to be used during the implementation of the project.

**C. IMPLEMENTATION SCHEDULE**

The suggested Implementation Schedule for the recommendation of this Plan is as follows:

<b>Major Milestone</b>	<b>Date</b>
Start Regal Oaks Pump Station Project Construction	5/16/09
Regal Oaks Pump Station Project Completion and Decommissioning of Cherry Tree Pump Station	4/16/2010
Review of the need for Sewage Management Program and Small-Flow Sewage Facilities Ordinances delegated to Sewer Committee	6 months after Plan approval
Farmington Avenue West Phase II Construction	By December 2013
Sewer Committee responds to the BOC about the need for Sewage Management Program and Small-Flow Sewage Facilities Ordinances	18 months after Plan approval
Regal Oaks Phase 2	By December 2013
Ming Drive/Moyer Road	By December 2018
Horseshoe and Bruce Drives	By December 2018
Continental and Orchard Drives	By December 2018

This schedule is an expanded version of that which was agreed to with PA DEP, and is consistent with the recent Consent Order and Agreement reached between the PA DEP and Upper Pottsgrove Township.

**IX. UNIFORM ENVIRONMENTAL REVIEW**

**UPPER POTTS GROVE TOWNSHIP  
MONTGOMERY COUNTY, PENNSYLVANIA**

UNIFORM ENVIRONMENTAL REVIEW (UER)

SUPPLEMENT TO THE

**UPPER POTTS GROVE TOWNSHIP ACT 537  
SEWAGE FACILITIES PLAN REVISION  
APRIL 2009**

PREPARED BY  
LTL CONSULTANTS, LTD.  
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## **I PROJECT DESCRIPTION AND NEED**

The projects described in this report are selected alternatives from two separate revisions to the Upper Pottsgrove Township Act 537 Plan (2002 & 2009). The selected alternative discussed for the 2009 revision is known as the Regal Oaks Pumping Station Project (ROPS). The selected alternative discussed from the 2002 revision is known in this report as Farmington Avenue West Sewer Project: Phase II (FAW2). Both projects are identified in the 2009 plan implementation schedule. Pennsylvania Infrastructure Investment Authority (PENNVEST) funding is being sought for both projects simultaneously. Ergo, both projects are identified separately in most sections of the report.

### **A. Purpose of and Need for Project**

Regal Oaks Pumping Station (ROPS):

This project is being implemented to eliminate a failing wastewater treatment plant that was constructed as part of the original Regal Oaks Subdivision construction. The plant was permitted through a private request to the Pennsylvania Department of Environmental Protection (PA DEP). The Township fought the private request in court and lost. For nearly 20 years the plant functioned. In the last 10 years the plant has been challenged to meet the discharge criteria set forth in the existing National Pollutant Discharge Elimination System (NPDES) permit. In addition, due to the higher flows, the plant has discharged solids to the receiving stream (Sprogel's Run) on several occasions. This lack of performance has negatively impacted Sprogel's Run. The Environmental Protection Agency (EPA) now lists the stream as an impaired stream.

In 2007 the Township was required to take over the operations and finances of the plant by the PA DEP. On January 13, 2009 the Township entered into a Consent Order and Agreement (CO&A) with the PA DEP. The

CO&A requires that the Regal Oaks treatment facility be eliminated and replaced with a pump station. This project is in conformance with the provisions of the CO&A.

Farmington Avenue West Phase II (FAW 2):

This project is being implemented as a result of studies performed to address failing on-lot sewer systems in the Farmington Avenue and Evans Road areas of the Township. Needs analyses have indicated that the area had shown a 57 percent On-Lot Disposal System (OLDS) malfunction rate. The selected alternative was to extend sewer service to the properties west of the village of Halfway House along Farmington Avenue and including properties on Evans Road.

In late 2007 financial constraints led the Township to phase the Project. In the summer of 2008, construction was completed for Phase 1, extending from Halfway House to the Farmington Avenue / State Route 100 Interchange. This project, Phase 2, is now awaiting the funds to commence.

## **B. Project Description**

Regal Oaks Pumping Station (ROPS)

Location and area:

The project is located from the eastern portion of the Cherry Tree Subdivision to the wastewater treatment plant in the Regal Oaks Subdivision (originally known as Birchwood Terrace Homes). Regal Oaks is a 132 lot subdivision on the east side of Gilbertsville Road (State Route 4040) approximately 2/3 mile north of Farmington Avenue and Mangers Mill road (State Route 4033). On the Boyertown, PA USGS quadrangle, it is approximately at longitude 40°17' 0" and latitude 75°37'30". The Cherry Tree Subdivision lies directly west across Gilbertsville Road from Regal Oaks. The estimated area of disturbed land (20' permanent easement) is 4

acres. The estimated acreage of the properties to be served in Regal Oaks is 46 acres.

As part of this project the flow that now goes to the existing facility (75 EDUs) will be instead pumped to the Pottstown Borough treatment facility. An additional section of sewer main and along Farmington Avenue must also be expanded to provide sustainable capacity within the Township for the transfer of flow to the Pottstown Borough Treatment Facility. The pump station will also be interconnected with the Woodbrook and Cherry Tree Subdivisions (directly west of Regal Oaks). These subdivisions have their own pump station. However, it is projected to be hydraulically overloaded. After completion, the flow from these developments will travel by gravity to the new pump station.

This project is part of a regional effort between Upper Pottsgrove Township and the Borough of Pottstown. After construction, all flows from Upper Pottsgrove Township will rely on treatment by the Pottstown Borough Authority (PBA). This project will trigger an expansion project in Pottstown Borough to specifically support UPT flow. PBA is expanding their hydraulic capacity while Upper Pottsgrove Township is building ROPS. These regional efforts will result in a capacity purchasing agreement between UPT and PBA as well as a cost sharing agreement between UPT and PBA for the expansion of the sewer main in Pottstown Borough.

### Facility Types:

Locations of Facilities in the project can be found in Exhibit 1. A listing of the items to be installed can be found in Exhibit 1A. This project will involve the installation of the following facilities.

### Costs:

A detailed breakdown and estimation of project costs, engineering, and agreement costs can be found in Exhibit 1A. The total construction cost of

the project is estimated at \$1,556,120. Engineering, Administrative, and Legal Costs are Estimated to Be \$466,836. Costs for Capacity Agreements and Cost Sharing between UPT and PBA are estimated at \$1,215,684. Estimated Annual Costs are to be fixed at a rate of \$800 per year per Equivalent Dwelling Unit (EDU).

The Township is currently applying to Pennsylvania Infrastructure Investment Authority (PENNVEST) and Commonwealth Financing Authority funding sources to support the project. It is the Township's Intent to use its General Funds to finance the project prior to any closing with PENNVEST.

A USGS 7.5 Quadrangle Map with project areas and infrastructure for both Regal Oaks Pumping Station and FAW 2 can be found in Exhibit 2.

Farmington Avenue West PH II (FAW 2)

Location and Project Area:

The project is located in the eastern portion of Farmington Avenue, extending northeast from the interchange of Farmington Avenue and State Route 100 South. The intent of the project is to sewer properties along Evans Road and Farmington Avenue and to transfer this sewage to the Pine Ford Road Pumping Station approximately 0.25 miles south of the service area. From the Pine Ford Road Pumping Station, all flow will be transferred to the Existing Farmington Avenue Sewer main to Pottstown Borough for treatment by PBA.

The estimated area of disturbed land (20' permanent easement) in the project will be approximately 4 acres. 65 properties will be served by this project. The estimated acreage of the service area is 48 acres.

## Facility Types:

Locations of Facilities in the project can be found in Exhibit 3. A listing of the items to be installed can be found in Exhibit 3A.

## Costs:

A detailed breakdown and estimation of project costs, engineering, and agreement costs can be found in Exhibit 3A. The total construction cost of the project is estimated at \$1,420,100. Engineering, Administrative, and Legal Costs are Estimated to Be \$450,298.

Estimated Annual Costs are to be fixed at a rate of \$800 per year per Equivalent Dwelling Unit (EDU). The Township is currently prepared to use municipal capital funds and PENNVEST and H2O PA funding to finance the project.

## II Summary of Reasonable Alternatives Considered

### A. No Action Alternative

A “No Action” Alternative would recommend that Upper Pottsgrove Township “Do nothing”. This would result in negative effects in both the short- and long-terms. Increases in the amount of OLDS malfunctions will result in the heightened risk of bacterial and mineral contamination of ground (wells) and surface waters. Sprogel’s Run, a 303d-listed stream, is a main concern. It is in an area where it is subject to contamination from malfunctioning OLDS, and the failing ROWTF discharges to it. Doing nothing would cause further impairment to Sprogel’s Run, and further risks to public health.

Providing a no action alternative in the Farmington Avenue Sewer Service area will result in continued OLDS malfunctions, threatening ground water supplies and health, safety, and welfare of its residents.

UPT is under a Consent, Order and Agreement (dated January 13, 2009) to replace the ROWTF with a pump station. Defying the CO&A would bring civil fines and penalties, to be paid with tax dollars.

All of this would lead to negative social, economic and community growth factors. The No Action Alternative is not an option.

### B. Alternatives Summary

ROPS:

Nine technical alternatives were examined for the purpose of alleviating sanitary sewer issues in the Township, addressing regulatory compliance concerns for the ROWTF and the Cherry Tree Pumping Station, and

addressing existing and future sewer capacity. Four alternatives involved regional wastewater treatment. The remaining five alternatives involved UPT constructing and operating their own wastewater treatment facility. A table identifying and describing these technical alternatives is found in Exhibit 4.

FAW 2:

Three technical alternatives were considered for the connection of Properties East of the State Route 100 Interchange along Farmington Avenue and Evans Road. A discussion (Excerpt from the Plan Revision approved by PADEP in 2002) and map showing each alternative is included in Exhibit 5.

In the Farmington Avenue west of Route 100 area, the selected alternative most closely represents Alternative 1 (recommended in the Special Study). Minor modification of pipe routing resulted from discussions with the developer of the Kummerer Tract. The developer's lot locations and open space requirements necessitated revision of 2500 lf of line.

Additionally, survey accurate topographical considerations and difficulty acquiring public sewer easements caused other minor routing revisions. In the Evans Road area, the proposed 7-lot subdivision contributed to the change from all grinder pumps to some grinder pumps and a pump station. This alternative was approved by PADEP in the issuance of a WQM Part II Permit for the project. This is found in Exhibit 6.

## System Size and Capacity

ROPS:

This portion of the project will provide immediate connection for 75 homes and the redirection of flows from the Cherry Tree and Woodbrook Subdivisions, resulting in service for 295 Equivalent Dwelling Units. Calculated against a figure of 300 gpd/edu (Per Connection Management Plan 2008 and Capacity Transfer Agreement 2009) 88,500 gpd will flow

through this portion of the system. Further, the new pumping station and expansion of sewer mains along Farmington Avenue have been designed to handle additional capacity (maximum capacity of 537,120 gpd). This will be used in future projects connecting remaining properties in the Regal Oaks Subdivision and to handle both planned growth and areas having OLDS malfunctions (Ming Drive, Moyer Road, Bruce Drive) within the next 10 years.

FAW 2:

The proposed project will increase the Pine Ford Road pumping station's capacity to handle 475,200 gpd, allowing for all existing connections, for the connections from FAW 2, and for all planned future connections in the area.

### **C. Comparison of Alternatives**

ROPS:

A detailed cost comparison of all alternatives considered is found in Exhibit 7 (Appendix 4.2 in the plan). The selected alternative was found to be the most feasible based on cost, requirements set forth by the CO&A of January 2009, and topographic constraints.

The area directly effected by the project includes the Regal Oaks Subdivision (formerly known as Birchwood Terrace Homes) a 132 single-family home development. The expected environmental effect of this project is to eliminate all discharge of treated and untreated sewage flows to Sprugel's Run, an EPA defined impaired stream. Elimination of these flows is expected to significantly improve surface water conditions and improve aquatic life. Continuance of discharge to the stream will result in further water quality hazards and continue to pose a threat to health, safety, and welfare of residents downstream.

Cost and Present Worth Analysis of all alternatives is found in Exhibit 7 (Appendix 4.2 in the plan).

FAW 2:

The area directly affected by this project is the northwestern portion of Farmington Avenue and the developed areas of Evans Road intersecting. This consists of 65 single-family homes. The expected effect of this project is to abate existing and future OLDS malfunctions that are a direct threat to the ground water supply. Since all homes in this area are dependent on ground water for on-lot wells, the implementation of this project is essential for health, safety and welfare of the area's residents.

Cost and Present Worth Analysis of all alternatives is found in Exhibit 7.

### III Environmental Consequences of the Project

#### A. Land Use, Important Farmland, / Formally Classified Lands

Effects:

No direct, indirect, or cumulative effects have been found in relationship to land use, important farmland or formally classified lands. The Montgomery County Planning Commission, Montgomery County Agricultural Land Preservation Board, Upper Pottsgrove Township Planning Commission, and the Pottstown Borough Planning Commission have confirmed this.

Land Use Consistency:

Montgomery County Planning Commission, Pottstown Borough Planning Commission and the Upper Pottsgrove Township Planning Commission have found the projects to be consistent with all County, Local, and Regional Comprehensive Planning and Land use Regulations. Copies of these concurrency letters are attached in Exhibit 8.

Farmland Impact Statement:

No protected farmland or agriculturally important soils are to be effected by either project. A statement of concurrency of compliance from the Montgomery County Agricultural Preservation Board is included in Exhibit 8 . A Soils Map with the Project Areas Overlain is included in Exhibit 9.

#### B. National / State Parks

No National or State Parks are located within one mile of the either project area.

## C. Flood Plains

### ROPS

Currently, permit application has been made to PADEP for a Water Quality Management Permit Part II (WQM II) and General Permit 5 (GP-5). Issuance for these permits is expected by the end of April 2009. No permanent floodplain disturbance is expected as a result of this project.

### FAW 2

Currently a WQM II Permit has been issued for this project. No permanent floodplain disturbance is expected as a result of this project.

## D. Wetlands

### ROPS:

Conestoga Rovers & Associates issued a wetland delineation report for the project area on February 3, 2009. This report indicated that there are 4 stream crossings and 2 wetland crossings that will occur as a result of this project. Currently a General Permit 5 (GP-5) has been applied for from PADEP. Issuance of this permit and a State Programmatic General Permit 3 (Army Corps of Engineers) is expected by the end of April 2009. A clearance letter from the Pennsylvania Fish and Boat Commission (PAFBC) has been received. A U.S. Department of Interior Fish and Wildlife Commission Clearance Letter has been received by the Township. This letter is attached in Exhibit 10.

### FAW 2:

Currently, a GP-5 has been issued for the project (confirmation is attached) No permanent disturbance of wetlands is expected for this project. Clearance letters from both PAFBC and USDI have been issued for this project. These letters are attached in Exhibit 10.

## **E. Historic**

In the case of both projects, the Township has received a clearance letter from the Pennsylvania Historical and Museum Commission (PHMC). PHMC indicates that this project will have no effect on both historic and archeological resources. These clearance letters are attached in Exhibit 10.

## **F. Sensitive Biological Resources**

Regarding both projects, the Township has received Pennsylvania Natural Diversity Index (PNDI) Clearance Letters. These letters indicate that there are no known impacts to sensitive biological resources by the project. Clearance letters from both the Pennsylvania Fish and Boat Commission and US Fish and Wildlife Commission also indicate that no impact on Bog Turtle habitats is expected for either project. These clearance letters are attached in Exhibit 10.

## **G. Water Quality Resources**

### **Improvement to Surface Water:**

As indicated in the current revision of the Upper Pottsgrove Township Act 537 Plan, Surface Water Conditions of Sprogel's Run will be significantly improved by the dismantling of the ROWTF. This has been confirmed in the issuance of the UPT / PADEP CO&A of January 13, 2009. Elimination of the plant will reduce the risks of acute threats to the stream such as fish kills due to plant overload and inflow / infiltration issues during heavy rain periods. The dismantling of the plant will also lead to long-term water quality improvement to the currently impaired stream and to the greater Schuylkill River Watershed.

### **Improvement to Ground Water**

Long and short-term improvements will be attained by the connection of homes in the Farmington Avenue and Evans Road Area. Short term

confirmed and suspected OLDS malfunctions will be eliminated with the connection of these properties. Long-term improvements will be seen with the dismantling of older systems and potential malfunctions. The intent of the Farmington Avenue West Project is to abate the 57% OLDS malfunction rate. Further, the ROPS will provide sustainable infrastructure to provide connections to other developments that are experiencing malfunctioning OLDS (Ming Drive, Moyer Road, Bruce Drive).

## **H. Sole Source Aquifer Recharge Area**

Neither project is located in a Sole Source Aquifer Recharge Area as designated by EPA.

## **I. Coastal Resources**

Neither project is located near a coastal zone management area as designated by PADEP.

## **J. Socio-Economic**

ROPS does not impose disproportionate, adverse effects on minority or disadvantaged persons based on US Census Bureau Block Group Data. (Block Group is 2091-2).

FAWS 2 is located in US Census Bureau Block Group Number 2091-9. Data for this block group from the 2000 Census indicates that 29.9% of the population is low to moderate in income. This indicates that the area may qualify for Community Development Block Grants. Qualifying individuals may be issued grants to provide subsidy for connection to the system. The Township is currently exploring this scenario.

## **K. Air Quality**

Dust emissions during construction are of concern. Control methods for these emissions are provided for within the project plans and specifications. They include the following:

- Use of rock filters and rock entrances at the construction site entrance to trap small particles and dust from entering and exiting vehicles.
- Removal of dust and sediment from construction vehicles before entering public rights-of-way.
- Daily mechanical cleaning of the road surface at the end of each working day.

## **L. Transportation**

Implementation of ROPS will create some transportation issues, as most of the sewer mains will be installed in local and state Rights-of-way. Penn DOT Highway Occupancy Permit (HOP) applications for ROPS were issued in April 2009. The permit is attached in Exhibit 10. State approved methods of traffic control will be employed during the construction of the project.

A Penn DOT HOP is not required for FAW 2. As stated above, State approved methods of traffic control will be employed during construction.

## **M. Noise Abatement and Control**

The pumping stations will be enclosed and located as to produce the lowest possible disturbance to the residents.

## **N. Wild and Scenic Rivers**

Neither project impacts National Wild and Scenic Rivers in the Nationwide Rivers Inventory. No American Heritage Rivers are impacted by this project.

**O. Miscellaneous Environmental Considerations**

Biosolids Generation, Treatment and Disposal

The removal of the ROWTF will eliminate biosolids generation from Upper Pottsgrove Township. All flow will be transferred and managed by PBA.

Impact of the project on or from local landfills

No local landfills will effect or be affected by either project.

Superfund / HSCA Sites

No Superfund / HSCA sites will effect or be affected by either project.

## IV Summary of Mitigation

Non-permanent impacts related to socio-economic conditions, air quality during construction, and transportation, and floodplains may be present during and after the construction of the project.

The Township intends to mitigate possible disproportionate connection impacts on residents of Farmington Avenue West and Evans Road by investigation of Community Development Block Grants. Secondly the Township has mitigated issues of air quality by implementing devices for reduction of construction generated dust and particulate matter into the bidding specifications and plans. The Township has also planned to mitigate traffic issues by providing state approved methods of traffic control during construction periods. The Township has also applied for all pertinent transportation-related permits from the State. PADEP is currently reviewing ROPS for compliance with floodplain impacts through GP 5 evaluation.

**V Public Participation**

**A. Act 537 Public Review and Comment Periods**

The Township has conducted thirty-day public comment periods for both projects. These periods were part of requirements for Act 537 planning.

**B. Dates of meetings, comment periods**

A public comment period was held for the November 2001 Revision to the Act 537 plan (Farmington Avenue West Sewer Project – Selected Alternative). The period lasted from November 27, 2001 to December 27, 2001.

A public comment period was held for the April 2009 Revision to the Act 537 Plan (ROPS – Selected Alternative). The period lasted from February 2, 2009 to March 3, 2009.

**C. Summarize Comments / Responses**

ROPS: (2009 revision to the Act 537 Plan)

A public comment period was established from February 2, 2009 to March 3, 2009. Comments included a statement that the plan underestimates sewer capacity need for the future and the cost for the selected alternative. Other comments suggested that the Township has neglected developers' requests for additional capacity, currently owes compensation for developer capital contributions, and that the Township lacks appropriate funding for general operations and maintenance of the existing system, negating the need for repairs at Regal Oaks. The combination of these factors has resulted in frequent and costly updates to the 537 Plan.

The Township responded that the revision of the Plan is a result of regulatory functions of PADEP (requirements set in development approval letters and Consent Order and Agreement of January 2009). The need for additional Act 537 Planning is not based on lack of foresight or improper planning in the past.

The Township has conducted a complete ten-year build-out analysis taking into consideration existing construction, abatement of existing problems, projects with approved planning modules, and potential projects without planning module approvals being the foremost in priority. Potential projects in sketch plan phases and potential development based on available land were considered but found not economically feasible for five-year priority. Immediate purchase of capacity and infrastructure expansion for the ten-year build-out would be an inconceivable task leading to the phasing of capacity purchasing and plan implementation. Land developments without approved planning modules would not have priority for immediate release of capacity.

Regarding compensation for the developer's contributions to the system. The compensation for the developer's contribution noted in the comment is currently part of settlement discussions between the Township and the developer. The Township solicitor is coordinating these discussions.

FAW 2: (2001 Revision to the Act 537 Plan of April 1999)

Public comments were obtained during a period from November 27 to December 27, 2001. Comments included a claim that the Township was not providing sufficient sewer capacity for future land development by not purchasing sufficient capacity from Pottstown Borough Authority (PBA) and that capacity was reserved only for failing On-lot Disposal Systems (OLDS). Another comment stated that the plan was inadequate in considering Township repayment of debt costs for the selected alternative. A request was made for a revision to the sewage treatment agreement with the PBA to secure additional capacity for future land development.

The Township's response indicated that the capacity agreement in place was restricted to emergency users, the development for which additional capacity was requested was still unapproved and under zoning dispute, the Township's debt service for previous and current work was up-to-date, and the connection of more EDUs to the existing system would act as subsidy to the sewer budget.

**VI Exhibits**

# OPTION 6 REGAL OAKS PUMPING STATION

UPPER POTTS GROVE TWP.  
MONTGOMERY CO. PA

ACT 537 UPDATE AND REVISION



**Legend**

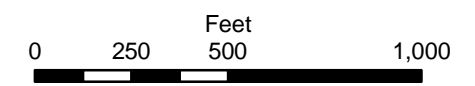
**PROPOSED REGAL OAKS MAINS 031209**

Layer

- - - PROPOSED 8" FORCEMAIN IN SHARED TRENCH
- PROPOSED GRAVITY MAIN
- EXISTING FACILITIES
- EXISTING SEWER MAINS
- ROAD CENTERLINES
- MUNICIPAL BOUNDARY
- PARCELS



MAP SCALE  
1 inch = 500 feet



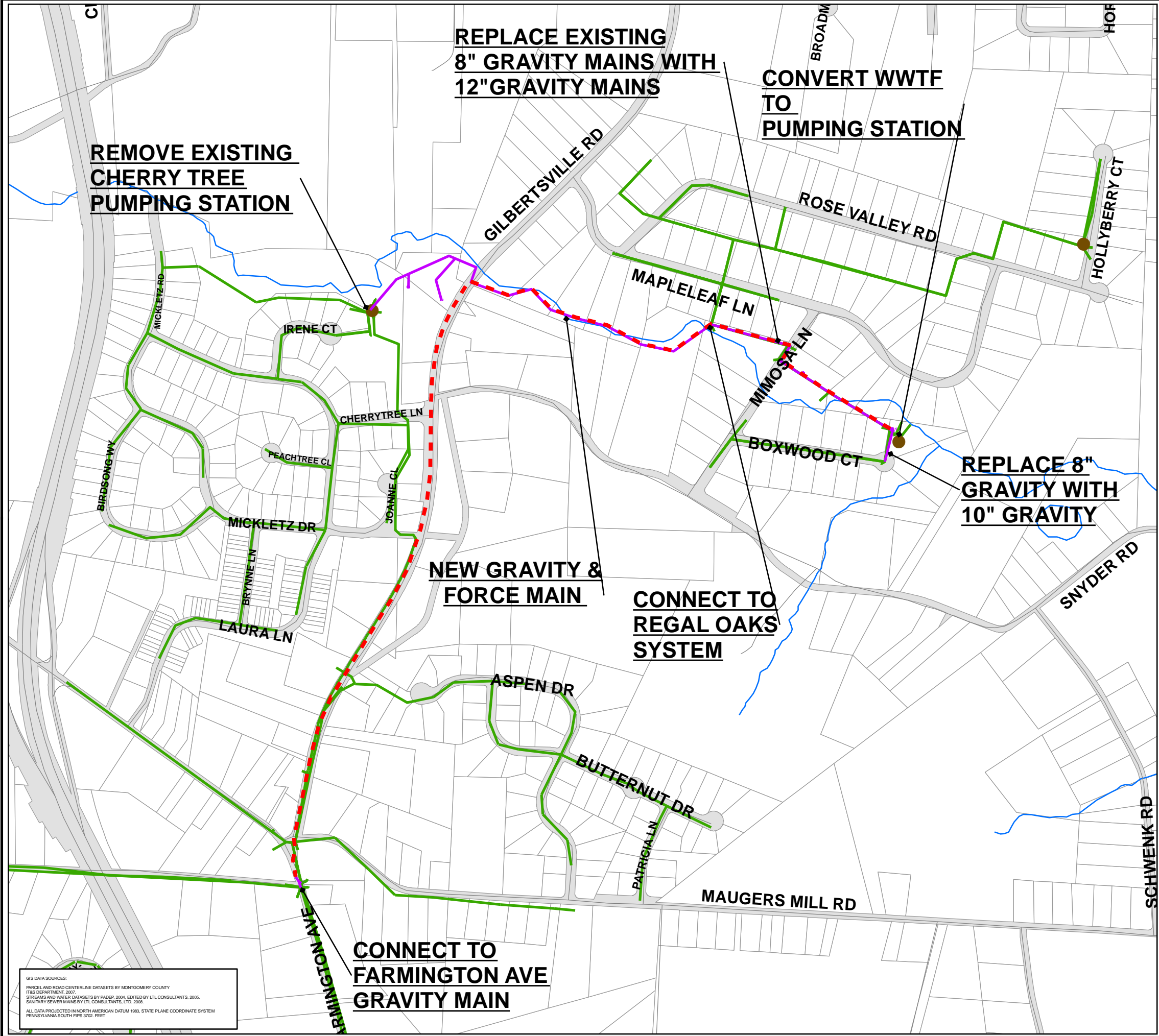
MAP# 20

EXHIBIT 1

**LTL CONSULTANTS, LTD.**  
ENGINEERS & CODE OFFICIALS

P.O. BOX 341  
ONE TOWN CENTRE DR.  
OLNEY, PA 19547

(610) 987-9290  
FAX: (610) 987-9298



GIS DATA SOURCES:  
 PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY  
 ITAS DEPARTMENT, 2007.  
 STREAMS AND WATER DATASETS BY PAPER, 2004, EDITED BY LTL CONSULTANTS, 2005.  
 SANITARY SEWER MAINS BY LTL CONSULTANTS, LTD. 2008.  
 ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE COORDINATE SYSTEM  
 PENNSYLVANIA SOUTH PIPS 3702, FEET

# REGAL OAKS PUMP STATION COST ESTIMATE FOR PENNVEST FUNDING

Appendix A-22 EXHIBIT 1A

Item	Description	Quantity	Unit	Unit Price	Extended Price
1	Bonds and Insurance	1	Lump Sum	\$20,000.00	\$20,000.00
2	Mobilization and Demobilization	1	Lump Sum	\$10,000.00	\$10,000.00
3	Furnish and Install 12" SDR-35 Sewer Line in unpaved and/or Easement Areas, including erosion and sedimentation controls (4-7' depth)	620	LF	\$65.00	\$40,300.00
4	Furnish and Install 12" SDR-35 Sewer Line in unpaved and/or Easement Areas, including erosion and sedimentation controls (7-10' depth)	830	LF	\$70.00	\$58,100.00
5	Furnish and Install 12" SDR-35 Sewer Line in unpaved and/or Easement Areas, including erosion and sedimentation controls (10-14' depth)	1230	LF	\$80.00	\$98,400.00
6	Furnish and Install 12" SDR-26 Sewer Line in unpaved and/or Easement Areas, including erosion and sedimentation controls (14-18' depth)	170	LF	\$100.00	\$17,000.00
7	Furnish and Install 12" SDR-26 Sewer Line in unpaved and/or Easement Areas, including erosion and sedimentation controls (>18' depth)	280	LF	\$130.00	\$36,400.00
8	Furnish and Install 12" SDR-35 Sewer Line in Roadway and shoulder (10-14' depth)	80	LF	\$125.00	\$10,000.00
9	Furnish and Install 12" SDR-26 Sewer Line in Roadway and shoulder (14-18' depth)	130	LF	\$150.00	\$19,500.00
10	Furnish and Install 8" SDR-35 Sewer Line in Roadway and shoulder (7-10' depth)	40	LF	\$90.00	\$3,600.00
11	Furnish and Install 8" SDR-35 Sewer Line in unpaved and/or Easement Areas, including erosion and sedimentation controls (7-10' depth)	120	LF	\$70.00	\$8,400.00
11A.	Furnish and Install 18" SDR 26 Sewer Line in Roadway and Shoulder (>18' depth) - Farmington Avenue Expansion	1100	LF	\$185.00	\$203,500.00
12	Stream Crossing, including temporary cofferdams, concrete encasement, erosion and sedimentation controls (quantity measured by length of concrete encasement)	100	LF	\$160.00	\$16,000.00
13	Miscellaneous Concrete Encasement for Sewer Line	5	CY	\$250.00	\$1,250.00
14	Sewer Manhole concrete base sections	17	EA	\$1,600.00	\$27,200.00
14A.	Sewer Manhole concrete base sections - Farmington Avenue Expansion	4	EA	\$1,600.00	\$6,400.00
15	Sewer Manhole vertical riser sections, including cone sections, measured top of cone to top of base section	173	VF	\$130.00	\$22,490.00
15A.	Sewer Manhole vertical riser sections, including cone sections, measured top of cone to top of base section - Farmington Avenue Expansion	48	VF	\$130.00	\$6,240.00
16	Sewer Manhole frame and cover, including watertight inserts	17	EA	\$400.00	\$6,800.00
16A.	Sewer Manhole frame and cover, including watertight inserts - Farmington Avenue Expansion	4	EA	\$400.00	\$1,600.00
17	Sewer Manhole vertical drop connections including concrete encasements	13	VF	\$200.00	\$2,600.00
18	Furnish and Install 8-inch SDR-21 force main with fittings, joint restraints, valves, thrust blocks, all depths	5810	LF	\$30.00	\$174,300.00
19	Disabling of Existing Septic Systems	1	EA	\$500.00	\$500.00
20	Furnish and Install 6" SDR-35 Sewer laterals, all depths	330	LF	\$60.00	\$19,800.00
21	Furnish and install 8" x 6" Wye fittings for house laterals	3	EA	\$65.00	\$195.00
22	Landscaping Allowance, to be used as directed by Engineer for new trees, etc.	1	Allowance	\$25,000.00	\$25,000.00
23	Regal Oaks Pump Station - Fairbanks Morse Pump Package, supply complete and install, including all suction piping, valves and appurtenances	1	Lump Sum	\$120,000.00	\$120,000.00

# REGAL OAKS PUMP STATION COST ESTIMATE FOR PENNVEST FUNDING

Appendix A-22-b.1

Item	Description	Quantity	Unit	Unit Price	Extended Price
24	Regal Oaks Pump Station Site Work, including disabling of existing package treatment plant, complete wet well, foundation, venting, cover, hardware, fencing, vehicular gate, tree removal, parking area, restoration, generator	1	Lump Sum	\$75,000.00	\$75,000.00
25	Regal Oaks Emergency Generator purchase and installation.	1	Lump Sum	\$75,000.00	\$75,000.00
26	Cherry Tree Pump Station Site Work, including disabling of existing pump station, fencing, restoration	1	Lump Sum	\$20,000.00	\$20,000.00
27	Permanent Roadway and Shoulder restoration, mains and laterals (not including 1 1/2" wearing course)(temporary restoration incidental)	4630	LF	\$30.00	\$138,900.00
28	Permanent easement restoration, mains and laterals (temporary restoration incidental)	3580	LF	\$6.00	\$21,480.00
29	PennDOT Lane Mill and Overlay (1 1/2" wearing course)	6900	SY	\$13.00	\$89,700.00
30	Line Painting	1	LS	\$24,000.00	\$24,000.00
31	Inspection and Testing Allowance	1	Allowance	\$15,000.00	\$15,000.00
<b>SUBTOTAL =</b>				<b>\$</b>	<b>1,414,655.00</b>
<b>CONTINGENCY (10%) =</b>				<b>\$</b>	<b>141,465.50</b>
<b>TOTAL CONSTRUCTION =</b>				<b>\$</b>	<b>1,556,120.50</b>
<b>ENGINEERING, ADMINISTRATION, LEGAL (30%) =</b>				<b>\$</b>	<b>466,836.15</b>
<b>CPACITY FEES TO POTTSTOWN BOROUGH AUTHORITY (71,100 GPD X \$4.44/G) =</b>				<b>\$</b>	<b>315,684.00</b>
<b>UPPER POTTSGROVE TOWNSHIP CONTRIBUTION TO YORK AND BEECH STREET PROJECT (POTTSTOWN BOROUGH AUTHORITY)</b>				<b>\$</b>	<b>900,000.00</b>
<b>TOTAL PROJECT COST (TPC) =</b>				<b>\$</b>	<b>3,238,640.65</b>

# NEW INFRASTRUCTURE AND TOPOGRAPHY

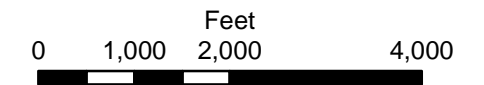
UPPER POTTS GROVE TWP.  
MONTGOMERY CO. PA



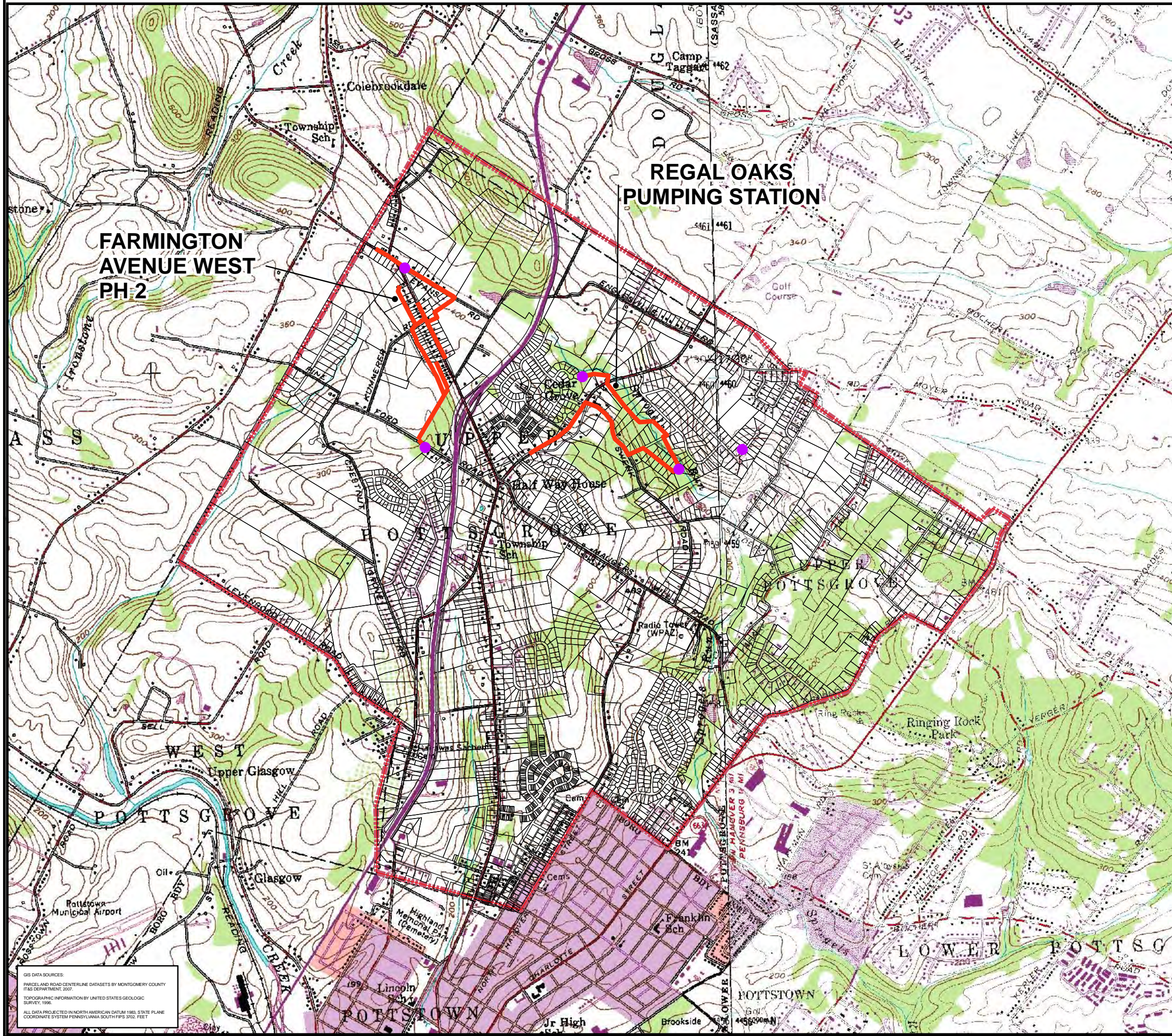
**Legend**

- MUNICIPAL BOUNDARY
- PARCEL BOUNDARIES
- NEW MAINS
- EXISTING FACILITIES

MAP SCALE  
1 inch = 2,000 feet



USGS Quadrangles :  
Boyertown  
Sassmansville



GIS DATA SOURCES:  
PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY  
ITAS DEPARTMENT, 2007.  
TOPOGRAPHIC INFORMATION BY UNITED STATES GEOLOGIC  
SURVEY, 1996.  
ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE  
COORDINATE SYSTEM PENNSYLVANIA SOUTH FIPS 3202, FEET

**EXHIBIT 2**

**LTL CONSULTANTS, LTD.**  
ENGINEERS & CODE OFFICIALS

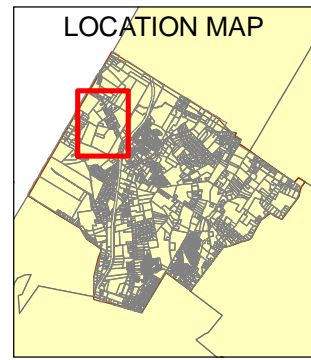
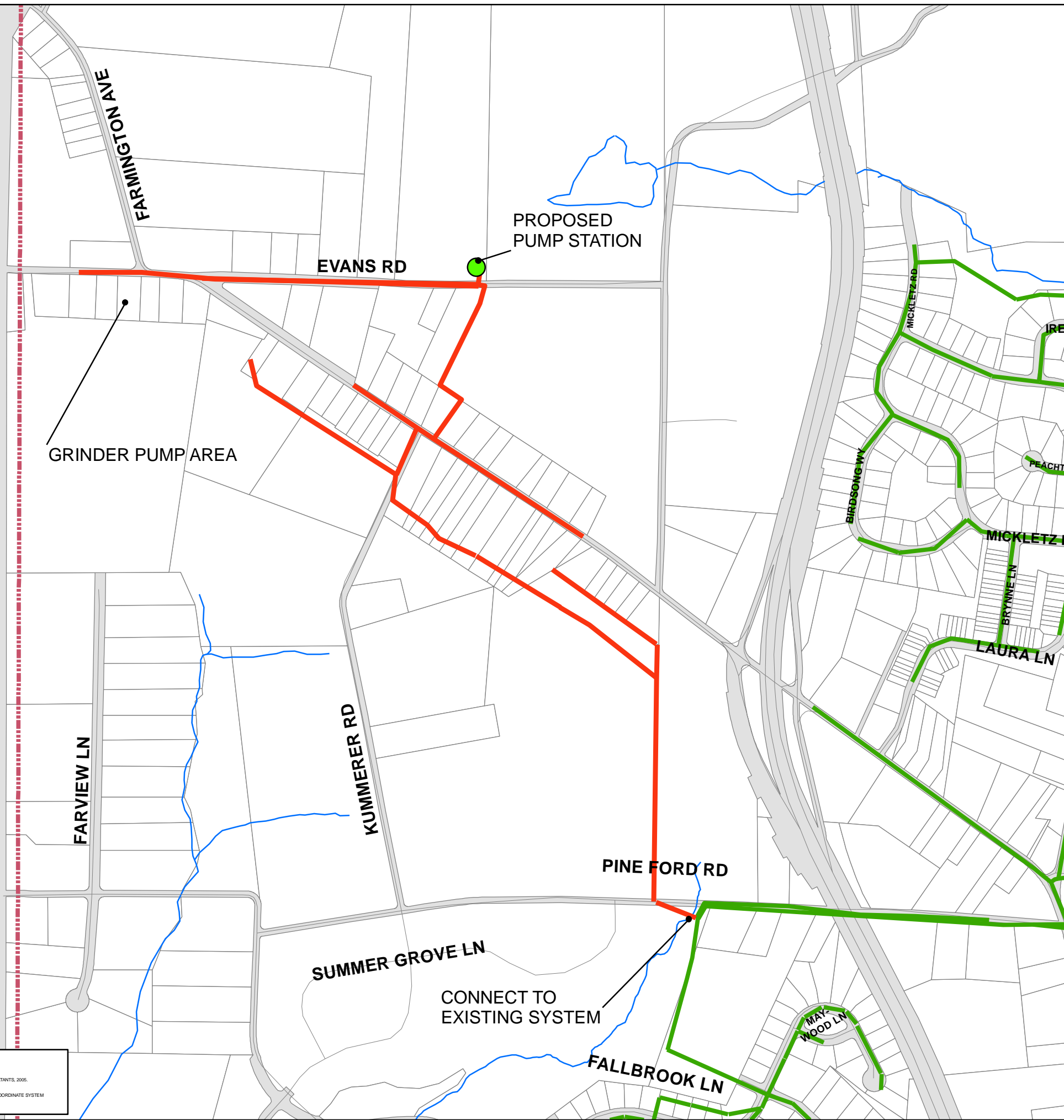
P.O. BOX 241  
ONE TOWN CENTRE DR.  
OLEY, PA 19547

(610) 987-9290  
FAX: (610) 987-9288

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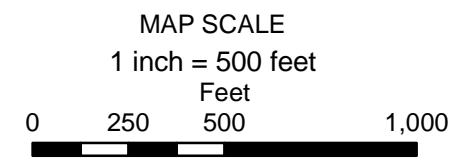
# FARMINGTON AVENUE SEWER PROJECT PH 2

## UPPER POTTS GROVE TWP. MONTGOMERY CO. PA



**Legend**

- NEW MAINS
- EXISTING SEWER MAINS
- ROAD CENTERLINES
- MUNICIPAL BOUNDARY
- PARCELS



GIS DATA SOURCES:  
PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY  
IT&D DEPARTMENT, 2007.  
STREAMS AND WATER DATASETS BY PADERP, 2004. EDITED BY LTL CONSULTANTS, 2008.  
SANITARY SEWER MAINS BY LTL CONSULTANTS, LTD. 2008.  
ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE COORDINATE SYSTEM  
PENNSYLVANIA SOUTH FIPS 3702, FEET

**EXHIBIT 3**

**LTL CONSULTANTS, LTD.**  
ENGINEERS & CODE OFFICIALS

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ONE TOWN CENTRE DR.  
OLEY, PA 19547

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FAX: (610) 987-9288

## **FARMINGTON AVENUE WEST PH 2 COST ESTIMATES FOR PENNVEST FUNDING**

EXHIBIT 3A

<b>Item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Price</b>
1	Bonds and Insurance	0.75	Lump Sum	\$20,000	\$15,000
2	Mobilization and Demobilization	0.75	Lump Sum	\$10,000	\$7,500
3	Furnish and Install 8" SDR-35 Sewer Line in Township or Private Roadway and shoulder (4-7' depth)	1750	LF	\$75	\$131,250
4	Furnish and Install 8" SDR-35 Sewer Line in Township Roadway and shoulder (7-10' depth)	530	LF	\$90	\$47,700
5	Furnish and Install 8" SDR-35 Sewer Line in Township Roadway and shoulder (10-14' depth)	400	LF	\$125	\$50,000
6	Furnish and Install 8" SDR-26 Sewer Line in Township Roadway and shoulder (14-18' depth)	0	LF	\$150	\$0
7	Furnish and Install 8" SDR-35 Sewer Line in unpaved and/or Easement Areas, including erosion and sedimentation controls (4-7' depth)	1080	LF	\$60	\$64,800
8	Furnish and Install 8" SDR-35 Sewer Line in unpaved and/or Easement Areas, including erosion and sedimentation controls ( 7-10' depth)	1190	LF	\$70	\$83,300
9	Furnish and Install 8" SDR-35 Sewer Line in unpaved and/or Easement Areas, including erosion and sedimentation controls (10-14' depth)	540	LF	\$100	\$54,000
10	Furnish and Install 8" SDR-26 Sewer Line between MH's 14&15, 15&4, 1&2, 2&3 in unpaved and/or Easement Areas, including erosion and sedimentation controls (various depths)	1400	LF	\$75	\$105,000
11	Furnish and Install 8" SDR-26 Sewer Line in unpaved and/or Easement Areas, including erosion and sedimentation controls (14-18' depth)	70	LF	\$135	\$9,450
12	Furnish and Install 8" SDR-26 Sewer Line in unpaved and/or Easement Areas, including erosion and sedimentation controls (over 18' depth)	20	LF	\$200	\$4,000
13	Miscellaneous Concrete Encasement for Sewer Line	5	CY	\$250	\$1,250
14	Sewer Manhole concrete base sections	27	EA	\$1,600	\$43,200
15	Sewer Manhole vertical riser sections, including cone sections, measured top of cone to top of base section	179	VF	\$130	\$23,270
16	Sewer Manhole frame and cover	27	EA	\$300	\$8,100
17	Sewer Manhole watertight inserts	27	EA	\$100	\$2,700
18	Sewer Manhole vertical drop connections including concrete encasements	27	VF	\$200	\$5,400
19	Furnish and Install 6-inch SDR-21 force main with fittings, joint restraints, valves, thrust blocks, all depths	910	LF	\$40	\$36,400
20	Furnish and Install 6" SDR-35 Sewer laterals, all depths	960	LF	\$50	\$48,000
21	Furnish and install 8" x 6" Wye fittings for house laterals	64	EA	\$55	\$3,520
22	Landscaping Allowance, to be used as directed by Engineer for new trees	0.8	Allowance	\$25,000	\$20,000
23	Evans Road Pump Station	1	Lump Sum	\$90,000	\$90,000
24	Evans Road Pump Station Site Work, including fencing, vehicular gate, stone access and parking area, restoration	1	Lump Sum	\$10,000	\$10,000
25	Pine Ford Road Pump Station	1	Lump Sum	\$90,000	\$90,000

<b>FARMINGTON AVENUE WEST PH 2 COST ESTIMATES FOR PENNVEST FUNDING</b>					
26	Miscellaneous Stone backfill, 2RC stone	19	CY	\$22	\$418
27	Permanent Roadway (paved and/or gravel) and Shoulder restoration, mains and laterals (not including 1 1/2" wearing course)(temporary restoration incidental)	3750	LF	\$24	\$90,000
28	Permanent Roadway 1 1/2" wearing course	11430	SY	\$8	\$91,440
29	Permanent easement restoration, mains and laterals (temporary restoration incidental)	6570	LF	\$5	\$32,850
30	Grinder Pump System, including connection of electrical hook-ups and alarms (not including building sewer connections)	9	EA	\$6,000	\$54,000
31	Furnish and install 1-1/2" Low Pressure Force Main (including wyes)	750	LF	\$35	\$26,250
32	Grinder Laterals (from LPFM to EOP) (includes but is not limited to shutoff valves, redundant check valves and	110	LF	\$35	\$3,850
33	Grinder Laterals (from EOP to Grinder) (includes but is not limited to shutoff valves, redundant check valves and cleanouts)	240	LF	\$30	\$7,200
34	4" Building Sewer Connection (Grinder to Building)	370	LF	\$40	\$14,800
35	Line Painting	0.6	LS	\$2,500	\$1,500
36	Inspection and Testing Allowance	0.75	Allowance	\$20,000	\$15,000
<b>SUBTOTAL =</b>				<b>\$1,291,000</b>	
<b>CONTINGENCY (10%) =</b>				<b>\$129,100</b>	
<b>TOTAL CONSTRUCTION COST=</b>				<b>\$1,420,100</b>	
<b>ENGINEERING TO DATE =</b>				<b>\$95,273</b>	
<b>ENGINEERING , ADMIN, LEGAL (25% )=</b>				<b>\$355,025</b>	
<b>TOTAL PROJECT COST=</b>				<b>\$1,870,398</b>	

**EXHIBIT 4 : ALTERNATIVE DESCRIPTIONS UPPER  
POTTSGROVE TOWNSHIP: ACT 537 UPDATE AND REVISION  
2009**

<b>Option</b>	<b>Name</b>	<b>Description</b>
1	BMMA	Collects Regal Oaks, Bruce Drive, Horseshoe Drive, Ming Drive and Moyer Road, & Cherry Tree to a new pump station at the Regal Oaks WWTF site, then Pumps to BMMA; ROWTF and CTPS decommissioned.
2	Sprogel Gravity	Collects same areas as No. 1, then flow by gravity along Sprogel's Run to Lower Pottsgrove; ROWTF and CTPS decommissioned.
3	Sprogel WWTF	Collects same areas as No. 1, then flow by gravity along Sprogel's Run to a new Sprogel's Run WWTF near Snyder Road; ROWTF and CTPS decommissioned.
3A	Sprogel WWTF A	Construct Sprogel WWTF per No. 3, above, then collect Orchard/Continental to LPT via gravity.
3B	Sprogel WWTF B	Construct Sprogel WWTF per No. 3, above, then collect Orchard/Contental by gravity & pump up to Sprogel WWTF.
4A	Goose Run A	Collects Cherry Tree, Pine Ford Road & surrounding developments, then treats at a new Goose Run WWTF; CTPS expanded, PFRPS decommissioned.
4B	Goose Run B	Collects same areas as No. 1, then pumps to Pine Ford Road, then by gravity to a new WWTF on Goose Run; ROWTF, PFRPS and CTPS decommissioned.
5	Waste Mgmt	Collects same as No. 4B, then send to Waste Mgmt down Manatawny St.
6	Regal Oaks Pumping Station	Construct Regal Oaks Pumping Station; collect flows from Regal Oaks and Cherry Tree; pump to Farmington Avenue main via Gilbertsville Road; ROWTF and CTPS decommissioned.

### **5.1.2 Farmington Avenue East of Route 100**

This sub-area will drain by gravity from Halfway House toward Route 100. The only option is to connect this gravity sewer at Pine Ford Road. A manhole with a pipe stub is already located in Pine Ford Road in anticipation of this connection.

The routing along Route 100 will eliminate the need for easements, and is the best choice. Other routings from Farmington Avenue to Pine Ford Road through private property are viable, but are about the same cost, since the footage of pipe is essentially the same as the routing shown.

The routing along Route 100 is preferred, and is used exclusively for the remainder of the analysis. The sewer routing for this sub-area is shown on Figures 5-3, 5-4, and 5-5.

### **5.1.3 Evans Road**

Sixteen (16) homes on Evans Road are included in the study area. The Evans Road sub-area is unique, in that the elevation high point is at the intersection of Evans Road and Farmington Avenue. Thus, gravity flow for these homes isn't possible.

A pump station isn't feasible because two would be required (one on either end of the Evans Road sub-area). The cost of two pump stations is more than the proposed grinder pumps (\$80,000 for grinder pumps versus at least \$140,000 for two basic package pump stations). The cost of gravity sewer and force mains will greatly exceed that of the proposed low pressure sewer in the street, making the low pressure sewer (LPS) the most cost effective option. LPS will be used for all further analyses involving Evans Road due to its obvious advantages (Figures 5-3, 5-4, 5-5).

### **5.1.4 Alternatives for Farmington Avenue West of Route 100**

With the three small sub-areas resolved as described above, the only remaining alternatives are those for Farmington Avenue west of Route 100.

The solution to this area is less obvious than for the smaller sub-areas.

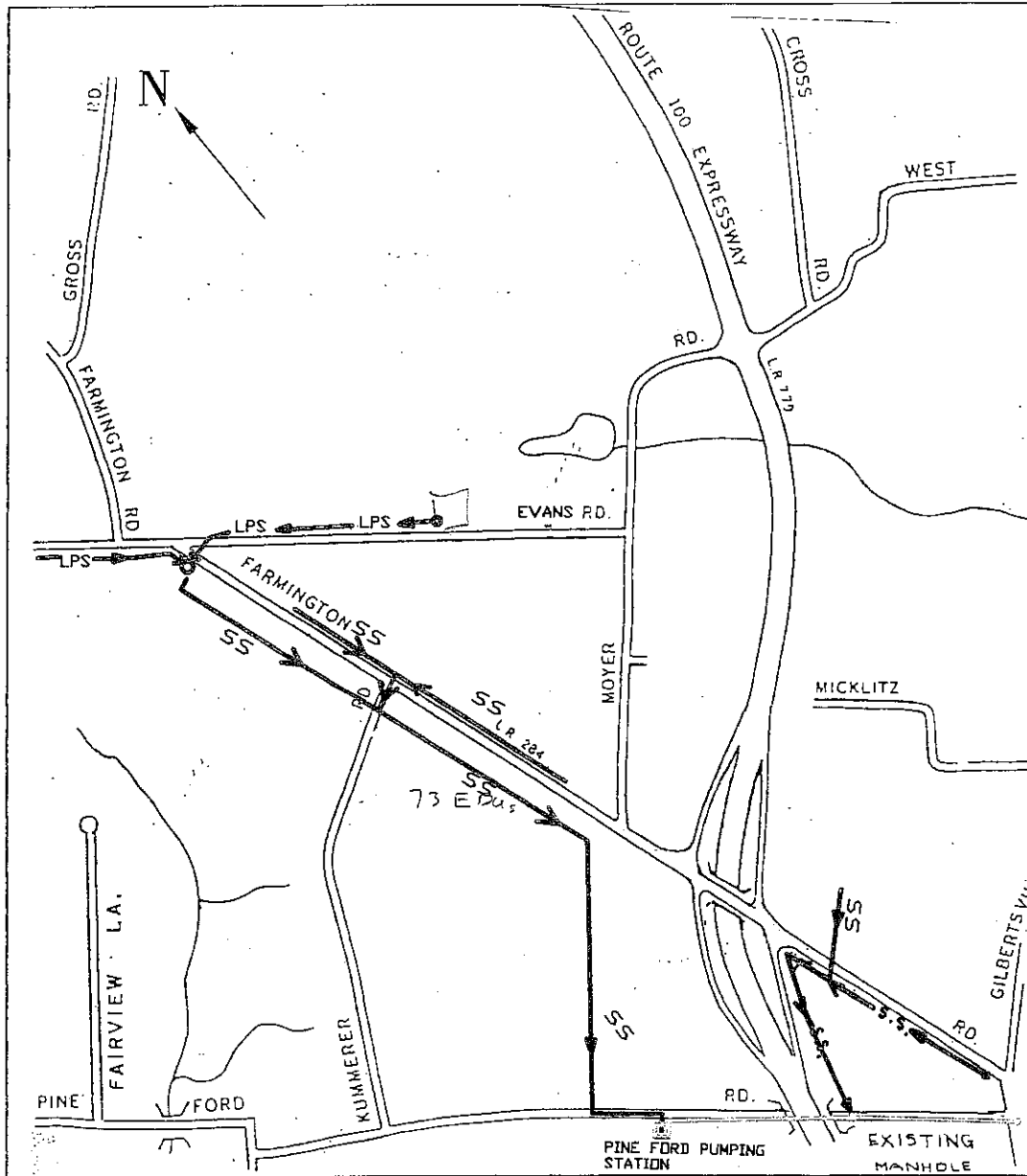
It is the Township's objective to avoid a pump station on Farmington Avenue, since a pump station already exists on nearby Pine Ford Road. In order to accomplish this, creative gravity solutions were required. Note that flow from west to east on Farmington Avenue (from Evans Road to Route 100) is not feasible since the grade slopes toward Kummerer Road from both directions. Thus, other solutions were required.

#### **5.1.4.1 Alternative 1 (Figure 5-3)**

This alternative takes advantage of the fact that the elevation behind the homes on the southern side of Farmington Avenue slopes toward the east. This is the opposite of Farmington Avenue itself. The layout allows gravity flow to Pine Ford Road, and also has the secondary advantage of allowing users on the southern side of the road to connect to the system without reversing their plumbing.

73  
EDUS

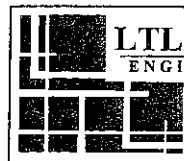
Figure 5-3  
Farmington Avenue Area  
Alternative 1



— PROPOSED SEWER  
- - - - - EXISTING SEWER

MONTGOMERY COUNTY  
Pennsylvania

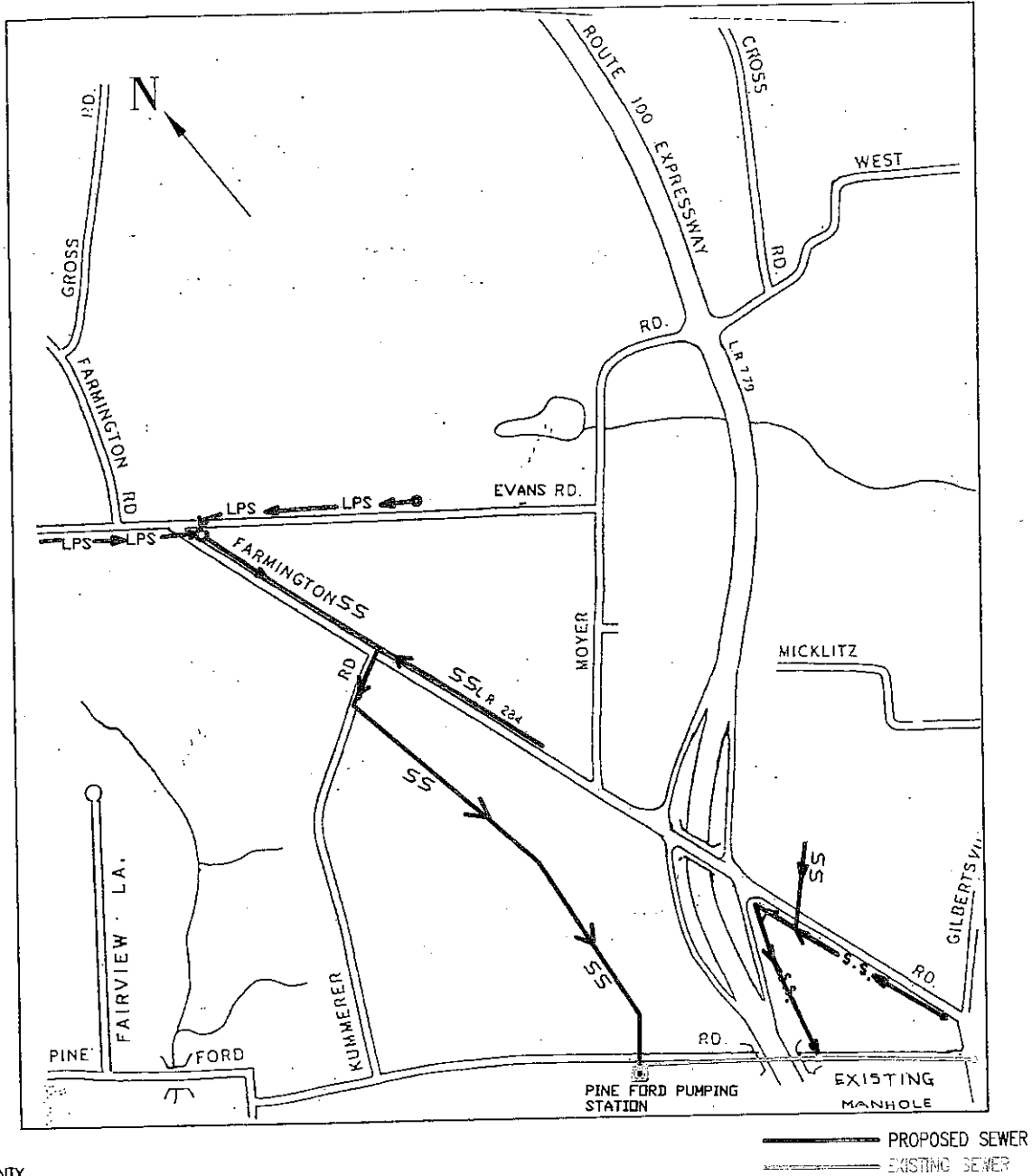
UPPER POTTS GROVE TOWNSHIP  
ACT 537 PLAN  
SPECIAL STUDY REVISION



**LTL CONSULTANTS, LTD.**  
ENGINEERS & CODE OFFICIALS

PO BOX 241  
ONE TOWN CENTRE DRIVE OLEY, PA 19547

**Figure 5-4**  
**Farmington Avenue Area**  
**Alternative 2**

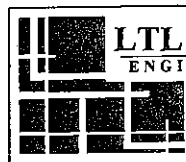


MONTGOMERY COUNTY  
 Pennsylvania

UPPER POTTS GROVE TOWNSHIP

ACT 537 PLAN

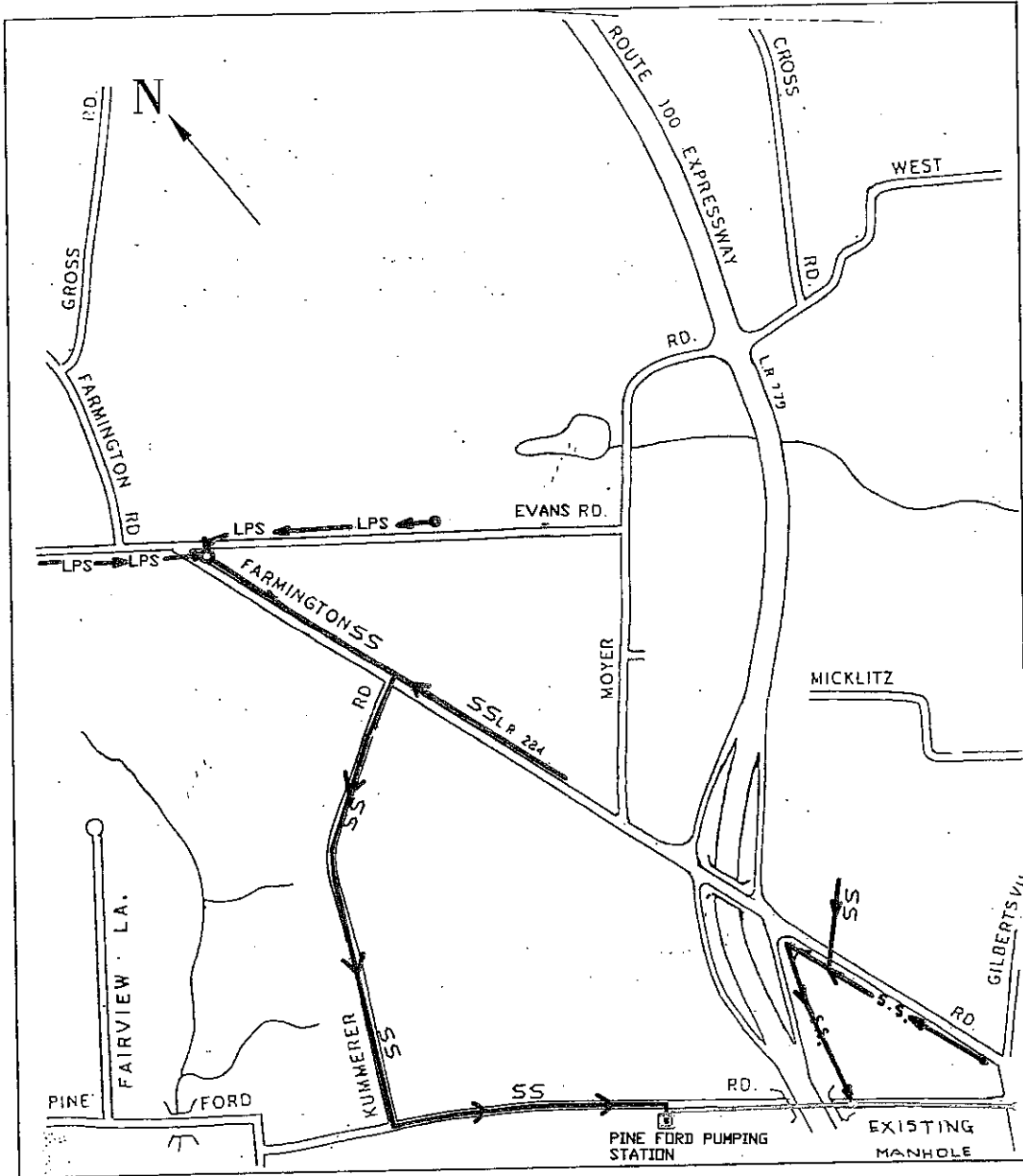
SPECIAL STUDY REVISION



**LTL CONSULTANTS, LTD.**  
 ENGINEERS & CODE OFFICIALS

PO BOX 241  
 ONE TOWN CENTRE DRIVE OLEY, PA 19547

**Figure 5-5**  
**Farmington Avenue Area**  
**Alternative 3**



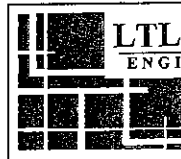
— PROPOSED SEWER  
 - - - EXISTING SEWER

MONTGOMERY COUNTY  
 Pennsylvania

UPPER POTTS GROVE TOWNSHIP

ACT 537 PLAN

SPECIAL STUDY REVISION



**LTL CONSULTANTS, LTD.**  
 ENGINEERS & CODE OFFICIALS

PO BOX 241  
 ONE TOWN CENTRE DRIVE OLEY, PA 19547

**5.1.4.2 Alternative 2 (Figure 5-4)**

This option allows sewage on Farmington Avenue to flow by gravity to Kummerer Road from both directions. The shortest distance is then taken across open fields to Pine Ford Road.

A possible disadvantage of this routing is deep excavation cuts through rock in the open fields. Only a detailed survey could resolve the extent of necessary excavation.

**5.1.4.3 Alternative 3 (Figure 5-5)**

This option keeps the sewer in public rights-of-way along existing roads. There is a very deep cut (about 21 feet) at the intersection of Pine Ford and Kummerer Roads. The elevation on Kummerer Road decreases from Farmington Avenue, then increases to a high point at the intersection. This deep excavation will be through a distance of about 700 feet, increasing cost significantly.

**5.2 COST COMPARISON OF ALTERNATIVES**

The cost comparison includes the entire sewerage project; i.e., Farmington Avenue on both sides of Route 100, Evans Road (Low Pressure Sewer), and Chestnut Grove Road (gravity sewer option). The only differences in the analyses are the configuration of the sewer on Farmington Avenue west of Route 100. All other routing options are considered resolved.

The construction cost of the three options discussed in Section 5.1.4 were calculated using conventional estimating techniques. A summary of the construction costs are provided on Table 5-1. The detailed cost analysis is found in Appendix B.

**TABLE 5-1**  
**\*Construction Cost Comparison**

<b>Alternative</b>	<b>Construction Cost</b>
<b>1</b>	<b>\$ 912,100</b>
<b>2</b>	<b>\$ 915,500</b>
<b>3</b>	<b>\$ 1,051,100</b>

\* Does not include engineering, legal, or contingency

Three funding alternatives are used in the analysis. They are:

- Municipal bond - 10% interest for 25 years
- PennVest - 3.3% interest for 20 years (no grant)
- PennVest - 3.3% interest for 20 years (20% grant)

Interest rates will vary with time. However, the rates selected are considered representative for comparative purposes. The objectives of the analysis are to evaluate the economic feasibility of the project, as well as to select a funding alternative.

Financing was evaluated from two perspectives. The first is the concept of a new sewer district. Under this concept, the new users would bear the entire cost of the new sewer. The analysis computes the annual cost (including debt service and O & M) for each user in the new district (93 new edu's).

The second approach assumes that sewer rates would be the same throughout the system (new sewer district). The analysis shows how much the annual rate would have to be for all users in order to fund the new sewer extensions (917 system wide edu's consisting of 93 new edu's and 824 existing edu's).

It should be noted at this point that a total of 93 edu's was used for the analysis (20 edu's for Chestnut Grove Road, and 73 edu's for Farmington Avenue and Evans Road). Only existing homes were considered in the cost analysis. This assumption provides conservative (higher) results. It is necessary to make this assumption because of the Township's capacity agreement with the Borough of Pottstown at the time of this study. Since the Township is close to its capacity, only existing homes will be permitted to connect until the capacity issue is resolved to the satisfaction of the Township and the Borough. Once that matter is resolved, the vacant lots could be built upon, generating additional tapping fees and annual rentals to lower the overall cost.

A summary of the analysis is provided on Tables 5-2 and 5-3

**TABLE 5-2**  
**Cost Analysis Assuming New Separate Sewer District**  
**Annual cost per EDU (93 EDU's total)**

Alternative	Municipal Bond	PennVest (No Grant)	PennVest (20% Grant)
1	\$ 1349	\$ 902	\$ 766
2	\$ 1355	\$ 906	\$ 769
3	\$ 1592	\$ 1055	\$ 898

**TABLE 5-3**  
**\* Cost Analysis Assuming One Sewer District**  
**Annual cost per EDU (917 EDU's total)**

Alternative	Municipal Bond	PennVest (No Grant)	Penn Vest (20% Grant)
1	\$ 496	\$ 451	\$ 437
2	\$ 497	\$ 451	\$ 437
3	\$ 521	\$ 466	\$ 451

\* Note: Analysis in appendix B shows increase in cost over current rate of \$400/year. The numbers in this table are the increase shown in the appendix plus \$400/year, to arrive at a total annual cost for all users in the system.

The cost analysis shows that Alternative 1, with sewer behind the homes paralleling Farmington Avenue, is approximately the same cost as the Alternative 2 routing across the open fields south of Farmington Avenue. Alternative 3, in Kummerer Road, is the most expensive.

The most desirable funding option is PennVest with a 20% grant. The least desirable is the municipal bond option.

The cost to the individual property owner is greatly reduced when the total is spread across the entire sewer system. The increase in annual cost, over the current \$400/year/edu, is as low as \$37/year, depending on the alternative.



Southeast Regional Office

2 East Main Street  
Norristown, PA 19401

December 1, 2006

Phone: 484-250-5970

Fax: 484-250-5971

Mr. Jack Layne  
Interim Township Manager  
Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464-1829RECEIVED  
DEC 04 2006BY: *llc*Re: Farmington Avenue West Sanitary Sewer  
System and Pumping Station  
Application No. 4606407  
File Type: Permit  
Upper Pottsgrove Township  
Montgomery County

Dear Mr. Layne:

Your permit is enclosed.

Approval of the enclosed permit is contingent upon obtaining any applicable permits from the Department of Environmental Protection's (Department) Water Allocation and Encroachment (105) Program.

You must comply with all Standard and Special Conditions attached to this permit. Construction must be done in accordance with the permit application and all supporting documentation. Please review the permit conditions and the supporting documentation submitted with your application before starting construction.

Enclosed is the "Sewage and Industrial Wastewater Facilities Construction Certification" form. A Pennsylvania-registered professional engineer must sign and complete this form prior to startup of the facilities (see Special Conditions). You or your authorized representative must also sign the form. This certification and other post-construction documentation must be submitted to the Department within 30 days following startup of the facilities.



Mr. Jack Layne

- 2 -

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, P.O. 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 Mr. Andrew Haneiko at 484-250-5183.

Sincerely,



Jenifer Fields, P.E.  
Regional Manager  
Water Management

Enclosures

cc: Mr. Pelka, P.E. - LTL Consultants  
Operations Section  
Mr. Sheckler  
Re 30 (GJE06WQ)331-9



**WATER QUALITY MANAGEMENT  
PERMIT**

<p>A. PERMITTEE (Name and Address): <b>Upper Pottsgrove Township</b> 1409 Farmington Avenue Pottstown, PA 19464</p>	<p>CLIENT ID#: <b>52555</b></p>	<p>B. PRIMARY FACILITY (Name): <b>Pottstown Borough Authority Wastewater Treatment Facility</b></p>
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<p>C. LOCATION (Municipality, County): <b>Upper Pottsgrove Township</b> Montgomery County</p>	<p>SITE ID#: <b>664417</b></p>
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D. **This permit approves the construction of sewerage facilities consisting of:**  
**sewer collection system and pump station.**

<p>Pump Stations: <u>1</u> Design Capacity: <u>0.144</u> MGD Average Annual Flow: <u>0.012</u> MGD</p>	<p>Manure Storage: Volume _____ MG Freeboard: _____ inches</p>	<p>Industrial Wastewater/Sewage Treatment Facility: Annual Average Flow: _____ MGD Design Hydraulic Capacity: _____ MGD Design Organic Capacity: _____ lb/day</p>
--	--	---

E. APPROVAL GRANTED BY THIS PERMIT IS SUBJECT TO THE FOLLOWING:

- New Permits:** All construction, operations, and procedures shall be in accordance with the Water Quality Management Permit application dated 07/18/2006, its supporting documentation, and addendums dated \_\_\_\_\_, which are hereby made a part of this permit.  
  
**Amendments:** All construction, operations, and procedures shall be in accordance with the Water Quality Management Permit Amendment application dated \_\_\_\_\_ and its supporting documentation, and addendums dated \_\_\_\_\_, which are hereby made a part of this amendment.  
  
Except for any herein approved modifications, all terms, conditions, supporting documentation and addendums approved under Water Quality Management Permit No. \_\_\_\_\_ dated \_\_\_\_\_ shall remain in effect.  
  
**Transfers:** Water Quality Management Permit No. \_\_\_\_\_ dated \_\_\_\_\_ and conditions, supporting documentation and addendums are also made part of this transfer.
- Permit Conditions Relating to sewerage** are attached and made part of this permit.
- Special Conditions numbered \_\_\_\_\_ are attached and made part of this permit.

F. THE AUTHORITY GRANTED BY THIS PERMIT IS SUBJECT TO THE FOLLOWING FURTHER QUALIFICATIONS:

- If there is a conflict between the application or its supporting documents and amendments and the attached conditions, the attached conditions shall apply.
- Failure to comply with the rules and regulations of DEP or with the terms or conditions of this permit shall void the authority given to the permittee by the issuance of this permit.
- This permit is issued pursuant to the Clean Streams Law Act of June 22, 1937, P.L. 1987, as amended 35 P.S. §691.1 *et seq.* Issuance of this permit shall not relieve the permittee of any responsibility under any other law.

<p>PERMIT ISSUED:  <b>December 1, 2006</b></p>	<p>BY: <u></u> TITLE: <u>Water Management Program Manager</u></p>
--	---



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WATER SUPPLY AND WASTEWATER MANAGEMENT

**PERMIT CONDITIONS RELATING TO SEWERAGE**  
For use in Water Quality Management Permits

(Place a  $\checkmark$  in the box that applies)

**General**

- 1. Consistent with the Department of Environmental Protection's (DEP) technical guidance document *Conducting Technical Reviews of Water Quality Management Permit Wastewater Treatment Facilities* (DEP ID: 362-2000-007) available on DEP's website at [www.dep.state.pa.us](http://www.dep.state.pa.us). DEP considers the registered Professional Engineer whose seal is affixed to the design documents to be fully responsible for the adequacy of all aspects of the facility design.
- 2. The permittee shall adopt and enforce an ordinance requiring the abandonment of privies, cesspools or similar receptacles for human waste and onlot sewage disposal systems on the premises of occupied structures accessible to public sewers. All such structures must be connected to the public sewers.
- 3. The outfall sewer or drain shall be extended to the low water mark of the receiving body of water. Where necessary to ensure proper mixing and waste assimilation, an outfall sewer or drain may be extended with appurtenances below the low water mark and into the bed of a navigable stream provided that the permittee has secured an easement, right-of-way, license or lease from DEP in accordance with Section 15 of the Dam Safety and Encroachments Act, the Act of November 26, 1978, P.L. 1375, as amended.
- 4. The approval is specifically made contingent on the permittee acquiring all necessary property rights, by easement or otherwise, providing for the satisfactory construction, operation, maintenance and replacement of all sewers or sewerage structures in, along or across private property with full rights of ingress, egress and regress.
- 5. When construction of the approved sewerage facilities is completed and before they are placed in operation, the permittee shall notify DEP in writing so that a DEP representative may inspect the facilities.
- 6. If, at any time, the sewerage facilities covered by this permit create a public nuisance, including but not limited to, causing malodors or causing environmental harm to waters of the Commonwealth, DEP may require the permittee to adopt appropriate remedial measures to abate the nuisance or harm.
- 7. This permit authorizes the construction and operation of the proposed sewerage facilities until such time as facilities for conveyance and treatment at a more suitable location are installed and capable of receiving and treating the permittee's sewage. Such facilities must be in accordance with the applicable municipal official plan adopted pursuant to Section 5 of the Pennsylvania Sewage Facilities Act, the Act of January 24, 1966, P.L. 1535 as amended. When such municipal sewerage facilities become available, the permittee shall provide for the conveyance of the sewage to these sewerage facilities, abandon the use of these approved facilities and notify DEP accordingly. This permit shall then, upon notice from DEP, terminate and become null and void and shall be relinquished to DEP.
- 8. This permit does not relieve the permittee of its obligations to comply with all federal, interstate, state or local laws, ordinances and regulations applicable to the sewerage facilities.
- 9. This permit does not give any real or personal property rights or grant any exclusive privileges, nor shall it be construed to grant or confirm any right, easement or interest in, on, to or over any lands which belong to the Commonwealth.
- 10. The authority granted by this permit is subject to all effluent requirements, monitoring requirements and other conditions as set forth in NPDES Permit No. PA\_\_\_\_\_ and all subsequent amendments and renewals. No discharge is authorized from these facilities unless approved by an NPDES Permit.

**Construction**

- 11. An Erosion and Sedimentation (E&S) Plan must be developed prior to construction of the permitted facility, pursuant to Title 25 Pa. Code Chapter 102, and implemented during and after the earth disturbance activity.  
  
If the activity involves 5 or more acres of earth disturbance, or from 1 to 5 acres of earth disturbance with a point source discharge to surface waters of the Commonwealth, an NPDES permit for the Discharge of Stormwater Associated with Construction Activity is required.

In addition to the state NPDES permitting requirements, some municipalities, through local ordinances, require the E&S Control Plan to be reviewed and approved by the local County Conservation District office prior to

construction. For specific information regarding E&S control planning approval and NPDES permitting requirements, please contact your local County Conservation District office.

- 12. The facilities shall be constructed under the supervision of a Pennsylvania registered Professional Engineer in accordance with the approved reports, plans and specifications.
- 13. A Pennsylvania registered Professional Engineer shall certify that construction of the permitted facilities was completed in accordance with the application and design plans submitted to DEP, using "Post Construction Certification" (3800-PM-WSWM0179a). It is the permittee's responsibility to ensure that a Professional Engineer is on-site to provide the necessary oversight and/or inspections to certify the facilities. The certification must be submitted to DEP before the facility is placed in operation. If requested, "as-built" drawings, photographs (if available) and a description of any DEP-approved deviations from the application and design plans must be submitted to DEP within 30 days of certification.
- 14. Manhole inverts shall be formed to facilitate the flow of the sewage and to prevent the stranding of sewage solids. The manhole structure shall be built to prevent undue infiltration, entrance of street wash or grit and provide safe access to facilitate manhole maintenance activities.
- 15. The local Waterways Conservation Officer of the Pennsylvania Fish and Boat Commission (PFBC) shall be notified when the construction of any stream crossing and/or outfall is started and completed. A written permit must be secured from the PFBC if the use of explosives in any waterways is required and the permittee shall notify the local Waterways Conservation Officer when explosives are to be used.

#### Operation and Maintenance

- 16. The permittee shall maintain records of "as-built" plans showing all the treatment facilities as actually constructed together with facility operation and maintenance (O&M) manuals and any other relevant information that may be required. Upon request, the "as-built" plans and O&M manuals shall be filed with DEP.
- 17. The sewers shall have adequate foundation support as soil conditions require. Trenches shall be back-filled to ensure that sewers will have proper structural stability, with minimum settling and adequate protection against breakage. Concrete used in connection with these sewers shall be protected from damage by water, freezing, drying or other harmful conditions until cured.
- 18. Stormwater from roofs, foundation drains, basement drains or other sources shall not be admitted directly to the sanitary sewers.
- 19. The approved sewers shall be maintained in good condition, kept free of deposits by flushing or other cleaning methods and repaired when necessary.
- 20. The sewerage facilities shall be properly operated and maintained to perform as designed.
- 21. The attention of the permittee is called to the highly explosive nature of certain gases generated by the digestion of sewage solids when these gases are mixed in proper proportions with air and to the highly toxic character of certain gases arising from such digestion or from sewage in poorly ventilated compartments or sewers. Therefore, at all places throughout the sewerage facilities where hazard of fire, explosion or danger from toxic gases may occur, the permittee shall post conspicuous permanent and legible warnings. The permittee shall instruct all employees concerning the aforesaid hazards, first aid and emergency methods of meeting such hazards and shall make all necessary equipment and material accessible.
- 22. An operator certified in accordance with the Water and Wastewater Systems Operator Certification Act of February 21, 2002, 63 P.S. §§1001, *et seq.* shall operate the sewage treatment plant.
- 23. The permittee shall properly control any industrial waste discharged into its sewerage system by regulating the rate and quality of such discharge, requiring necessary pretreatment and excluding industrial waste, if necessary, to protect the integrity or operation of the permittee's sewerage system.
- 24. There shall be no physical connection between a public water supply system and a sewer or appurtenance to it which would permit the passage of any sewage or polluted water into the potable water supply. No water pipe shall pass through or come in contact with any part of a sewer manhole.
- 25. All connections to the approved sanitary sewers must be in accordance with the corrective action plan as contained in the approved Title 25 Pa. Code Chapter 94 Municipal Wasteload Management Annual Report.
- 26. Collected screenings, slurries, sludge and other solids shall be handled and disposed of in compliance with Title 25 Pa. Code Chapters 271, 273, 275, 283 and 285 (related to permits and requirements for land filling, land application, incineration and storage of sewage sludge), Federal Regulations 40 CFR 257 and the Federal Clean Water Act and its amendments.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WATER SUPPLY AND WASTEWATER MANAGEMENT

**WATER QUALITY MANAGEMENT  
POST CONSTRUCTION CERTIFICATION**

**PERMITTEE IDENTIFIER**

Permittee	Upper Pottsgrove Township
Municipality	Upper Pottsgrove Township
County	Montgomery
WQM Permit No.	4606407
Facility Type	Pump station and conveyance system

**All of the above information should be taken directly from the Water Quality Management Permit.**

**CERTIFICATION**

This certification must be completed and returned to the permits section of the DEP's regional office issuing the WQM permit within 30 days of completion of the project and received by DEP prior to operation, and if requested, as-built drawings, photographs (if available) and a discussion of any DEP-approved deviations from the design plans during construction.

I, being a Registered Professional Engineer in Pennsylvania, do hereby certify to the best of my knowledge and belief, based upon personal observation and interviews, that the above facility approved under the Water Quality Management Permit has been constructed in accordance with the plans, specifications and modifications approved by DEP.

Construction Completion Date (MM/DD/YYYY): \_\_\_\_\_

Engineer's Seal	<b>Professional Engineer</b>
	Name _____ (Please Print or Type)
	Signature _____
	Date _____
	License Expiration Date _____
	Firm or Agency _____
	Telephone _____
	<b>Permittee or Authorized Representative</b>
	Name _____ (Please Print or Type)
	Signature _____
	Title _____
	Telephone _____

**Upper Pottsgrove Township - Act 537 Plan Alternative No. 1**  
Residential Sewage Collection - Berks Montgomery Municipal Authority (BMMA) Option

Item No.	Item Description	Schedule of Values		Amount
		Quantity	Unit Price	
1	8" PVC Gravity (lf)			
1a	Twp. Road	7725	\$ 95.00	\$ 733,875.00
1b	Unpaved areas	275	\$ 70.00	\$ 19,250.00
2	12" PVC Gravity (lf)			
2a	State road	30	\$ 145.00	\$ 4,350.00
2b	Twp. Road	900	\$ 110.00	\$ 99,000.00
2c	Unpaved areas	2700	\$ 85.00	\$ 229,500.00
3	Traffic Control	5	\$ 20,000.00	\$ 100,000.00
4	MH (ea)	66	\$ 3,100.00	\$ 204,600.00
5	6" Laterals to ROW (ea)	147	\$ 1,500.00	\$ 220,500.00
6	4" FM (lf gravity trench)	1650	\$ 40.00	\$ 66,000.00
7	4" FM (lf separate trench)	1650	\$ 50.00	\$ 82,500.00
8	10" DIP Force Main (lf)			
8a	Gravity trench	2200	\$ 120.00	\$ 264,000.00
8b	Separate trench	250	\$ 130.00	\$ 32,500.00
8c	Separate state rd trench	3550	\$ 160.00	\$ 568,000.00
9	PS (50-85 EDUs)	2	\$ 100,000.00	\$ 200,000.00
10	PS (625 EDUs)	1	\$ 400,000.00	\$ 400,000.00
11	LPS (lf)	2100	\$ 65.00	\$ 136,500.00
12	Grinder Pumps (ea)	32	\$ 7,000.00	\$ 224,000.00
13	Others (see comments)	N/A	N/A	\$ 170,000.00

<b>Total Construction Line Items</b>	<b>\$ 3,754,575.00</b>
Contingency, 10%	\$ 375,457.50
Engineering/Admin/Legal, 30%	\$ 1,126,372.50
BMMA Capacity & Connection Fees	\$ 3,179,874.00
<b>Total Project Cost</b>	<b>\$ 8,436,279.00</b>

**Upper Pottsgrove Township - Act 537 Plan Alternative No. 2**  
***Residential Sewage Collection off Gilbertsville Road - Sprogel Gravity Option***

Item No.	Item Description	Schedule of Values		Amount
		Quantity	Unit Price	
1	8" PVC Gravity (lf)			
1a	State road	650	\$ 145.00	\$ 94,250.00
1b	Twp. Road	12200	\$ 95.00	\$ 1,159,000.00
1c	Unpaved areas	1625	\$ 70.00	\$ 113,750.00
2	12" PVC Gravity (lf)			
2a	State road	30	\$ 145.00	\$ 4,350.00
2b	Twp. Road	900	\$ 110.00	\$ 99,000.00
2c	Unpaved areas	2700	\$ 85.00	\$ 229,500.00
3	14" PVC Gravity (lf)			
3a	State road	1750	\$ 150.00	\$ 262,500.00
3b	Twp. Road	450	\$ 115.00	\$ 51,750.00
3c	Encumbrance areas	6500	\$ 150.00	\$ 975,000.00
4	Traffic Control	5	\$ 20,000.00	\$ 100,000.00
5	MH (ea)	117	\$ 3,100.00	\$ 362,700.00
6	6" Laterals to ROW (ea)	217	\$ 1,500.00	\$ 325,500.00
7	4" Force Main (lf)	3300	\$ 45.00	\$ 148,500.00
8	PS (50-85 EDUs)	2	\$ 100,000.00	\$ 200,000.00
9	Meter Chamber	1	\$ 50,000.00	\$ 50,000.00
10	LPS (lf)	2100	\$ 65.00	\$ 136,500.00
11	Grinder Pumps (ea)	32	\$ 7,000.00	\$ 224,000.00
12	Others (see comments)	N/A	N/A	\$ 170,000.00

<b>Total Construction Line Items</b>	<b>\$ 4,706,300.00</b>
Contingency, 10%	\$ 470,630.00
Engineering/Admin/Legal, 35%	\$ 1,647,205.00
Pottstown Capacity Fees ( \$5.20 / gallon )	\$ 205,920.00
<b>Total Project Cost</b>	<b>\$ 7,030,055.00</b>

**Upper Pottsgrove Township - Act 537 Plan Alternative No. 3**  
***Residential Sewage Collection off Gilbertsville Road - Snyder/Sprogel WWTF Option***

Item No.	Item Description	Schedule of Values		
		Quantity	Unit Price	Amount
1	8" PVC Gravity (lf)			
1a	Twp. Road	7725	\$ 95.00	\$ 733,875.00
1b	Unpaved areas	275	\$ 70.00	\$ 19,250.00
2	12" PVC Gravity (lf)			
2a	State road	30	\$ 145.00	\$ 4,350.00
2b	Twp. Road	900	\$ 110.00	\$ 99,000.00
2c	Unpaved areas	2700	\$ 85.00	\$ 229,500.00
3	14" PVC Gravity (lf)			
3a	Encumbrance areas	1875	\$ 165.00	\$ 309,375.00
4	Traffic Control	5	\$ 20,000.00	\$ 100,000.00
5	MH (ea)	69	\$ 3,100.00	\$ 213,900.00
6	6" Laterals to ROW (ea)	147	\$ 1,500.00	\$ 220,500.00
7	4" FM (lf gravity trench)	1650	\$ 40.00	\$ 66,000.00
8	4" FM (lf separate trench)	1650	\$ 50.00	\$ 82,500.00
9	PS (50-85 EDUs)	2	\$ 100,000.00	\$ 200,000.00
10	WWTF Installation	1	\$ 2,500,000.00	\$ 2,500,000.00
11	LPS (lf)	2100	\$ 65.00	\$ 136,500.00
12	Grinder Pumps (ea)	32	\$ 7,000.00	\$ 224,000.00
13	Others (see comments)	N/A	N/A	\$ 170,000.00

<b>Total Construction Line Items</b>	<b>\$ 5,308,750.00</b>
Contingency, 10%	\$ 530,875.00
Engineering/Admin/Legal, 30%	\$ 1,592,625.00
Capacity & Connection Fees	\$ -
<b>Total Project Cost</b>	<b>\$ 7,432,250.00</b>

**Upper Pottsgrove Township - Act 537 Plan Alternative No. 3A**  
***Residential Sewage Collection off Gilbertsville Road - Snyder/Sprugel WWTF A***

Item No.	Item Description	Schedule of Values		Amount
		Quantity	Unit Price	
1	8" PVC Gravity (lf)			
1a	State road	1700	\$ 145.00	\$ 246,500.00
1b	Twp. Road	12225	\$ 95.00	\$ 1,161,375.00
1c	Unpaved areas	2525	\$ 70.00	\$ 176,750.00
2	12" PVC Gravity (lf)			
2a	State road	30	\$ 145.00	\$ 4,350.00
2b	Twp. Road	900	\$ 110.00	\$ 99,000.00
2c	Unpaved areas	2700	\$ 85.00	\$ 229,500.00
3	14" PVC Gravity (lf)			
3a	Encumbrance areas	1875	\$ 165.00	\$ 309,375.00
4	Traffic Control	6	\$ 20,000.00	\$ 120,000.00
5	MH (ea)	100	\$ 3,100.00	\$ 310,000.00
6	6" Laterals to ROW (ea)	217	\$ 1,500.00	\$ 325,500.00
7	4" FM (lf gravity trench)	1650	\$ 40.00	\$ 66,000.00
8	4" FM (lf other trench)	1650	\$ 50.00	\$ 82,500.00
9	PS (50-85 EDUs)	2	\$ 100,000.00	\$ 200,000.00
10	WWTF Installation	1	\$ 2,500,000.00	\$ 2,500,000.00
11	LPS (lf)	2100	\$ 65.00	\$ 136,500.00
12	Grinder Pumps (ea)	32	\$ 7,000.00	\$ 224,000.00
13	Others (see comments)	N/A	N/A	\$ 170,000.00

<b>Total Construction Line Items</b>	<b>\$ 6,361,350.00</b>
Contingency, 10%	\$ 636,135.00
Engineering/Admin/Legal, 30%	\$ 1,908,405.00
Capacity & Connection Fees	\$ -
<b>Total Project Cost</b>	<b>\$ 8,905,890.00</b>

**Upper Pottsgrove Township - Act 537 Plan Alternative No. 3B**  
**Residential Sewage Collection off Gilbertsville Road - Snyder/Sprogel WWTF B**

Item No.	Item Description	Schedule of Values		
		Quantity	Unit Price	Amount
1	8" PVC Gravity (lf)			
1a	State road	1700	\$ 145.00	\$ 246,500.00
1b	Twp. Road	12225	\$ 95.00	\$ 1,161,375.00
1c	Unpaved areas	1675	\$ 70.00	\$ 117,250.00
2	12" PVC Gravity (lf)			
2a	State road	30	\$ 145.00	\$ 4,350.00
2b	Twp. Road	900	\$ 110.00	\$ 99,000.00
2c	Unpaved areas	2700	\$ 85.00	\$ 229,500.00
3	14" PVC Gravity (lf)			
3a	Encumbrance areas	1875	\$ 165.00	\$ 309,375.00
4	Traffic Control	6	\$ 20,000.00	\$ 120,000.00
5	MH (ea)	99	\$ 3,100.00	\$ 306,900.00
6	6" Laterals to ROW (ea)	217	\$ 1,500.00	\$ 325,500.00
7	4" FM (lf)	4300	\$ 45.00	\$ 193,500.00
8	4" FM (lf, encumbered)	3500	\$ 60.00	\$ 210,000.00
9	PS (50-85 EDUs)	3	\$ 100,000.00	\$ 300,000.00
10	WWTF Installation	1	\$ 2,500,000.00	\$ 2,500,000.00
11	LPS (lf)	2100	\$ 65.00	\$ 136,500.00
12	Grinder Pumps (ea)	32	\$ 7,000.00	\$ 224,000.00
13	Others (see comments)	N/A	N/A	\$ 170,000.00

<b>Total Construction Line Items</b>	<b>\$ 6,653,750.00</b>
Contingency, 10%	\$ 665,375.00
Engineering/Admin/Legal, 30%	\$ 1,996,125.00
Capacity & Connection Fees	\$ -
<b>Total Project Cost</b>	<b>\$ 9,315,250.00</b>

**Upper Pottsgrove Township - Act 537 Plan Alternative No. 4A**  
**Residential Sewage Collection off Gilbertsville Road - Goose Run A**

Item No.	Item Description	Schedule of Values		Amount
		Quantity	Unit Price	
1	8" DIP Force Main (lf)			
1a	State road	1925	\$ 110.00	\$ 211,750.00
1b	Twp. Road	350	\$ 80.00	\$ 28,000.00
1c	Unpaved areas	1225	\$ 65.00	\$ 79,625.00
2	12" PVC Gravity (lf)			
2a	State road	150	\$ 145.00	\$ 21,750.00
2b	Twp. Road	1225	\$ 110.00	\$ 134,750.00
2c	Unpaved areas	725	\$ 85.00	\$ 61,625.00
3	Traffic Control	3	\$ 20,000.00	\$ 60,000.00
4	MH (ea)	14	\$ 3,100.00	\$ 43,400.00
5	6" Laterals to ROW (ea)	32	\$ 1,500.00	\$ 48,000.00
6	4" Force Main (lf)	0	\$ 40.00	\$ -
7	PS (440 EDUs)	1	\$ 300,000.00	\$ 300,000.00
8	WWTF Installation	1	\$ 3,400,000.00	\$ 3,400,000.00
9	LPS (lf)	2100	\$ 65.00	\$ 136,500.00
10	Grinder Pumps (ea)	32	\$ 7,000.00	\$ 224,000.00
11	Others (see comments)	N/A	N/A	\$ 120,000.00

<b>Total Construction Line Items</b>	<b>\$ 4,869,400.00</b>
Contingency, 10%	\$ 486,940.00
Engineering/Admin/Legal, 30%	\$ 1,460,820.00
Capacity & Connection Fees	\$ -
<b>Total Project Cost</b>	<b>\$ 6,817,160.00</b>

**Upper Pottsgrove Township - Act 537 Plan Alternative No. 4B****Residential Sewage Collection off Gilbertsville Road - Goose Run B**

Item No.	Item Description	Schedule of Values		Amount
		Quantity	Unit Price	
1	8" PVC Gravity (lf)			
1a	Twp. Road	7725	\$ 110.00	\$ 849,750.00
1b	Unpaved areas	275	\$ 80.00	\$ 22,000.00
2	12" PVC Gravity (lf)			
2a	State road	180	\$ 145.00	\$ 26,100.00
2b	Twp. Road	2150	\$ 110.00	\$ 236,500.00
2c	Unpaved areas	3950	\$ 85.00	\$ 335,750.00
3	Traffic Control	5	\$ 20,000.00	\$ 100,000.00
4	MH (ea)	74	\$ 3,100.00	\$ 229,400.00
5	6" Laterals to ROW (ea)	147	\$ 1,500.00	\$ 220,500.00
6	4" Force Main (lf)	3300	\$ 45.00	\$ 148,500.00
7	10" DIP Force Main (lf)			
7a	Gravity trench	3800	\$ 120.00	\$ 456,000.00
7b	Separate trench	1750	\$ 130.00	\$ 227,500.00
7c	Separate state rd trench	1900	\$ 160.00	\$ 304,000.00
8	PS (50-85 EDUs)	2	\$ 100,000.00	\$ 200,000.00
9	PS (625 EDUs)	1	\$ 400,000.00	\$ 400,000.00
10	WWTF Installation	1	\$ 4,000,000.00	\$ 4,000,000.00
11	LPS (lf)	2100	\$ 65.00	\$ 136,500.00
12	Grinder Pumps (ea)	32	\$ 7,000.00	\$ 224,000.00
13	Others (see comments)	N/A	N/A	\$ 190,000.00

<b>Total Construction Line Items</b>	<b>\$ 8,306,500.00</b>
Contingency, 10%	\$ 830,650.00
Engineering/Admin/Legal, 30%	\$ 2,491,950.00
Capacity & Connection Fees	\$ -
<b>Total Project Cost</b>	<b>\$ 11,629,100.00</b>

**Upper Pottsgrove Township - Act 537 Plan Alternative No. 6**  
**CHOSEN ALTERNATIVE - REGAL OAKS PUMPING STATION**  
**IMMEDIATE CONNECTIONS ONLY**

Item No.	Item Description	Schedule of Values		
		Quantity	Unit Price	Amount
1	Bonds and Insurance	LS	\$ 20,000.00	\$ 20,000.00
2	M & D	LS	\$ 10,000.00	\$ 10,000.00
3	12" SDR Gravity in Road (lf)	50	\$ 90.00	\$ 4,500.00
4	12" SDR Gravity in Unpaved (lf)	3100	\$ 85.00	\$ 263,500.00
5	Stream crossing (lf)	80	\$ 150.00	\$ 12,000.00
6	Manholes (ea)	20	\$ 3,500.00	\$ 70,000.00
7	8" SDR Forcemain (lf)	5800	\$ 45.00	\$ 261,000.00
8	6" SDR Lateral Mains (lf)	300	\$ 65.00	\$ 19,500.00
9	Landscaping Allowance	LS	\$ 25,000.00	\$ 25,000.00
10	Regal Oaks P.S. install system	LS	\$ 200,000.00	\$ 200,000.00
11	Regal Oaks WWTF demo	LS	\$ 75,000.00	\$ 75,000.00
12	Cherry Tree P.S. disassemble	LS	\$ 25,000.00	\$ 25,000.00
13	Road /Shoulder Restoration (lf)	3370	\$ 30.00	\$ 101,100.00
14	Easement Restoration (lf)	2730	\$ 6.00	\$ 16,380.00
15	Penn DOT Mill & Overlay (sy)	3700	\$ 13.00	\$ 48,100.00
16	Line Painting	LS	\$ 15,000.00	\$ 15,000.00
17	Inspection and Testing Allowance	LS	\$ 15,000.00	\$ 15,000.00

<b>Total Construction Line Items</b>	<b>\$ 1,181,080.00</b>
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Construction Contingency (10%)	\$ 118,108.00
Total Construction Line Items	\$ 1,299,188.00
Engineering/Admin/Legal, 30%	\$ 389,756.40
Beech/York Street Expansion Costs	\$ 840,000.00
Farmington Avenue Modifications	\$ 440,000.00

<b>Total Project Costs</b>	<b>\$ 3,087,052.40</b>
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**Upper Pottsgrove Township - Act 537 Plan Alternative No. 6****CHOSEN ALTERNATIVE - REGAL OAKS PUMPING STATION****10-Year Full Build Out**

Item No.	Item Description	Schedule of Values		
		Quantity	Unit Price	Amount
1	Bonds and Insurance	LS	\$ 20,000.00	\$ 35,000.00
2	M & D	LS	\$ 10,000.00	\$ 18,000.00
3	8" PVC Gravity (lf)			
3a	State road	1700	\$ 85.00	\$ 144,500.00
3b	Twp. Road	12225	\$ 80.00	\$ 978,000.00
3c	Unpaved areas	1675	\$ 80.00	\$ 134,000.00
4	12" SDR Gravity in Road(lf)	980	\$ 90.00	\$ 88,200.00
5	12" SDR Gravity in Unpaved (lf)	6700	\$ 85.00	\$ 569,500.00
6	Stream crossing (lf)	120	\$ 150.00	\$ 18,000.00
7	Manholes (ea)	110	\$ 3,500.00	\$ 385,000.00
8	8" SDR Forcemain (lf)	5800	\$ 45.00	\$ 261,000.00
9	6" SDR Lateral Mains (ea)	219	\$ 1,500.00	\$ 328,500.00
10	Landscaping Allowance	LS	\$ 40,000.00	\$ 25,000.00
11	Pump Stations (Remote)	LS	\$ 200,000.00	\$ 200,000.00
12	LPS (lf)	2100	\$ 65.00	\$ 136,500.00
13	Grinder Pumps	32	\$ 7,000.00	\$ 224,000.00
14	Regal Oaks P.S. install system	LS	\$ 200,000.00	\$ 200,000.00
15	Regal Oaks WWTF demo	LS	\$ 75,000.00	\$ 75,000.00
16	Cherry Tree P.S. disassemble	LS	\$ 25,000.00	\$ 25,000.00
17	Road /Shoulder Restoration (lf)	5700	\$ 30.00	\$ 171,000.00
18	Easement Restoration (lf)	15000	\$ 6.00	\$ 90,000.00
19	Penn DOT Mill & Overlay (sy)	5800	\$ 13.00	\$ 75,400.00
20	Line Painting	LS	\$ 25,000.00	\$ 25,000.00
21	Inspection and Testing Allowance	LS	\$ 35,000.00	\$ 35,000.00

<b>Total Construction Line Items</b>	<b>\$ 4,241,600.00</b>
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Construction Contingency (10%)	\$ 424,160.00
Total Construction Line Items	\$ 4,665,760.00
Engineering/Admin/Legal, 30%	\$ 1,399,728.00
Beech/York Street Expansion Costs	\$ 840,000.00
Farmington Avenue Modifications	\$ 440,000.00

<b>Total Project Costs</b>	<b>\$ 7,769,648.00</b>
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Appendix A-22-b.1

**APPENDIX 4.3 – ALTERNATIVE FUNDING ANALYSES**

This plan has considered a total of eight (8) funding scenarios. They include:

- Municipal Bonds @ 6% for 20 years
- USDA Rural Utilities Service loan @5.5% for 20 years
- Pennsylvania Infrastructure Investment Authority (PENNVEST) loan @ 1% for 20 years
- PENNVEST loan @ 5% for 20 years

These scenarios were considered with and without grants. The table below summarizes the findings of this review:

UPPER POTTS GROVE TOWNSHIP ACT 537 SEWAGE FACILITIES PLAN FUNDING ANALYSIS										
FUNDING METHOD	TERM Years	RATE	PROJECT COSTS	GRANT	TAPPING FEES	PRINCIPAL	YEARLY DEBT SERVICE	YEARLY OPERATIONAL COSTS	EDUs	RATE INCREASE (QRT)
Municipal Bonds	20	6.0%	\$3,087,052	0	\$ 205,000	\$ 2,882,052	\$251,270	\$ 55,000	1232	\$ 62
USDA RUS	20	5.5%	\$3,087,052	0	\$ 205,000	\$ 2,882,052	\$241,168	\$ 55,000	1232	\$ 60
PENNVEST	20	1.0%	\$3,087,052	0	\$ 205,000	\$ 2,882,052	\$159,710	\$ 55,000	1232	\$ 44
PENNVEST	20	5.0%	\$3,087,052	0	\$ 205,000	\$ 2,882,052	\$231,263	\$ 55,000	1232	\$ 58
Municipal Bonds	20	6.0%	\$3,087,052	\$1,543,526	\$ 205,000	\$ 1,338,526	\$116,699	\$ 55,000	1232	\$ 35
USDA RUS	20	5.5%	\$3,087,052	\$1,543,526	\$ 205,000	\$ 1,338,526	\$112,007	\$ 55,000	1232	\$ 34
PENNVEST	20	1.0%	\$3,087,052	\$1,543,526	\$ 205,000	\$ 1,338,526	\$74,175	\$ 55,000	1232	\$ 26
PENNVEST	20	5.0%	\$3,087,052	\$1,543,526	\$ 205,000	\$ 1,338,526	\$107,407	\$ 55,000	1232	\$ 33

This analysis was based on the project costs for the Regal Oaks Pump Station alternative, which is the selected alternative. The description and the cost breakdown are discussed in Appendices 4.1 and 4.2.

It should be noted that these estimates also assume a tapping fee assessed to the existing homes within Regal Oaks. For the purposes of this analysis it was projected that the new tapping fee for the Township would be \$5,000. Under this scenario, those in Regal Oaks would contribute \$2,500 per household.

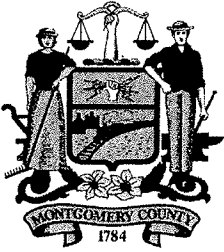
Currently the Township charges a sewer fee of \$200 per quarter. After discussions with the Township staff it was determined that these fees are designed to keep pace with existing costs and do not create a significant surplus. Therefore, the costs for the selected alternative are shown as an increase to the existing fees in order to liquidate the listed "principal" through the "yearly debt service" and "operational costs".

This plan does not select a funding method at this time for the following reasons:

APPENDIX 4.3 – ALTERNATIVE FUNDING ANALYSES

1. The actual construction costs will not be known until the project is bid.
2. Upper Pottsgrove Township is applying for a grant under H2O PA. The grant status under H2O PA is not known. If this grant is obtained it will have a significant impact on the overall project and the financing.
3. The Pottstown Borough Authority (PBA) is also seeking grants for portions of its system. Upper Pottsgrove has committed to finance 50 percent of those upgrades. Those costs are included in the selected alternative costs under this plan. If the PBA is successful the project costs and the corresponding financing could be further reduced.
4. There are ongoing negotiations with developers for contributions to the sewer system. If these negotiations are fruitful the overall cost and associated financing could be further reduced.

The table above shows the potential financing, debt service and rate increases if none of the grant or developer contributions are obtained.

**MONTGOMERY COUNTY PLANNING COMMISSION**

box 311 ♦ norristown ♦ pennsylvania ♦ 19404-0311 ♦ 610-278-3722  
office location: suite 201 ♦ one montgomery plaza ♦ swede & airy streets ♦ norristown pa  
FAX 610-278-3941 ♦ Website [www.planning.montcopa.org](http://www.planning.montcopa.org)

February 13, 2009

PennVEST Application  
Upper Pottsgrove Township

Vickie Johnson  
Project Specialist  
PennVEST- Pennsylvania Infrastructure Investment Authority  
22 South 3<sup>rd</sup> Street  
Harrisburg, PA 17101

Dear Ms. Johnson:

At the request of the Township, we have reviewed the following projects:

- Farmington West Sewer Project (Phase 2)
- Regal Oaks Pumping Station

We find that these projects are consistent with the Montgomery County Comprehensive Plan (2005), Pottstown Metropolitan Area Regional Comprehensive Plan (2005), and all other county land use and agricultural preservation plans. If you have any questions, please don't hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Leshner".

Jon Leshner, Environmental Planner  
610.278.3750 – [jlesher@montcopa.org](mailto:jlesher@montcopa.org)

Cc: Jack B. Layne, Manager, Upper Pottsgrove Township  
Leo Scott, LTL Engineers



# Appendix A-22-b.1

## COUNTY COMMISSIONERS

James R. Matthews, *Chairman*  
Joseph M. Hoeffel  
Bruce L. Castor Jr.

## PRESERVATION BOARD

Curtis N. Kratz, *Chairman*  
Robert A. Ayerle  
John R. Harris  
A. Harris Mosher  
Jonathan E. Rinde, Esq.

### MONTGOMERY COUNTY AGRICULTURAL LAND PRESERVATION BOARD

---

February 5, 2009

Mr. Leo Scott, Jr.  
LTL Consultants, Ltd.  
P.O. Box 241  
One Town Centre Drive  
Oley, PA 19547

Dear Mr. Scott:

The Montgomery County Agricultural Land Preservation Board staff has reviewed the two Upper Pottsgrove projects you described, as requested.

The first mentioned project, Farmington Avenue West Sewer Project, phase 2, does not interfere with any preserved farmland. However, it is in the proximity of two farms with Agricultural Security Area (ASA) designation: the Thomas Smola farm on 256 Mickletz Road (Upper Pottsgrove Township Block 1, Unit 49 & Block 2, Unit 5) and the Michael Stewart farm at 385 Evans Road (Upper Pottsgrove Township Block 1, Unit 34). It does not appear that these farms will be negatively impacted by the sewer project, but we wanted to make you aware of this designation

The second named nearby project, the Regal Oaks Pumping Station, also does not interfere with any preserved farmland. The closest ASA farms are the LeFever farm in two adjacent parcels at 185 & 145 Mangers Mill Rd. (Upper Pottsgrove Twp. Block 9, Unit 6 and Block 8, Unit 24) and the farm formerly owned by the Stauffer family on Snyder Road, now belonging to Upper Pottsgrove Township (Block 8, Unit 8). It does not appear that these farms will be negatively impacted by the pumping station project.

If you have any questions, please feel free to call our office at 610-278-3754.

Sincerely,

A handwritten signature in cursive script that reads "Elizabeth Emlen".

Elizabeth Emlen  
Senior Farmland Preservation Administrator

cc: Drew Shaw, MCPC

FEB - 6 2009

# *Township of Upper Pottsgrove*

MONTGOMERY COUNTY, PENNSYLVANIA

1409 Farmington Avenue Pottstown, PA 19464  
Phone: 610-323-8675 Fax: 610-327-1967

January 13, 2009

Ms. Sandy Orth  
PA Department of Community and Economic Development  
Center for Business Financing – Site Development Division  
H2O PA Program  
Commonwealth Keystone Building  
400 North Street, 4<sup>th</sup> Floor  
Harrisburg, PA 17120-2005

RE: Upper Pottsgrove Township Planning  
Commission Consistency Review of Sewer  
Projects for H2O PA Program Funding

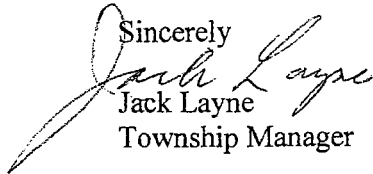
Dear Ms. Orth,

The Upper Pottsgrove Township Planning Commission, per request from the Board of Commissioners, has reviewed the following projects for consistency with the Pottstown Metropolitan Regional Comprehensive Plan (adopted by the Township in 2005), the Montgomery County Comprehensive Plan and local land use regulations that impact the area:

- Farmington Avenue West Sewer Project Phase 1
- Farmington Avenue West Sewer Project Phase 2
- Regal Oaks Pumping Station Project
- Regal Oaks Sewer Project Phase 2
- Regal Oaks Water Project

We have found that these projects are consistent with the above-mentioned plans and regulations. Further, we recognize their necessity for the preservation of the

health, safety, and welfare of the residents in the area. The Upper Pottsgrove Township Planning Commission strongly supports and recommends H2O PA Program funding be provided for this application.

Sincerely  
  
Jack Layne  
Township Manager

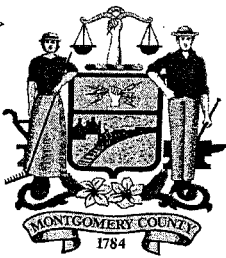
Cc: Upper Pottsgrove Township Board of Commissioner  
Upper Pottsgrove Township Planning Commission

**MONTGOMERY COUNTY PLANNING COMMISSION**

p.o. box 311 • norristown • pennsylvania • 19404-0311 • 610-278-3722

office location: suite 201 • one montgomery plaza • swede & airy streets • norristown pa

FAX 610-278-3941 • www.planning.montcopa.org



TO: Upper Pottsgrove Planning Commission

FROM: Mike Narcowich, A.I.C.P.  
Senior Community Planner

DATE: January 12, 2009

SUBJECT: Consistency of Public Sewer & Water Projects w/Comprehensive Plans

---

Upper Pottsgrove proposes the following public sewer and water projects:

- Farmington West Sewer Project (Phases 1 & 2)
- Regal Oaks Pumping Station
- Regal Oaks Sewer Project (Phase 2)
- Regal Oaks Water Project

I offer the following comments:

1. These proposals are consistent with the Township's Act 537 Sewage Facilities Plan, the Montgomery County Comprehensive Plan (2005), and the Pottstown Metropolitan Area Regional Comprehensive Plan (2005).
2. For County maps showing existing and future public water and sewer service, please see the attached handouts.
3. We recommend installing pipes and infrastructure sized to accommodate only existing development or planned future growth. This would discourage sprawl by preventing unanticipated tie-ins by an undesired amount of future development.

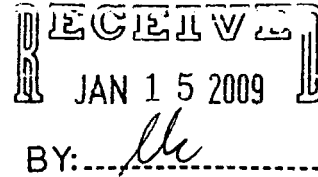


**MONTGOMERY COUNTY PLANNING COMMISSION**

box 311 • norristown • pennsylvania • 19404-0311 • 610-278-3722  
office location: suite 201 • one montgomery plaza • swede & airy streets • norristown pa  
FAX 610-278-3941 • Website [www.planning.montcopa.org](http://www.planning.montcopa.org)

January 13, 2009

Jack B. Layne, Manager  
Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464-1829



Dear Mr. Layne:

At the request of the Township we have reviewed the following projects:

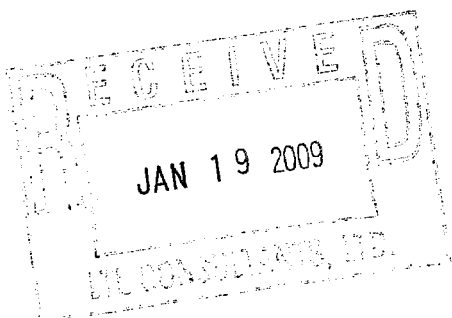
- Farmington West Sewer Project (Phases 1 & 2)
- Regal Oaks Pumping Station
- Regal Oaks Sewer Project (Phase 2)
- Regal Oaks Water Project

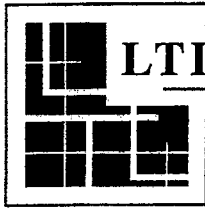
We find that these projects are consistent with the Pottstown Metropolitan Area Regional Comprehensive Plan (2005), which is Upper Pottsgrove's adopted comprehensive plan. It is also consistent with the Montgomery County Comprehensive Plan (2005). If you have any questions, please don't hesitate to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Drew Shaw".

Drew Shaw, Chief, Environmental Planning  
610.278.3733 – [dshaw@montcopa.org](mailto:dshaw@montcopa.org)





**LTL CONSULTANTS, LTD. • ENGINEERS & CODE OFFICIALS**

PO BOX 241 • ONE TOWN CENTRE DRIVE • OLEY, PA 19547  
(610) 987-9290 • FAX: (610) 987-9288

January 14, 2009

Dan Weand, Chairman  
Pottstown Planning Commission  
1010 North Evans Street  
Pottstown, PA 19464

RE: Letter of Endorsement Request, H2O PA  
Program, Upper Pottsgrove Township,  
Montgomery County

Dear Chairman Weand:

As required by H2O PA Program Application Guidelines, Exhibit 7, provided by the Pennsylvania Commonwealth Financing Authority, I am requesting on behalf of the Board of Commissioners of Upper Pottsgrove Township, your review of the following projects for consistency with the Borough's current comprehensive planning and land use regulations. Brief descriptions of the projects are provided below and a summary map of the project locations has been attached.

Upper Pottsgrove Township requests that your endorsement be in the form of a brief letter addressed to the Upper Pottsgrove Township Board of Commissioners with a copy sent to me at LTL Consultants, Ltd., One Town Centre Drive, PO Box 241, Oley, PA, 19547.

- **Farmington Avenue West Sewer Project Phase 1:** This project was constructed and completed in the summer of 2008, which falls into the acceptable timeframe for funding by the H2O PA program. Installation of eight-inch sewer main along Farmington Avenue and Chestnut Grove Road was undertaken in accordance with the Upper Pottsgrove Township Act 537 Plan Update Special Study Revision approved by the DEP in August of 2002 to remediate failing on-lot systems. Installation included 3600 linear feet of 8" gravity main and 3 low-pressure grinder pumps to accommodate 37 equivalent dwelling units (EDUs). The core benefit of this project was to address issues of malfunctioning on-lot disposal systems (OLDS) and nitrate / coliform contamination in drinking water wells.
- **Farmington Avenue West Sewer Project Phase 2:** This project has been designed to 95% completion. Installation of eight-inch sewer mains along Farmington Avenue, Evans Road and through some private property, of which easements have already been acquired, will be undertaken in accordance with the Upper Pottsgrove Township Act 537 Plan Update Special Study Revision approved by the DEP in August of 2002 to remediate failing on-lot systems. It will include installation of approximately 6900 linear feet of 8" gravity main, 9 low-pressure grinder pumps, 920 linear feet of 6" pressure main, and a new pumping station. Additionally, the existing Pine Ford Road pumping station will be upgraded from 40 HP pumps to 50 HP pumps to accommodate 65 EDUs and other potential development. The core benefit of this project was to address issues of malfunctioning on-lot disposal systems (OLDS) and nitrate / coliform contamination in drinking water wells.

- **Regal Oaks Pumping Station Project:** Currently in the planning and permit approval phase, the Regal Oaks Pumping Station Project is being designed to decommission the existing Sewage Treatment Facility in the Regal Oaks development and the existing pumping station in the Cherry Tree Development across Gilbertsville Road. The construction of a new pumping station on the site of the former treatment facility will transfer sewage flows to the greater Upper Pottsgrove Township/Pottstown Borough Authority Collection System. The intent of this project is a direct response to requirements laid down by PADEP. These are to provide protection to Sprogels Run, to decommission a stressed wastewater treatment facility, and to provide sustainable sewage treatment capacity for existing development, currently approved development, to abate OLDS malfunctions.
- **Regal Oaks Sewer Project Phase 2:** This project is intended to construct new sewer mains and connect all remaining homes in the Regal Oaks Development that are currently using OLDS to the greater system mentioned above. An additional 57 equivalent dwelling units (EDUs) are to be served by this project. Subsequent to this project, additional expansion of the Farmington Avenue sewer will be required to accommodate the expected load. This expansion consists of the replacement of approximately 1100' of existing 10" sewer main with 18" sewer main to increase system capacity. All other sewer mains within this stretch of Farmington Avenue are currently either 18" or consist of two parallel 10" mains.
- **Regal Oaks Water Project:** The purpose of this project is to install a public water system to provide clean, safe water to all homes in the Regal Oaks Development. Once constructed, water will be supplied by Superior Water Company, which holds the P.U.C. franchise for the area and which has water mains approximately 1,600 feet from the proposed project area. The system would include 1,600 linear feet of 8" ductile iron piping (DIP) to connect to the Superior Water System, 6,600 feet of 8" DIP within the development, 8" and 6" valves, 2 blow off valves, and one booster station.

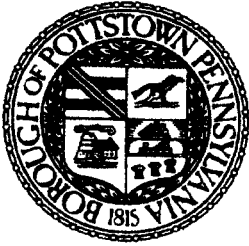
The Upper Pottsgrove Township Board of Commissioners would like to thank the Commission for its prompt review of our application for H2O PA funding. Please feel free to contact me with any further questions or comments regarding.

Sincerely,



Leo R Scott Jr., Community Planner  
LTL Consultants, Ltd.  
Email: lscott@ltlconsultants.com

cc: Upper Pottsgrove Township  
file: M:\Engineering\Upper Pottsgrove Township - 20\0520-0818 Grant  
Applications\Correspondence\PPC Consistency Review Request 011309.doc



## Borough of Pottstown

Borough Hall, 100 East High Street  
Pottstown, Pennsylvania 19464-9525  
(610) 970-6500

February 9, 2009

Upper Pottsgrove Township  
Board of Commissioners  
1409 Farmington Avenue  
Pottstown, PA 19464

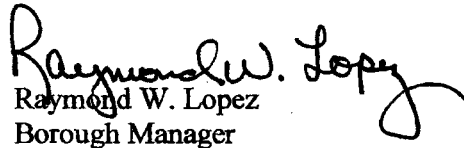
RE: Projects for H2O PA Program

Dear Commissioners:

Please accept this letter on behalf of Pottstown Borough Council and the Pottstown Planning Commission regarding your submission of projects for the H2O PA Grant Program. We find that these projects are consistent with the Pottstown Metropolitan Area Regional Comprehensive Plan of 2005.

If you have any questions, please feel free to contact my office.

Sincerely,

  
Raymond W. Lopez  
Borough Manager

RWL:vt  
cc: Jack P. Layne, Jr.  
LTL Consultants  
Charles D. Garner, Jr.



# INFRASTRUCTURE & SOIL SERIES

## UPPER POTTS GROVE TWP. MONTGOMERY CO. PA



**Legend**

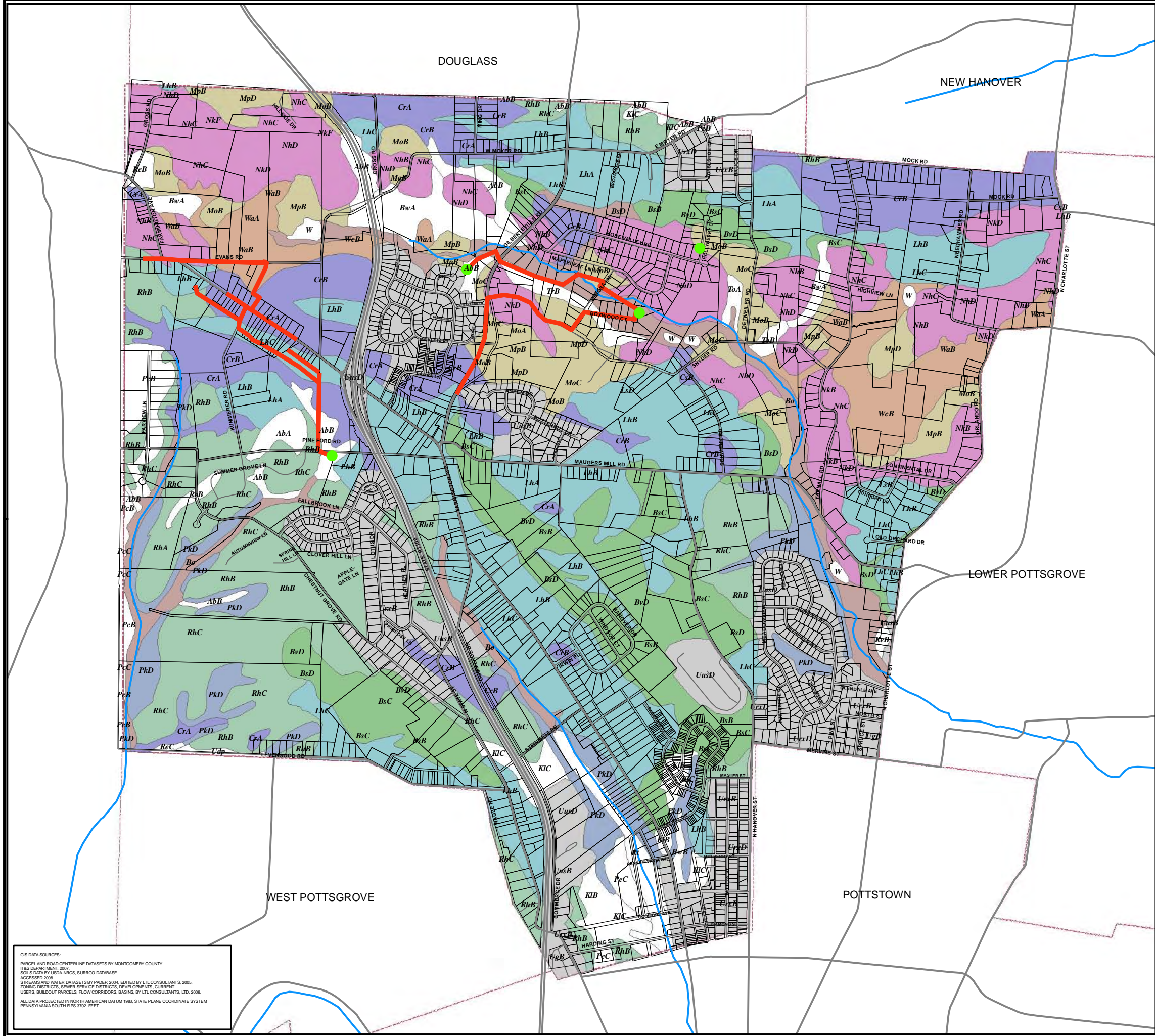
- EXISTING FACILITIES
- NEW MAINS
- ROADS
- STREAMS
- PARCEL BOUNDARIES
- MUNICIPAL BOUNDARY

**MAJOR SOIL SERIES**

BOWMANSVILLE - KNAUERS	NESHAMINY
BRECKNOCK - CHANNERY	PENN - KLINESVILLE
CROTON	REAVILLE
LEHIGH	URBAN LAND
MOUNT LUCAS	WATCHUNG
	NON DOMINANT SOIL SERIES

**MAP SCALE**  
1 inch = 1,500 feet

Feet  
0 750 1,500 3,000



GIS DATA SOURCES:  
PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY  
ITRS DEPARTMENT, 2007  
SOILS DATA BY USDA-NRCS, SURRGO DATABASE  
ACCESSIED 2008  
STREAMS AND WATER DATASETS BY PADEP, 2004, EDITED BY LTL CONSULTANTS, 2008  
ZONING DISTRICTS, SEWER SERVICE DISTRICTS, DEVELOPMENTS, CURRENT  
USERS, BUILDOUT PARCELS, FLOW CORRIDORS, BASINS, BY LTL CONSULTANTS, LTD. 2008  
ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE COORDINATE SYSTEM  
PENNSYLVANIA SOUTH FIPS 3702, FEET

**EXHIBIT 9**

**LTL CONSULTANTS, LTD.**  
ENGINEERS & CODE OFFICIALS

P.O. BOX 241  
ONE TOWN CENTRE DR.  
OLEY, PA 19547

(610) 987-9290  
FAX: (610) 987-9288

EXHIBIT 10:  
PERMITS

WSWM0015 Rev. 6/2004

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WATER SUPPLY AND WASTEWATER MANAGEMENT

PERMIT NO. 4606407

AMENDMENT NO. \_\_\_\_\_

APS ID 590319

AUTH ID 642007



**WATER QUALITY MANAGEMENT  
PERMIT**

<p>A. PERMITTEE (Name and Address): <b>Upper Pottsgrove Township</b> 1409 Farmington Avenue Pottstown, PA 19464</p>	<p>CLIENT ID#: <b>52555</b></p>	<p>B. PRIMARY FACILITY (Name): <b>Pottstown Borough Authority Wastewater Treatment Facility</b></p>
---	---------------------------------	---

<p>C. LOCATION (Municipality, County): <b>Upper Pottsgrove Township</b> <b>Montgomery County</b></p>	<p>SITE ID#: <b>664417</b></p>
--	--------------------------------

D. This permit approves the construction of sewerage facilities consisting of:  
**sewer collection system and pump station.**

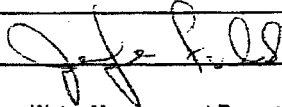
<p>Pump Stations: <u>1</u> Design Capacity: <u>0.144</u> MGD Average Annual Flow: <u>0.012</u> MGD</p>	<p>Manure Storage: Volume _____ MG Freeboard: _____ inches</p>	<p>Industrial Wastewater/Sewage Treatment Facility: Annual Average Flow: _____ MGD Design Hydraulic Capacity: _____ MGD Design Organic Capacity: _____ lb/day</p>
--	--	---

E. APPROVAL GRANTED BY THIS PERMIT IS SUBJECT TO THE FOLLOWING:

1. **New Permits:** All construction, operations, and procedures shall be in accordance with the Water Quality Management Permit application dated 07/18/2006, its supporting documentation, and addendums dated \_\_\_\_\_, which are hereby made a part of this permit.  
  
**Amendments:** All construction, operations, and procedures shall be in accordance with the Water Quality Management Permit Amendment application dated \_\_\_\_\_ and its supporting documentation, and addendums dated \_\_\_\_\_, which are hereby made a part of this amendment.  
  
 Except for any herein approved modifications, all terms, conditions, supporting documentation and addendums approved under Water Quality Management Permit No. \_\_\_\_\_ dated \_\_\_\_\_ shall remain in effect.  
  
**Transfers:** Water Quality Management Permit No. \_\_\_\_\_ dated \_\_\_\_\_ and conditions, supporting documentation and addendums are also made part of this transfer.
2. **Permit Conditions Relating to sewerage** are attached and made part of this permit.
3. Special Conditions numbered \_\_\_\_\_ are attached and made part of this permit.

F. THE AUTHORITY GRANTED BY THIS PERMIT IS SUBJECT TO THE FOLLOWING FURTHER QUALIFICATIONS:

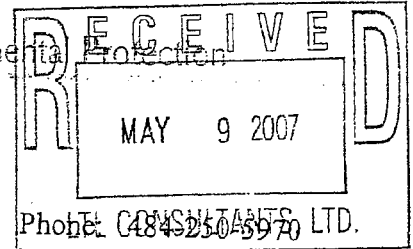
1. If there is a conflict between the application or its supporting documents and amendments and the attached conditions, the attached conditions shall apply.
2. Failure to comply with the rules and regulations of DEP or with the terms or conditions of this permit shall void the authority given to the permittee by the issuance of this permit.
3. This permit is issued pursuant to the Clean Streams Law Act of June 22, 1937, P.L. 1987, as amended 35 P.S. §691.1 *et seq.* Issuance of this permit shall not relieve the permittee of any responsibility under any other law.

<p>PERMIT ISSUED: <b>December 1, 2006</b></p>	<p>BY: <u></u> TITLE: <u>Water Management Program Manager</u></p>
---	--



Pennsylvania Department of Environmental Protection

2 East Main Street  
Norristown, PA 19401



Phone: 484-250-5970  
Fax: 484-250-5971

**Southeast Regional Office**

Mr. Jack Layne  
1409 Farmington Avenue  
Pottstown, PA 19464

Re: General Permit Acknowledgment  
DEP General Permit File No. 054607317  
Upper Pottsgrove Township  
Montgomery County

Dear Mr. Layne:


This will acknowledge receipt of your General Permit Registration No. 5 (copy enclosed) and registers your use of a General Permit. You are responsible for assuring the work is done in accordance with the drawings and conditions contained in the General Permit. You may proceed with your project after making the required notifications stipulated in the General Permit and securing all other approvals that may be necessary.

Also enclosed is your Federal Clean Water Act Section 404 authorization in the form of the Pennsylvania State Programmatic General Permit (PASPGP-3).

Before performing any work, you are required to secure all other approvals that may be necessary under other federal, state, or local regulations and notify the Pennsylvania Fish and Boat Commission in accordance with the General Permit. Also, you are required to develop an Erosion and Sediment Control Plan and notify your county conservation district prior to performing any earthmoving activities. No earthwork may start until you receive an "adequate" review letter from the Conservation District.

If you have any questions, please call Ms. Ranjana Sharp at 484-250-5166.

Sincerely,

  
Marcella Emery  
Clerk 3  
Water Management

Enclosures

- cc: PA Fish & Boat Commission, Southeast Regional Office
- U.S. Army Corps of Engineers, Philadelphia District
- Upper Pottsgrove Township
- Montgomery County Conservation District
- Mr. Pelkam - LTL Consultants, Ltd.
- Ms. Sharp
- Re 30 (GJS07WQM)120-1



Commonwealth of Pennsylvania  
Pennsylvania Historical and Museum Commission  
Bureau for Historic Preservation  
Post Office Box 1026  
Harrisburg, Pennsylvania 17108-1026

RECEIVED FEB 03 1999

January 26, 1999

John W. Weber, P.E.  
LTL Consultants, Ltd.  
One Town Centre Drive  
P.O. Box 241  
Oley, PA 19547-0241

Re: File No. ER 99-0818-091-A  
DEP 537 PROGRAM:  
Act 537 Plan Update, Upper Pottsgrove  
Twp., Montgomery Co.

Dear Mr. Weber:

The Bureau for Historic Preservation has reviewed the above named project under the authority of the Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 et seq. (1988). This review includes comments on the project's potential effect on both historic and archaeological resources.

Based on our survey files, which include both archaeological sites and standing structures, there are no National Register eligible or listed historic or archaeological properties in the area of this proposed project. Therefore, your responsibility for consultation on this project is complete.

Should artifacts or archaeological resources be encountered during construction, we request that you notify our office. This notification will not delay your project in any way. We simply wish to record this information before it is lost. The Bureau for Historic Preservation can be contacted at (717) 783-8946. Thank you in advance for this consideration. If you need a **status only** of the reviewed project please call Tina Webber at (717) 705-4036.

Sincerely,

A handwritten signature in cursive script that reads "K. W. Carr".

Kurt Carr, Chief  
Division of Archaeology &  
Protection

KWC/tmw



## Pennsylvania Fish & Boat Commission

Division of Environmental Services  
Natural Diversity Section  
450 Robinson Lane  
Bellefonte, PA 16823-9620  
(814) 359-5237 Fax: (814) 359-5175

March 21, 2007

IN REPLY REFER TO  
SIR# 24939

SCOTT BUSH  
CONESTOGA-ROVERS & ASSOCIATES  
410 EAGLEVIEW BOULEVARD, SUITE 110  
EXTON, PA 19341

RE: **Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species**  
**PNDI Search Number: 20070216078137**  
**PROPOSED SEWER UPPER POTTS GROVE**  
**Bog Turtle Habitat Survey**  
**UPPER POTTS GROVE Township/Borough, MONTGOMERY County, Pennsylvania**

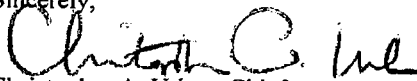
Dear Mr. BUSH:

The staff of the Natural Diversity Section reviewed your recent correspondence regarding the above-referenced project. Based on records maintained in the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files, the bog turtle (*Glyptemys muhlenbergii*, state endangered, federal threatened) is known from the vicinity of the proposed project site.

You conducted a bog turtle habitat evaluation at the project site and concluded that suitable habitat for bog turtles did not occur on-site. According to your report, the vegetation, hydrology, and soils are not consistent with wetlands known to support bog turtles. I concur with the conclusions of the Phase 1 habitat assessment; the habitat is not suitable for bog turtles. Therefore, I do not foresee the proposed project resulting in adverse impacts to the bog turtle or any other rare or protected species under Pennsylvania Fish and Boat Commission jurisdiction.

Note that this office performed no field inspection of the project area. Consequently, comments in this letter are not meant to address other issues or concerns that might arise concerning matters under Pennsylvania Fish and Boat Commission jurisdiction or that of other authorities. Please call Tina Walther at 814-359-5186 if you have any additional concerns regarding this response. Thank you for your cooperation and attention to this matter of threatened and endangered species conservation.

Sincerely,

  
Christopher A. Urban, Chief  
Natural Diversity Section

CAU/TRW/ma

c: B. Dershem, USFWS

**Our Mission:**

[www.fish.state.pa.us](http://www.fish.state.pa.us)

*To provide fishing and boating opportunities through the protection and management of aquatic resources.*



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Pennsylvania Field Office  
315 South Allen Street, Suite 322  
State College, Pennsylvania 16801-4850



March 12, 2007

Scott Bush  
Conestoga-Rovers and Associates  
410 Eagleview Blvd., Suite 110  
Exton, PA 19341

RE: USFWS Project #2007-1047

Dear Mr. Bush:

This responds to your letter of February 16, 2007, which provided the Fish and Wildlife Service with information regarding the proposed Upper Pottsgrove sanitary sewer extension project, located in Upper Pottsgrove Township, Montgomery County, Pennsylvania. The proposed project is within the known range of the bog turtle (*Clemmys muhlenbergii*), a species that is federally listed as threatened. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species.

You conducted a Phase 1 bog turtle habitat assessment on February 16, 2007. According to the Phase 1 report, none of the wetlands occurring within the project boundaries has the combination of hydrology, soils, and vegetation characteristic of suitable bog turtle habitat. Therefore, based on our review of your report, we conclude that implementation of the proposed project will not affect the bog turtle.

This determination is valid for two years from the date of this letter. If the proposed project has not been fully implemented prior to this, an additional review by this office is recommended. Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered.

If the Phase 1 habitat assessment did not include all wetlands in all areas that will be directly or indirectly affected by the proposed project and project-associated features (*e.g.*, roads, water and sewer lines, utility lines, stormwater and sedimentation basins, buildings and other structures, driveways, parking lots, yards/lawns, wells), the scope of the Phase 1 survey should be expanded to include these areas. If any wetlands are located, the results of the expanded wetland and Phase 1 investigation should be submitted to our office for review so that we can confirm whether the above determination is still valid.

This response relates only to endangered and threatened species under our jurisdiction, based on an office review of the proposed project's location. No field inspection of the project area has been conducted by this office. Consequently, this letter is not to be construed as addressing potential Service concerns under the Fish and Wildlife Coordination Act or other authorities.

*To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.*

Please contact Pam Shellenberger of my staff at 814-234-4090 if you have any questions or require further assistance regarding this matter.

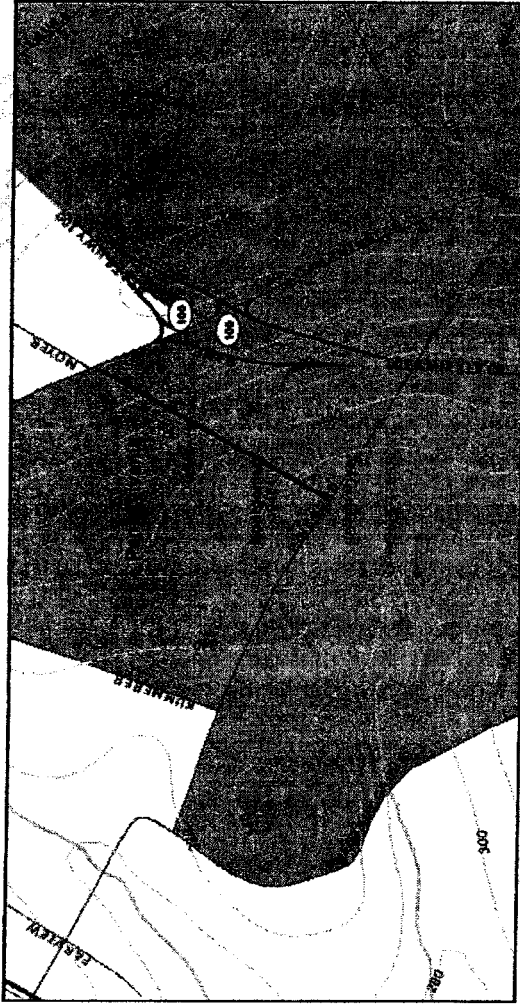
Sincerely,

A handwritten signature in black ink, appearing to read "David Densmore", followed by a long horizontal line extending to the right.

David Densmore  
Supervisor

PNDI Project Environmental Review Receipt  
Project Search ID: 20061215069096  
Project Name: Farmington Ave West  
Date: 12/15/2006 3:02:51 PM

### Project Location



**Project Name:** Farmington Ave West  
**On Behalf Of:** Self  
**Project Search ID:** 20061215069096  
**Date:** 12/15/2006 3:02:37 PM  
**# of Potential Impacts:** 0  
**Jurisdictional Agency:**  
Project Category: Waste Transfer, Treatment, and Disposal, Liquid waste/Effluent, Sewer line (new - construction in new location)  
**Project Location**  
Decimal Degrees: 40.28758 N, -75.64643 W  
Degrees Minutes Seconds: 40° 17' 15.3" N, 75° 38' 47.2" W  
Lambert: 656743.33333333, 478347.66666667 ft  
ZIP Code: 19484  
County: Montgomery  
Township/Municipality: UPPER POTTS GROVE  
USGS 7.5 Minute Quadrangle ID: 197  
Quadrangle Name: BOYERTOWN  
Project Length: 1404.0 feet

### Location Accuracy

Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Receipt is solely responsible for the project location and thus the correctness of the Project Review Receipt content.

### 0 Known Impacts

Under the Following Agencies' Jurisdiction:  
None

### Pennsylvania State Programmatic General Permit (PASP/GP)

Please note that regardless of PNDI search results, projects requiring a Chapter 105 DEP individual permit or GP 5, 6, 7, 8, 9 or 11 in certain counties (Adams, Berks, Bucks, Chester, Cumberland, Delaware, Franklin, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York) are required by DEP to comply with the bog turtle habitat screening requirements of the PASP/GP.

## PNDI Project Environmental Review Receipt

Project Search ID: 20061215069096  
 Project Name: Farmington Ave West  
 Date: 12/15/2006 3:02:51 PM

Pennsylvania Natural Diversity Inventory (PNDI) records do **NOT** indicate any known impacts on special concern species and resources within the project area. DEP requires a signed copy of this receipt with permit applications being submitted as indication that an environmental review has been conducted and completed. See DEP PNDI policy at [www.naturalheritage.state.pa.us](http://www.naturalheritage.state.pa.us) for more information.

Based on the information you provided, no further coordination is required by the Pennsylvania Game Commission, the Pennsylvania Fish and Boat Commission, or the Pennsylvania Department of Conservation and Natural Resources with regard to special concern species, natural communities, or outstanding geologic features. This response does not reflect potential agency concerns regarding impacts to other ecological resources, such as wetlands.

**Based on the project-specific information you provided, no impacts to federally listed, proposed, or candidate species are anticipated.** Therefore, no further consultation under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq. is required with the U.S. Fish and Wildlife Service. Because no take of federally listed species is anticipated, none is authorized. For a list of species that could occur in your project area (but have not been documented in PNDI), please see the county lists of threatened, endangered, and candidate species. A field visit or survey may reveal previously undocumented populations of one or more threatened or endangered species with a project area. If it is determined that any federally listed species occur in your project area, the U.S. Fish and Wildlife Service requires that you initiate consultation to identify and resolve any conflicts. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

These determinations were based on the project-specific information you provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the information you provided does not accurately reflect this project, or if project plans change, DEP and the jurisdictional agencies require that another PNDI review be conducted.

**This response represents the most up-to-date summary of the PNDI data files and is good for one(1) year from the date of this PNDI Project Environmental Review Receipt.**

### DISCLAIMER

The PNDI environmental review website is a preliminary environmental screening tool. It is not a substitute for information obtained from a field survey of the project area conducted by a biologist. Such surveys may reveal previously undocumented populations of species of special concern. In addition, the PNDI only contains information about species occurrences that have actually been reported to the Pennsylvania Natural Heritage Program.

### Pennsylvania State Programmatic General Permit (PASPGP)

Please note that regardless of PNDI search results, projects requiring a Chapter 105 DEP individual permit or GP 5, 6, 7, 8, 9 or 11 in certain counties (Adams, Berks, Bucks, Chester, Cumberland, Delaware, Franklin, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York) are required by DEP to comply with the bog turtle habitat screening requirements of the PASPGP.

### TERMS OF USE

Upon signing into the PNDI environmental review website, and as a condition of using it, you agreed to certain terms of use. These are as follows:

# PNDI Project Environmental Review Receipt

Project Search ID: 20061215069096  
Project Name: Farmington Ave West  
Date: 12/15/2006 3:02:51 PM

The web site is intended solely for the purpose of screening projects for potential impacts on resources of special concern in accordance with the instructions provided on the web site. Use of the web site for any other purpose or in any other way is prohibited and subject to criminal prosecution under federal and state law, including but not limited to the following: Computer Fraud and Abuse Act of 1986, as amended, 18 U.S.C. § 1030; Pennsylvania Crimes Code, § 4911 (tampering with public records or information), § 7611 (unlawful use of computer and other computer crimes), § 7612 (disruption of service), § 7613 (computer theft), § 7614 (unlawful duplication), and § 7615 (computer trespass).

The PNHP reserves the right at any time and without notice to modify or suspend the web site and to terminate or restrict access to it.

The terms of use may be revised from time to time. By continuing to use the web site after changes to the terms have been posted, the user has agreed to accept such changes.

This review is based on the project information that was entered. The jurisdictional agencies and DEP require that the review be redone if the project area, location, or the type of project changes. If additional information on species of special concern becomes available, this review may be reconsidered by the jurisdictional agency.

## PRIVACY and SECURITY

This web site operates on a Commonwealth of Pennsylvania computer system. It maintains a record of each environmental review search result as well as contact information for the project applicant. These records are maintained for internal tracking purposes. Information collected in this application will be made available only to the jurisdictional agencies and to the Department of Environmental Protection, except if required for law enforcement purposes—see paragraph below.

This system is monitored to ensure proper operation, to verify the functioning

of applicable security features, and for other like purposes. Anyone using this system consents to such monitoring and is advised that if such monitoring reveals evidence of possible criminal activity, system personnel may provide the evidence to law enforcement officials. See Terms of Use.

**Print this Project Review Receipt using your internet browser's print function and keep it as a record of your search.**

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

Project applicant on whose behalf this search was conducted:

### APPLICANT

**Contact Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**City, State, Zip:** \_\_\_\_\_

**Phone:** \_\_\_\_\_

**Email:** \_\_\_\_\_

### PERSON CONDUCTING SEARCH (if not applicant)

**Contact Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**City, State, Zip:** \_\_\_\_\_

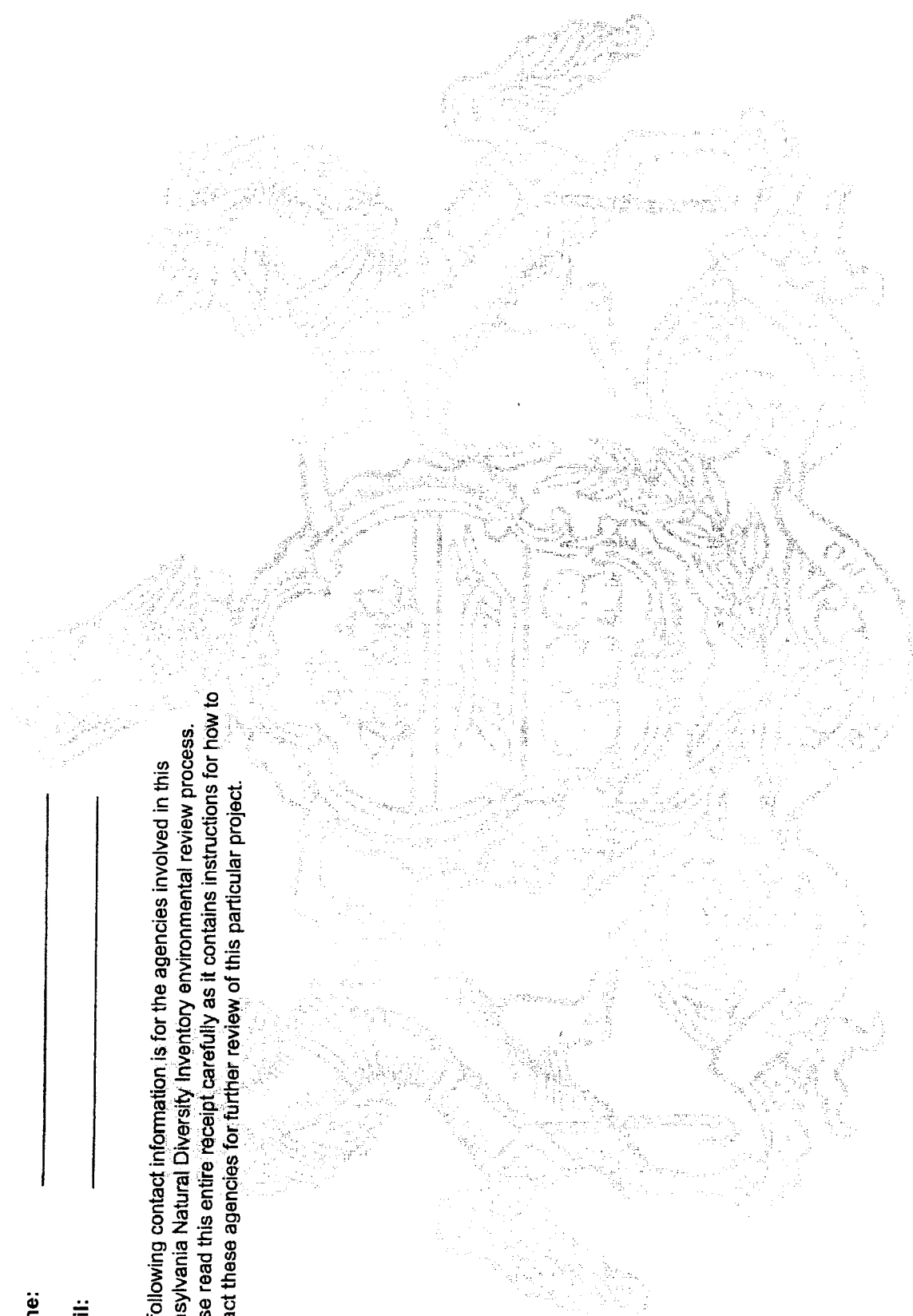
**PNDI Project Environmental Review Receipt**

Project Search ID: 20061215069096  
Project Name: Farmington Ave West  
Date: 12/15/2006 3:02:51 PM

**Phone:** \_\_\_\_\_

**Email:** \_\_\_\_\_

The following contact information is for the agencies involved in this Pennsylvania Natural Diversity Inventory environmental review process. Please read this entire receipt carefully as it contains instructions for how to contact these agencies for further review of this particular project.





Commonwealth of Pennsylvania  
Pennsylvania Historical and Museum Commission  
Bureau for Historic Preservation  
Commonwealth Keystone Building, 2<sup>nd</sup> Floor  
400 North Street  
Harrisburg, PA 17120-0093  
[www.phmc.state.pa.us](http://www.phmc.state.pa.us)

January 27, 2009

Conestoga-Rovers & Associates, Inc.  
Attn: Scott E. Bush, PWS  
410 Eagleview Blvd., Suite 110  
Exton, PA 19341

RE: ER# 2009-0483-091-B  
DEP: Regal Oaks Pump Station Project  
Upper Pottsgrove Township, Montgomery  
County

Dear Mr. Bush:

The Bureau for Historic Preservation has reviewed the above named project under the authority of the Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 *et seq.* (1988). This review includes comments on the project's potential effect on both historic and archaeological resources. Our comments are as follows:

We have re-evaluated the potential effects of project activities on archaeological resources. In our opinion, this project will have no effect on such resources. This supersedes our correspondence of December 23, 2008 to LTL Consultants, in which it was suggested there is a high probability that significant archaeological sites are located in this project area.

As per the aforementioned December 23, 2008 correspondence, in our opinion, project activities will also have no effect on historic buildings/structures/districts/objects located within the project area.

If you have any questions or comments regarding our review, please contact Mark Shaffer at (717) 783-9900.

Sincerely,

*Mark Shaffer for*

Douglas C. McLearn, Chief  
Division of Archaeology and Protection

cc: DEP, Southeast Region



# Pennsylvania Fish & Boat Commission

**Division of Environmental Services**  
**Natural Diversity Section**  
450 Robinson Lane  
Bellefonte, PA 16823-9620  
(814) 359-5237 Fax: (814) 359-5175

March 5, 2009

**IN REPLY REFER TO**  
SIR# 31004

SCOTT BUSH  
CONESTOGA-ROVERS & ASSOCIATES  
410 EAGLEVIEW BOULEVARD, SUITE 110  
EXTON, PA 19341

**RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species**  
**REGAL OAKS SEWER PLANT DECOMMISSIONING**  
**NEW GRAVITY SEWER LINE, DECOMMISSION EXISTING CHERRY STREET**  
**PUMP STATION, DECOMMISSION REGAL OAKS WWTP**  
**Bog Turtle Habitat Survey**  
**UPPER POTTS GROVE Township, MONTGOMERY County, Pennsylvania**

Dear Mr. BUSH:

I reviewed your recent correspondence regarding the above-referenced project. Based on records maintained in the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files, the bog turtle (*Glyptemys muhlenbergii*, state endangered, federal threatened) is known from the vicinity of the proposed project site.

You conducted a bog turtle habitat evaluation at the subject project site and concluded that suitable habitat for bog turtles did not occur on-site. According to your report, the vegetation, hydrology, and soils are not consistent with wetlands known to support bog turtles. One small area contained a Phragmites patch marginally suitable for bog turtles, but it was small, isolated, and 190 feet from the proposed gravity sewer line. I concur with the conclusions of the Phase 1 habitat assessment; the wetland habitat onsite is not suitable for bog turtles. Therefore, I do not foresee the proposed project resulting in adverse impacts to the bog turtle or any other rare or protected species under Pennsylvania Fish and Boat Commission jurisdiction.

Note that this office performed no field inspection of the project area. Consequently, comments in this letter are not meant to address other issues or concerns that might arise concerning matters under Pennsylvania Fish and Boat Commission jurisdiction or that of other authorities. Please call us at 814-359-5237 if you have any additional concerns regarding this response. Thank you for your cooperation and attention to this matter of threatened and endangered species conservation.

Sincerely,

Christopher A. Urban, Chief  
Natural Diversity Section

CAU/mr  
**Our Mission:**

[www.fish.state.pa.us](http://www.fish.state.pa.us)

*To protect, conserve and enhance the Commonwealth's aquatic resources and provide fishing and boating opportunities.*



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Pennsylvania Field Office  
315 South Allen Street, Suite 322  
State College, Pennsylvania 16801-4850

March 19, 2009

Scott Bush  
Conestoga-Rovers  
410 Eagleview Blvd.  
Suite 110  
Exton, PA 19341

RE: USFWS Project #2009-0671

Dear Mr. Bush:

This responds to your letter dated February 3, 2009, which provided the Fish and Wildlife Service with information regarding the Regal Oaks sewer plant decommissioning in Upper Pottsgrove Township, Montgomery County, Pennsylvania. The proposed project is within the known range of the bog turtle (*Clemmys muhlenbergii*), a species that is federally listed as threatened. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species.

A Phase 1 bog turtle habitat survey was conducted by you on November 11 and 16, 2008. According to your survey report, the wetlands occurring within the project boundaries do not contain potential bog turtle habitat. Therefore, based on this information, we conclude that implementation of the proposed project will not affect the bog turtle.

This determination is valid for two years from the date of this letter. If the proposed project has not been fully implemented prior to this, an additional review by this office is recommended. Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to endangered and threatened species under our jurisdiction, and is not to be construed as addressing potential Service concerns under the Fish and Wildlife Coordination Act or other authorities.

*To avoid potential delays in reviewing of your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.*

Please contact Bonnie Dershem of my staff at 814-234-4090 if you have any questions or require further assistance regarding this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "David Densmore", followed by a long horizontal line extending to the right.

David Densmore  
Supervisor



## PNDI Project Environmental Review Receipt

Project Search ID: 20081030165288  
 Project Name: Regal Oaks Pump Station  
 Date: 10/30/2008 4:28:55 PM

Pennsylvania Natural Diversity Inventory (PNDI) records do **NOT** indicate any known impacts on special concern species and resources within the project area. DEP requires a signed copy of this receipt with permit applications being submitted as indicated that an environmental review has been conducted and completed. See DEP PNDI policy at [www.naturalheritage.state.pa.us](http://www.naturalheritage.state.pa.us) for more information.

Based on the information you provided, no further coordination is required by the Pennsylvania Game Commission, the Pennsylvania Fish and Boat Commission, or the Pennsylvania Department of Conservation and Natural Resources with regard to special concern species, natural communities, or outstanding geologic features. This response does not reflect potential agency concerns regarding impacts to other ecological resources, such as wetlands.

**Based on the project-specific information you provided, no impacts to federally listed, proposed, or candidate species are anticipated.** Therefore, no further consultation under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) is required with the U.S. Fish and Wildlife Service. Because no take of federally listed species is anticipated, none is authorized. For a list of species that could occur in your project area (but have not been documented in PNDI), please see the county lists of threatened, endangered, and candidate species. A field visit or survey may reveal previously undocumented populations of one or more threatened or endangered species with a project area. If it is determined that any federally listed species occur in your project area, the U.S. Fish and Wildlife Service requires that you initiate consultation to identify and resolve any conflicts. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

These determinations were based on the project-specific information you

provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the information you provided does not accurately reflect this project, or if project plans change, DEP and the jurisdictional agencies require that another PNDI review be conducted.

**This response represents the most up-to-date summary of the PNDI data files and is good for one(1) year from the date of this PNDI Project Environmental Review Receipt.**

### DISCLAIMER

The PNDI environmental review website is a preliminary environmental screening tool. It is not a substitute for information obtained from a field survey of the project area conducted by a biologist. Such surveys may reveal previously undocumented populations of species of special concern. In addition, the PNDI only contains information about species occurrences that have actually been reported to the Pennsylvania Natural Heritage Program.

### TERMS OF USE

Upon signing into the PNDI environmental review website, and as a condition of using it, you agreed to certain terms of use. These are as follows:

The web site is intended solely for the purpose of screening projects for potential impacts on resources of special concern in accordance with the instructions provided on the web site. Use of the web site for any other purpose or in any other way is prohibited and subject to criminal prosecution under federal and state law, including but not limited to the following: Computer Fraud and Abuse Act of 1986, as amended, 18 U.S.C. A§ 1030; Pennsylvania Crimes Code, A§ 4911 (tampering with public records or information), A§ 7611 (unlawful use of computer and other computer crimes), A§ 7612 (disruption of service), A§ 7613 (computer theft), A§ 7614 (unlawful duplication), and A§ 7615 (computer trespass).

**PNDI Project Environmental Review Receipt**

Project Search ID: 20081030165288  
Project Name: Regal Oaks Pump Station  
Date: 10/30/2008 4:28:55 PM

The PNHP reserves the right at any time and without notice to modify or suspend the web site and to terminate or restrict access to it.

The terms of use may be revised from time to time. By continuing to use the web site after changes to the terms have been posted, the user has agreed to accept such changes.

This review is based on the project information that was entered. The jurisdictional agencies and DEP require that the review be redone if the project area, location, or the type of project changes. If additional information on species of special concern becomes available, this review may be reconsidered by the jurisdictional agency.

**PRIVACY and SECURITY**

This web site operates on a Commonwealth of Pennsylvania computer system. It maintains a record of each environmental review search result as well as contact information for the project applicant. These records are maintained for internal tracking purposes. Information collected in this application will be made available only to the jurisdictional agencies and to the Department of Environmental Protection, except if required for law enforcement purposes see paragraph below.

This system is monitored to ensure proper operation, to verify the functioning of applicable security features, and for other like purposes. Anyone using this system consents to such monitoring and is advised that if such monitoring reveals evidence of possible criminal activity, system personnel may provide the evidence to law enforcement officials. See Terms of Use.

**Print this Project Review Receipt using your internet browser's print function and keep it as a record of your search.**

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Project applicant on whose behalf this search was conducted:

**APPLICANT**

Contact Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City, State, Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Email: \_\_\_\_\_

**PERSON CONDUCTING SEARCH (if not applicant)**

Contact Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City, State, Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Email: \_\_\_\_\_

The following contact information is for the agencies involved in this Pennsylvania Natural Diversity Inventory environmental review process. Please read this entire receipt carefully as it contains instructions for how to contact these agencies for further review of this particular project.

**PNDI Project Environmental Review Receipt**

Project Search ID: 20081030165288  
Project Name: Regal Oaks Pump Station  
Date: 10/30/2008 4:28:55 PM



Page 4 of 4      **APPLICANT INITIALS:** \_\_\_\_\_



# HIGHWAY OCCUPANCY PERMIT

PERMIT NO. 06071932

ORGANIZATION 064

DATE ISSUED 033109

PERMIT FEES 1360.00

ACCOUNT NO.

COUNTY 46

TOWNSHIP/BORO 114

PERMITTEE  
UPPER POTTS GROVE TOWNSHIP

ADDRESS  
1409 FARMINGTON AVENUE

POST OFFICE  
~~XXXXXXXXXX~~ POTTS TOWN PA ZIP CODE 19464-

COUNTY MONTGOMERY

TOWNSHIP/BORO UPPER POTTS GROVE

DESCRIPTION 641 **1**

STATE ROUTE NO. 4040

SEGMENT(S) 0080 0080

OFFSET TO OFFSET 0000 3114

BOND/AGREEMENT NUMBER

ALL WORK UNDER THIS PERMIT MAY BE STARTED ON 03/31/09

AND SHALL BE COMPLETED ON OR BEFORE 03/31/10

Immediately upon completion of the work, Permittee shall notify the permit office where application was made. Subject to all the conditions, restrictions, and regulations prescribed by the Pennsylvania Department of Transportation, (see in particular 67 Pa. Code, Chapter 203/212, 441 and 459) and subject to the plans, special conditions, or restrictions herein set forth or attached hereto. This permit shall be located at the work site and shall be available for inspection by any police officer or department representative.

DESCRIPTION 641 **2**

STATE ROUTE NO. 4040

SEGMENT(S) 0080 0080

OFFSET TO OFFSET 3112 3186

**DESCRIPTION OF WORK**

INSTALL SUB-SURFACE SEWER FACILITY AT SR 4040 SEG 0080 OFFSET 0000 TO SEG 0080 OFFSET 3114

INSTALL SUB-SURFACE SEWER FACILITY AT SR 4040 SEG 0080 OFFSET 3112 TO SEG 0080 OFFSET 3186

INSTALL 9" FORCEMAIN

INSTALL 12" GRAVITY MAIN

CONTRACTOR MUST NOTIFY THE PENNDOT PRESS OFFICE AT 610 205 6797 A MINIMUM OF FOUR WORKING DAYS PRIOR TO THE CLOSING OF TRAVEL LANE(S) ONLY.

CONTACT COUNTY PERMIT INSPECTOR AT LEAST 3 WORK DAYS PRIOR TO START OF WORK AT 610 275-1409.

AN INSPECTOR, WHEN AVAILABLE, WILL BE ASSIGNED ON MORE THAN A SPOT INSPECTION BASIS. PERMITTEE WILL BE CHARGED ALL INSPECTION COSTS INCURRED BY THE DEPARTMENT.

RESTORATION SECURITY SHALL BE SUBMITTED TO THE DEPARTMENT AT LEAST 30 DAYS PRIOR TO START OF WORK. NO WORK MAY BE PERFORMED UNTIL SECURITY IS APPROVED.

PERMITTEE SHALL PROVIDE A NEW, EXECUTED M-945X/M-950X ANNUALLY TO THE DISTRICT PERMIT OFFICE.

DESCRIPTION

STATE ROUTE NO.

SEGMENT(S)

OFFSET TO OFFSET

TOWNSHIP/BORO **4**

DESCRIPTION

STATE ROUTE NO.

SEGMENT(S)

OFFSET TO OFFSET

**RECEIVED**

APR 02 2009

THIS PERMIT IS NOT VALID UNTIL SIGNED BY THE DISTRICT ENGINEER OR HIS AUTHORIZED REPRESENTATIVE

**Acknowledgement of Completion**

Permitted work has been completed.

Date \_\_\_\_\_ By \_\_\_\_\_

ALLEN D. BIEHLER, P.E.

*Richard A. Cavallo*  
Secretary of Transportation  
LESTER TOASO, P.E. DE  
District Executive

**X. COST EFFECTIVENESS ANALYSIS**

### Cost Effectiveness Analysis:

On March 24, 2009 a cost effectiveness analysis was provided to PADEP Water Management Department as a requirement placed on the Selected Alternative for PENNVEST funding. The Analysis was comprised of excerpts from Page 36 of the Plan and Appendices 4.2 and 4.3. In addition to these documents, excerpts from the 2002 PADEP Approved Plan (Farmington Avenue West Phase II alternative) were provided to the Water Management Department. These are Exhibits 3 through 5 in the Uniform Environmental Review.

Upon review of these documents, a letter approving the cost effective analysis was provided to the Township from PADEP on March 31, 2009. The communication record regarding follows.

**Leo Scott**

**From:** Mctish, James [jmctish@state.pa.us]  
**Sent:** Saturday, March 21, 2009 3:22 PM  
**To:** 'Leo Scott'  
**Subject:** Remaining PENNVEST Requirements

.....Leo,

Below is a list of items which need to be resolved, or in some cases just an update.

- **Categorical Exclusion:** We received your March 18, 2009 submission of the Categorical Exclusion provision to the Environmental Review Process. Per our review, the Categorical Exclusion is approved.
- A Part II Permit application is needed for the Phase 5 Farmington Avenue interceptor project. I understand you are waiting for Act 14 notification.
- **Cost Effective Analysis:** PENNVEST requires that a Cost Effective Analysis be provided. Please refer to pages 30 through 34 of the Handbook for PENNVEST Wastewater Projects for guidance.
- Performance Standards have not been submitted for review. (This is an easy task - pretty much cut and paste) For one year after the initiation of operation, facilities must be operated under the supervision of the prime engineer who was responsible for engineering services during construction. Then a Basis of Certification Report, based upon the approved performance standards, must be prepared and submitted to the Department. With that said, refer to pages 110 through 113 of the "Handbook for PENNVEST Wastewater Projects for Guidance" for a list of PA DEP suggested standards. You are permitted to develop your own list and/or incorporate the Department's list.
- Federal Cross-Cutters for the project must be submitted to and approved by the Department prior to applying for PENNVEST funding. The Department did receive your EPA Form 4700-4 and copies of the municipal rules. However, we need the Engineer or other to address each of the Federal Cross Cutters as outlined on page 16 and 17 of the "Handbook for PENNVEST Wastewater Projects."
- A Specification Certification is required for the Phase 5 Farmington Avenue interceptor project.

Thanks, Jim McTish.....

James M. McTish, Jr. | Project Manager  
Department of Environmental Protection  
Southeast Regional Office  
2 East Main Street | Norristown, PA 19401  
Phone: 484.250.5180 | Fax: 484.250.5971  
www.depweb.state.pa.us

**Leo Scott**

**From:** Leo Scott [lscott@ltlconsultants.com]  
**Sent:** Tuesday, March 24, 2009 10:43 AM  
**To:** 'Mctish, James'  
**Subject:** Upper Pottsgrove Township PENNVEST Application Review: Requested Documents  
**Attachments:** Cost Effectiveness Documentation 537 Revision Sections 032409.pdf; PADEP Specification Certification for Farmington Avenue Ph 5 032309.pdf; 053865 PFBC 3-9-2009.pdf; 053865 USFWS 3-19-2009.pdf

Jim,

The following are intended to address the bullet points indicated in your email from 3-21-09.

- Cost Effective Analysis - 1) Farmington Avenue West PH 2: Per your request we are attaching excerpts from the Act 537 Revision of 2002 (PADEP Approved 8/28/2002). This provides a cost comparison and analysis of 3 alternatives for sewerage Farmington Avenue West of State Route 100. (AKA Farmington Ave West PH 2 in our application) - 2) Regal Oaks Pumping Station Project (Including Farmington Avenue Phase 5 Extension Project) This excerpt is taken from the current Act 537 Plan Revision in which 9 separate alternatives for sewerage were analyzed. Included are cost breakdowns for each alternative. The selected alternative also includes funding analysis including Yearly Operational Costs. Please review and let me know if this information is acceptable for your purposes.
- Farmington Avenue Phase V - Specification Certification (Attached)
- Confirmation of Part II Permit Application of Farmington Avenue Phase V - This application was sent to PADEP last week and is currently under review.
- Categorical Exclusion - We confirm your receipt of our Categorical Exclusion Request and Await your response regarding approval.
- Regal Oaks Pumping Station GP-5 permit - Application for GP-5 is being mailed today. As of today, we have both PA Fish & Boat and US Fish & Wildlife clearance letters in hand (Attached).
  
- Performance Standards - We are currently drafting a Proposed Performance Standards Memo to the Department - Expect this By end of Day.
- Federal Cross Cutters - We are currently drafting an Engineers Memo Regarding - Expect this by Thursday End of Day.

Please feel free to call me with any further questions regarding.

Thanks,

Leo R Scott Jr.  
 Administrative Assistant to the Engineer  
 LTL Consultants, Ltd.  
 One Town Centre Drive  
 P.O. Box 241  
 Oley, PA 19547  
 (610) 987-9290  
 FAX (610)987-9288  
[lscott@ltlconsultants.com](mailto:lscott@ltlconsultants.com)

4/15/2009



Pennsylvania Department of Environmental Protection

2 East Main Street  
Norristown, PA 19401

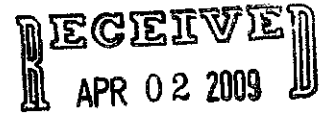
March 31, 2009

**Southeast Regional Office**

Phone: 484-250-5970

Fax: 484-250-5971

Mr. Jack P. Layne, Jr.  
Township Manager  
Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464



BY: *[Signature]*

Re: PENNVEST  
Farmington Avenue & Regal Oaks Pump  
Station  
Upper Pottsgrove Township  
Montgomery County

Dear Mr. Layne:

We have the following comments on various PENNVEST requirements which are either complete or are in need of your attention:

- **Categorical Exclusion:** We received your Consultant's March 18, 2009, submission of the Categorical Exclusion. Per our review, the Categorical Exclusion is approved.
- **Federal Cross-Cutters** for the project must be submitted to and approved by the Department prior to applying for PENNVEST funding. The Department did receive your EPA Form 4700-4 and copies of the municipal rules. However, we need the Engineer or other to address each of the Federal Cross Cutters as outlined on page 16 and 17 of the "Handbook for PENNVEST Wastewater Projects."
- Your Consultant's March 24, 2009, e-mail addressed your Cost Effective Analysis which was reviewed and approved.
- Your Consultant's March 24, 2009, e-mail addressed your performance Standards which was reviewed and approved.
- The Environmental Assessment utilizing the Uniform Environmental Review process is needed.
- Your Part 2 Permit application for the Phase 5 Farmington Avenue interceptor project is under review.

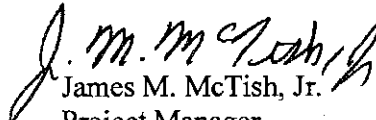
Mr. Jack P. Layne, Jr.

- 2 -

March 31, 2009

Should you have any questions regarding this letter, please call me at the above phone number.

Sincerely,

  
James M. McTish, Jr.  
Project Manager  
Water Management

cc: Mr. Scott – LTL Consultants, Ltd.  
Re 30 (GJE09WQ)082-15

**XI. APPENDICES AND MAPPING**

Appendices and mapping are in the following pages.

**APPENDIX 1.0 – PAST WASTEWATER PLANNING**

## **1991 UPT Act 537 Plan: Alternative as Constructed**

### **Farmington Road Creek Drainage Basin:**

- A 10 inch 8700' gravity sewer was installed in 1995 in Farmington Ave from Pottstown Borough to Maugers Mill Road with the inclusion of a meter chamber at the connection to the Pottstown conveyance system. Additionally, a 700' extension along Gilbertsville Road and a 1600' extension along Maugers Mill Road were completed in 1995. In 2006, a new 18" sewer main replaced the 10" line in Farmington Ave from Roosevelt Street to Steinmetz Road. A second 10" line was also installed in 2006 parallel to the original 10" line in Farmington Ave from Steinmetz Road to Pine Ford Road.

### **Sprogel's Run Drainage Basin:**

- A 130 gpm submersible pump station and a 2400', 4" force main were installed in 1995 in the Cherry Tree Farms subdivision. A proposed 10" gravity main is proposed for 2010 to convey this flow to the proposed Regal Oaks Pump Station. Once installed the Cherry Tree Pump Station and associated force main will be abandoned.

### **Goose Run Drainage Basin:**

- A 330 gpm 40 HP pump station was installed on Pine Ford Road between Kummerer Road and Route 100 in 1997. A 5", 1750' ductile iron force main in Pine Ford Road conveys to the gravity line in Farmington Ave.

## **Special Study Revision of 2001: Planned versus Constructed Projects**

- Alternative 1 was recommended for the area west of Rt.100 – original paragraph:  
“This alternative takes advantage of the fact that the elevation behind the homes on the southern side of Farmington Avenue slopes toward the east. This is the opposite of Farmington Avenue itself. The layout allows gravity flow to Pine Ford Road, and also has the secondary advantage of allowing users on the southern side of the road to connect to the system without reversing their plumbing”.
- Original Construction Cost estimate = \$912,000 for all 3 areas (east of 100, west of 100 and Chestnut Grove Road)
- Alternative 1 for west of Rt.100 remains the chosen option.
- The original Evans Road solution has been modified - original paragraph:  
“Sixteen (16) homes on Evans Road are included in the study area. The Evans Road sub-area is unique, in that the elevation high point is at the intersection of Evans Road and Farmington Avenue. Thus gravity flow for these homes isn’t possible. A pump station isn’t feasible because two would be required (one on either side of the Evans Road sub-area). The cost of two pump stations is more than the proposed grinder pumps (\$80,000 for grinder pumps versus at least \$140,000 for two basic package pump stations). The cost of gravity sewer and force mains will greatly exceed that of the proposed low-pressure sewer in the street, make the low-pressure sewer (LPS) the most cost effective option. LPS will be used for all further analyses involving Evans Road due to its obvious advantages.”
- The revised plan for Evans Road is as follows:  
Nineteen (19) homes are included. An additional 7 lots have been proposed at 409 Evans Road (easternmost portion of the Evans Road sub-area). Low Pressure sewer has been proposed for the homes located to the west of the intersection of Evans Road and Farmington Avenue. Gravity flow from there to the easternmost portion of the Evans Road sub-area. A pump station located at 409 Evans Road with a force main flowing south, crossing through 2 properties, to Farmington Avenue. A total of 9 grinder pumps and one pump station are included. Costs are similar between all grinders and this option, particularly with participation from the developer of 409 Evans Road. Additionally, our opinion is that from a maintenance perspective, fewer pumps is always better. The DEP mandated pump replacement at the Regal Oaks pump station requires installation of new chopper pumps immediately. Once the Regal Oaks Pump Station project is complete and the WWTP decommissioned by April 16, 2010, these temporary pumps can be utilized for this station at 409 Evans Road. The pumps have been designed for both conditions.
- East of 100 – originally stated that routing would be along Rt 100 south to Evans Road. PennDOT would not allow construction within their easement. Therefore, a gravity line through 2 properties connected to existing main in Pine Ford Road. Completed in 2008.
- Chestnut Grove Road – connections made with gravity and 3 grinder pumps. Completed in 2008.

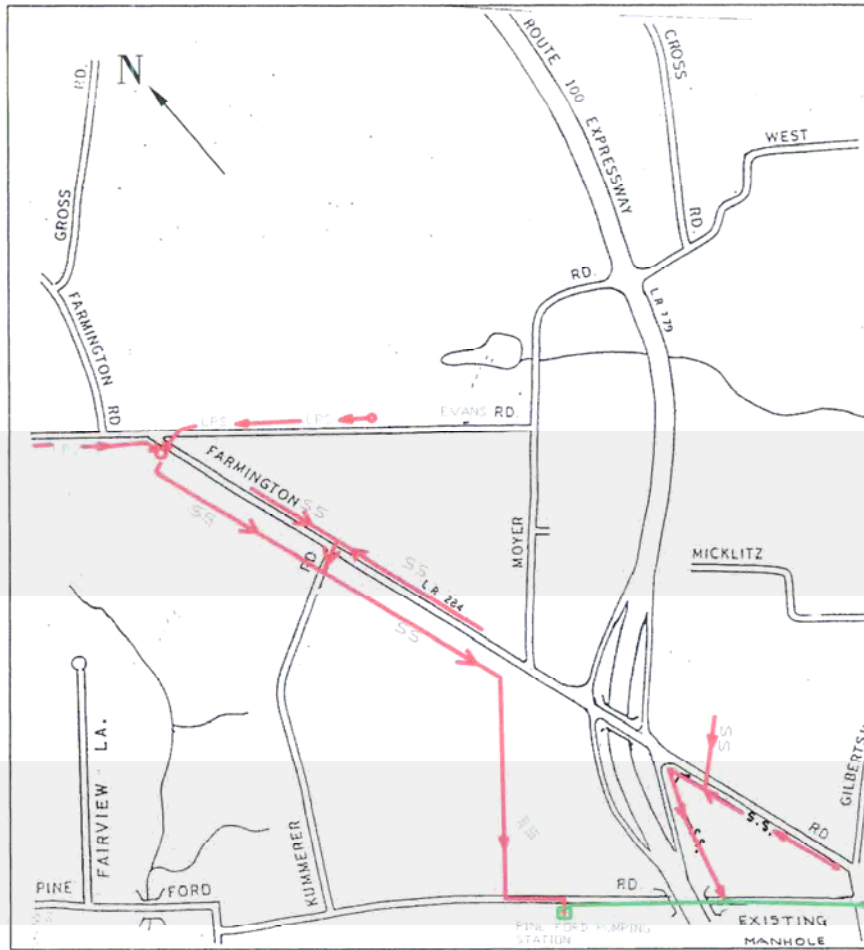
### **Planned, but not yet completed**

- Pine Ford Road Pump station upgrade from 40 HP to 50 HP incorporated into project.
- Farmington Avenue West of 100 (Phase II) Estimate for remaining work (including upgrade of Pine Ford Road pump station) is \$1,420,100.

**Refer to maps on the following pages.**

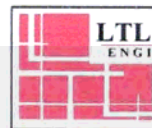
Figure 5-3  
Farmington Avenue Area  
Alternative 1

2001



MONTGOMERY COUNTY  
Pennsylvania

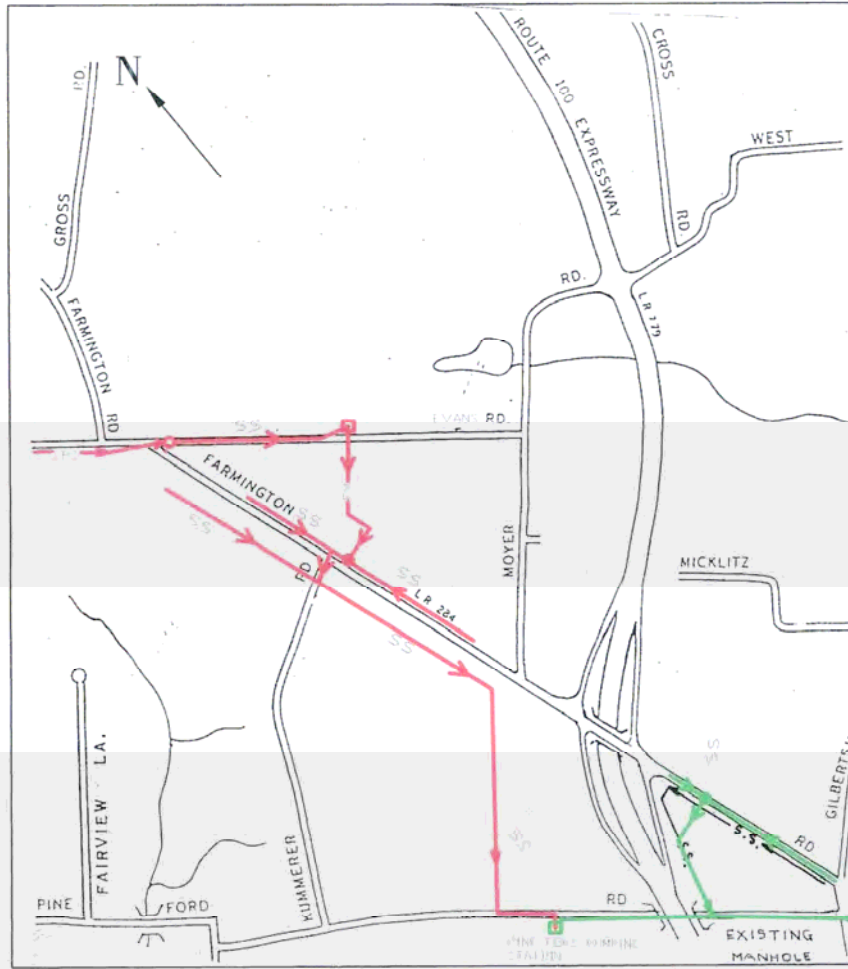
UPPER POTTS GROVE TOWNSHIP  
ACT 537 PLAN  
SPECIAL STUDY REVISION



**LTL CONSULTANTS, LTD.**  
ENGINEERS & CODE OFFICIALS  
PO BOX 241  
ONE TOWN CENTRE DRIVE OLEY, PA 19547

Figure 5-3  
Farmington Avenue Area  
Alternative 1

2008



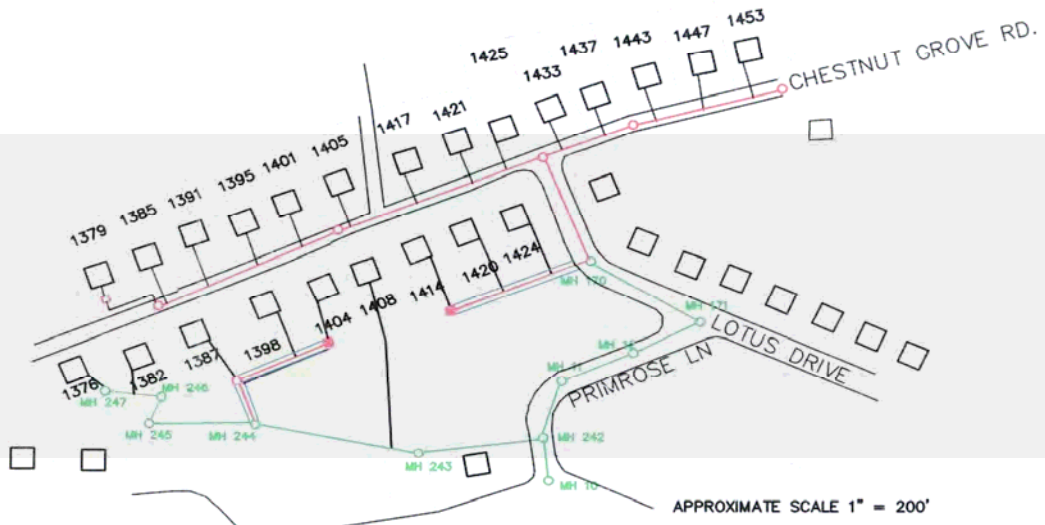
MONTGOMERY COUNTY  
Pennsylvania

UPPER POTTS GROVE TOWNSHIP  
ACT 537 PLAN  
SPECIAL STUDY REVISION

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ENGINEERS & CODE OFFICIALS  
PO BOX 241  
ONE TOWN CENTRE DRIVE OLEY, PA 19547

**Figure 5-2**  
**Chestnut Grove Road Area**  
**Alternative B**

2001



APPROXIMATE SCALE 1" = 200'

- SEWER EASEMENT
- PROPOSED SEWER
- EXISTING SEWER
- EXISTING MANHOLE
- PROPOSED MANHOLE
- PROPOSED CLEANOUT
- PROPOSED GRINDER PUMP

MONTGOMERY COUNTY  
 Pennsylvania

UPPER POTTS GROVE TOWNSHIP  
 ACT 537 PLAN  
 SPECIAL STUDY REVISION

**LTL CONSULTANTS, LTD.**  
 ENGINEERS & CODE OFFICIALS  
 P.O. BOX 241  
 ONE TOWN CENTRE DRIVE OLEY, PA 19547

Figure 5-2  
Chestnut Grove Road Area  
Alternative B

2008



- SEWER EASEMENT
- PROPOSED SEWER
- EXISTING SEWER
- EXISTING MANHOLE
- PROPOSED MANHOLE
- ⊕ PROPOSED CLEANOUT
- PROPOSED GRINDER PUMP

MONTGOMERY COUNTY  
Pennsylvania

UPPER POTTS GROVE TOWNSHIP  
ACT 537 PLAN  
SPECIAL STUDY REVISION



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**APPENDIX 2.0 – UPT SOILS INFORMATION**

- 2.1 SOILS DESCRIPTIONS
- 2.2 SOIL SUITABILITY

## Map Unit Description

Montgomery County, Pennsylvania

[Minor map unit components are excluded from this report]

Map unit: AbA - Abbottstown silt loam, 0 to 3 percent slopes

Component: Abbottstown (93%)

The Abbottstown component makes up 90 percent of the map unit. Slopes are 0 to 3 percent. This component is on valleys, hillslopes. The parent material consists of acid reddish brown residuum weathered from shale and siltstone. Depth to a root restrictive layer, bedrock, paralithic, is 40 to 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria.

Map unit: AbB - Abbottstown silt loam, 3 to 8 percent slopes

Component: Abbottstown (93%)

The Abbottstown component makes up 90 percent of the map unit. Slopes are 3 to 8 percent. This component is on valleys, hillslopes. The parent material consists of acid reddish brown residuum weathered from shale and siltstone. Depth to a root restrictive layer, bedrock, paralithic, is 40 to 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria.

Map unit: Bo - Bowmansville-Knauers silt loams

Component: Bowmansville (40%)

The Bowmansville component makes up 40 percent of the map unit. Slopes are 0 to 3 percent. This component is on flood plains, uplands. The parent material consists of reddish alluvium derived from sedimentary rock. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 9 inches during January, February, March, April, May, September, October, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria.

Component: Knauers (40%)

The Knauers component makes up 40 percent of the map unit. Slopes are 0 to 3 percent. This component is on flood plains, valleys. The parent material consists of recent alluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is occasionally flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, September, October, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria.

Map unit: BsB - Brecknock channery silt loam, 3 to 8 percent slopes

Component: Brecknock (93%)

The Brecknock component makes up 90 percent of the map unit. Slopes are 3 to 8 percent. This component is on hills, ridges, uplands. The parent material consists of residuum weathered from quartzite. Depth to a root restrictive layer, bedrock, lithic, is 40 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

## Map Unit Description

Montgomery County, Pennsylvania

Map unit: BsC - Brecknock channery silt loam, 8 to 15 percent slopes

Component: Brecknock (91%)

The Brecknock component makes up 90 percent of the map unit. Slopes are 8 to 15 percent. This component is on hills, ridges, uplands. The parent material consists of residuum weathered from quartzite. Depth to a root restrictive layer, bedrock, lithic, is 40 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: BwA - Buckingham silt loam, 0 to 3 percent slopes

Component: Buckingham (80%)

The Buckingham component makes up 86 percent of the map unit. Slopes are 0 to 3 percent. This component is on drainageways. The parent material consists of yfine-loamy colluvium and old alluvium derived from shale and siltstone. Depth to a root restrictive layer, fragipan, is 20 to 40 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria.

Map unit: BwB - Buckingham silt loam, 3 to 8 percent slopes

Component: Buckingham (88%)

The Buckingham component makes up 85 percent of the map unit. Slopes are 3 to 8 percent. This component is on drainageways. The parent material consists of yfine-loamy colluvium and old alluvium derived from shale and siltstone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria.

Map unit: CrA - Croton silt loam, 0 to 3 percent slopes

Component: Croton (82%)

The Croton component makes up 87 percent of the map unit. Slopes are 0 to 3 percent. This component is on uplands, depressions. The parent material consists of residuum weathered from sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 40 to 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is occasionally ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria.

Map unit: CrB - Croton silt loam, 3 to 8 percent slopes

Component: Croton (80%)

The Croton component makes up 91 percent of the map unit. Slopes are 3 to 8 percent. This component is on uplands, depressions. The parent material consists of residuum weathered from sandstone and shale. Depth to a root restrictive layer, fragipan, is 12 to 25 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is occasionally ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria.

## Map Unit Description

Montgomery County, Pennsylvania

Map unit: CsB - Croton silt loam, 0 to 8 percent slopes, extremely stony

Component: Croton, extremely stony (85%)

The Croton, extremely stony component makes up 90 percent of the map unit. Slopes are 0 to 8 percent. This component is on uplands, depressions. The parent material consists of fine-silty colluvium derived from red shale and siltstone. Depth to a root restrictive layer, fragipan, is 15 to 20 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 7s. This soil meets hydric criteria.

Map unit: KIB - Klinsville channery silt loam, 3 to 8 percent slopes

Component: Klinsville (82%)

The Klinsville component makes up 82 percent of the map unit. Slopes are 3 to 8 percent. The parent material consists of residuum weathered from siltstone. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria.

Map unit: KIC - Klinsville channery silt loam, 8 to 15 percent slopes

Component: Klinsville (80%)

The Klinsville component makes up 80 percent of the map unit. Slopes are 8 to 15 percent. The parent material consists of residuum weathered from siltstone. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Map unit: LhA - Lehigh silt loam, 0 to 3 percent slopes

Component: Lehigh (88%)

The Lehigh component makes up 90 percent of the map unit. Slopes are 0 to 3 percent. This component is on hills, valleys. The parent material consists of residuum weathered from porcellanite. Depth to a root restrictive layer, bedrock, lithic, is 40 to 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 21 inches during January, February, March, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map unit: LhB - Lehigh silt loam, 3 to 8 percent slopes

Component: Lehigh (80%)

The Lehigh component makes up 90 percent of the map unit. Slopes are 3 to 8 percent. This component is on hillsides, hills. The parent material consists of residuum weathered from porcellanite. Depth to a root restrictive layer, bedrock, lithic, is 40 to 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 21 inches during January, February, March, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

## Map Unit Description

Montgomery County, Pennsylvania

Map unit: LhC - Lehigh silt loam, 8 to 15 percent slopes

Component: Lehigh (85%)

The Lehigh component makes up 90 percent of the map unit. Slopes are 8 to 15 percent. This component is on hillsides, hills. The parent material consists of residuum weathered from porcellanite. Depth to a root restrictive layer, bedrock, lithic, is 40 to 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 21 inches during January, February, March, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: MoA - Mount Lucas silt loam, 0 to 3 percent slopes

Component: Mount Lucas (93%)

The Mount Lucas component makes up 90 percent of the map unit. Slopes are 0 to 3 percent. This component is on hillslopes, uplands. The parent material consists of residuum weathered from diabase. Depth to a root restrictive layer, bedrock, lithic, is 48 to 99 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 21 inches during January, February, March, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map unit: MoB - Mount Lucas silt loam, 3 to 8 percent slopes

Component: Mount Lucas (94%)

The Mount Lucas component makes up 90 percent of the map unit. Slopes are 3 to 8 percent. This component is on hillslopes, uplands. The parent material consists of colluvium derived from diabase over residuum weathered from diabase. Depth to a root restrictive layer, bedrock, lithic, is 48 to 99 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 21 inches during January, February, March, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map unit: MoC - Mount Lucas silt loam, 8 to 15 percent slopes

Component: Mount Lucas (95%)

The Mount Lucas component makes up 90 percent of the map unit. Slopes are 8 to 15 percent. This component is on hillslopes, uplands. The parent material consists of colluvium derived from diabase over residuum weathered from diabase. Depth to a root restrictive layer, bedrock, lithic, is 48 to 99 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 21 inches during January, February, March, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: NhB - Neshaminy silt loam, 3 to 8 percent slopes

Component: Neshaminy (97%)

The Neshaminy component makes up 90 percent of the map unit. Slopes are 3 to 8 percent. This component is on hillslopes, uplands. The parent material consists of residuum weathered from diabase. Depth to a root restrictive layer, bedrock, lithic, is 48 to 72 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

## Map Unit Description

Montgomery County, Pennsylvania

Map unit: NhC - Neshaminy silt loam, 8 to 15 percent slopes

Component: Neshaminy (95%)

The Neshaminy component makes up 90 percent of the map unit. Slopes are 8 to 15 percent. This component is on uplands, hillslopes. The parent material consists of residuum weathered from diabase. Depth to a root restrictive layer, bedrock, lithic, is 48 to 72 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: NhD - Neshaminy silt loam, 15 to 25 percent slopes

Component: Neshaminy (95%)

The Neshaminy component makes up 90 percent of the map unit. Slopes are 15 to 25 percent. This component is on hillslopes, uplands. The parent material consists of bouldery residuum weathered from diabase. Depth to a root restrictive layer, bedrock, lithic, is 48 to 72 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: NkB - Neshaminy gravelly silt loam, 0 to 8 percent slopes, extremely bouldery

Component: Neshaminy, extremely bouldery (95%)

The Neshaminy, extremely bouldery component makes up 90 percent of the map unit. Slopes are 0 to 8 percent. This component is on hillslopes, uplands. The parent material consists of bouldery residuum weathered from diabase. Depth to a root restrictive layer, bedrock, lithic, is 48 to 72 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Map unit: NkD - Neshaminy gravelly silt loam, 8 to 25 percent slopes, extremely bouldery

Component: Neshaminy, extremely bouldery (97%)

The Neshaminy, extremely bouldery component makes up 90 percent of the map unit. Slopes are 8 to 25 percent. This component is on hillslopes, uplands. The parent material consists of residuum weathered from diabase. Depth to a root restrictive layer, bedrock, lithic, is 48 to 72 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Map unit: NkF - Neshaminy gravelly silt loam, 25 to 60 percent slopes, extremely bouldery

Component: Neshaminy, extremely bouldery (97%)

The Neshaminy, extremely bouldery component makes up 90 percent of the map unit. Slopes are 25 to 60 percent. This component is on hillslopes, uplands. The parent material consists of bouldery residuum weathered from diabase. Depth to a root restrictive layer, bedrock, lithic, is 48 to 72 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

## Map Unit Description

Montgomery County, Pennsylvania

Map unit: PcB - Penn channery silt loam, 3 to 8 percent slopes

Component: Penn (87%)

The Penn component makes up 90 percent of the map unit. Slopes are 3 to 8 percent. This component is on hillslopes, uplands. The parent material consists of residuum weathered from shale and siltstone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map unit: PcC - Penn channery silt loam, 8 to 15 percent slopes

Component: Penn (87%)

The Penn component makes up 90 percent of the map unit. Slopes are 8 to 15 percent. This component is on hillslopes, uplands. The parent material consists of residuum weathered from shale and siltstone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: PeB - Penn silt loam, 3 to 8 percent slopes

Component: Penn (87%)

The Penn component makes up 85 percent of the map unit. Slopes are 3 to 8 percent. This component is on hillslopes, uplands. The parent material consists of residuum weathered from sandstone and siltstone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map unit: PeC - Penn silt loam, 8 to 15 percent slopes

Component: Penn (90%)

The Penn component makes up 85 percent of the map unit. Slopes are 8 to 15 percent. This component is on hillslopes, uplands. The parent material consists of residuum weathered from shale and siltstone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: PkD - Penn-Klinesville channery silt loams, 15 to 25 percent slopes

Component: Penn (47%)

The Penn component makes up 70 percent of the map unit. Slopes are 15 to 25 percent. This component is on hillslopes, uplands. The parent material consists of residuum weathered from shale and siltstone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Component: Klinesville (40%)

The Klinesville component makes up 20 percent of the map unit. Slopes are 15 to 25 percent. This component is on hills, valleys. The parent material consists of acid reddish brown residuum weathered from shale and siltstone. Depth to a root restrictive layer, bedrock,

## Map Unit Description

Montgomery County, Pennsylvania

Map unit: PkD - Penn-Klinesville channery silt loams, 15 to 25 percent slopes

Component: Klinesville (40%)

paralithic, is 10 to 20 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map unit: ReB - Readington silt loam, 3 to 8 percent slopes

Component: Readington (80%)

The Readington component makes up 90 percent of the map unit. Slopes are 3 to 8 percent. This component is on hillslopes, uplands. The parent material consists of residuum weathered from shale and siltstone. Depth to a root restrictive layer, fragipan, is 20 to 36 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 27 inches during January, February, March, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map unit: ReC - Readington silt loam, 8 to 15 percent slopes

Component: Readington (86%)

The Readington component makes up 90 percent of the map unit. Slopes are 8 to 15 percent. This component is on hillslopes, uplands. The parent material consists of colluvium over residuum weathered from red shale and siltstone. Depth to a root restrictive layer, bedrock, lithic, is 40 to 70 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 27 inches during January, February, March, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: RhB - Reaville silt loam, 3 to 8 percent slopes

Component: Reaville (85%)

The Reaville component makes up 90 percent of the map unit. Slopes are 3 to 8 percent. This component is on hillslopes, uplands. The parent material consists of red Triassic residuum weathered from sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 21 inches during January, February, March, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria.

Map unit: RhC - Reaville silt loam, 8 to 15 percent slopes

Component: Reaville (85%)

The Reaville component makes up 85 percent of the map unit. Slopes are 8 to 15 percent. This component is on hillslopes, uplands. The parent material consists of red Triassic residuum weathered from sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 21 inches during January, February, March, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria.

Map unit: Rt - Rowland silt loam, terrace

Component: Rowland (82%)

The Rowland component makes up 95 percent of the map unit. Slopes are 0 to 3 percent. This component is on flood plains, uplands. The parent material consists of alluvium derived from sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 60 to 99

## Map Unit Description

Montgomery County, Pennsylvania

Map unit: Rt - Rowland silt loam, terrace

Component: Rowland (82%)

inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map unit: ToA - Towhee silt loam, 0 to 3 percent slopes

Component: Towhee (96%)

The Towhee component makes up 90 percent of the map unit. Slopes are 0 to 3 percent. This component is on depressions, uplands. The parent material consists of colluvium derived from igneous and metamorphic rock. Depth to a root restrictive layer, bedrock, lithic, is 48 to 96 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, September, October, November, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria.

Map unit: ToB - Towhee silt loam, 3 to 8 percent slopes

Component: Towhee (88%)

The Towhee component makes up 90 percent of the map unit. Slopes are 3 to 8 percent. This component is on depressions, uplands. The parent material consists of colluvium derived from diabase and/or residuum weathered from diabase. Depth to a root restrictive layer, fragipan, is 20 to 30 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, September, October, November, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria.

Map unit: TrB - Towhee silt loam, 0 to 8 percent slopes, extremely stony

Component: Towhee, extremely stony (88%)

The Towhee, extremely stony component makes up 55 percent of the map unit. Slopes are 0 to 8 percent. This component is on depressions, uplands. The parent material consists of colluvium derived from igneous and sedimentary rock. Depth to a root restrictive layer, bedrock, lithic, is 48 to 96 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, September, October, November, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 7s. This soil meets hydric criteria.

Map unit: UrxB - Urban land-Penn complex, 0 to 8 percent slopes

Component: Urban land (65%)

Generated brief soil descriptions are created for major soil components. The Urban land is a miscellaneous area.

Component: Penn (25%)

The Penn component makes up 25 percent of the map unit. Slopes are 0 to 8 percent. This component is on hillslopes, uplands. The parent material consists of residuum weathered from shale and siltstone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

## Map Unit Description

Montgomery County, Pennsylvania

Map unit: UrxD - Urban land-Penn complex, 8 to 25 percent slopes

Component: Urban land (65%)

Generated brief soil descriptions are created for major soil components. The Urban land is a miscellaneous area.

Component: Penn (25%)

The Penn component makes up 25 percent of the map unit. Slopes are 8 to 25 percent. This component is on hillslopes, uplands. The parent material consists of acid reddish brown residuum weathered from shale and siltstone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: UusB - Urban land-Udorthents, shale and sandstone complex, 0 to 8 percent slopes

Component: Urban land (80%)

Generated brief soil descriptions are created for major soil components. The Urban land is a miscellaneous area.

Component: Udorthents, shale and sandstone (15%)

The Udorthents, shale and sandstone component makes up 15 percent of the map unit. Slopes are 0 to 8 percent. This component is on uplands, ridges. The parent material consists of graded areas of sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 20 to 99 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Map unit: UusD - Urban land-Udorthents, shale and sandstone complex, 8 to 25 percent slopes

Component: Urban land (80%)

Generated brief soil descriptions are created for major soil components. The Urban land is a miscellaneous area.

Component: Udorthents, shale and sandstone (15%)

The Udorthents, shale and sandstone component makes up 15 percent of the map unit. Slopes are 8 to 25 percent. This component is on hills, uplands. The parent material consists of residuum weathered from sandstone and siltstone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 99 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: W - Water

Component: Water (99%)

Generated brief soil descriptions are created for major soil components. The Water is a miscellaneous area.

Map unit: WaA - Watchung silt loam, 0 to 3 percent slopes

Component: Watchung, silt loam (86%)

The Watchung, silt loam component makes up 80 percent of the map unit. Slopes are 0 to 3 percent. This component is on depressions,

## Map Unit Description

Montgomery County, Pennsylvania

Map unit: WaA - Watchung silt loam, 0 to 3 percent slopes

Component: Watchung, silt loam (86%)

hills. The parent material consists of residuum weathered from diabase. Depth to a root restrictive layer, bedrock, lithic, is 60 to 99 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, June, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria.

Map unit: WaB - Watchung silt loam, 3 to 8 percent slopes

Component: Watchung, silt loam (80%)

The Watchung, silt loam component makes up 80 percent of the map unit. Slopes are 3 to 8 percent. This component is on depressions, hills. The parent material consists of residuum weathered from diabase. Depth to a root restrictive layer, bedrock, lithic, is 60 to 99 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, June, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria.

Map unit: WcB - Watchung silt loam, 0 to 8 percent slopes, extremely stony

Component: Watchung, extremely stony (90%)

The Watchung, extremely stony component makes up 100 percent of the map unit. Slopes are 0 to 8 percent. This component is on depressions, hills. The parent material consists of residuum weathered from diabase. Depth to a root restrictive layer, bedrock, lithic, is 60 to 99 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, June, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7s. This soil meets hydric criteria.

## Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

# Appendix A-22-b.1

## Conventional Septic Systems 1 (PA)

Montgomery County, Pennsylvania

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the limitation. The table shows only the top five limitations for any given soil. The soil may have additional limitations. This table is based on the criteria in PA Title 25 Chapter 71, 72, 73 regulations for On-Site Septic Systems and the PADEP Alternate Systems Guidance. Only the major soils in each map unit are rated. This report shows only the major soils in each map unit]

Map symbol and soil name	Pct. of map unit	In ground bed		In sand mound bed or trench		Spray irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AbA: Abbotstown	93	Very limited		Very limited		Moderately limited	
		Seasonal high water table	1.00	Seasonal high water table	1.00	Potential seasonal high water table	0.80
		Bedrock, above 60"	1.00	Slope	0.18		
		Slow percolation >12"	1.00				
		Slope	0.13				
AbB: Abbotstown	93	Very limited		Very limited		Moderately limited	
		Seasonal high water table	1.00	Seasonal high water table	1.00	Potential seasonal high water table	0.80
		Bedrock, above 60"	1.00	Slope	0.40	Slope 0-12%; see land cover criteria	0.50
		Slow percolation >12"	1.00				
		Too steep	0.88				
Bo: Bowmansville	40	Very limited		Very limited		Very limited	
		Seasonal high water table	1.00	Seasonal high water table	1.00	Seasonal high water table	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Slow percolation >12"	0.94	Slow percolation 12-20"	0.50		
		Slope	0.13	Slope	0.18		
Knauers	40	Very limited		Very limited		Very limited	
		Seasonal high water table	1.00	Seasonal high water table	1.00	Seasonal high water table	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Fast percolation >12"	1.00	Slow percolation 12-20"	0.50		
		Slow percolation >12"	0.89	Slope	0.18		
		Slope	0.13				
BsB: Brecknock	93	Very limited		Slightly limited		Slightly limited	
		Bedrock, above 60"	1.00	Slope	0.40	Slope 0-12%; see land cover criteria	0.50
		Slow percolation >12"	0.89			Potential bedrock near 16"	0.02
		Too steep	0.88				

# Appendix A-22-b.1

## Conventional Septic Systems 1 (PA)

Montgomery County, Pennsylvania

Map symbol and soil name	Pct. of map unit	In ground bed		In sand mound bed or trench		Spray irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
<b>BsC:</b>							
Brecknock	91	Very limited		Moderately limited		Slightly limited	
		Bedrock, above 60"	1.00	Too steep	0.85	Slope 0-12%; see land cover criteria	0.50
		Too steep	1.00			Potential bedrock near 16"	0.02
		Slow percolation >12"	0.89				
<b>BsD:</b>							
Brecknock	97	Very limited		Very limited		Moderately limited	
		Bedrock, above 60"	1.00	Too steep	1.00	Slope 0-25%; see land cover criteria	0.75
		Too steep	1.00			Potential bedrock near 16"	0.02
		Slow percolation >12"	0.89				
<b>BvD:</b>							
Brecknock, extremely stony	94	Very limited		Very limited		Moderately limited	
		Bedrock, above 60"	1.00	Too steep	1.00	Slope 0-25%; see land cover criteria	0.75
		Too steep	1.00			Potential bedrock near 16"	0.02
		Slow percolation >12"	0.89				
<b>CrA:</b>							
Croton	82	Very limited		Very limited		Very limited	
		Seasonal high water table	1.00	Seasonal high water table	1.00	Seasonal high water table	1.00
		Bedrock, above 60"	1.00	Slow percolation 12-20"	1.00	Potential bedrock near 16"	0.01
		Slow percolation >12"	1.00	Slope	0.18		
		Slope	0.13				
<b>CrB:</b>							
Croton	80	Very limited		Very limited		Very limited	
		Seasonal high water table	1.00	Seasonal high water table	1.00	Seasonal high water table	1.00
		Bedrock, above 60"	1.00	Slow percolation 12-20"	1.00	Slope 0-12%; see land cover criteria	0.50
		Slow percolation >12"	1.00	Slope	0.40	Potential bedrock near 16"	0.01
		Too steep	0.88				
<b>LhA:</b>							
Lehigh	88	Very limited		Very limited		Slightly limited	
		Seasonal high water table	1.00	Slow percolation 12-20"	1.00	Low potential seasonal high water table	0.47
		Bedrock, above 60"	1.00	Potential seasonal high water table	0.98	Potential bedrock near 16"	0.02
		Slow percolation >12"	1.00	Slope	0.18		
		Slope	0.13				
		Slight voided fragments	0.01				

# Appendix A-22-b.1

## Conventional Septic Systems 1 (PA)

Montgomery County, Pennsylvania

Map symbol and soil name	Pct. of map unit	In ground bed		In sand mound bed or trench		Spray irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
<b>LhB:</b>							
Lehigh	80	Very limited		Very limited		Slightly limited	
		Seasonal high water table	1.00	Slow percolation 12-20"	1.00	Slope 0-12%; see land cover criteria	0.50
		Bedrock, above 60"	1.00	Potential seasonal high water table	0.98	Low potential seasonal high water table	0.47
		Slow percolation >12"	1.00				
		Too steep	0.88	Slope	0.40		
		Slight voided fragments	0.01				
<b>LhC:</b>							
Lehigh	85	Very limited		Very limited		Slightly limited	
		Seasonal high water table	1.00	Slow percolation 12-20"	1.00	Slope 0-12%; see land cover criteria	0.50
		Bedrock, above 60"	1.00	Potential seasonal high water table	0.98	Low potential seasonal high water table	0.47
		Slow percolation >12"	1.00				
		Too steep	1.00	Too steep	0.85		
		Slight voided fragments	0.01				
<b>LsB:</b>							
Lehigh, very stony	95	Very limited		Very limited		Slightly limited	
		Seasonal high water table	1.00	Slow percolation 12-20"	1.00	Low potential seasonal high water table	0.47
		Bedrock, above 60"	1.00	Potential seasonal high water table	0.98	Potential bedrock near 16"	0.03
		Slow percolation >12"	1.00				
		Slope	0.50	Slope	0.31		
		Slight voided fragments	0.01				
<b>MoB:</b>							
Mount Lucas	94	Very limited		Moderately limited		Slightly limited	
		Seasonal high water table	1.00	Potential seasonal high water table	0.98	Slope 0-12%; see land cover criteria	0.50
		Too steep	0.88	Slow percolation 12-20"	0.79	Low potential seasonal high water table	0.47
		Potential slow percolation >12"	0.06	Slope	0.40		
<b>MpB:</b>							
Mount Lucas, extremely stony	91	Very limited		Moderately limited		Slightly limited	
		Seasonal high water table	1.00	Potential seasonal high water table	0.98	Low potential seasonal high water table	0.47
		Slope	0.50	Slow percolation 12-20"	0.79		
		Potential slow percolation >12"	0.06	Slope	0.31		

# Appendix A-22-b.1

## Conventional Septic Systems 1 (PA)

Montgomery County, Pennsylvania

Map symbol and soil name	Pct. of map unit	In ground bed		In sand mound bed or trench		Spray irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
<b>NhC:</b>							
Neshaminy	95	Very limited		Moderately limited		Slightly limited	
		Slow percolation >12"	1.00	Too steep	0.85	Slope 0-12%; see land cover criteria	0.50
		Too steep	1.00	Slow percolation 12-20"	0.50		
		Bedrock, above 60"	1.00				
<b>NhD:</b>							
Neshaminy	95	Very limited		Very limited		Moderately limited	
		Slow percolation >12"	1.00	Too steep	1.00	Slope 0-25%; see land cover criteria	0.75
		Too steep	1.00	Slow percolation 12-20"	0.50		
		Bedrock, above 60"	1.00				
<b>NkB:</b>							
Neshaminy, extremely bouldery	95	Very limited		Moderately limited		Not limited	
		Slow percolation >12"	1.00	Slow percolation 12-20"	0.50		
		Bedrock, above 60"	1.00	Slope	0.31		
		Slope	0.50				
<b>NkD:</b>							
Neshaminy, extremely bouldery	97	Very limited		Very limited		Moderately limited	
		Slow percolation >12"	1.00	Too steep	1.00	Slope 0-25%; see land cover criteria	0.75
		Too steep	1.00	Slow percolation 12-20"	0.50		
		Bedrock, above 60"	1.00				
<b>PeB:</b>							
Penn	87	Very limited		Slightly limited		Slightly limited	
		Bedrock, above 60"	1.00	Slope	0.40	Slope 0-12%; see land cover criteria	0.50
		Too steep	0.88	Potential bedrock near 20"	0.35	Potential bedrock near 16"	0.30
		Potential slow percolation >12"	0.01				
<b>PkD:</b>							
Penn	47	Very limited		Very limited		Moderately limited	
		Bedrock, above 60"	1.00	Too steep	1.00	Slope 0-25%; see land cover criteria	0.75
		Too steep	1.00	Potential bedrock near 20"	0.13	Potential bedrock near 16"	0.15
		Potential slow percolation >12"	0.01				
<b>Klinesville</b>							
	40	Very limited		Very limited		Moderately limited	
		Bedrock, above 60"	1.00	Bedrock, above 20"	1.00	Potential bedrock near 16"	0.77
		Too steep	1.00	Too steep	1.00	Slope 0-25%; see land cover criteria	0.75
		Slight voided fragments	0.25	Slight voided fragments	0.25	Slight voided fragments	0.25

# Appendix A-22-b.1

## Conventional Septic Systems 1 (PA)

Montgomery County, Pennsylvania

Map symbol and soil name	Pct. of map unit	In ground bed		In sand mound bed or trench		Spray irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
<b>RhB:</b>							
Reaville	85	Very limited		Very limited		Slightly limited	
		Seasonal high water table	1.00	Slow percolation 12-20"	1.00	Slope 0-12%; see land cover criteria	0.50
		Bedrock, above 60"	1.00	Potential seasonal high water table	0.98	Low potential seasonal high water table	0.47
		Slow percolation >12"	1.00	Slope	0.40	Potential bedrock near 16"	0.20
		Too steep	0.88	Potential bedrock near 20"	0.20		
<b>RhC:</b>							
Reaville	85	Very limited		Very limited		Slightly limited	
		Seasonal high water table	1.00	Slow percolation 12-20"	1.00	Slope 0-12%; see land cover criteria	0.50
		Bedrock, above 60"	1.00	Potential seasonal high water table	0.98	Low potential seasonal high water table	0.47
		Slow percolation >12"	1.00	Too steep	0.85	Potential bedrock near 16"	0.17
		Too steep	1.00	Potential bedrock near 20"	0.16		
<b>UrxD:</b>							
Urban land	65	Not rated		Not rated		Not rated	
<b>Penn</b>							
	25	Very limited		Very limited		Moderately limited	
		Bedrock, above 60"	1.00	Too steep	1.00	Slope 0-25%; see land cover criteria	0.75
		Too steep	1.00	Potential bedrock near 20"	0.13	Potential bedrock near 16"	0.15
		Potential slow percolation >12"	0.01				
<b>WcB:</b>							
Watchung, extremely stony	90	Very limited		Very limited		Very limited	
		Seasonal high water table	1.00	Seasonal high water table	1.00	Seasonal high water table	1.00
		Slow percolation >12"	1.00	Slow percolation 12-20"	1.00		
		Slope	0.50	Slope	0.31		

# Appendix A-22-b.1

## Conventional Septic Systems 1 (PA)

This table shows the degree and kind of soil limitations that affect conventional septic system absorption fields. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Slightly limited" indicates that the soil has features that are favorable for the specified use. Moderate performance and slight maintenance can be expected. "Moderately limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic system absorption fields are areas in which effluent from a septic tank is distributed into the soil through a distribution or irrigation pipe. Regulations in Chapters 71, 72, and 73 of Pennsylvania Code Title 25 are used in evaluating the soil properties. "In ground bed" systems follow Chapter 73.12, 73.14a, 73.15, 73.16, 73.51, and 73.53, in which only that part of the soil between depths of 0 and 60 inches is evaluated. "In sand mound bed or trench" systems follow Chapter 73.12, 73.14, 73.15, 73.16, 73.51, 73.53, and 73.55, in which only that part of the soil between depths 0 and 20 inches is evaluated. "Spray irrigation" systems follow Chapter 73.12, 73.14b, 73.16e, and 73.163, in which only that part of the soil between depths 0 and 16 inches is evaluated.

The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Saturated hydraulic conductivity ( $K_{sat}$ ), depth to a water table, depth to bedrock, and flooding affect absorption of the effluent. Stones, boulders, and bedrock interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas. Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

# Appendix A-22-b.1

## Conventional Septic Systems 2 (PA)

Montgomery County, Pennsylvania

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the limitation. The table shows only the top five limitations for any given soil. The soil may have additional limitations. This table is based on the criteria in PA Title 25 Chapter 71, 72, 73 regulations for On-Site Septic Systems and the PADEP Alternate Systems Guidance. Only the major soils in each map unit are rated. This report shows only the major soils in each map unit]

Map symbol and soil name	Pct. of map unit	In ground trench		Subsurface sand filter bed		Subsurface sand filter trench	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
<b>AbA:</b>							
Abbotstown	93	Very limited		Very limited		Moderately limited	
		Seasonal high water table	1.00	Seasonal high water table	1.00	Potential seasonal high water table	0.80
		Bedrock, above 60"	1.00	Slope	0.18		
		Slow percolation >12"	1.00				
		Slope	0.13				
<b>AbB:</b>							
Abbotstown	93	Very limited		Very limited		Moderately limited	
		Seasonal high water table	1.00	Seasonal high water table	1.00	Potential seasonal high water table	0.80
		Bedrock, above 60"	1.00	Slope	0.40	Slope 0-12%; see land cover criteria	0.50
		Slow percolation >12"	1.00				
		Too steep	0.88				
<b>Bo:</b>							
Bowmansville	40	Very limited		Very limited		Very limited	
		Seasonal high water table	1.00	Seasonal high water table	1.00	Seasonal high water table	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Slow percolation >12"	0.94	Slow percolation 12-20"	0.50		
		Slope	0.13	Slope	0.18		
<b>Knauers</b>							
Knauers	40	Very limited		Very limited		Very limited	
		Seasonal high water table	1.00	Seasonal high water table	1.00	Seasonal high water table	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Fast percolation >12"	1.00	Slow percolation 12-20"	0.50		
		Slow percolation >12"	0.89	Slope	0.18		
		Slope	0.13				
<b>BsB:</b>							
Brecknock	93	Very limited		Slightly limited		Slightly limited	
		Bedrock, above 60"	1.00	Slope	0.40	Slope 0-12%; see land cover criteria	0.50
		Slow percolation >12"	0.89			Potential bedrock near 16"	0.02
		Too steep	0.88				

# Appendix A-22-b.1

## Conventional Septic Systems 2 (PA)

Montgomery County, Pennsylvania

Map symbol and soil name	Pct. of map unit	In ground trench		Subsurface sand filter bed		Subsurface sand filter trench	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
<b>BsC:</b>							
Brecknock	91	Very limited		Moderately limited		Slightly limited	
		Bedrock, above 60"	1.00	Too steep	0.85	Slope 0-12%; see land cover criteria	0.50
		Too steep	1.00			Potential bedrock near 16"	0.02
		Slow percolation >12"	0.89				
<b>BsD:</b>							
Brecknock	97	Very limited		Very limited		Moderately limited	
		Bedrock, above 60"	1.00	Too steep	1.00	Slope 0-25%; see land cover criteria	0.75
		Too steep	1.00			Potential bedrock near 16"	0.02
		Slow percolation >12"	0.89				
<b>BvD:</b>							
Brecknock, extremely stony	94	Very limited		Very limited		Moderately limited	
		Bedrock, above 60"	1.00	Too steep	1.00	Slope 0-25%; see land cover criteria	0.75
		Too steep	1.00			Potential bedrock near 16"	0.02
		Slow percolation >12"	0.89				
<b>CrA:</b>							
Croton	82	Very limited		Very limited		Very limited	
		Seasonal high water table	1.00	Seasonal high water table	1.00	Seasonal high water table	1.00
		Bedrock, above 60"	1.00	Slow percolation 12-20"	1.00	Potential bedrock near 16"	0.01
		Slow percolation >12"	1.00	Slope	0.18		
		Slope	0.13				
<b>CrB:</b>							
Croton	80	Very limited		Very limited		Very limited	
		Seasonal high water table	1.00	Seasonal high water table	1.00	Seasonal high water table	1.00
		Bedrock, above 60"	1.00	Slow percolation 12-20"	1.00	Slope 0-12%; see land cover criteria	0.50
		Slow percolation >12"	1.00	Slope	0.40	Potential bedrock near 16"	0.01
		Too steep	0.88				
<b>LhA:</b>							
Lehigh	88	Very limited		Very limited		Slightly limited	
		Seasonal high water table	1.00	Slow percolation 12-20"	1.00	Low potential seasonal high water table	0.47
		Bedrock, above 60"	1.00	Potential seasonal high water table	0.98	Potential bedrock near 16"	0.02
		Slow percolation >12"	1.00	Slope	0.18		
		Slope	0.13				
		Slight voided fragments	0.01				

# Appendix A-22-b.1

## Conventional Septic Systems 2 (PA)

Montgomery County, Pennsylvania

Map symbol and soil name	Pct. of map unit	In ground trench		Subsurface sand filter bed		Subsurface sand filter trench	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
<b>LhB:</b>							
Lehigh	80	Very limited		Very limited		Slightly limited	
		Seasonal high water table	1.00	Slow percolation 12-20"	1.00	Slope 0-12%; see land cover criteria	0.50
		Bedrock, above 60"	1.00	Potential seasonal high water table	0.98	Low potential seasonal high water table	0.47
		Slow percolation >12"	1.00				
		Too steep	0.88	Slope	0.40		
		Slight voided fragments	0.01				
<b>LhC:</b>							
Lehigh	85	Very limited		Very limited		Slightly limited	
		Seasonal high water table	1.00	Slow percolation 12-20"	1.00	Slope 0-12%; see land cover criteria	0.50
		Bedrock, above 60"	1.00	Potential seasonal high water table	0.98	Low potential seasonal high water table	0.47
		Slow percolation >12"	1.00				
		Too steep	1.00	Too steep	0.85		
		Slight voided fragments	0.01				
<b>LsB:</b>							
Lehigh, very stony	95	Very limited		Very limited		Slightly limited	
		Seasonal high water table	1.00	Slow percolation 12-20"	1.00	Low potential seasonal high water table	0.47
		Bedrock, above 60"	1.00	Potential seasonal high water table	0.98	Potential bedrock near 16"	0.03
		Slow percolation >12"	1.00				
		Slope	0.50	Slope	0.31		
		Slight voided fragments	0.01				
<b>MoB:</b>							
Mount Lucas	94	Very limited		Moderately limited		Slightly limited	
		Seasonal high water table	1.00	Potential seasonal high water table	0.98	Slope 0-12%; see land cover criteria	0.50
		Too steep	0.88	Slow percolation 12-20"	0.79	Low potential seasonal high water table	0.47
		Potential slow percolation >12"	0.06	Slope	0.40		
<b>MpB:</b>							
Mount Lucas, extremely stony	91	Very limited		Moderately limited		Slightly limited	
		Seasonal high water table	1.00	Potential seasonal high water table	0.98	Low potential seasonal high water table	0.47
		Slope	0.50	Slow percolation 12-20"	0.79		
		Potential slow percolation >12"	0.06	Slope	0.31		

# Appendix A-22-b.1

## Conventional Septic Systems 2 (PA)

Montgomery County, Pennsylvania

Map symbol and soil name	Pct. of map unit	In ground trench		Subsurface sand filter bed		Subsurface sand filter trench	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
<b>NhC:</b>							
Neshaminy	95	Very limited		Moderately limited		Slightly limited	
		Slow percolation >12"	1.00	Too steep	0.85	Slope 0-12%; see land cover criteria	0.50
		Too steep	1.00	Slow percolation 12-20"	0.50		
		Bedrock, above 60"	1.00				
<b>NhD:</b>							
Neshaminy	95	Very limited		Very limited		Moderately limited	
		Slow percolation >12"	1.00	Too steep	1.00	Slope 0-25%; see land cover criteria	0.75
		Too steep	1.00	Slow percolation 12-20"	0.50		
		Bedrock, above 60"	1.00				
<b>NkB:</b>							
Neshaminy, extremely bouldery	95	Very limited		Moderately limited		Not limited	
		Slow percolation >12"	1.00	Slow percolation 12-20"	0.50		
		Bedrock, above 60"	1.00				
		Slope	0.50	Slope	0.31		
<b>NkD:</b>							
Neshaminy, extremely bouldery	97	Very limited		Very limited		Moderately limited	
		Slow percolation >12"	1.00	Too steep	1.00	Slope 0-25%; see land cover criteria	0.75
		Too steep	1.00	Slow percolation 12-20"	0.50		
		Bedrock, above 60"	1.00				
<b>PeB:</b>							
Penn	87	Very limited		Slightly limited		Slightly limited	
		Bedrock, above 60"	1.00	Slope	0.40	Slope 0-12%; see land cover criteria	0.50
		Too steep	0.88	Potential bedrock near 20"	0.35	Potential bedrock near 16"	0.30
		Potential slow percolation >12"	0.01				
<b>PkD:</b>							
Penn	47	Very limited		Very limited		Moderately limited	
		Bedrock, above 60"	1.00	Too steep	1.00	Slope 0-25%; see land cover criteria	0.75
		Too steep	1.00	Potential bedrock near 20"	0.13	Potential bedrock near 16"	0.15
		Potential slow percolation >12"	0.01				
<b>Klinesville</b>							
	40	Very limited		Very limited		Moderately limited	
		Bedrock, above 60"	1.00	Bedrock, above 20"	1.00	Potential bedrock near 16"	0.77
		Too steep	1.00	Too steep	1.00	Slope 0-25%; see land cover criteria	0.75
		Slight voided fragments	0.25	Slight voided fragments	0.25	Slight voided fragments	0.25

# Appendix A-22-b.1

## Conventional Septic Systems 2 (PA)

Montgomery County, Pennsylvania

Map symbol and soil name	Pct. of map unit	In ground trench		Subsurface sand filter bed		Subsurface sand filter trench	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
<b>RhB:</b>							
Reaville	85	Very limited		Very limited		Slightly limited	
		Seasonal high water table	1.00	Slow percolation 12-20"	1.00	Slope 0-12%; see land cover criteria	0.50
		Bedrock, above 60"	1.00	Potential seasonal high water table	0.98	Low potential seasonal high water table	0.47
		Slow percolation >12"	1.00	Slope	0.40	Potential bedrock near 16"	0.20
		Too steep	0.88	Potential bedrock near 20"	0.20		
<b>RhC:</b>							
Reaville	85	Very limited		Very limited		Slightly limited	
		Seasonal high water table	1.00	Slow percolation 12-20"	1.00	Slope 0-12%; see land cover criteria	0.50
		Bedrock, above 60"	1.00	Potential seasonal high water table	0.98	Low potential seasonal high water table	0.47
		Slow percolation >12"	1.00	Too steep	0.85	Potential bedrock near 16"	0.17
		Too steep	1.00	Potential bedrock near 20"	0.16		
<b>UrxD:</b>							
Urban land	65	Not rated		Not rated		Not rated	
<b>Penn</b>							
	25	Very limited		Very limited		Moderately limited	
		Bedrock, above 60"	1.00	Too steep	1.00	Slope 0-25%; see land cover criteria	0.75
		Too steep	1.00	Potential bedrock near 20"	0.13	Potential bedrock near 16"	0.15
		Potential slow percolation >12"	0.01				
<b>WcB:</b>							
Watchung, extremely stony	90	Very limited		Very limited		Very limited	
		Seasonal high water table	1.00	Seasonal high water table	1.00	Seasonal high water table	1.00
		Slow percolation >12"	1.00	Slow percolation 12-20"	1.00		
		Slope	0.50	Slope	0.31		

# Appendix A-22-b.1

## Conventional Septic Systems 2 (PA)

This table shows the degree and kind of soil limitations that affect conventional septic system absorption fields. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Slightly limited" indicates that the soil has features that are favorable for the specified use. Moderate performance and slight maintenance can be expected. "Moderately limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic system absorption fields are areas in which effluent from a septic tank is distributed into the soil through distribution pipe. Regulations in Chapters 71, 72, and 73 of Pennsylvania Code Title 25 are used in evaluating the soil properties. "In ground trench" systems follow Chapter 73.12, 73.14a, 73.15, 73.16, 73.51, and 73.52, in which only that part of the soil between depths of 0 and 60 inches is evaluated. "Subsurface sand filter bed or trench" systems follow Chapter 73.12, 73.14, 73.15, 73.16, 73.51, 73.52, 73.53, and 73.54, in which that part of the soil between depths 0 and 72 inches is evaluated.

The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Saturated hydraulic conductivity (Ksat), depth to a water table, depth to bedrock, and flooding affect absorption of the effluent. Stones, boulders, and bedrock interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas. Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

**APPENDIX 3.0 – NEEDS ANALYSIS**

# Township of Upper Pottsgrove Appendix A-22-b.1

MONTGOMERY COUNTY, PENNSYLVANIA

1409 Farmington Avenue Pottstown, PA 19464-1829  
Phone: 610-323-8675 Fax: 610-327-1967

29 November 2005

**Sent to #59 homeowners of Horseshoe Drive, Ming Drive & West Moyer Road (between Route 100 and Gilbertsville Road)**

**Re: Neighborhood Sewage Planning Study**

Dear Mr. & Mrs. \_\_\_\_\_:

Upper Pottsgrove Township is investigating an extension of public sewer to serve the homes in your neighborhood. The Pennsylvania Department of Environmental Protection (DEP) requires the Township to complete certain studies to verify the need for sewerage facilities. An important part of this process is gathering information about the condition of existing septic systems and drinking water quality. LTL Consultants, Ltd., the Township's engineering firm, will be conducting a survey of the on-lot sewage systems and wells in your area. Your participation is requested.

A brief Sewage Needs Mail Survey is attached to this letter. If you choose to participate in the study please fill out the required information and mail it in the pre-addressed, postage-paid envelope. Please be aware that your participation in this survey is voluntary. You are under no obligation to do so.

A benefit of taking part in the study is that you will receive free water sample analysis. This sample will be tested for the presence of bacteria and nitrates.

If you participate, a representative of LTL Consultants will come to your home at a mutually convenient time to ask a few questions, take a brief look at your septic system, and obtain a water sample. The individual conducting this survey will be wearing an LTL Consultants photo identification badge. The entire process takes fifteen to thirty minutes depending on any questions you may have for the representative. You will receive a report of the water analysis in approximately two to four weeks.

Thank you in advance for your support of this project. If you have any questions, please contact Patrick Herlihy of LTL Consultants, Ltd. toll free at 888-987-8886.

Sincerely,

Michael A. Cotter  
Township Manager

Cc: Sewer Committee  
Board of Commissioners  
Frank Quinter, Director of Public Works

File:C:\Documents and Settings\Owner\Desktop\sewer comm\Survey for Ming-Horseshoe-West Moyer Road Letter.doc 0520-0554

Webpage: [www.upperpottsgrovetownship.org](http://www.upperpottsgrovetownship.org)  
Email: [upperpottsgrovetownship@comcast.net](mailto:upperpottsgrovetownship@comcast.net)

Appendix A-22-b.1

**UPPER POTTSGROVE TOWNSHIP**  
SEWAGE NEEDS MAIL SURVEY

Upper Pottsgrove Township is conducting a survey to evaluate the sewage needs of the Township. The results will be used to determine the best economical way of improving the Townships wastewater disposal methods. Please complete this form to the best of your ability and return it by **December 13, 2005**. (All postage has been prepaid for your convenience.)

**NAME:** \_\_\_\_\_ **PHONE:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

How many people live in your house? \_\_\_\_\_ Seasonal \_\_\_\_\_

What type of water system do you have?  WELL  SPRING  OTHER

Do you treat your water?  YES  NO

If yes, how?  U.V.  CARTRIDGE FILTER  WATER SOFTENER  OTHER

Is your well: DUG or Drilled (circle one)

How deep is your well? \_\_\_\_\_ feet Casing? Yes No (circle one)

Approximately how far from your well is your drain field? \_\_\_\_\_ feet

Is the well up or downslope from the drain field? UP or DOWN (circle one)

What kind of Sewage system do you have?

- |                                       |  |  |                                    |
|---------------------------------------|--|--|------------------------------------|
| <input type="checkbox"/> Septic Tank  | <input type="checkbox"/> Inground Bed/Trench | <input type="checkbox"/> Community Sewer | <input type="checkbox"/> Sandmound |
| <input type="checkbox"/> Storm Sewer  | <input type="checkbox"/> Pipe to Surface     | <input type="checkbox"/> Seepage Pit     | <input type="checkbox"/> Cesspool  |
| <input type="checkbox"/> Holding Tank | <input type="checkbox"/> Pipe to Ditch       | <input type="checkbox"/> Pipe to Stream  | <input type="checkbox"/> Old well  |
| <input type="checkbox"/> Public Sewer | <input type="checkbox"/> Privy or Outhouse   | <input type="checkbox"/> Other _____     |                                    |

Does your laundry and or sink water tie into the principal sewage system? Yes No (circle)  
If No, where does it go?

- |                                       |  |  |                                    |
|---------------------------------------|--|--|------------------------------------|
| <input type="checkbox"/> Septic Tank  | <input type="checkbox"/> Inground Bed/Trench | <input type="checkbox"/> Community Sewer | <input type="checkbox"/> Sandmound |
| <input type="checkbox"/> Storm Sewer  | <input type="checkbox"/> Pipe to Surface     | <input type="checkbox"/> Seepage Pit     | <input type="checkbox"/> Cesspool  |
| <input type="checkbox"/> Holding Tank | <input type="checkbox"/> Pipe to Ditch       | <input type="checkbox"/> Pipe to Stream  | <input type="checkbox"/> Old well  |
| <input type="checkbox"/> Public Sewer | <input type="checkbox"/> Privy or Outhouse   | <input type="checkbox"/> Other _____     |                                    |

How old is your system? \_\_\_\_\_ years.

Have you noticed any of the following near your septic system?

- |                                      |  |   |
|--------------------------------------|--|---|
| <input type="checkbox"/> Lush Grass  | <input type="checkbox"/> System overflow                   | <input type="checkbox"/> Wet Spongy areas |
| <input type="checkbox"/> Odors       | <input type="checkbox"/> Waste water backing into the home | <input type="checkbox"/> Water Surfacing  |
| <input type="checkbox"/> Slow Drains | <input type="checkbox"/> Other _____                       |   |

Was your system ever pumped out? Yes No (circle) How often? \_\_\_\_\_  
Was your system ever repaired? Yes No (circle) When? \_\_\_\_\_ Permit? Yes No  
If yes, what part was repaired or replaced?

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> Tank repaired | <input type="checkbox"/> Line repaired | <input type="checkbox"/> Drain field repaired |
| <input type="checkbox"/> Tank replaced | <input type="checkbox"/> Line replaced | <input type="checkbox"/> Drain field replaced |

Are there any other sewage problems you are aware of in your area? \_\_\_\_\_

**Would you like to have a free water sample?** \_\_\_\_\_ Yes \_\_\_\_\_ No

If yes, please indicate the best time you can be contacted to schedule the sampling.

\_\_\_\_\_ Day \_\_\_\_\_ Time.

**APPENDIX 4.0 – ALTERNATIVES**

- 4.1 ALTERNATIVES DESCRIPTIONS
- 4.2 ALTERNATIVE COST ESTIMATES
- 4.3 ALTERNATIVE FUNDING ANALYSES

**APPENDIX 4.1 - ALTERNATIVE DESCRIPTIONS****OPTION NO. 1 - BMMA PUMPING****Description**

The BMMA Pumping Option extends the Regal Oaks gravity collection system and receives flows from the Bruce Drive/Horseshoe Drive, Ming Drive, and Cherry Tree areas at a large, central pump station. This pump station transfers the sewage up Gilbertsville Road into Douglass Township where the Berks-Montgomery Municipal Authority (BMMA) assumes responsibility for further conveyance and treating.

Construction takes place largely in previously disturbed areas, but does involve over 3500' of state road restoration to install the force main to BMMA. Project costs will also include portions of BMMA downstream wastewater treatment equipment installation/upgrades, pro-rated based on UPT's projected share of the total upgraded capacity. A summary of the other significant construction details is provided, below:

- Wastewater Treating Facilities: Regal Oaks WWTF will be decommissioned
- Pump Stations: Two (2) stations will collect Bruce/Horseshoe Drive to the former Regal Oaks WWTF site.
- One station at the former WWTF site will transfer all UPT flows collected to BMMA.
- The existing Cherry Tree pump station will be decommissioned.
- Gravity Main: >11,500 feet of 8 & 12-inch gravity sewer main is required
- Pressure Main: >9,000 feet of 4 & 10-inch PVC & DIP pressure main is required
- Manhole Count: 66 manholes (including replacements) are required throughout
- Lateral Connections: ~147 resident laterals will be installed for new customers
- Grinder Pumps: Ming Drive requires 32 grinders & ~2100' of low pressure sewer
- Other Considerations: BMMA will require downstream facility upgrades

**Areas Served**

The BMMA Pumping option will provide service to:

- Existing UPT customers from Cherry Tree & Woodbrook
- Existing Regal Oaks customers from the decommissioned WWTF
- New customers from Bruce Drive/Horseshoe Drive and Ming Drive (tapping fees required)

**Problems Addressed**

By redistributing flows from the Cherry Tree Pump Station and the Regal Oaks WWTF, the BMMA Pumping Option addresses the following problems for UPT:

- It eliminates the Regal Oaks WWTF, fully addressing any concerns there.
- It eliminates the Cherry Tree Pump Station

While it does address all other failing on-lot areas the BMMA Pumping Option does not extend to Orchard/Continental Drive.

**APPENDIX 4.1 - ALTERNATIVE DESCRIPTIONS****Costs**

An overview of the BMMA Pumping Option's costs is as follows:

Total Construction Cost:	\$4,130,032
Total Project Cost:	<b>\$8,436,279</b>

**Reasons for Option Rejection**

The BMMA Pumping Option is rejected due to poor economics and BMMA dependence.

- Areas Served: BMMA services all users except Orchard/Continental Drive.
- Economics: The BMMA capacity and expansion costs are deemed prohibitive.
- Constructability: The large pump station and long force main present challenges.
- Problems Solved: All problems except Orchard/Continental Drive are solved.
- Intermunicipal Agreements: This option would increase the number of intermunicipal agreements held by the Township to three (3). Although manageable, it does put constraints on future planning and efficient land use. Discharging to BMMA allows another outside body to control system capacity, operating costs, community growth, and, indirectly, Township budgets.

**OPTION NO. 2 - SPROGEL'S RUN GRAVITY****Description**

The Sprogel's Run Gravity Option extends the Regal Oaks gravity collection system and receives flows from the Bruce Drive/Horseshoe Drive, Ming Drive, and Cherry Tree areas to the Regal Oaks WWTF location. From here, a gravity interceptor will carry flows along the Sprogel's Run through UPT's existing Meter Station 5 where Lower Pottsgrove Township (LPT) assumes responsibility for further conveyance and treating.

While much of the project is similar to the BMMA Option, previous, the Sprogel's Run Gravity interceptor will impose significant engineering/construction challenges due to its close proximity to the water and related environmental/permitting issues involved. Cost estimates provided assume an additional 30% contingency to cover these concerns. A summary of the other significant construction details is provided, below:

- Wastewater Treating Facilities: Regal Oaks WWTF will be decommissioned
- Pump Stations: Two (2) stations will collect Bruce/ Horseshoe Drive to the former Regal Oaks WWTF site.
- The existing Cherry Tree pump station will be decommissioned.
- Gravity Main: >26,500 feet of 8, 12 & 14-inch gravity sewer main is required
- Pressure Main: >3,000 feet of 4-inch PVC pressure main is also required
- Manhole Count: 117 manholes (including replacements) are required throughout
- Lateral Connections: Laterals will be installed for new customers
- Grinder Pumps: Ming Drive requires 32 grinders & ~2100' of low pressure sewer
- Other Considerations: UPT/LPT inter-municipal agreement will require revisions
- LPT connection fees and/or upgrade costs may be required

**APPENDIX 4.1 - ALTERNATIVE DESCRIPTIONS****Areas Served**

The Sprogel's Run Gravity option will provide service to:

- Existing UPT customers from Cherry Tree & Woodbrook
- Existing Regal Oaks customers from the decommissioned WWTF
- New customers from the areas noted (tapping fees required)

**Problems Addressed**

By redistributing flows from the Cherry Tree Pump Station and the Regal Oaks WWTF, the Sprogel's Run Gravity Option addresses the following problems for UPT:

- It eliminates the Regal Oaks WWTF, fully addressing any concerns there.
- It eliminates the Cherry Tree Pump Station.
- The gravity interceptor connects Orchard / Continental Drive to public sewer to completely address all problematic on-lot system areas.

**Costs**

An overview of the Sprogel's Run Gravity Option's costs is as follows:

Total Construction Cost:	\$5,176,930
Total Project Cost:	<b>\$7,030,055</b>

**Reasons for Option Rejection**

This Option is rejected due to the following:

- Intermunicipal Agreements: This option would rely on the existing intermunicipal agreement between Lower Pottsgrove Township and Upper Pottsgrove Township. Currently the agreement for conveyance is limited to 192,000 gpd. This option would require a slight expansion of this capacity. However, Lower Pottsgrove has recently put Upper Pottsgrove Township on a connection moratorium while they address ongoing Inflow and Infiltration problems. It is not known when and how this will be resolved. It is not logical to plan around these type of uncertainties, especially when the issues with the Regal Oaks Wastewater Treatment Facility and the Cherry Tree Pump Station need to be resolved as soon as possible.

**OPTION NO. 3 - SPROGEL'S RUN WWTF****Description**

The Sprogel's Run WWTF Option extends the Regal Oaks gravity collection system and receives flows from the Bruce Drive / Horseshoe Drive, Ming Drive, and Cherry Tree areas to a new UPT-owned WWTF located along Sprogel's Run near Snyder Road.

# Appendix A-22-b.1

## APPENDIX 4.1 - ALTERNATIVE DESCRIPTIONS

While much of the project is similar to the BMMA Option, previous, the Sprogel's Run WWTF will directly process all wastes received and discharge them into Sprogel's Run. The short gravity interceptor between the former and proposed WWTF locations will assume many of the same risks as for the Sprogel's Gravity Option, albeit over a shorter distance. A summary of the other significant construction details is provided, below:

- Wastewater Treating Facilities: Regal Oaks WWTF will be decommissioned
- A new Sprogel's Run WWTF will be constructed
- Pump Stations: Two (2) stations will collect Bruce/ Horseshoe Drive to the new WWTF location.
- The existing Cherry Tree pump station will be decommissioned.
- Gravity Main: >13,500 feet of 8, 12 & 14-inch gravity sewer main is required
- Pressure Main: >3,000 feet of 4-inch PVC pressure main is also required
- Manhole Count: 69 manholes (including replacements) are required throughout
- Lateral Connections: Resident laterals will be installed for new customers
- Grinder Pumps: Ming Drive requires 32 grinders & ~2100' of low pressure sewer
- Other Considerations: Sprogel's Run discharge limits/criteria are undetermined
- These limits/criteria greatly influence the WWTF cost

### **Areas Serviced**

The Sprogel's Run WWTF option will provide service to:

- Existing UPT customers from Cherry Tree & Woodbrook
- Existing Regal Oaks customers from the decommissioned WWTF
- New customers from noted areas (tapping fees required).

### **Problems Addressed**

By redistributing flows from the Cherry Tree Pump Station and the Regal Oaks WWTF, the Sprogel's Run WWTF Option addresses the following problems for UPT:

- It eliminates the existing Regal Oaks WWTF, fully addressing any concerns there.
- It eliminates the Cherry Tree Pump Station.
- While it does address all other problematic areas the Sprogel's Run WWTF Option does not extend to Orchard/ Continental Drive.

### **Costs**

An overview of the Sprogel's Run WWTF Option's costs is as follows:

Total Construction Cost:	\$5,839,625
Total Project Cost:	<b>\$7,432,250</b>

### **Reasons for Option Rejection**

This Option is rejected due to the following:

**APPENDIX 4.1 - ALTERNATIVE DESCRIPTIONS**

Impaired Receiving Stream: The PA DEP has notified the Township that Sprogel's Run is deemed impaired. Therefore, the discharge criteria was too stringent to meet with conventional treatment technologies envisioned by this option. In addition, the volume of treated wastewater permitted to discharge to the receiving stream was limited to less than this option required.

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**OPTION NO. 3A - SPROGEL'S RUN WWTF****Description**

The Sprogel's Run WWTF Option, Rev A. is similar to the previous Sprogel's Run WWTF Option with the only change being the addition of a dedicated gravity collection system for the Orchard/Continental Drive area whereby it is routed to Lower Pottsgrove Township (LPT) for further conveyance/processing.

In so doing, the Sprogel's Run WWTF, Rev. A combines features, costs, and concerns from both the Sprogel's Run WWTF & Gravity Options. A summary of the other significant construction details is provided, below:

- Wastewater Treating Facilities: Regal Oaks WWTF will be decommissioned. A new Sprogel's Run WWTF will be constructed
- Pump Stations: Two (2) stations will collect Bruce/Horseshoe Drive to the new WWTF location.
- The existing Cherry Tree pump station will be decommissioned.
- Gravity Main: ~22,000 feet of 8, 12 & 14-inch gravity sewer main is required
- Pressure Main: >3,000 feet of 4-inch PVC pressure main is also required
- Manhole Count: 100 manholes (including replacements) are required throughout
- Lateral Connections: ~217 resident laterals will be installed for new customers
- Grinder Pumps: Ming Drive requires 32 grinders & ~2100' of low pressure sewer
- Other Considerations: All Sprogel's Run Gravity Considerations will apply
- All Sprogel's Run WWTF Considerations will apply

**Areas Serviced**

The Sprogel's Run WWTF, Rev. A will provide service to:

- Existing UPT customers from Cherry Tree & Woodbrook
- Existing Regal Oaks customers from the decommissioned WWTF
- New customers as noted (tapping fees required).

**Problems Addressed**

By redistributing flows from the Cherry Tree Pump Station and the Regal Oaks WWTF, the Sprogel's Run WWTF, Rev. A addresses the following problems for UPT:

- It eliminates the existing Regal Oaks WWTF, fully addressing any concerns there.
- It eliminates the Cherry Tree Pump Station.

**APPENDIX 4.1 - ALTERNATIVE DESCRIPTIONS**

- The dedicated gravity line connects Orchard/Continental Drive to public sewer, completely addressing all currently failing/problematic on-lot system areas.

**Costs**

An overview of the Sprogel's Run WWTF, Rev. A's costs is as follows:

Total Construction Cost:	\$6,997,485
<b>Total Project Cost:</b>	<b>\$8,905,890</b>

**Reasons for Option Rejection**

This Option is rejected due to the following:

Impaired Receiving Stream: The PA DEP has notified the Township that Sprogel's Run is deemed impaired. Therefore, the discharge criteria was too stringent to meet with conventional treatment technologies envisioned by this option. In addition, the volume of treated wastewater permitted to discharge to the receiving stream was limited to less than this option required.

**OPTION NO. 3B - SPROGEL'S RUN WWTF****Description**

The Sprogel's Run WWTF Option, Rev B. is similar to the previous Sprogel's Run WWTF Option with the only change being the addition of a dedicated gravity collection system for the Orchard/Continental Drive area. Rev. B differs from Rev. A in that the collection system is serviced by a pump station to transmit these flows up Sprogel's Run to the UPT-owned WWTF, rather than sending it to Lower Pottsgrove Township.

In so doing, the Sprogel's Run WWTF, Rev. B combines features, costs, and concerns from both the Sprogel's Run WWTF & Gravity Options. In particular, the force main running parallel to Sprogel's Run assumes many of the engineering/construction risks as the gravity main, albeit at a more shallow depth without infiltration concerns. A summary of the other significant construction details is provided below:

- Wastewater Treating Facilities: Regal Oaks WWTF will be decommissioned
- A new Sprogel's Run WWTF will be constructed
- Pump Stations: Three (3) pump stations will collect Bruce / Horseshoe Drive & Orchard / Continental Drive to the new WWTF location.
- The existing Cherry Tree pump station will be decommissioned.
- Gravity Main: >21,000 feet of 8, 12 & 14-inch gravity sewer main is required
- Pressure Main: >7,500 feet of 4-inch PVC pressure main is also required
- Manhole Count: 99 manholes (including replacements) are required throughout
- Lateral Connections: ~217 resident laterals will be installed for new customers
- Grinder Pumps: Ming Drive requires 32 grinders & ~2100' of low pressure sewer
- Other Considerations: All Sprogel's Run WWTF Considerations will apply

**APPENDIX 4.1 - ALTERNATIVE DESCRIPTIONS****Areas Serviced**

The Sprogel's Run WWTF, Rev. B will provide service including:

- Existing UPT customers from Cherry Tree & Woodbrook
- Existing Regal Oaks customers from the decommissioned WWTF
- New customers (tapping fees required)

**Problems Addressed**

By redistributing flows from the Cherry Tree Pump Station and the Regal Oaks WWTF, the Sprogel's Run WWTF, Rev. B addresses the following problems for UPT:

- It eliminates the existing Regal Oaks WWTF, fully addressing any concerns there.
- It eliminates the Cherry Tree Pump Station
- The dedicated pump station connects Orchard / Continental Drive to public sewer completely addressing problematic on-lot system areas.

**Costs**

An overview of the Sprogel's Run WWTF, Rev. B's costs is as follows:

Total Construction Cost:	\$7,319,125
Total Project Cost:	<b>\$9,315,250</b>

**Reasons for Option Rejection**

This Option is rejected due to the following:

Impaired Receiving Stream: The PA DEP has notified the Township that Sprogel's Run is deemed impaired. Therefore, the discharge criteria was too stringent to meet with conventional treatment technologies envisioned by this option. In addition, the volume of treated wastewater permitted to discharge to the receiving stream was limited to less than this option required.

**OPTION NO. 4A - GOOSE RUN WWTF A****Description**

The Goose Run WWTF Option, Rev A. represents a completely new scenario where problems are alleviated by replacing the Cherry Tree Pump Station and its force main to capture flows from Cherry Tree, Woodbrook, and surrounding areas, sending them down Gilbertsville Road towards the Pine Ford Road Station. From here, all flows entering Pine Ford Road, including Greengate, Farmington Avenue West, and those surrounding areas, will continue by gravity to a new UPT-owned WWTF discharging into Goose Run.

Construction takes place largely in previously disturbed areas, but does involve over 1900' of state road restoration to install the ductile iron force main to Pine Ford Road.

**APPENDIX 4.1 - ALTERNATIVE DESCRIPTIONS**

Upgrades to the gravity main entering Pine Ford Road will also be required. The key concern surrounding this scenario is using the Goose Run as an outfall, as this is an intermittent stream with highly uncertain environmental requirements. A summary of the other significant construction details is provided, below:

- Wastewater Treating Facilities: A new Goose Run WWTF will be constructed
- Pump Stations: The Cherry Tree Pump Station will be expanded to 440 EDU's.
  - The existing Pine Ford Road Station will be decommissioned.
- Gravity Main: <2,500 feet of 8 & 12 -inch gravity sewer main is required
- Pressure Main: ~3,500 feet of 8-inch PVC pressure main is also required
- Manhole Count: 14 manholes (including replacements) are required throughout
- Lateral Connections: ~32 resident laterals will be installed for new customers
- Grinder Pumps: Ming Drive requires 32 grinders & ~2100' of low pressure sewer
- Other Considerations: Goose's Run discharge limits / criteria are undetermined
- These limits/criteria greatly influence the WWTF cost

**Areas Served**

The Goose Run WWTF, Rev. A will provide service to:

- Existing UPT customers from Pine Ford, Cherry Tree & Woodbrook
- New customers (tapping fees required)

**Problems Addressed**

- By redistributing flows from the Cherry Tree & Pine Ford Road Pump Stations, This option's limited geographic scope leaves any Regal Oaks WWTF issues and nearly all of the Township's concern on-lot areas unaddressed. While it drastically reduces flow to Farmington Avenue and downstream, the only on-lot area included is Ming Drive.

**Costs**

An overview of the Goose Run WWTF, Rev. A's costs is as follows:

Total Construction Cost:	\$5,356,340
Total Project Cost:	<b>\$6,817,160</b>

**Reasons for Option Rejection**

The Goose Run WWTF, Rev. A Option is rejected due to insufficient scope, poor economics, and strenuous permitting/constructability.

- Areas Served: The limited service area does little to alleviate problems.
- Economics: Uncertain WWTF quality/costs could make this prohibitive.
- Constructability: Designing & permitting the WWTF on such a small stream is deemed prohibitive relative to the other options.
- Problems Solved: Farmington Avenue capacity relief is this option's only impact.

**APPENDIX 4.1 - ALTERNATIVE DESCRIPTIONS**

- Future Planning: Selecting an option that does not solve UPT's other problems will require other studies and projects to do so.
- The PA DEP has stated that the stream size would limit WWTF (and UPT's) growth to a point that any expansion due to needs would not be possible.

**OPTION NO. 4B - GOOSE RUN WWTF B****Description**

The Goose Run WWTF Option, Rev B. is similar to the earlier BMMA Option, in that it would include a new pump station at the Regal Oaks facility and the decommissioning of the wastewater treatment facilities. However, rather than pumping them up Gilbertsville Road to BMMA, this scenario pumps sewage down to Pine Ford Road and further by gravity to a proposed UPT-owned WWTF on Goose Run, as presented in the Goose Run WWTF Option, Rev. A.

In so doing, the Goose Run WWTF, Rev. B combines many of the features, costs, and concerns from both the BMMA & Goose Run WWTF, Rev. A Options. A summary of the other significant construction details is provided, below:

- Wastewater Treating Facilities: Regal Oaks WWTF will be decommissioned
- A new Goose Run WWTF will be constructed
- Pump Stations: Two (2) stations will collect Bruce/ Horseshoe Drive to the former Regal Oaks WWTF site.
- One 625 EDU station at the former WWTF site will transfer all UPT flows collected to the new Goose Run WWTF.
- The Cherry Tree & Pine Ford stations will be decommissioned.
- Gravity Main: >14,000 feet of 8 & 12-inch gravity sewer main is required
- Pressure Main: >10,500 feet of 4 & 10-inch PVC & DIP pressure main is required
- Manhole Count: 74 manholes (including replacements) are required throughout
- Lateral Connections: Resident laterals will be installed for new customers
- Grinder Pumps: Ming Drive requires 32 grinders & ~2100' of low pressure sewer
- Other Considerations: All Goose Run WWTF, Rev. A Considerations will apply

**Areas Served**

The Goose Run WWTF, Rev. B will provide service including:

- Existing UPT customers from Pine Ford, Cherry Tree & Woodbrook
- Existing Regal Oaks customers from the decommissioned WWTF
- New customers as noted (tapping fees required).

**Problems Addressed**

By redistributing flows from the Cherry Tree, Pine Ford Road & Regal Oaks Facilities, the Goose Run WWTF, Rev. B addresses the following problems for UPT:

**APPENDIX 4.1 - ALTERNATIVE DESCRIPTIONS**

- It eliminates the existing Regal Oaks WWTF and the Cherry Tree Pump Station, fully addressing any concerns there.
- It removes EDU's and reallocates EDU's from Farmington thus increasing its availability for other connections.

While it does address all other failing on-lot areas mentioned in previous discussions the Goose Run WWTF Option, Rev. B does not extend to Orchard/ Continental Drive.

**Costs**

An overview of the Goose Run WWTF, Rev. B's costs is as follows:

Total Construction Cost:	\$9,137,150
Total Project Cost:	<b>\$11,629,100</b>

**Reasons for Option Rejection**

The Goose Run WWTF, Rev. B Option is rejected due to poor near-/long-term economics and strenuous permitting/constructability.

- Areas Served: Rev. B services all users except Orchard/Continental Drive.
- Economics: Uncertain WWTF quality/costs could still make this prohibitive.
- Constructability: WWTF design & permitting is still deemed prohibitive.
- Problems Solved: All problems except Orchard/Continental Drive are solved.
- Future Planning: The large facilities used will require considerable operating/maintenance costs.
- The PA DEP has stated that the stream size would limit WWTF (and UPT's) growth to a point that any expansion due to needs would not be possible.

**OPTION NO. 5 - WASTE MANAGEMENT****Description**

The Waste Management Option is similar to the Goose Run WWTF Option, Rev B., with the major change being the destination for the flows collected. Rather than providing for a UPT-owned WWTF on Goose Run, this option sends flows from Pine Ford Road to tie in to the trunk line from Pottstown's Waste Management Facility. From there, it flows by gravity down Manatawny Street and on to the Pottstown Treatment Plant.

Discussions with Pottstown's Engineer revealed that all of the existing sanitary sewer piping involved with this project would require upgrades from Manatawny Street all the way to the Treatment Plant, including its main 30" trunk line. Additional capacity expansions may also be required, but could not be determined without a detailed flow/capacity study of all existing Pottstown, UPT, and other contributing flows.

**APPENDIX 4.1 - ALTERNATIVE DESCRIPTIONS**

Even when the above significant engineering challenges were addressed, the inter-municipal agreements between Pottstown, UPT, and other parties would all require joint revisions to accommodate this project scenario.

The above considerations provided enough justification to abandon further study of this option and no detailed collection system concepts or estimates were prepared.

**Areas Serviced**

The Waste Management Option promised service to:

- Existing UPT customers from Pine Ford, Cherry Tree & Woodbrook
- Existing Regal Oaks customers from the decommissioned WWTF
- New customers (tapping fees required)

**Problems Addressed**

By redistributing flows from the Cherry Tree, Pine Ford Road & Regal Oaks Facilities, the Waste Management Option targeted the following problems for UPT:

- It eliminates the existing Regal Oaks WWTF, fully addressing any concerns there.
- It removes EDU's and reallocates them from Farmington Avenue.
- Removing EDU's from Farmington Avenue by the Waste Management Option would not relieve all downstream capacity issues, as the flows still head into Pottstown where collection system and treatment facility/agreement volumes remain a concern.

While it may address all other problematic on-lot areas mentioned in previous sections, the Waste Management Option did not in any way consider Orchard/ Continental Drive.

**Costs**

Detailed cost estimates for the Waste Management Option were not completed.

**Reasons for Option Rejection**

The Waste Management Option is rejected due to impasses with downstream capacity.

- Areas Serviced: This option targets all users except Orchard/Continental Drive.
- Economics: Engineering/construction for overland routing of piping to the Waste Management are deemed prohibitive. Additional cost for the upgrades to the Pottstown Borough Authority collection system are not specifically identified but based on past communication with the Borough would not be justified.
- Constructability: Tremendous downstream facility upgrades in Pottstown's urban areas (plus the main interceptor) are deemed prohibitive.
- Problems Solved: Sending flows to Pottstown does not relieve capacity issues.

**APPENDIX 4.1 - ALTERNATIVE DESCRIPTIONS****OPTION NO. 6 - REGAL OAKS PUMPING STATION****Description**

The Regal Oaks Pumping Station Option extends the Regal Oaks gravity collection system along Sprogel's Run and across Gilbertsville Road to the Cherry Tree Pumping Station. The Cherry Tree Pump station will be eliminated and those flows will follow the new extension down to the Regal Oaks WWTF. The Regal Oaks WWTF will be replaced with a pump station. The forcemain for the pump station will parallel the new extension to Gilbertsville Road. From Gilbertsville Road the force main will be installed south up the hill to a discharge point on Farmington Avenue.

Within 5 years, The remaining EDUs within Regal Oaks will be connected to the existing collection system.

Within 10 years, Ming Drive/Moyer Road, and Horseshoe and Bruce Drives will also be connected to the new pump station. The second part of this option involves a gravity collection system to serve Continental and Orchard Drives. This gravity system will extend the lines from Continental and Orchard Drives down to Lower Pottsgrove. Because of the current moratorium this part of the option will also be constructed based on a 10 year schedule.

Because of this option the Pottstown Borough Authority will have to increase the size of their mains along Beech and York Street. Upper Pottsgrove Township will have to share in the cost of this expansion and purchase capacity at the Boroughs treatment facility. In addition, there is approximately 1,100 feet of main along Farmington Avenue that the Township will also have to increase in size. Both of these expansions will allow for the connection of the Kummerer Tract and the Pine Ford Curatives.

- The Regal Oaks Pumping Station project will begin immediately. This will serve Regal Oaks Phase 1 (existing residents connected to the Regal Oaks Wastewater Treatment Facility) and Gilbertsville Road.
- The Kummerer Tract, and the Pine Ford Road Curatives will be served through the enlargement of the collection system pipes within the Borough of Pottstown. This will also occur immediately.
- Regal Oaks Phase 2 (residents within Regal Oaks utilizing on-lot systems) will be completed within five years.
- The extension to Ming Drive/Moyer Road, and Horseshoe and Bruce Drives will be constructed within ten years (2018).
- Due to the moratorium on connections in LPT, the extension to Continental and Orchard Drives will also be completed within ten years (2018). This will give LPT the time necessary to address the I/I and capacity issues with their collection system, and have the moratorium lifted.

**Areas Served**

The Regal Oaks Pumping Station Option would ultimately serve the following areas:

**APPENDIX 4.1 - ALTERNATIVE DESCRIPTIONS****Immediate Connections**

- Regal Oaks existing users
- Gilbertsville Road
- Transfers all subdivision connected to or, to be connected to the Cherry Tree Pump Station (Woodbrook and Cherry Tree Subdivisions immediately)
- Allows for the connection of the Pine Ford Road Curatives and the Kummerer Tract

**5-Year Connections**

- Regal Oaks Phase 2 (existing on-lot users)

**10-Year Connections**

- Ming Drive
- Moyer Road
- Horseshoe Drive
- Bruce Drive
- Continental Drive
- Orchard Drive

**Problems Addressed**

By redistributing flows from the Cherry Tree Pump Station and the Regal Oaks WWTF, the Regal Oaks Pumping Station Option addresses the following problems for UPT:

- It eliminates the Regal Oaks WWTF as required by the PA DEP.
- It eliminates the Cherry Tree Pumping Station.
- It provides future service to problematic areas to include:
  1. Ming Drive
  2. Moyer Road
  3. Horseshoe Drive
  4. Bruce Drive
  5. Continental Drive
  6. Orchard Drive
  7. Current On-Lot User with Regal Oaks

**Costs**

An overview of the Spregel's Run Gravity Option's costs is as follows:

**Immediate Needs**

Total Construction Cost:	\$1,299,188
Total Project Cost:	<b>\$3,087,052</b>

**Future Needs Estimate (5 Years And Greater)**

Total Alternative Construction Cost:	\$4,665,760
Total Alternative Project Cost:	<b>\$7,769,648</b>

**Upper Pottsgrove Township - Act 537 Plan Alternative No. 1**  
Residential Sewage Collection - Berks Montgomery Municipal Authority (BMMA) Option

Item No.	Item Description	Schedule of Values		Amount
		Quantity	Unit Price	
1	8" PVC Gravity (lf)			
1a	Twp. Road	7725	\$ 95.00	\$ 733,875.00
1b	Unpaved areas	275	\$ 70.00	\$ 19,250.00
2	12" PVC Gravity (lf)			
2a	State road	30	\$ 145.00	\$ 4,350.00
2b	Twp. Road	900	\$ 110.00	\$ 99,000.00
2c	Unpaved areas	2700	\$ 85.00	\$ 229,500.00
3	Traffic Control	5	\$ 20,000.00	\$ 100,000.00
4	MH (ea)	66	\$ 3,100.00	\$ 204,600.00
5	6" Laterals to ROW (ea)	147	\$ 1,500.00	\$ 220,500.00
6	4" FM (lf gravity trench)	1650	\$ 40.00	\$ 66,000.00
7	4" FM (lf separate trench)	1650	\$ 50.00	\$ 82,500.00
8	10" DIP Force Main (lf)			
8a	Gravity trench	2200	\$ 120.00	\$ 264,000.00
8b	Separate trench	250	\$ 130.00	\$ 32,500.00
8c	Separate state rd trench	3550	\$ 160.00	\$ 568,000.00
9	PS (50-85 EDUs)	2	\$ 100,000.00	\$ 200,000.00
10	PS (625 EDUs)	1	\$ 400,000.00	\$ 400,000.00
11	LPS (lf)	2100	\$ 65.00	\$ 136,500.00
12	Grinder Pumps (ea)	32	\$ 7,000.00	\$ 224,000.00
13	Others (see comments)	N/A	N/A	\$ 170,000.00

<b>Total Construction Line Items</b>	<b>\$ 3,754,575.00</b>
Contingency, 10%	\$ 375,457.50
Engineering/Admin/Legal, 30%	\$ 1,126,372.50
BMMA Capacity & Connection Fees	\$ 3,179,874.00
<b>Total Project Cost</b>	<b>\$ 8,436,279.00</b>

**Upper Pottsgrove Township - Act 537 Plan Alternative No. 2**  
**Residential Sewage Collection off Gilbertsville Road - Sprogel Gravity Option**

Item No.	Item Description	Schedule of Values		Amount
		Quantity	Unit Price	
1	8" PVC Gravity (lf)			
1a	State road	650	\$ 145.00	\$ 94,250.00
1b	Twp. Road	12200	\$ 95.00	\$ 1,159,000.00
1c	Unpaved areas	1625	\$ 70.00	\$ 113,750.00
2	12" PVC Gravity (lf)			
2a	State road	30	\$ 145.00	\$ 4,350.00
2b	Twp. Road	900	\$ 110.00	\$ 99,000.00
2c	Unpaved areas	2700	\$ 85.00	\$ 229,500.00
3	14" PVC Gravity (lf)			
3a	State road	1750	\$ 150.00	\$ 262,500.00
3b	Twp. Road	450	\$ 115.00	\$ 51,750.00
3c	Encumbrance areas	6500	\$ 150.00	\$ 975,000.00
4	Traffic Control	5	\$ 20,000.00	\$ 100,000.00
5	MH (ea)	117	\$ 3,100.00	\$ 362,700.00
6	6" Laterals to ROW (ea)	217	\$ 1,500.00	\$ 325,500.00
7	4" Force Main (lf)	3300	\$ 45.00	\$ 148,500.00
8	PS (50-85 EDUs)	2	\$ 100,000.00	\$ 200,000.00
9	Meter Chamber	1	\$ 50,000.00	\$ 50,000.00
10	LPS (lf)	2100	\$ 65.00	\$ 136,500.00
11	Grinder Pumps (ea)	32	\$ 7,000.00	\$ 224,000.00
12	Others (see comments)	N/A	N/A	\$ 170,000.00

<b>Total Construction Line Items</b>	<b>\$ 4,706,300.00</b>
Contingency, 10%	\$ 470,630.00
Engineering/Admin/Legal, 35%	\$ 1,647,205.00
Pottstown Capacity Fees ( \$5.20 / gallon )	\$ 205,920.00
<b>Total Project Cost</b>	<b>\$ 7,030,055.00</b>

**Upper Pottsgrove Township - Act 537 Plan Alternative No. 3**  
***Residential Sewage Collection off Gilbertsville Road - Snyder/Sprogel WWTF Option***

Item No.	Item Description	Schedule of Values		
		Quantity	Unit Price	Amount
1	8" PVC Gravity (lf)			
1a	Twp. Road	7725	\$ 95.00	\$ 733,875.00
1b	Unpaved areas	275	\$ 70.00	\$ 19,250.00
2	12" PVC Gravity (lf)			
2a	State road	30	\$ 145.00	\$ 4,350.00
2b	Twp. Road	900	\$ 110.00	\$ 99,000.00
2c	Unpaved areas	2700	\$ 85.00	\$ 229,500.00
3	14" PVC Gravity (lf)			
3a	Encumbrance areas	1875	\$ 165.00	\$ 309,375.00
4	Traffic Control	5	\$ 20,000.00	\$ 100,000.00
5	MH (ea)	69	\$ 3,100.00	\$ 213,900.00
6	6" Laterals to ROW (ea)	147	\$ 1,500.00	\$ 220,500.00
7	4" FM (lf gravity trench)	1650	\$ 40.00	\$ 66,000.00
8	4" FM (lf separate trench)	1650	\$ 50.00	\$ 82,500.00
9	PS (50-85 EDUs)	2	\$ 100,000.00	\$ 200,000.00
10	WWTF Installation	1	\$ 2,500,000.00	\$ 2,500,000.00
11	LPS (lf)	2100	\$ 65.00	\$ 136,500.00
12	Grinder Pumps (ea)	32	\$ 7,000.00	\$ 224,000.00
13	Others (see comments)	N/A	N/A	\$ 170,000.00

<b>Total Construction Line Items</b>	<b>\$ 5,308,750.00</b>
Contingency, 10%	\$ 530,875.00
Engineering/Admin/Legal, 30%	\$ 1,592,625.00
Capacity & Connection Fees	\$ -
<b>Total Project Cost</b>	<b>\$ 7,432,250.00</b>

**Upper Pottsgrove Township - Act 537 Plan Alternative No. 3A**  
**Residential Sewage Collection off Gilbertsville Road - Snyder/Sprugel WWTF A**

Item No.	Item Description	Schedule of Values		Amount
		Quantity	Unit Price	
1	8" PVC Gravity (lf)			
1a	State road	1700	\$ 145.00	\$ 246,500.00
1b	Twp. Road	12225	\$ 95.00	\$ 1,161,375.00
1c	Unpaved areas	2525	\$ 70.00	\$ 176,750.00
2	12" PVC Gravity (lf)			
2a	State road	30	\$ 145.00	\$ 4,350.00
2b	Twp. Road	900	\$ 110.00	\$ 99,000.00
2c	Unpaved areas	2700	\$ 85.00	\$ 229,500.00
3	14" PVC Gravity (lf)			
3a	Encumbrance areas	1875	\$ 165.00	\$ 309,375.00
4	Traffic Control	6	\$ 20,000.00	\$ 120,000.00
5	MH (ea)	100	\$ 3,100.00	\$ 310,000.00
6	6" Laterals to ROW (ea)	217	\$ 1,500.00	\$ 325,500.00
7	4" FM (lf gravity trench)	1650	\$ 40.00	\$ 66,000.00
8	4" FM (lf other trench)	1650	\$ 50.00	\$ 82,500.00
9	PS (50-85 EDUs)	2	\$ 100,000.00	\$ 200,000.00
10	WWTF Installation	1	\$ 2,500,000.00	\$ 2,500,000.00
11	LPS (lf)	2100	\$ 65.00	\$ 136,500.00
12	Grinder Pumps (ea)	32	\$ 7,000.00	\$ 224,000.00
13	Others (see comments)	N/A	N/A	\$ 170,000.00

<b>Total Construction Line Items</b>	<b>\$ 6,361,350.00</b>
Contingency, 10%	\$ 636,135.00
Engineering/Admin/Legal, 30%	\$ 1,908,405.00
Capacity & Connection Fees	\$ -
<b>Total Project Cost</b>	<b>\$ 8,905,890.00</b>

**Upper Pottsgrove Township - Act 537 Plan Alternative No. 3B**  
**Residential Sewage Collection off Gilbertsville Road - Snyder/Sprogel WWTF B**

Item No.	Item Description	Schedule of Values		
		Quantity	Unit Price	Amount
1	8" PVC Gravity (lf)			
1a	State road	1700	\$ 145.00	\$ 246,500.00
1b	Twp. Road	12225	\$ 95.00	\$ 1,161,375.00
1c	Unpaved areas	1675	\$ 70.00	\$ 117,250.00
2	12" PVC Gravity (lf)			
2a	State road	30	\$ 145.00	\$ 4,350.00
2b	Twp. Road	900	\$ 110.00	\$ 99,000.00
2c	Unpaved areas	2700	\$ 85.00	\$ 229,500.00
3	14" PVC Gravity (lf)			
3a	Encumbrance areas	1875	\$ 165.00	\$ 309,375.00
4	Traffic Control	6	\$ 20,000.00	\$ 120,000.00
5	MH (ea)	99	\$ 3,100.00	\$ 306,900.00
6	6" Laterals to ROW (ea)	217	\$ 1,500.00	\$ 325,500.00
7	4" FM (lf)	4300	\$ 45.00	\$ 193,500.00
8	4" FM (lf, encumbered)	3500	\$ 60.00	\$ 210,000.00
9	PS (50-85 EDUs)	3	\$ 100,000.00	\$ 300,000.00
10	WWTF Installation	1	\$ 2,500,000.00	\$ 2,500,000.00
11	LPS (lf)	2100	\$ 65.00	\$ 136,500.00
12	Grinder Pumps (ea)	32	\$ 7,000.00	\$ 224,000.00
13	Others (see comments)	N/A	N/A	\$ 170,000.00

<b>Total Construction Line Items</b>	<b>\$ 6,653,750.00</b>
Contingency, 10%	\$ 665,375.00
Engineering/Admin/Legal, 30%	\$ 1,996,125.00
Capacity & Connection Fees	\$ -
<b>Total Project Cost</b>	<b>\$ 9,315,250.00</b>

**Upper Pottsgrove Township - Act 537 Plan Alternative No. 4A**  
**Residential Sewage Collection off Gilbertsville Road - Goose Run A**

Item No.	Item Description	Schedule of Values		Amount
		Quantity	Unit Price	
1	8" DIP Force Main (lf)			
1a	State road	1925	\$ 110.00	\$ 211,750.00
1b	Twp. Road	350	\$ 80.00	\$ 28,000.00
1c	Unpaved areas	1225	\$ 65.00	\$ 79,625.00
2	12" PVC Gravity (lf)			
2a	State road	150	\$ 145.00	\$ 21,750.00
2b	Twp. Road	1225	\$ 110.00	\$ 134,750.00
2c	Unpaved areas	725	\$ 85.00	\$ 61,625.00
3	Traffic Control	3	\$ 20,000.00	\$ 60,000.00
4	MH (ea)	14	\$ 3,100.00	\$ 43,400.00
5	6" Laterals to ROW (ea)	32	\$ 1,500.00	\$ 48,000.00
6	4" Force Main (lf)	0	\$ 40.00	\$ -
7	PS (440 EDUs)	1	\$ 300,000.00	\$ 300,000.00
8	WWTF Installation	1	\$ 3,400,000.00	\$ 3,400,000.00
9	LPS (lf)	2100	\$ 65.00	\$ 136,500.00
10	Grinder Pumps (ea)	32	\$ 7,000.00	\$ 224,000.00
11	Others (see comments)	N/A	N/A	\$ 120,000.00

<b>Total Construction Line Items</b>	<b>\$ 4,869,400.00</b>
Contingency, 10%	\$ 486,940.00
Engineering/Admin/Legal, 30%	\$ 1,460,820.00
Capacity & Connection Fees	\$ -
<b>Total Project Cost</b>	<b>\$ 6,817,160.00</b>

**Upper Pottsgrove Township - Act 537 Plan Alternative No. 4B****Residential Sewage Collection off Gilbertsville Road - Goose Run B**

Item No.	Item Description	Schedule of Values		Amount
		Quantity	Unit Price	
1	8" PVC Gravity (lf)			
1a	Twp. Road	7725	\$ 110.00	\$ 849,750.00
1b	Unpaved areas	275	\$ 80.00	\$ 22,000.00
2	12" PVC Gravity (lf)			
2a	State road	180	\$ 145.00	\$ 26,100.00
2b	Twp. Road	2150	\$ 110.00	\$ 236,500.00
2c	Unpaved areas	3950	\$ 85.00	\$ 335,750.00
3	Traffic Control	5	\$ 20,000.00	\$ 100,000.00
4	MH (ea)	74	\$ 3,100.00	\$ 229,400.00
5	6" Laterals to ROW (ea)	147	\$ 1,500.00	\$ 220,500.00
6	4" Force Main (lf)	3300	\$ 45.00	\$ 148,500.00
7	10" DIP Force Main (lf)			
7a	Gravity trench	3800	\$ 120.00	\$ 456,000.00
7b	Separate trench	1750	\$ 130.00	\$ 227,500.00
7c	Separate state rd trench	1900	\$ 160.00	\$ 304,000.00
8	PS (50-85 EDUs)	2	\$ 100,000.00	\$ 200,000.00
9	PS (625 EDUs)	1	\$ 400,000.00	\$ 400,000.00
10	WWTF Installation	1	\$ 4,000,000.00	\$ 4,000,000.00
11	LPS (lf)	2100	\$ 65.00	\$ 136,500.00
12	Grinder Pumps (ea)	32	\$ 7,000.00	\$ 224,000.00
13	Others (see comments)	N/A	N/A	\$ 190,000.00

<b>Total Construction Line Items</b>	<b>\$ 8,306,500.00</b>
Contingency, 10%	\$ 830,650.00
Engineering/Admin/Legal, 30%	\$ 2,491,950.00
Capacity & Connection Fees	\$ -
<b>Total Project Cost</b>	<b>\$ 11,629,100.00</b>

**Upper Pottsgrove Township - Act 537 Plan Alternative No. 6**  
**CHOSEN ALTERNATIVE - REGAL OAKS PUMPING STATION**  
**IMMEDIATE CONNECTIONS ONLY**

Item No.	Item Description	Schedule of Values		
		Quantity	Unit Price	Amount
1	Bonds and Insurance	LS	\$ 20,000.00	\$ 20,000.00
2	M & D	LS	\$ 10,000.00	\$ 10,000.00
3	12" SDR Gravity in Road (lf)	50	\$ 90.00	\$ 4,500.00
4	12" SDR Gravity in Unpaved (lf)	3100	\$ 85.00	\$ 263,500.00
5	Stream crossing (lf)	80	\$ 150.00	\$ 12,000.00
6	Manholes (ea)	20	\$ 3,500.00	\$ 70,000.00
7	8" SDR Forcemain (lf)	5800	\$ 45.00	\$ 261,000.00
8	6" SDR Lateral Mains (lf)	300	\$ 65.00	\$ 19,500.00
9	Landscaping Allowance	LS	\$ 25,000.00	\$ 25,000.00
10	Regal Oaks P.S. install system	LS	\$ 200,000.00	\$ 200,000.00
11	Regal Oaks WWTF demo	LS	\$ 75,000.00	\$ 75,000.00
12	Cherry Tree P.S. disassemble	LS	\$ 25,000.00	\$ 25,000.00
13	Road /Shoulder Restoration (lf)	3370	\$ 30.00	\$ 101,100.00
14	Easement Restoration (lf)	2730	\$ 6.00	\$ 16,380.00
15	Penn DOT Mill & Overlay (sy)	3700	\$ 13.00	\$ 48,100.00
16	Line Painting	LS	\$ 15,000.00	\$ 15,000.00
17	Inspection and Testing Allowance	LS	\$ 15,000.00	\$ 15,000.00

<b>Total Construction Line Items</b>	<b>\$ 1,181,080.00</b>
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Construction Contingency (10%)	\$ 118,108.00
Total Construction Line Items	\$ 1,299,188.00
Engineering/Admin/Legal, 30%	\$ 389,756.40
Beech/York Street Expansion Costs	\$ 840,000.00
Farmington Avenue Modifications	\$ 440,000.00

<b>Total Project Costs</b>	<b>\$ 3,087,052.40</b>
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**Upper Pottsgrove Township - Act 537 Plan Alternative No. 6****CHOSEN ALTERNATIVE - REGAL OAKS PUMPING STATION****10-Year Full Build Out**

Item No.	Item Description	Schedule of Values		
		Quantity	Unit Price	Amount
1	Bonds and Insurance	LS	\$ 20,000.00	\$ 35,000.00
2	M & D	LS	\$ 10,000.00	\$ 18,000.00
3	8" PVC Gravity (lf)			
3a	State road	1700	\$ 85.00	\$ 144,500.00
3b	Twp. Road	12225	\$ 80.00	\$ 978,000.00
3c	Unpaved areas	1675	\$ 80.00	\$ 134,000.00
4	12" SDR Gravity in Road(lf)	980	\$ 90.00	\$ 88,200.00
5	12" SDR Gravity in Unpaved (lf)	6700	\$ 85.00	\$ 569,500.00
6	Stream crossing (lf)	120	\$ 150.00	\$ 18,000.00
7	Manholes (ea)	110	\$ 3,500.00	\$ 385,000.00
8	8" SDR Forcemain (lf)	5800	\$ 45.00	\$ 261,000.00
9	6" SDR Lateral Mains (ea)	219	\$ 1,500.00	\$ 328,500.00
10	Landscaping Allowance	LS	\$ 40,000.00	\$ 25,000.00
11	Pump Stations (Remote)	LS	\$ 200,000.00	\$ 200,000.00
12	LPS (lf)	2100	\$ 65.00	\$ 136,500.00
13	Grinder Pumps	32	\$ 7,000.00	\$ 224,000.00
14	Regal Oaks P.S. install system	LS	\$ 200,000.00	\$ 200,000.00
15	Regal Oaks WWTF demo	LS	\$ 75,000.00	\$ 75,000.00
16	Cherry Tree P.S. disassemble	LS	\$ 25,000.00	\$ 25,000.00
17	Road /Shoulder Restoration (lf)	5700	\$ 30.00	\$ 171,000.00
18	Easement Restoration (lf)	15000	\$ 6.00	\$ 90,000.00
19	Penn DOT Mill & Overlay (sy)	5800	\$ 13.00	\$ 75,400.00
20	Line Painting	LS	\$ 25,000.00	\$ 25,000.00
21	Inspection and Testing Allowance	LS	\$ 35,000.00	\$ 35,000.00

<b>Total Construction Line Items</b>	<b>\$ 4,241,600.00</b>
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Construction Contingency (10%)	\$ 424,160.00
Total Construction Line Items	\$ 4,665,760.00
Engineering/Admin/Legal, 30%	\$ 1,399,728.00
Beech/York Street Expansion Costs	\$ 840,000.00
Farmington Avenue Modifications	\$ 440,000.00

<b>Total Project Costs</b>	<b>\$ 7,769,648.00</b>
----------------------------	------------------------

Appendix A-22-b.1

**APPENDIX 4.3 – ALTERNATIVE FUNDING ANALYSES**

This plan has considered a total of eight (8) funding scenarios. They include:

- Municipal Bonds @ 6% for 20 years
- USDA Rural Utilities Service loan @5.5% for 20 years
- Pennsylvania Infrastructure Investment Authority (PENNVEST) loan @ 1% for 20 years
- PENNVEST loan @ 5% for 20 years

These scenarios were considered with and without grants. The table below summarizes the findings of this review:

UPPER POTTS GROVE TOWNSHIP ACT 537 SEWAGE FACILITIES PLAN FUNDING ANALYSIS										
FUNDING METHOD	TERM Years	RATE	PROJECT COSTS	GRANT	TAPPING FEES	PRINCIPAL	YEARLY DEBT SERVICE	YEARLY OPERATIONAL COSTS	EDUs	RATE INCREASE (QRT)
Municipal Bonds	20	6.0%	\$3,087,052	0	\$ 205,000	\$ 2,882,052	\$251,270	\$ 55,000	1232	\$ 62
USDA RUS	20	5.5%	\$3,087,052	0	\$ 205,000	\$ 2,882,052	\$241,168	\$ 55,000	1232	\$ 60
PENNVEST	20	1.0%	\$3,087,052	0	\$ 205,000	\$ 2,882,052	\$159,710	\$ 55,000	1232	\$ 44
PENNVEST	20	5.0%	\$3,087,052	0	\$ 205,000	\$ 2,882,052	\$231,263	\$ 55,000	1232	\$ 58
Municipal Bonds	20	6.0%	\$3,087,052	\$1,543,526	\$ 205,000	\$ 1,338,526	\$116,699	\$ 55,000	1232	\$ 35
USDA RUS	20	5.5%	\$3,087,052	\$1,543,526	\$ 205,000	\$ 1,338,526	\$112,007	\$ 55,000	1232	\$ 34
PENNVEST	20	1.0%	\$3,087,052	\$1,543,526	\$ 205,000	\$ 1,338,526	\$74,175	\$ 55,000	1232	\$ 26
PENNVEST	20	5.0%	\$3,087,052	\$1,543,526	\$ 205,000	\$ 1,338,526	\$107,407	\$ 55,000	1232	\$ 33

This analysis was based on the project costs for the Regal Oaks Pump Station alternative, which is the selected alternative. The description and the cost breakdown are discussed in Appendices 4.1 and 4.2.

It should be noted that these estimates also assume a tapping fee assessed to the existing homes within Regal Oaks. For the purposes of this analysis it was projected that the new tapping fee for the Township would be \$5,000. Under this scenario, those in Regal Oaks would contribute \$2,500 per household.

Currently the Township charges a sewer fee of \$200 per quarter. After discussions with the Township staff it was determined that these fees are designed to keep pace with existing costs and do not create a significant surplus. Therefore, the costs for the selected alternative are shown as an increase to the existing fees in order to liquidate the listed "principal" through the "yearly debt service" and "operational costs".

This plan does not select a funding method at this time for the following reasons:

APPENDIX 4.3 – ALTERNATIVE FUNDING ANALYSES

1. The actual construction costs will not be known until the project is bid.
2. Upper Pottsgrove Township is applying for a grant under H2O PA. The grant status under H2O PA is not known. If this grant is obtained it will have a significant impact on the overall project and the financing.
3. The Pottstown Borough Authority (PBA) is also seeking grants for portions of its system. Upper Pottsgrove has committed to finance 50 percent of those upgrades. Those costs are included in the selected alternative costs under this plan. If the PBA is successful the project costs and the corresponding financing could be further reduced.
4. There are ongoing negotiations with developers for contributions to the sewer system. If these negotiations are fruitful the overall cost and associated financing could be further reduced.

The table above shows the potential financing, debt service and rate increases if none of the grant or developer contributions are obtained.

**APPENDIX 5.0 – REFERENCE DOCUMENTS**

- 5.1 RESIDENTIAL GRINDER PUMP AGREEMENT
- 5.2 OFFICIAL ACT 537 PLAN REVISION, TRANSFER OF CAPACITY  
FROM POTTSTOWN BOROUGH TO UPPER POTTSGROVE  
TOWNSHIP
- 5.3 TRANSFER OF CAPACITY RIGHTS AGREEMENT

**GRINDER PUMP  
OPERATIONS AND MAINTENANCE AGREEMENT**

THIS AGREEMENT made this \_\_\_\_\_ day of \_\_\_\_\_, 2007,  
by and between

UPPER POTTS GROVE TOWNSHIP, Montgomery County, Pennsylvania  
(hereinafter called "Township"); and

\_\_\_\_\_, \_\_\_\_\_, Upper  
Pottsgrove Township, Montgomery County, Pennsylvania, (hereinafter  
called "Owner").

**W I T N E S S E T H:**

WHEREAS, Owner is presently the owner of a certain tract of  
land located at \_\_\_\_\_, Upper Pottsgrove Township,  
Montgomery County, Pennsylvania, better known as Tax Parcel No. \_\_\_\_\_  
\_\_\_\_\_ (hereinafter called "Property"); and

WHEREAS, the Property is presently improved by a single family  
dwelling with an on-lot septic system; and

WHEREAS, the Township is in the process of providing public  
sanitary sewer service to the subject Property as part of its  
Farmington Avenue West sanitary sewer project; and

WHEREAS, as part of the project, the Property will be equipped  
with an on-lot low pressure grinder-pump and tank (hereinafter  
"Grinder Pump") which will be used to convey sewage to the public  
sewage treatment facilities; and

WHEREAS, the Township and Owner desire to memorialize the

## Appendix A-22-b.1

agreements reached with respect to the installation, operation, and maintenance of the aforesaid **Grinder Pump** to ensure orderly operation and maintenance of same.

**NOW, THEREFORE**, in consideration of the covenants contained herein, the parties do hereby agree as follows:

1. The **Grinder Pump** will be installed at the sole cost and expense of the **Township**. The **Owner** shall cooperate with **Township** as necessary to allow for such installation.

2. Thereafter, the **Grinder Pump** will become property of the **Owner** of the lot which is served by the **Grinder Pump**.

3. The **Owner** shall have the obligation to contract with the Maintenance Contractor to maintain, repair and replace the **Grinder Pump**, as necessary. If a repair, replacement and/or maintenance item is not covered under the maintenance contract, the **Owner** agrees to have the Maintenance Contractor or another qualified individual perform the required repair, replacement and/or maintenance. The **Owner** further agrees to pay all costs of such repair, replacement and/or maintenance.

4. In the event the **Owner** fails to properly maintain, repair and/or replace the **Grinder Pump**, the **Township** shall have the right, but not the obligation, to enter the **Property** for the purpose of maintaining, repairing and/or replacing the **Grinder Pump** and the **Township** shall be reimbursed for the cost thereof by the **Owner** of the lot on which the maintenance, repair or replacement takes

place. The reimbursement of **Township** costs shall include, but not be limited to, reasonable **Township** attorney fees and costs, and reasonable **Township** engineering fees incurred by **Township**. The **Township** may elect any remedy available to it in law or equity to collect reimbursement as described under this paragraph. By virtue of this Agreement, the Owner consents and agrees that **Township** may file a municipal lien claim against the subject property as permitted by the Municipal Lien Law to guarantee the collection of reimbursement, including interest at its lawful and legal rate established by statute.

5. The **Owner** does hereby release the **Township**, its elected officials, appointed officials, solicitors, engineers, employees and agents of the **Township** from all claims, liabilities, lawsuits, costs and expenses which may arise in the event the Township is required to access the property for purposes of maintaining, repairing and replacing the grinder pump as described in paragraph 3 above, except for gross negligence or willful misconduct of the **Township**, its agents and/or employees.

6. **Owner** agrees and understands that the **Township** may have adopted certain rules and regulations for the operation and maintenance of grinder pumps throughout the Township and **Owner** hereby agrees to abide by any and all such requirements.

7. **Owner** agrees and recognizes that the **Grinder Pump** and

sanitary sewer system may be inspected by the **Township, from time to time**, to ensure it is being properly maintained and all components are in good working order.

8. It is expressly understood that this Agreement shall be recorded in the Recorder of Deeds Office in and for the County of Montgomery County, Pennsylvania, and that this Agreement shall be binding upon **Owner**, his/her heirs, administrators, executors, successors and assigns, including **Owner's** successors in title to the aforesaid **Property** which is the subject of this Agreement, it being the expressed understanding of the parties that any and all duties and obligations of **Owner** with respect to the operation of the **Grinder Pump** set forth in this Agreement would also "run with the land" and remain the obligation of **Owner's** successor in title.

**IN WITNESS WHEREOF**, the parties hereto have set their hands and seals the day and year first above written.

**WITNESSES:**

\_\_\_\_\_  
\_\_\_\_\_

**WITNESSES:**

\_\_\_\_\_  
\_\_\_\_\_

**UPPER POTTS GROVE TOWNSHIP**

By: \_\_\_\_\_

Attest: \_\_\_\_\_

**OWNER**

\_\_\_\_\_

\_\_\_\_\_

**Official Act 537 Plan Revision**

**TRANSFER OF CAPACITY**

**From**

**Pottstown Borough**

**To**

**Upper Pottsgrove Township**

**BCM Project No.: 57.50766.3045 - 0003**

**January 2009**

**POTTSTOWN BOROUGH  
MONTGOMERY COUNTY, COMMONWEALTH OF PENNSYLVANIA**

**RESOLUTION # 2009 - 14**

**RESOLUTION OF THE COUNCIL OF POTTSTOWN BOROUGH, MONTGOMERY  
COUNTY, PENNSYLVANIA (hereinafter "the municipality").**

WHEREAS, Section 5 of the Act of January 24, 1966, P.L. 1535, No. 537, known as the "Pennsylvania Sewage Facilities Act," as amended, and the Rules and Regulations of the Department of Environmental Protection (Department) adopted thereunder, Chapter 71 of Title 25 of the Pennsylvania Code, requires the municipality to adopt an Official Sewage Facilities Plan providing for sewage services adequate to prevent contamination of waters and/or environmental health hazards with sewage wastes, and to revise said plan whenever it is necessary to meet the sewage disposal needs of the municipality; and

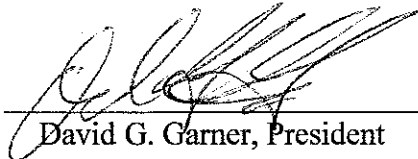
WHEREAS, BCM Engineers has prepared an Official Act 537 Plan which provides for Transfer of Capacity between the Borough of Pottstown and Upper Pottsgrove Township; and

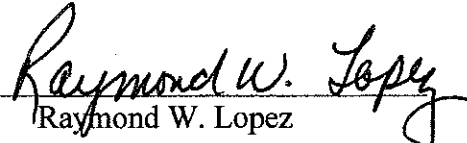
The alternative of choice to be implemented is for Upper Pottsgrove to purchase 238,000 gallons per day of maximum three month flow, from the Borough of Pottstown to meet future growth needs in the Township. This total flow of 238,000 gallons per day was previously reserved for infill and expansion of existing buildings within the Borough. However, the Borough is retaining an allocation of 9,123,600 gallons per day of max three month flow in the treatment plant, which is 3,463,600 gallons per day over the Borough's existing flow and is adequate to meet the Borough's future needs. To effect this transfer of capacity, the Sewage Transfer Agreement has been prepared and approved by the affected parties. There is no capital cost required to implement the Plan.

WHEREAS, Pottstown Borough finds that the Facility Plan described above conforms to applicable zoning, subdivision, other municipal ordinances and plans and to a comprehensive program of pollution control and water quality management.

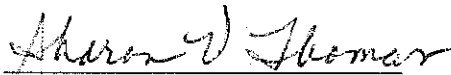
NOW, THEREFORE, BE IT RESOLVED that the Council of Pottstown Borough hereby adopts and submits to the Department of Environmental Protection for its approval as the "Official Plan" of the municipality, the above referenced Facility Plan. The municipality hereby assures the Department of the complete and timely implementation of the said plan as required by law. (Section 5, Pennsylvania Sewage Facilities Act as amended).

THE BURGESS AND TOWN COUNCIL  
OF THE BOROUGH OF POTTSTOWN

BY:   
David G. Garner, President  
Pottstown Borough Council

ATTEST:   
Raymond W. Lopez  
Borough Manager

Approved this 13<sup>th</sup> day of  
April, A.D. 2009

  
Sharon V. Thomas  
Mayor

I, VIRGINIA L. TAKACH, Secretary, Pottstown Borough Council, hereby  
certify that the foregoing is a true copy of the Borough's Resolution No. 2009-14, adopted  
APRIL 13, 2009.

AUTHORIZED SIGNATURE

BOROUGH SEAL



## **EXECUTIVE SUMMARY**

Under the terms of the Sewage Treatment Service Agreement (STSA) between the Borough of Pottstown, the Pottstown Borough Authority, Upper Pottsgrove Township, West Pottsgrove Township, Lower Pottsgrove Township and Lower Pottsgrove Township Authority, a transfer of treatment plant capacity has been requested.

In order to meet their future growth needs, Upper Pottsgrove Township has agreed to purchase excess treatment capacity from the Borough of Pottstown. A Sewage Transfer Agreement has been prepared and approved by the affected parties.

Following discussions with senior staff of the Pennsylvania Department of Environmental Protection (PADEP), it was accepted by all parties that the necessary Act 537 Plan Revision documentation would be collated and presented by Upper Pottsgrove Township, with this information contained in an Appendix.

The Township has documented their future needs and provided justification for the additional capacity requested. The 0.238 mgd Max Three Month Capacity requested is adequate to meet the Township's ultimate needs, the Transfer Agreement allows for lesser amount to be paid for and utilized initially. The Borough has determined that, even after allowing for their own potential growth, they will still have an adequate reserve capacity available.

The proposed changes will have no impact on the ability of the wastewater treatment plant (WWTP) to operate effectively and in accordance with its regulatory discharge requirements. There will be no financial impact or change in the available allocation for the residents of Lower or West Pottsgrove Townships. The calculation of user costs at the WWTP assigned to the Borough and Upper Pottsgrove will continue to be calculated using the formula contained in the current STSA.

## **1.0 PREVIOUS WASTEWATER PLANNING**

The following documents represent the history of Act 537 Plans for Pottstown Borough:

- |                |   |
|----------------|---|
| July 1988      | The last comprehensive update, this Plan documented the future needs of the system and resulted in the expansion of the Pottstown Wastewater Treatment Plant (WWTP).                                |
| March 1995     | This update addressed the implementation of a comprehensive infiltration/inflow (I/I) reduction program, by means of rehabilitation, repair and replacement of malfunctioning or undersized sewers. |
| September 2005 | This Plan Revision documented the Transfer of Capacity from Pottstown Borough to Upper and Lower Pottsgrove Townships.  |

## 2.0 PHYSICAL & DEMOGRAPHIC ANALYSIS

A collection and transmission system conveys sanitary sewage to the Pottstown WWTP, from the entire Borough as well as portions of Lower, Upper and West Pottsgrove Townships.

The system serves a combined population of approximately 60,000 people.

## 3.0 EXISTING SEWAGE FACILITIES

The Borough WWTP, located at Moser Road and Industrial Highway in Pottstown, Montgomery County, Pennsylvania, provides advanced secondary wastewater treatment for seweried areas in the Borough and in portions of West Pottsgrove, Lower Pottsgrove and Upper Pottsgrove Townships. The WWTP operates in accordance with the conditions listed in the Borough's NPDES Permit, No. PA 0026786 as revised on November 4, 2004.

Treatment units in the plant include bar screens, comminutors, grit removal chambers, pre-aeration basins, aeration basins, final clarifiers and disinfection tanks. Treated effluent from the plant is discharged to the adjacent Schuylkill River. Waste activated sludge is thickened via a rotary sludge thickener prior to digestion. Thickened sludge is aerobically digested and dewatered with belt filter presses prior to landfill disposal. A circular tank, equipped with an aeration mechanism, is provided for bulk sewage/septage equalization and extra aerobic sludge digestion. Note that the belt filter press is currently being replaced with a centrifuge and the installation of an indirect sludge dryer.

The current allocation of capacity in the WWTP, assigned to each municipality, was listed in Table 3-1 of the 2005 Plan Revision, summarized below:

<u>Municipality</u>	<u>Average Annual Flow (mgd)</u>	<u>Maximum Month Flow (mgd)</u>
Pottstown Borough	7.8366	9.3616
Upper Pottsgrove Township	0.5384	0.5384
Lower Pottsgrove Township	3.0750	4.1000
<u>West Pottsgrove Township</u>	<u>1.4000</u>	<u>1.6000</u>
Total system	12.8500	15.6000

A summary of the five-year, past and projected hydraulic and organic loadings on the WWTP, as contained in the 2007 Municipal Wasteload Management Report (Chapter94) is contained in Table 1. The past and projected hydraulic and organic information for the system is presented graphically on Figures 1 and 2, respectively. The sewage flows generated by the Borough of Pottstown and each of the contributing Townships are shown on Figures 3, 4, 5 & 6.

Organic Loadings are not measured separately for the Borough and individual Townships, as the wastewater is mixed before arrival at the WWTP. Traditionally the wastewater strength has been measured, and reported in the Chapter 94 Report, after the inclusion of high strength waste that is accepted for treatment at the plant. This treatment of septage has increased over the past few years, as noted in the Chapter 94 Reports, as the plant staff work to optimize its potential, as indicated on Figure 2.

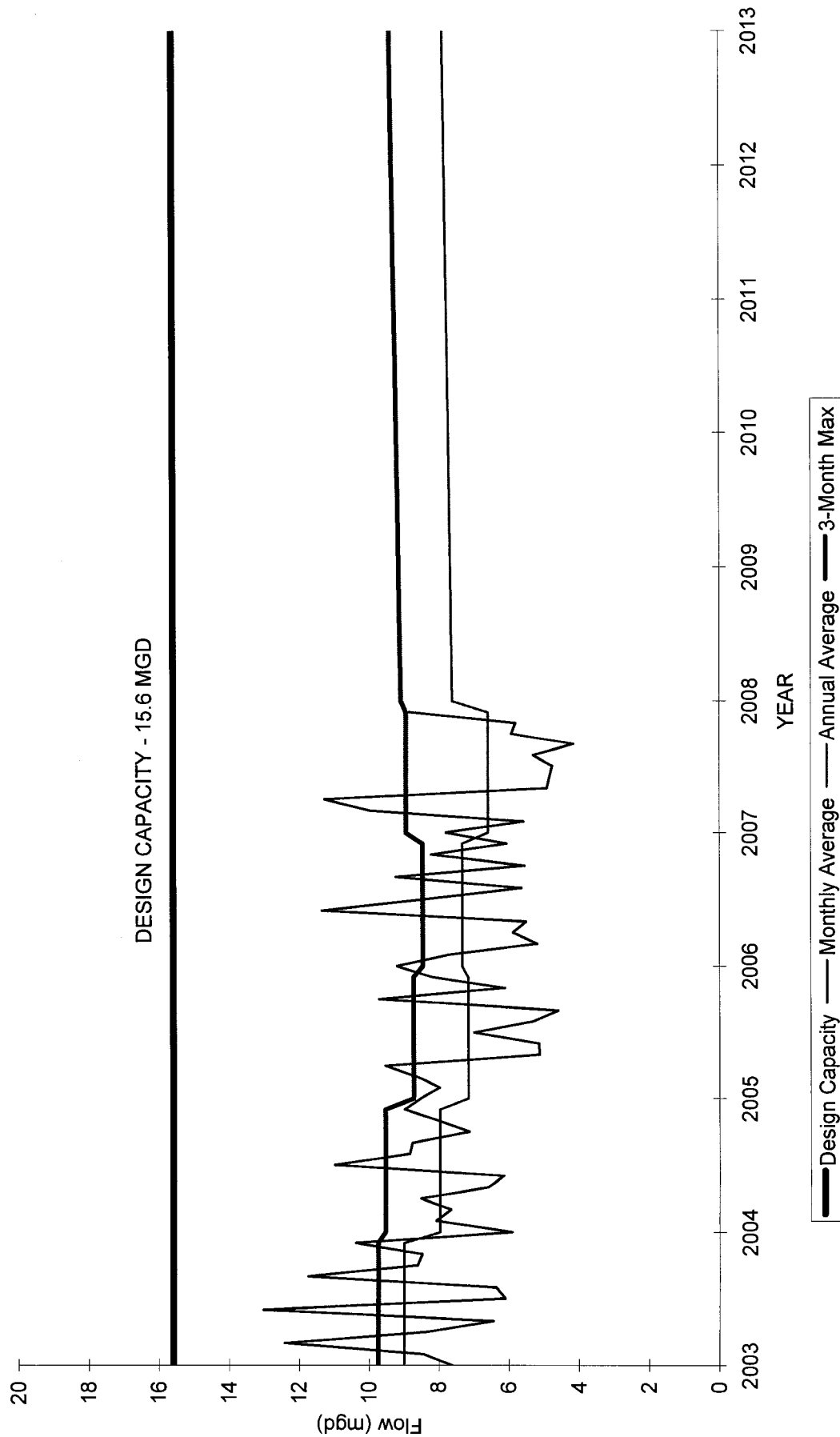
Tests conducted during 2005, to identify the strength of sewage entering the plant prior to the addition of septage, have shown the concentration of the collection system wastewater to be approximately 150 mg/l. These test results, were documented in the 2005 Act Plan Revision.

**TABLE 1**  
**PAST AND PROJECTED WWTP LOADINGS**

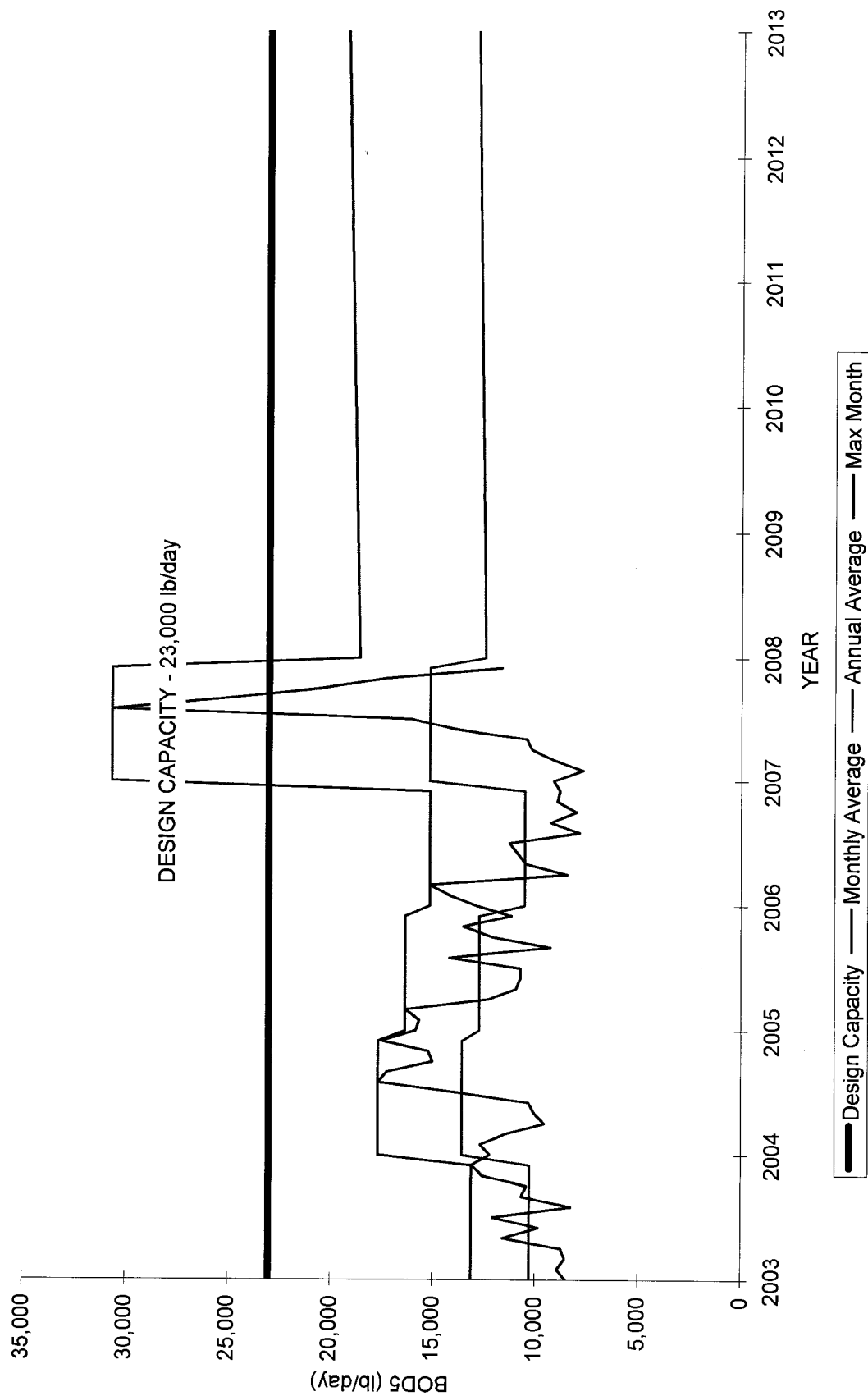
Year	Hydraulic Loadings			BOD5 Loadings		
	Annual Avg (mgd)	Max 3-Month (mgd)	Peaking Factor	Annual Avg (lb/day)	Max Month Avg (lb/day)	Peaking Factor
2003	9.004	9.742	1.08	10,269	13,103	1.28
2004	7.969	9.533	1.20	13,563	17,665	1.30
2005	7.154	8.720	1.22	12,727	16,345	1.28
2006	7.326	8.454	1.15	10,516	15,151	1.44
2007	6.593	8.936	1.36	15,163	30,652	2.02
Average	7.609	9.077	1.20	12,448	18,583	1.46
Projected Loadings (1)						
2008	7.632	9.169	1.20	12,485	18,291	1.46
2009	7.682	9.229	1.20	12,568	18,411	1.46
2010	7.733	9.289	1.20	12,650	18,532	1.46
2011	7.783	9.350	1.20	12,732	18,652	1.46
2012	7.833	9.410	1.20	12,814	18,773	1.46

(1) Based on contributing municipality projections from sewer questionnaires.

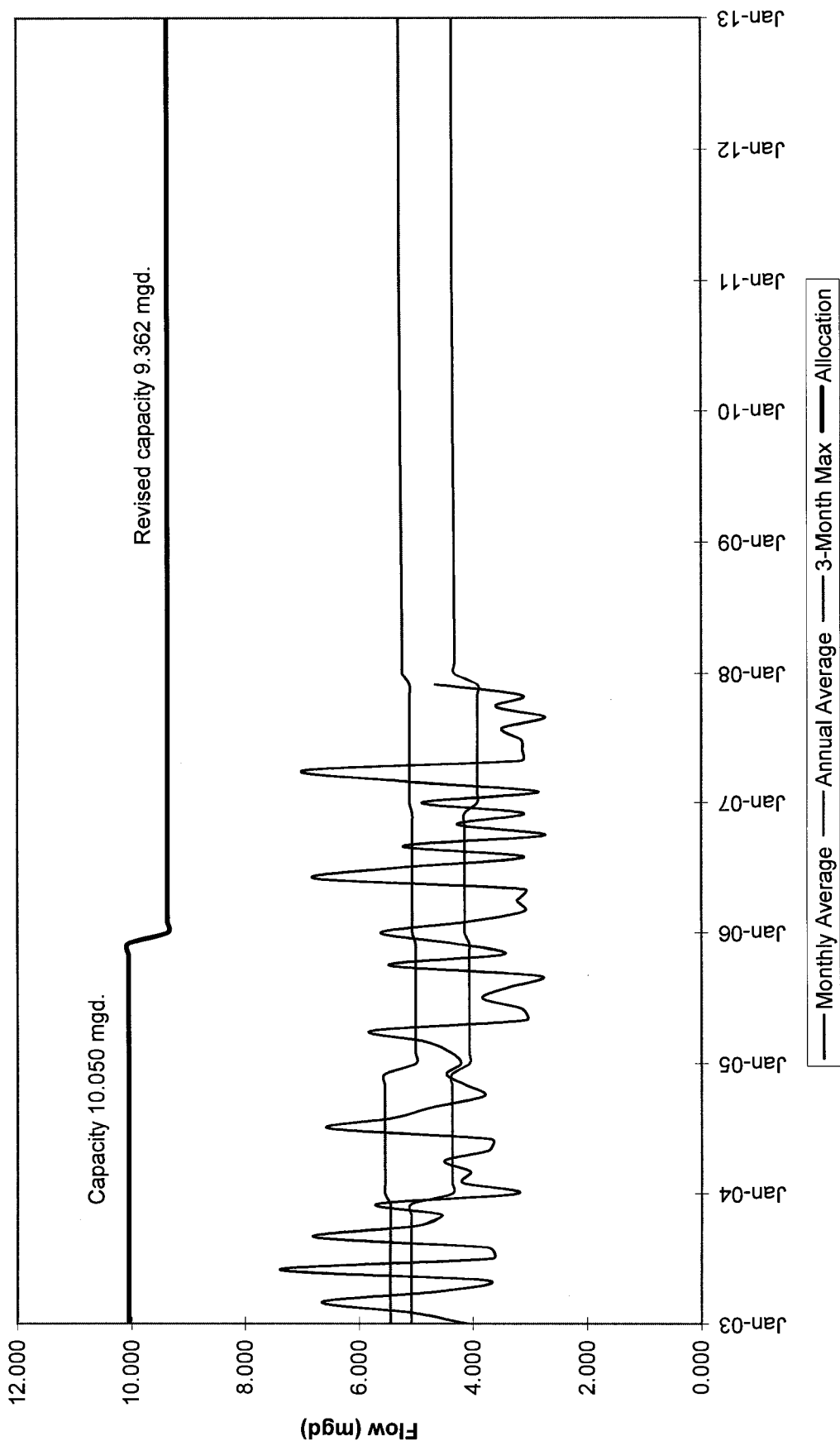
**FIGURE 1**  
**WASTEWATER TREATMENT PLANT**  
**Past and Projected Sewage Flow**



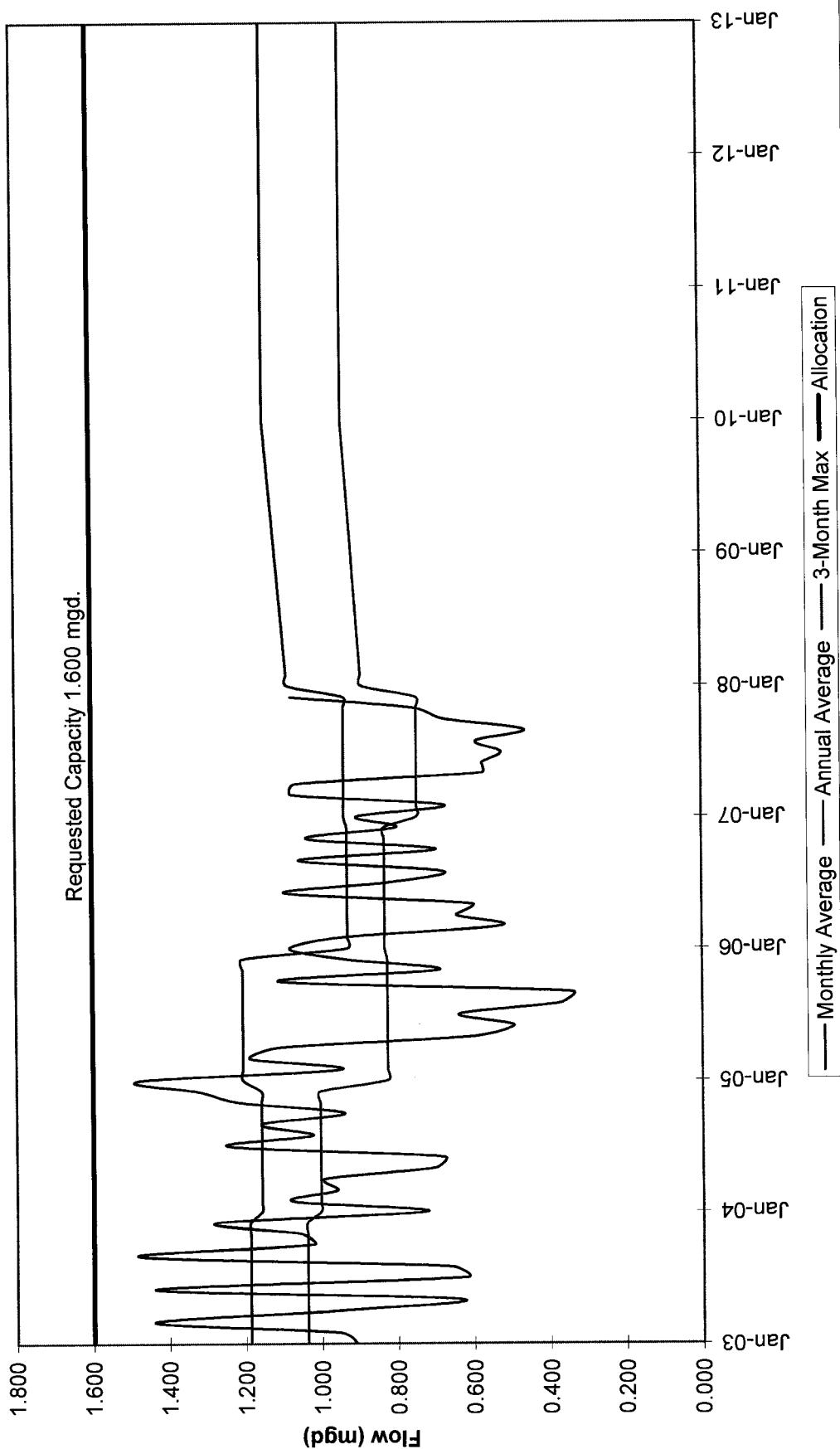
**FIGURE 2**  
**WASTEWATER TREATMENT PLANT**  
**Past and Projected Influent Organic Loadings**



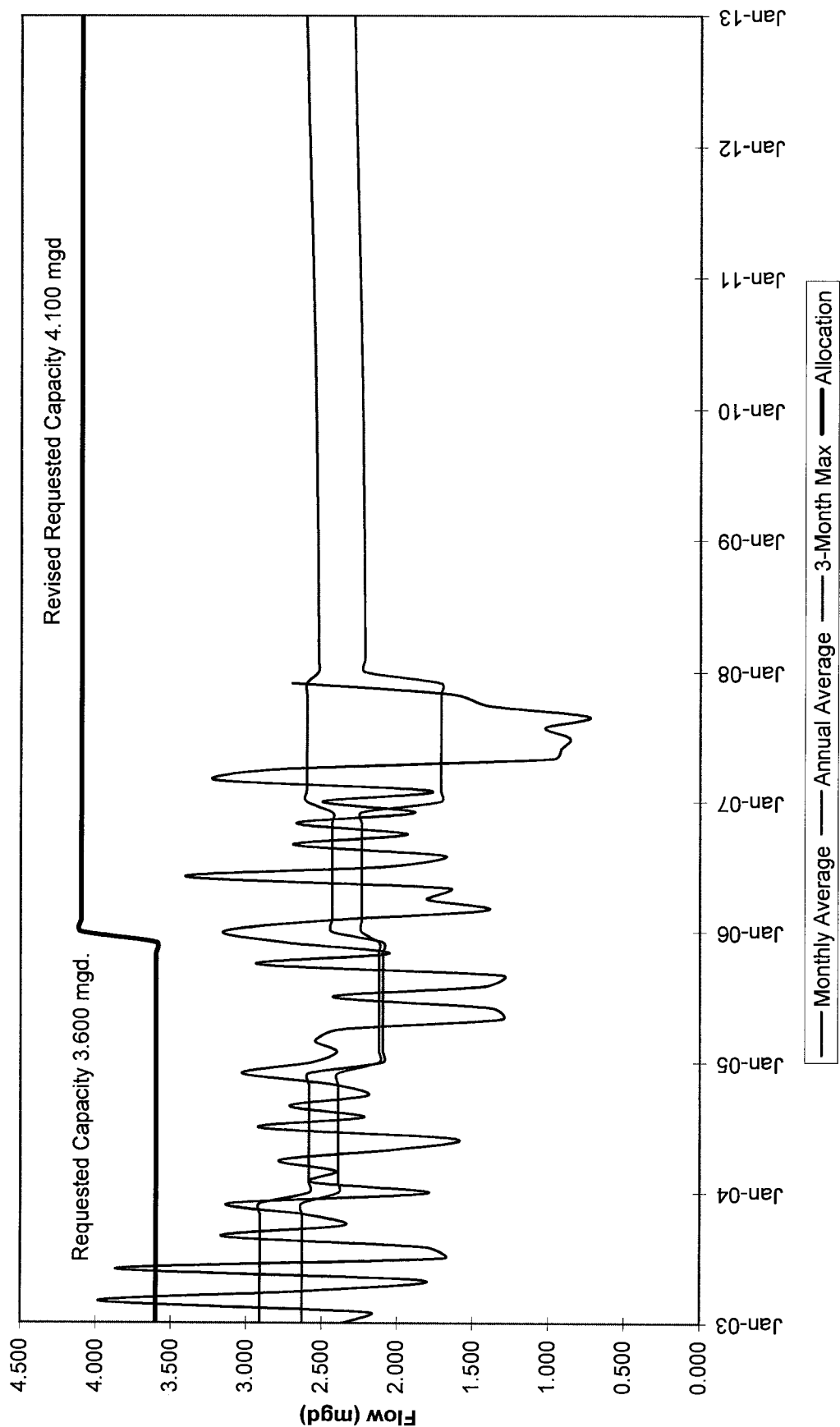
**FIGURE 3**  
**POTTSTOWN BOROUGH**  
**Past and Projected Sewage Flow**



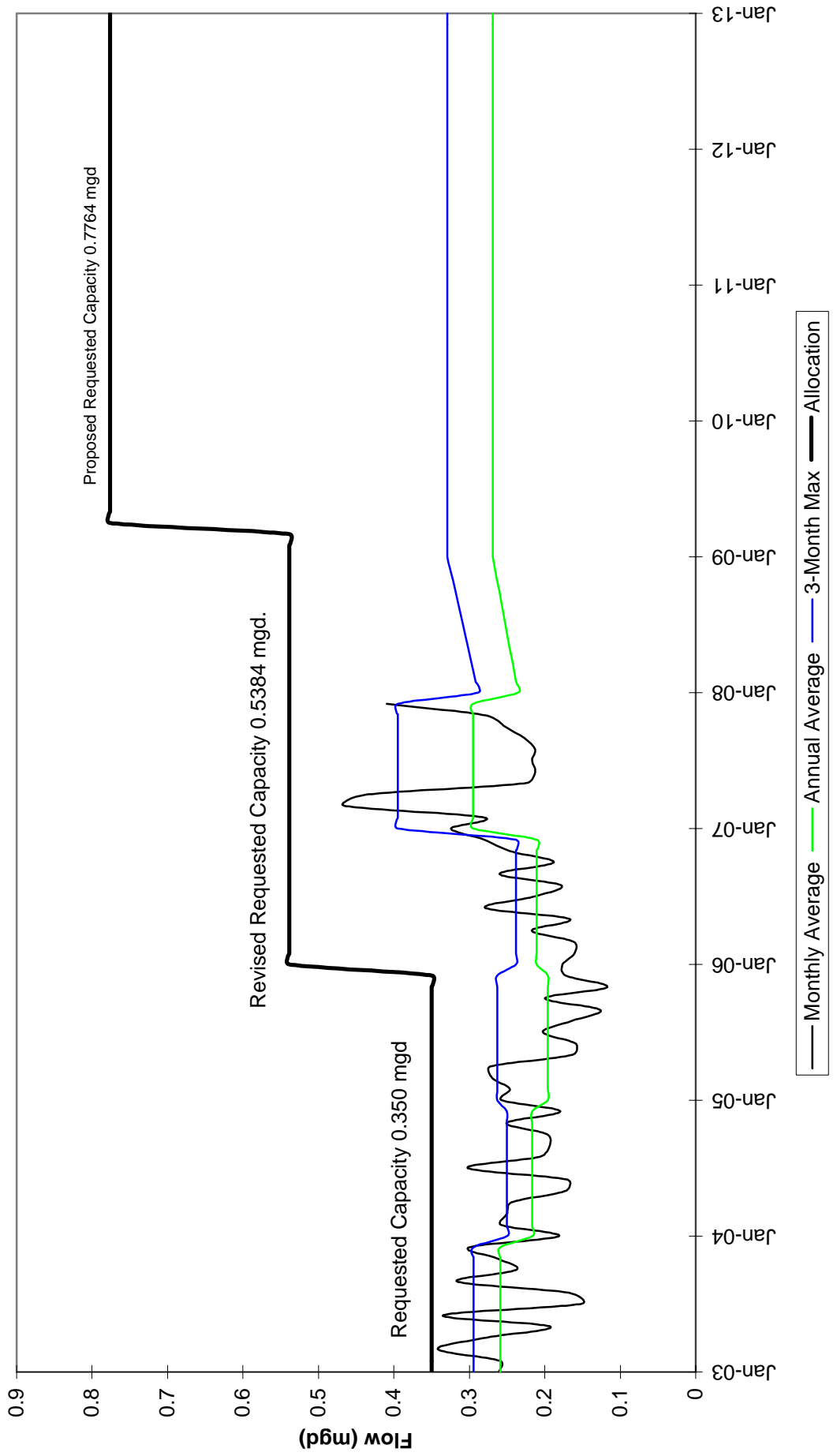
**FIGURE 4**  
**WEST POTTSBROUGH**  
**Past and Projected Sewage Flow**



**FIGURE 5**  
**LOWER POTTSGROVE**  
**Past and Projected Sewage Flow**



**FIGURE 6**  
**UPPER POTTS GROVE**  
**Past and Projected Sewage Flow**



## **4.0 FUTURE GROWTH**

To meet their documented needs for future service to properties in the study area, Upper Pottsgrove Township has agreed to purchase treatment plant capacity from Pottstown Borough, in accordance with the provisions of a revised Sewage Services Agreement signed on \_\_\_\_\_.

Documentation of the Township's need to purchase additional capacity is the subject of this Act 537 Plan Revision.

Pottstown Borough has reviewed their requirements for future needs to determine how much allocation can safely be transferred to other municipalities. A summary of this review is contained on Table 2, showing the available capacity, allowing for potential growth, both before and after the proposed capacity transfer.

The organic capacity has been calculated using the default concentration of 176 mg/l, as defined in the 1988 Act 537 Plan. As this value has been demonstrated to be higher than the actual strength of collected wastewater, the available reserve capacity shows that the plant will be able to continue the practice of treating septage, without compromising the discharge limits. However, it is recognized that if necessary, in order to maintain acceptable discharge standards, the amount of septage accepted at the plant can be reduced.

## **5.0 REVISED CAPACITY ALLOCATIONS**

Based on the information presented above, the revised allocations are documented in Table 3.

A copy of the Capacity Transfer Agreement, signed by the relevant parties, is attached.

TABLE 2

**BOROUGH OF POTTSTOWN  
Capacity Transfer Justification**

**Current Conditions****POTTSTOWN**

Year	HYDRAULIC		ORGANIC
	ADF (mgd)	MTMF (mgd)	ADF (lbs/day)
2003	5.079	5.449	7,455
2004	4.362	5.542	6,403
2005	4.056	4.998	5,954
2006	4.134	5.053	6,068
2007	3.909	5.104	5,738
<b>Current Average</b>	4.308	5.229	6,323
Peak Factor		1.21	
<b>Allocation</b>	7.837	9.362	11,503

**Future Capacity Requirements**

	ADF (mgd)	MTMF (mgd)	ADF (lbs/day)
Replacement of Lost Industry	0.824	1.000	1,209
Infill & Rehabilitation Growth	0.412	0.500	605
Safety Net	0.412	0.500	605
<b>Future Needs</b>	1.648	2.000	2,419

**Reserve Capacity = Allocation - Current Average - Future Needs** (see next page)

Note: Historic organic concentration based on actual results. Allocation and future needs based on 1988 Act 537 default value of 176 mg/l.

**TABLE 2 (cont.)**

**BOROUGH OF POTTSTOWN  
Capacity Transfer Justification**

**Reserve Capacity before Transfer**

	<b>HYDRAULIC</b>		<b>ORGANIC</b>
	<b>ADF</b>	<b>MTMF</b>	<b>ADF</b>
	(mgd)	(mgd)	(lbs/day)
Current Allocation	7.837	9.362	11,503
Current 5 Year Average	4.308	5.229	6,323
Future Needs	1.648	2.000	2,419
Required Capacity	5.956	7.229	8,742
Reserve Capacity	1.881	2.133	2,761
Percent of Allocation	24.0%	22.8%	24.0%

**Reserve Capacity after Transfer**

	<b>HYDRAULIC</b>		<b>ORGANIC</b>
	<b>ADF</b>	<b>MTMF</b>	<b>ADF</b>
	(mgd)	(mgd)	(lbs/day)
Revised Allocation	7.599	9.124	11,154
Current 5 Year Average	4.308	5.229	6,323
Future Needs	1.648	2.000	2,419
Required Capacity	5.956	7.229	8,742
Reserve Capacity	1.643	1.894	2,412
Percent of Allocation	21.6%	20.8%	21.6%

**Notes:**

1. Based on transfer of 238,000 gpd MTMF to Upper Pottsgrove.
2. Organic concentrations are based on 176 mg/l (1988 Act 537 default value).  
Actual strength of influent wastewater at WWTP, including the addition of bulk septage, is 276 mg/l (2007 annual average). Average strength of sewage collection system wastewater only is approximately 150 mg/l.

**TABLE 3**  
**REVISED ALLOCATED CAPACITY**  
**Based on Sewage Transfer Agreement**  
**with Upper Pottsgrove Township**

	Borough of Pottstown		Lower Pottsgrove		Upper Pottsgrove		West Pottsgrove		Total System	
	Existing (mgd)	Transfer (mgd)	Existing (mgd)	Transfer (mgd)	Existing (mgd)	Transfer (mgd)	Existing (mgd)	Transfer (mgd)	Existing (mgd)	Transfer (mgd)
<b><u>2005 Act 537</u></b> <sup>(1)</sup>										
<b>Average Annual</b>	7.8366	-0.2380	3.0750	0.0000	0.5384	0.2380	1.4000	0.0000	12.8500	0.0000
<b>Maximum Month</b>	9.3616	-0.2380	4.1000	0.0000	0.5384	0.2380	1.6000	0.0000	15.6000	0.0000
<b>Factor</b>	1.194600		1.333333		1.000000		1.142857		1.214008	
<b><u>2009 Act 537</u></b> <sup>(2)</sup>										
<b>Average Annual</b>	7.5986	-0.2380	3.0750	0.0000	0.7764	0.2380	1.4000	0.0000	12.8500	0.0000
<b>Max. Three Month</b>	9.1236	-0.2380	4.1000	0.0000	0.7764	0.2380	1.6000	0.0000	15.6000	0.0000
<b>Factor</b>	1.200695		1.333333		1.000000		1.142857		1.214008	

(1) Allocation from Table 5-1 of the Pottstown Borough Act 537 Official Plan Revision, dated September 2005.

(2) Revised Allocation based on Transfer Agreement & 2005 Ratio of Annual Average to Maximum Month.

**TRANSFER OF CAPACITY RIGHTS AGREEMENT**

THIS TRANSFER OF CAPACITY RIGHTS AGREEMENT, effective as provided herein, by and between the **BOROUGH OF POTTSTOWN and THE POTTSTOWN BOROUGH AUTHORITY** (collectively referred to as "Borough") and **UPPER POTTSGROVE TOWNSHIP ("UPT")** on the other hand.

WITNESSETH:

WHEREAS, capitalized terms and phrases used in this Agreement shall have the respective meanings set forth in Section 1.01 hereof, unless a different meaning clearly appears from the context; and,

WHEREAS, there is a finite Capacity in the Treatment Plant; and,

WHEREAS, pursuant to the terms of the Sewage Treatment Service Agreement (the "Service Agreement"), the Requested Capacity in the Treatment Plant allocated to the borough and UPT, respectively, is 9.3616 mgd, and .5384 mgd; and,

WHEREAS, pursuant to the provisions of Section 4.02 of the Service Agreement, UPT has requested to purchase from the Borough 238,000 gpd (maximum three month flow MTMF) of its Requested Capacity, which equals 238,000 gpd of Annual Average Capacity; and,

WHEREAS, following the purchase from the Borough, as set forth herein, the Capacity of UPT in the Treatment Plant will be 776,400 gpd of Requested Capacity, which equals 776,400 gpd of Annual Average Capacity, as noted on the Schedule attached hereto, made a part hereof and marked as Attachment "A"; and,

WHEREAS, pursuant to the terms of this Agreement, the Borough is willing to assign, sell and transfer to UPT 238,000 gpd of its Requested Capacity in the Treatment Plant.

**ARTICLE I – DEFINITIONS**

**SECTION 1.01 – Defined Terms.** The terms defined in this Section 1.01, whenever used or referred to in this Agreement, shall have the respective meanings indicated (including the singular, plural or possessive thereof, if applicable or appropriate) unless a different meaning clearly appears from the context.

- (a) "**CAPACITY**" shall mean the daily quantity of sewage flow measured in the manner described in the Service Agreement.
- (b) "**DEP**" shall mean the Pennsylvania Department of Environmental Protection.
- (c) "**REQUESTED CAPACITY**" shall mean Capacity in the Treatment Plant in the quantities described in the Service Agreement.
- (d) "**SEWAGE TREATMENT SERVICE AGREEMENT**" (referred to herein as the "Service Agreement") shall mean the Agreement entered into between the Borough of Pottstown, Pottstown Borough Authority and the Township of Upper Pottsgrove, dated September 13, 2004, which served to amend a prior

- Agreement between the same parties dated February 28, 1989.
- (e) **"TREATMENT PLANT"** shall mean the sewage transportation, treatment and disposal facilities owned by the Pottstown Borough Authority and operated by the Borough.
  - (f) **"EQUIVALENT DWELLING UNIT (EDU)"** shall mean 300 gallons per day (maximum three month flow – MTMF) for a typical residential dwelling. The gallonage for an age restricted dwelling may be less provided that the process for rating set forth in the Service Agreement is followed.

## ARTICLE II – TRANSFER OF REQUESTED CAPACITY

SECTION 2.01 – Consideration. Upon written request from UPT, the Borough shall transfer and assign to UPT the amount of capacity requested. The consideration shall be calculated based on the amount of capacity purchased on a per gallon basis as of the date the Borough approves a Planning Module associated with the purchase of the capacity.

SECTION 2.02 – Warranty of Borough. The Borough represents and warrants that it has unused Requested Capacity to the extent of the Requested Capacity being transferred and assigned to UPT.

SECTION 2.03 – Settlement. Upon execution of the Planning Module by the Borough, Settlement on the transfer of Capacity shall be held within sixty (60) days subject to extension if mutually agreed to by the parties.

## ARTICLE III – AMENDMENT TO SERVICE AGREEMENT

SECTION 3.01 – Amendment to Service Agreement. The parties acknowledge that the Borough, by this Agreement, is relinquishing a portion of its Requested Capacity as allocated under the Service Agreement so that UPT can obtain additional Requested Capacity in the Treatment Plant. The parties agree that, in accordance with the provisions of Section 4.02 of the Service Agreement, Exhibit "A" of the Service Agreement shall be amended to reflect the changes in the allocation of Requested Capacity.

SECTION 3.02 – Township Flow Limits. The Township shall maintain the Township Sewage Collection System Upgrades to limit the Instantaneous Flow usage at the Farmington Avenue meter so as not to exceed a flow of 2,237 GPM, or such other amount as shall be set in the future as the limit for the Township's Instantaneous Flow. The term "Instantaneous Flow" expressed in gallons per minute ("GPM") shall mean the total flow during any one (1) hour period divided by sixty (60) minutes. Should the meter calculating the flow not be in working order, the flow will be estimated based on Section 4.03 (Measurement of Flow) of the New Sewer Service Agreement. In the event an Instantaneous Flow in the Farmington Avenue meter shall exceed the Township's Instantaneous Flow limit, the Authority shall notify the Township within forty-five (45) days at the time when such Instantaneous Flow in excess of the then applicable limit is recorded. For the Authority to have the right to impose the monetary penalties set forth herein for violations of the Instantaneous flow limitations, the written notice must have been given within the preceding time limits. From the time the Township is notified, the Township shall have thirty (30) days to investigate the matter and to develop a plan, with an

implementation schedule, which is reasonably expected to prevent further events of Instantaneous Flows in excess of the then applicable limits. At the end of the thirty (30) days, the plan is to be submitted to the Authority for review, and the Authority shall provide comments to the Township within thirty (30) days thereafter. Unless such plan is rejected by the Authority, the Township shall diligently proceed to implement such a plan. If the Township does not present a plan or does not diligently proceed to implement any approved plan, then the Authority shall have the right to impose a penalty on the Township. The penalty shall be in the amount of Five Thousand Dollars (\$5,000.00) per day for each day the flow exceeds the Instantaneous Flow limit. During the period that the Corrective Action Plan, pursuant to this paragraph, is being developed and is being diligently implemented, further penalties for Instantaneous Flows shall not accrue or be collected.

The present Instantaneous Flow limit of 2,237 GPM shall be increased whenever a planning module is accepted by Pottstown.

An increase in the permitted Instantaneous Flow limit shall be calculated as follows: for every 100 GPD increase in the Township Treatment Capacity under the MTMF, the Instantaneous Flow limits shall increase by 0.3472 GPM. (This amount represents the conversion of the increase in the average daily flow as measured by the maximum three (3) month average method, divided by 1,440 (representing the number of minutes in a day), multiplied by 5 (representing a peaking factor as to the permitted ratio between the peak known flow and the maximum three (3) month average flow rate that would occur if the flow was completely uniform throughout the day).

#### ARTICLE IV – DEP APPROVAL

SECTION 4.01 – Approval. The transfer of Capacity herein is under and subject to the approval of the DEP. UPT shall make application for approval from DEP within ten (10) working days from the date of execution of this Agreement by the Borough.

#### ARTICLE V – MISCELLANEOUS

SECTION 5.01 – Recitals. The recitals herein are acknowledged to be true and correct and are a part of this Agreement.

SECTION 5.02 – Time of The Essence. Time is of the essence in the performance of the obligations under this Agreement.

SECTION 5.03 – Headings. The headings of this Agreement are solely for convenience, and shall have no effect in the legal interpretation of any provision hereof.

SECTION 5.04 – Modification. This Agreement may not be modified or amended except in writing signed by the affected parties hereto.

SECTION 5.05 – Recording. This Agreement shall not be recorded by any part hereunder.

SECTION 5.06 – Effective Date. The effective date of this Agreement shall be the date signed by the last party.

IN WITNESS WHEREOF, The parties have caused this Agreement to be executed and attested by their respective duly authorized officers, and their respective seals to be hereunto affixed.

BOROUGH:

BOROUGH OF POTTSTOWN  
BY: [Signature] (SEAL)  
ATTEST: Virginia L. Toback (SEAL)  
Date: March 26, 2009

POTTSTOWN BOROUGH AUTHORITY  
BY: [Signature] (SEAL)  
ATTEST: [Signature] (SEAL)  
DATE: 3-26-09

UPT:

UPPER POTTS GROVE TOWNSHIP  
BY: [Signature] (SEAL)  
ATTEST: [Signature] (SEAL)  
Date: 3-23-2009

**REVISED ALLOCATED CAPACITY**  
**Based on Sewage Transfer Agreement**  
**with Upper Pottsgrove Township**

	Borough of Pottstown		Lower Pottsgrove		Upper Pottsgrove		West Pottsgrove		Total System	
	Existing (mgd)		Existing (mgd)		Existing (mgd)		Existing (mgd)		Existing (mgd)	
<u>2005 Act 537</u> <sup>(1)</sup>										
Average Annual	7.8366		3.0750		0.5384		1.4000		12.8500	
Maximum Month	9.3616		4.1000		0.5384		1.6000		15.6000	
Factor	1.194600		1.333333		1.000000		1.142857		1.214008	

	Borough of Pottstown		Lower Pottsgrove		Upper Pottsgrove		West Pottsgrove		Total System	
	Proposed (mgd)	Transfer (mgd)	Proposed (mgd)	Transfer (mgd)	Proposed (mgd)	Transfer (mgd)	Proposed (mgd)	Transfer (mgd)	Proposed (mgd)	Transfer (mgd)
<u>2009 Act 537</u> <sup>(2)</sup>										
Average Annual	7.5986	-0.2380	3.0750	0.0000	0.7764	0.2380	1.4000	0.0000	12.8500	0.0000
Max. Three Month	9.1236	-0.2380	4.1000	0.0000	0.7764	0.2380	1.6000	0.0000	15.6000	0.0000
Factor	1.200695		1.333333		1.000000		1.142857		1.214008	

(1) Allocation from Table 5-1 of the Pottstown Borough Act 537 Official Plan Revision, dated September 2005.  
(2) Revised Allocation based on Transfer Agreement & 2005 Ratio of Annual Average to Maximum Month.

**APPENDIX 6.0 – MAPS**

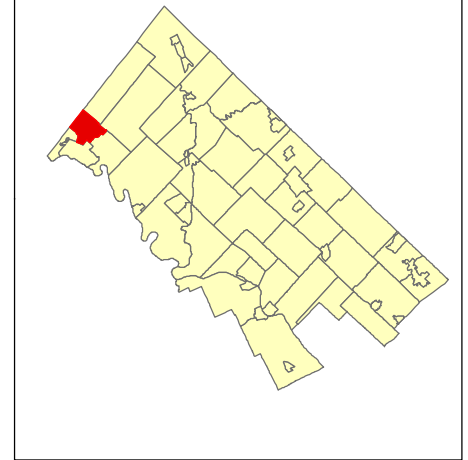
- 1 LOCATION AND TOPOGRAPHY
- 1A HYDROGRAPHY
- 2 SOIL SERIES
- 2A NRCS AGRICULTURAL SOIL CLASSIFICATIONS
- 3 BEDROCK GEOLOGY
- 4 FLOODPLAIN AND STEEP SLOPES
- 5 POTABLE WATER SUPPLIES
- 6 WETLANDS AND HYDRIC SOILS
- 7 EXISTING SEWER SYSTEM (AND USERS)
- 8 EXISTING AND POTENTIAL OLDS
- 9 MING DR. MOYER RD., AND HORSESHOE DR.  
MALFUNCTIONS
- 10 MONTCO S.E.O. DOCUMENTED MALFUNCTIONS
- 11 MING DR., MOYER RD. AND HORSESHOE DR. WELL WATER  
SAMPLING RESULTS
- 12 ZONING DISTRICTS
- 13 EXISTING AND FUTURE LAND DEVELOPMENT
- 13A SEWER GROWTH AREAS (CURRENT AND FUTURE)
- 14 SEWER SERVICE DISTRICTS
- 15 BUILD-OUT POTENTIAL OF UNDEVELOPED LAND
- 16 OPTION 1 (BMMA)
- 17 OPTION 2 (SPROGELS RUN GRAVITY)
- 18 OPTIONS 3, 3A, & 3B (SPROGEL'S RUN WWTF)
- 19 OPTIONS 4A, 4B (GOOSE RUN)
- 20 OPTION 6 (REGAL OAKS PUMPING STATION PROJECT)
- 21 SOILS SUITABILITY FOR ON-LOT SYSTEMS
- 22 SEWER SERVICE AND ON-LOT AREAS (ADDED 4-30-10)



# HYDROGRAPHY

UPPER POTTS GROVE TWP.  
MONTGOMERY CO. PA  
ACT 537 UPDATE AND REVISION

LOCATION MAP



Ironstone Creek

DOUGLASS

Minister Creek

NEW HANOVER

Swamp Creek

Sprogles Run

Manatawny Creek

WEST POTTS GROVE

LOWER POTTS GROVE

POTTSTOWN

POTTSTOWN

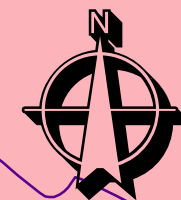
POTTSTOWN

## Legend

- STREAMS
- MUNICIPAL BOUNDARY
- PARCEL BOUNDARIES
- STATE ROAD
- LOCAL ROAD

## WATERSHED BOUNDARIES

- Ironstone Creek
- Manatawny Creek
- Minister Creek
- Sprogles Run
- Swamp Creek



MAP SCALE  
1 inch = 1,500 feet



GIS DATA SOURCES:  
PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY  
IT&S DEPARTMENT, 2007.  
TOPOGRAPHIC INFORMATION BY UNITED STATES GEOLOGIC  
SURVEY, 1996.  
ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE  
COORDINATE SYSTEM PENNSYLVANIA SOUTH FIPS 3702, FEET

MAP# 1A

**LTL CONSULTANTS, LTD.**  
ENGINEERS & CODE OFFICIALS  
P.O. BOX 241  
ONE TOWN CENTRE DR.  
OLEV, PA 19547  
(610) 987-9290  
FAX: (610) 987-9288

# DOMINANT SOIL SERIES

## UPPER POTTS GROVE TWP. MONTGOMERY CO. PA ACT 537 UPDATE AND REVISION



**Legend**

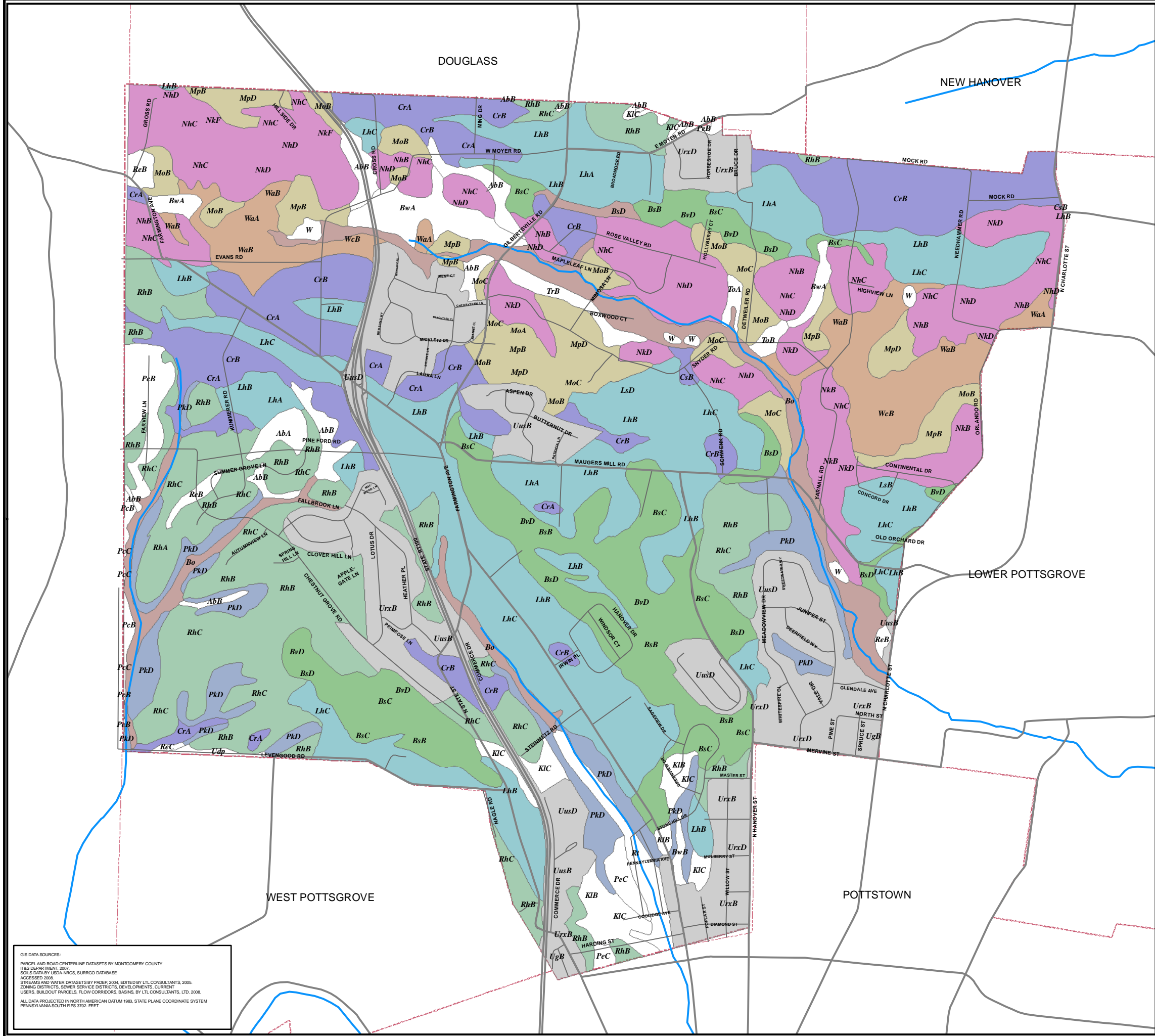
- ROADS
- STREAMS
- MUNICIPAL BOUNDARY

**MAJOR SOIL SERIES**

BOWMANSVILLE - KNAUERS	NESHAMINY
BRECKNOCK - CHANNERY	PENN - KLINESVILLE
CROTON	REAVILLE
LEHIGH	URBAN LAND
MOUNT LUCAS	WATCHUNG
	NON DOMINANT SOIL SERIES

**MAP SCALE**  
1 inch = 1,500 feet

0 750 1,500 3,000  
Feet



GIS DATA SOURCES:  
 PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY  
 IT&S DEPARTMENT, 2007  
 SOILS DATA BY USDA-NRCS, SURRIGO DATABASE  
 ACCESSIED 2008  
 STREAMS AND WATER DATASETS BY PADEP, 2004, EDITED BY LTL CONSULTANTS, 2005  
 ZONING DISTRICTS, SEWER SERVICE DISTRICTS, DEVELOPMENTS, CURRENT  
 USERS, BULKOUT PARCELS, FLOW CORRIDORS, BASINS, BY LTL CONSULTANTS, LTD, 2008  
 ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE COORDINATE SYSTEM  
 PENNSYLVANIA SOUTH FRCS 3702, FEET

### MAP#2



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 OLEY, PA 19547

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# Appendix A 22b1 NRCS AGRICULTURAL SOIL CLASSIFICATIONS

UPPER POTTS GROVE TWP.  
MONTGOMERY CO. PA  
ACT 537 UPDATE AND REVISION



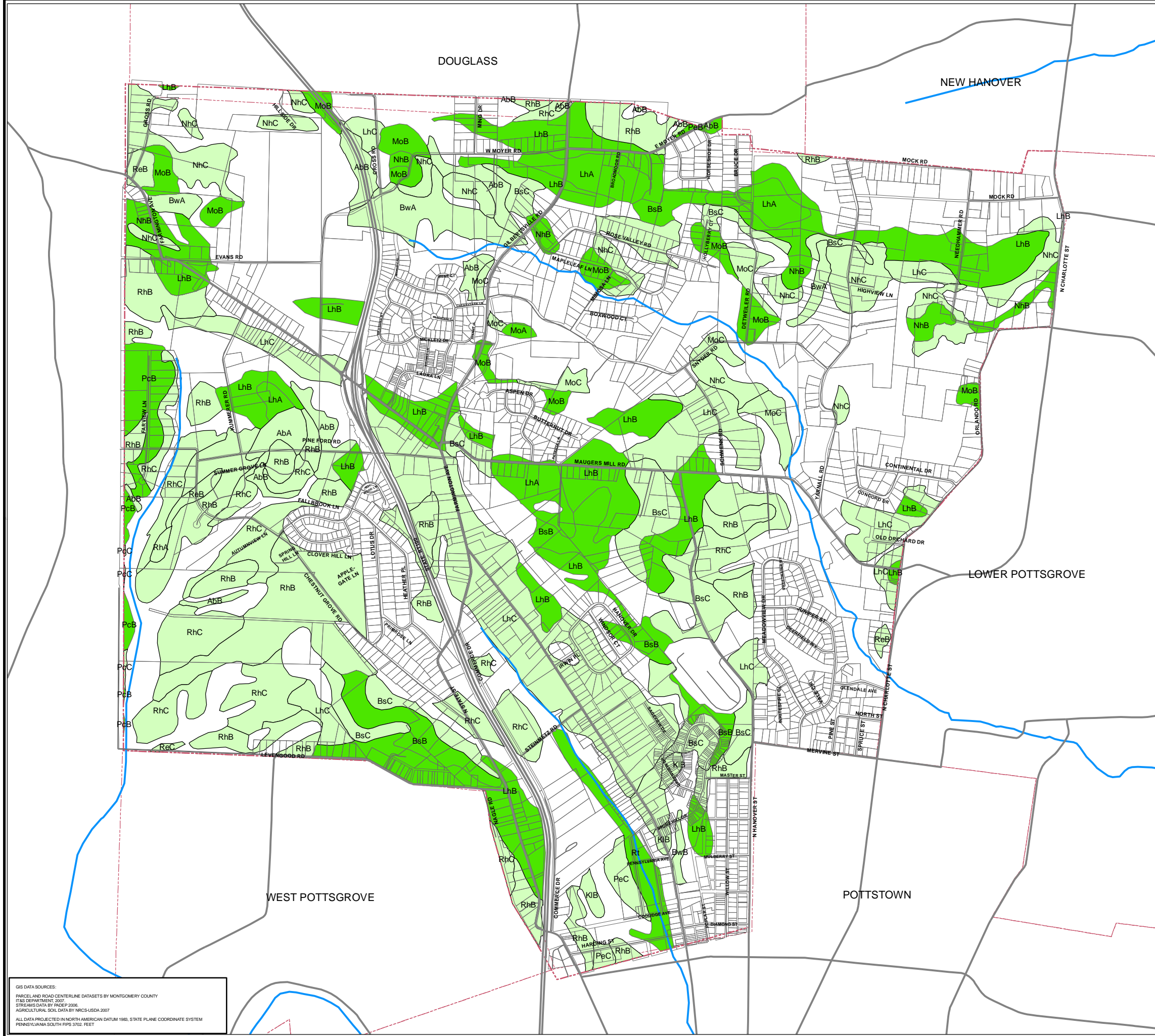
**Legend**

- ROADS
- STREAMS
- PARCELS
- MUNICIPAL BOUNDARY
- SOIL CLASSIFICATION**
- PRIME AGRICULTURAL
- STATEWIDE IMPORTANCE



MAP SCALE  
1 inch = 1,500 feet

Feet  
0 750 1,500 3,000



GIS DATA SOURCES:  
PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY  
PAS DEPARTMENT 2007  
STREAMS DATA BY PADEP 2006  
AGRICULTURAL SOIL DATA BY NRCS-USDA 2007  
ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE COORDINATE SYSTEM  
PENNSYLVANIA SOUTH RIPS 3702, FEET

MAP# 2A

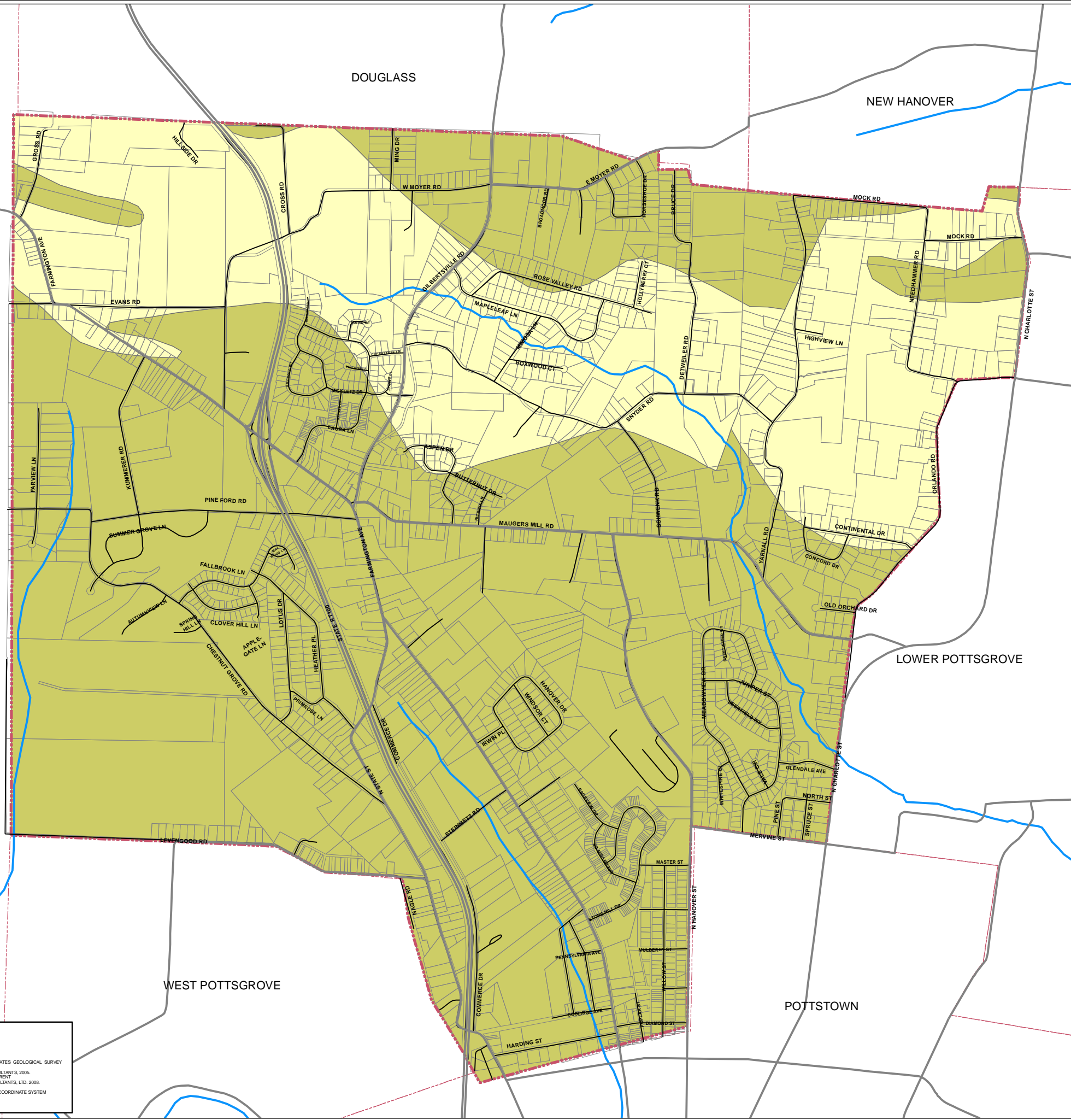
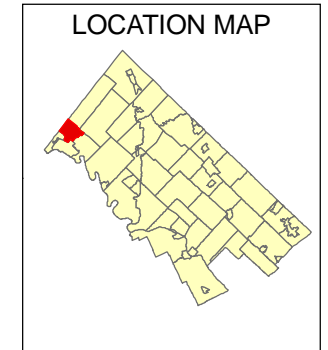
**LTL CONSULTANTS, LTD.**  
ENGINEERS & CODE OFFICIALS

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ONE TOWN CENTRE DR. (610) 987-9290  
OLEY, PA 19547 FAX: (610) 987-9288

# BEDROCK GEOLOGY

## UPPER POTTS GROVE TWP. MONTGOMERY CO. PA

### ACT 537 UPDATE AND REVISION

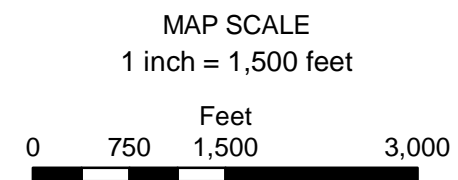


**Legend**

- STATE ROADS
- LOCAL ROADS
- PARCELS

**GEOLOGY**

- Jd - DIABASE, JURASSIC
- Trb - BRUNSWICK FORMATION, TRIASSIC
- MUNICIPAL BOUNDARY



### MAP# 3

GIS DATA SOURCES:  
 PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY  
 IT&S DEPARTMENT, 2007  
 AERIAL PHOTOGRAPHY BY DELAWARE VALLEY REGIONAL PLANNING  
 COMMISSION (DVRPC), 2006  
 DIGITAL ELEVATION MODEL (DEM) RASTER DATASETS BY UNITED STATES GEOLOGICAL SURVEY  
 (USGS), 1996  
 STREAMS AND WATER DATASETS BY PA DEP, 2004, EDITED BY LTL CONSULTANTS, 2005  
 ZONING DISTRICTS, SEWER SERVICE DISTRICTS, DEVELOPMENTS, CURRENT  
 USES, BUILDOUT PARCELS, FLOW CORRIDORS, BASINS, BY LTL CONSULTANTS, LTD. 2008  
 ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE COORDINATE SYSTEM  
 PENNSYLVANIA SOUTH FIPS 3702, FEET

**LTL CONSULTANTS, LTD.**  
 ENGINEERS & CODE OFFICIALS

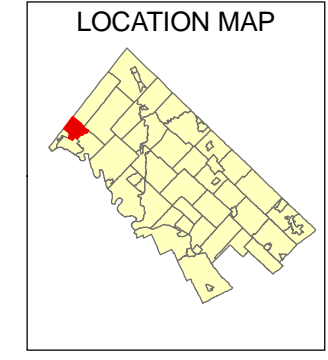
P.O. BOX 241  
 ONE TOWN CENTRE DR. (610) 987-9290  
 OLEY, PA 19547 FAX: (610) 987-9288

# Appendix A-20

## FLOODPLAINS AND STEEP SLOPES

### UPPER POTTS GROVE TWP. MONTGOMERY CO. PA

#### ACT 537 UPDATE AND REVISION



**Legend**

- PARCELS
- STREAMS
- ROAD CENTERLINES
- MUNICIPAL BOUNDARY
- FEMA 100 YEAR FLOODPLAIN
- MOD SLOPE 15-25%
- STEEP SLOPE >25%

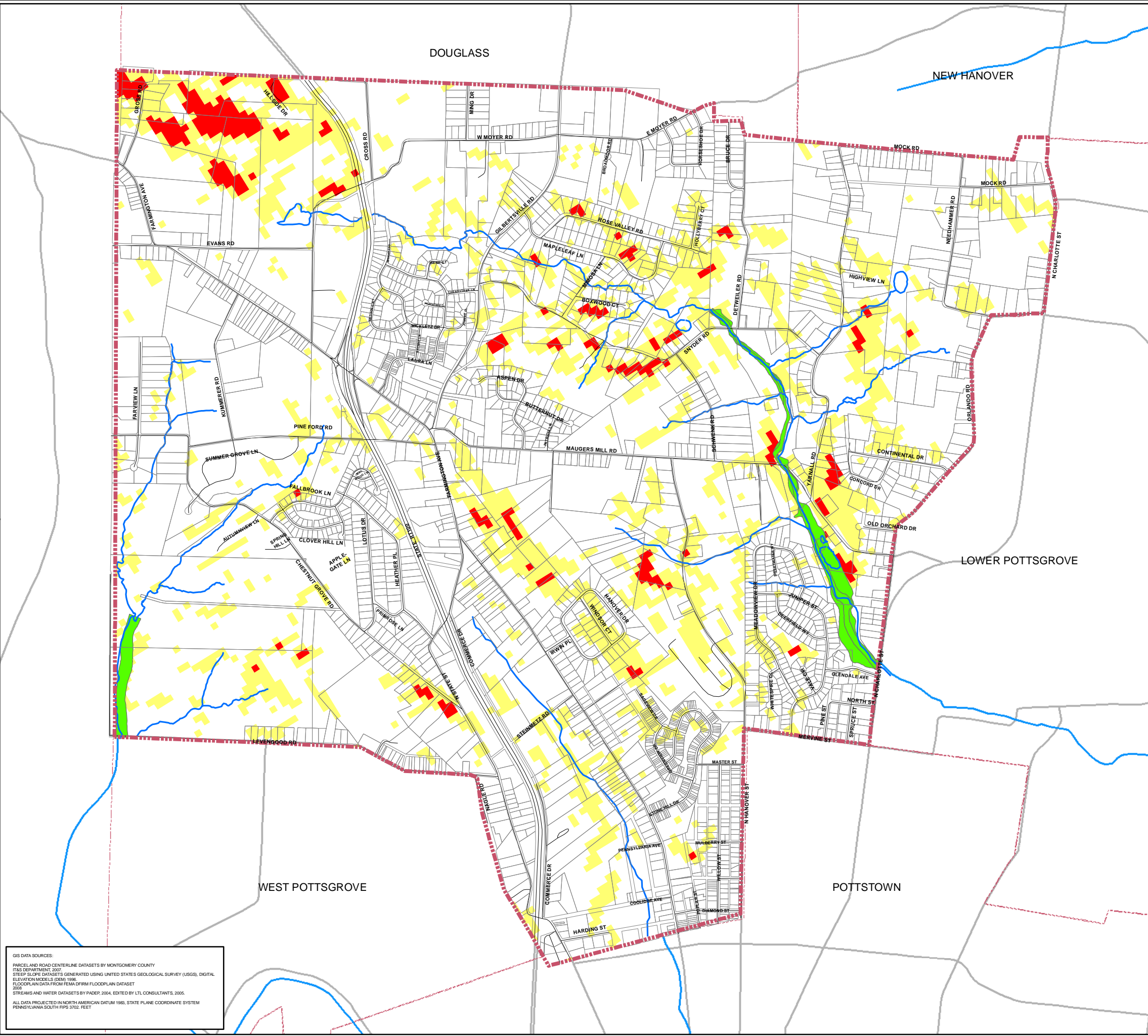


MAP SCALE  
1 inch = 1,500 feet

Feet

0    750    1,500    3,000

MAP # 4



GIS DATA SOURCES:  
PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY  
ITAS DEPARTMENT, 2007.  
STEEP SLOPE DATASETS GENERATED USING UNITED STATES GEOLOGICAL SURVEY (USGS), DIGITAL  
ELEVATION MODELS (DEM), 1996.  
FLOODPLAIN DATA FROM FEMA DFRM FLOODPLAIN DATASET  
2009.  
STREAMS AND WATER DATASETS BY PADEP, 2004, EDITED BY LTL CONSULTANTS, 2005.  
ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE COORDINATE SYSTEM  
PENNSYLVANIA SOUTH RIPS 5702, FEET

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OLEV, PA 19547 FAX: (610) 987-9288

# POTABLE WATER SUPPLIES

## UPPER POTTS GROVE TWP. MONTGOMERY CO. PA ACT 537 UPDATE AND REVISION



**Legend**

**INDUSTRIAL / PUBLIC WELLS**

- PUBLIC SUPPLY
- INDUSTRIAL SUPPLY
- PARCELS

**EXISTING MAINS**

**SERVICE PROVIDER**

- POTTS TOWN BOROUGH AUTHORITY
- SUPERIOR WATER COMPANY

**ESTIMATED WATER USERS**

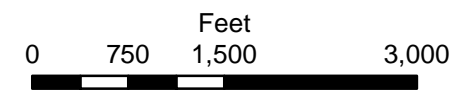
- ESTIMATED WATER USERS
- ESTIMATED SERVICE AREAS

LOCAL ROADS

MUNICIPAL BOUNDARY



MAP SCALE  
1 inch = 1,500 feet

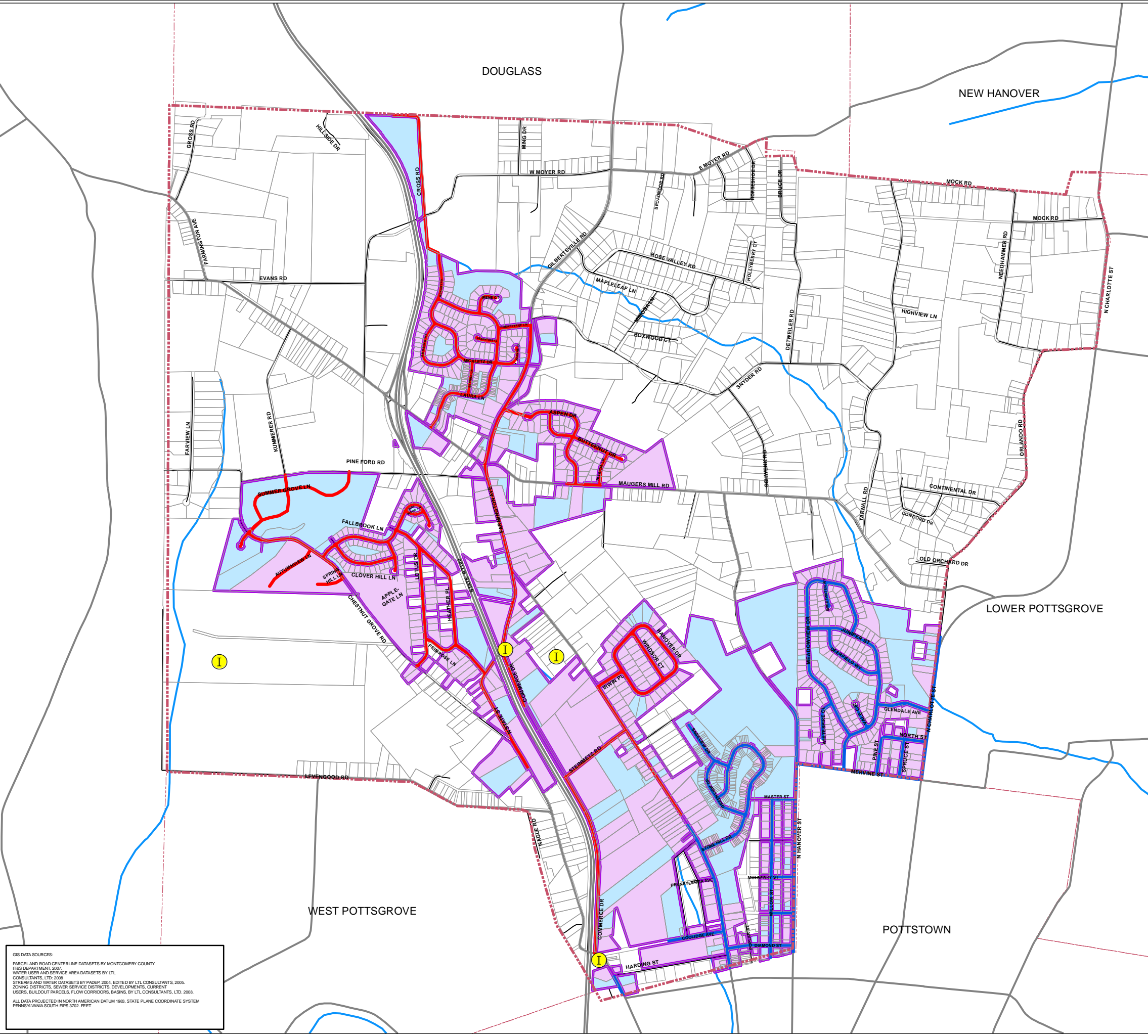


### MAP # 5

**LTL CONSULTANTS, LTD.**  
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OLEV, PA 19547

(610) 987-9290  
FAX: (610) 987-9288



GIS DATA SOURCES:  
 PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY  
 IT&S DEPARTMENT, 2007  
 WATER USER AND SERVICE AREA DATASETS BY LTL  
 CONSULTANTS, LTD. 2009  
 STREAMS AND WATER DATASETS BY PADEP, 2004. EDITED BY LTL CONSULTANTS, 2006.  
 ZONING DISTRICTS, SEWER SERVICE DISTRICTS, DEVELOPMENTS, CURRENT  
 USERS, BUILDOUT PARCELS, FLOW CORRIDORS, BASINS, BY LTL CONSULTANTS, LTD. 2008.  
 ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE COORDINATE SYSTEM  
 PENNSYLVANIA SOUTH FIPS 3702, FEET

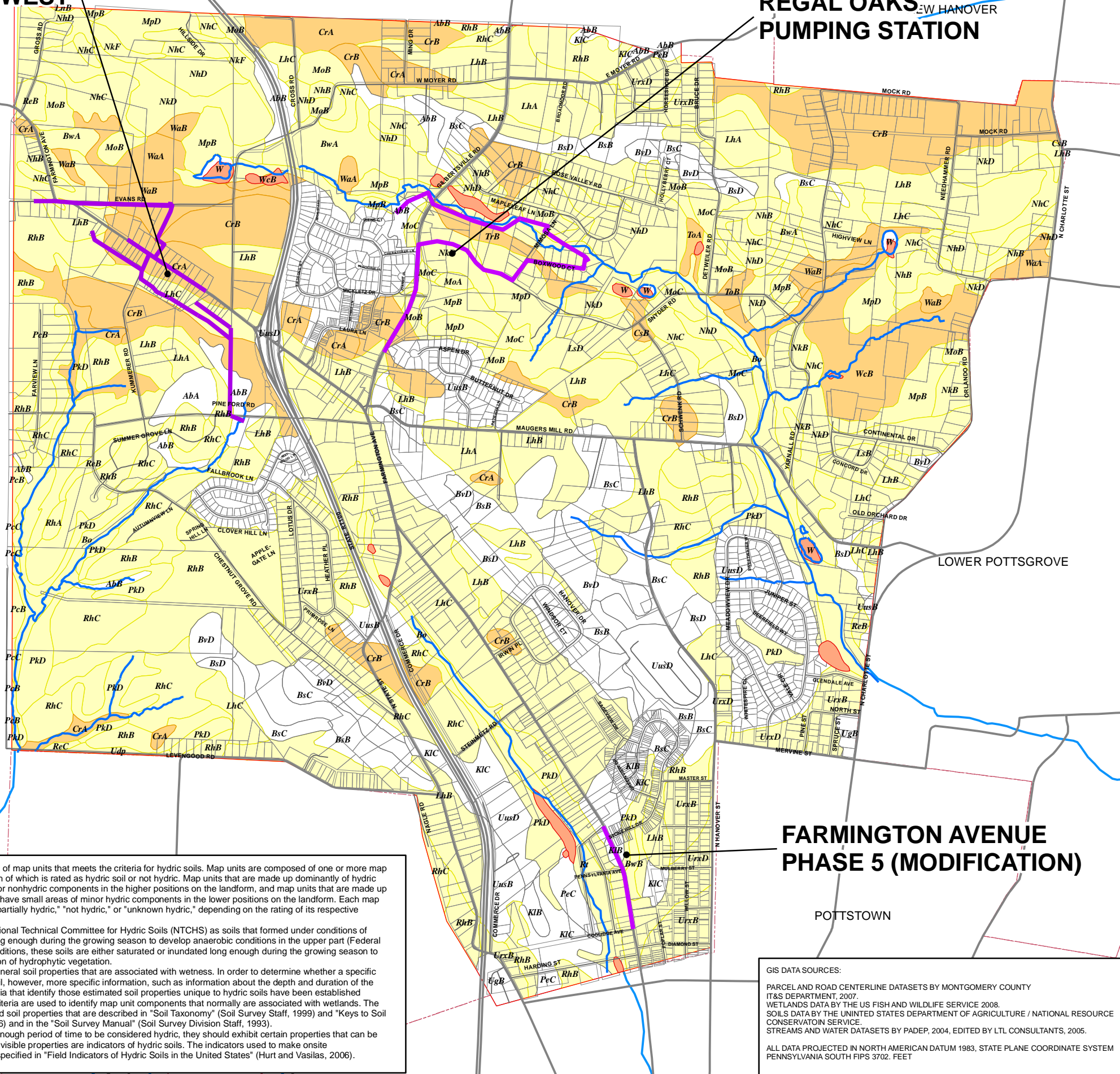
**FARMINGTON AVENUE WEST PH 2**

DOUGLASS

**REGAL OAKS PUMPING STATION**

**WETLANDS AND HYDRIC SOILS**

**UPPER POTTS GROVE TWP. MONTGOMERY CO. PA ACT 537 UPDATE AND REVISION**

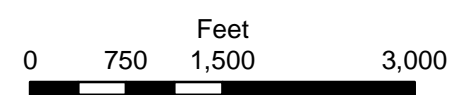


**Legend**

- PROPOSED MAINS
- ROADS
- PARCELS
- STREAMS
- MUNICIPAL BOUNDARY
- WETLANDS**
- NATIONAL WETLANDS INVENTORY
- HYDRIC SOIL CLASSIFICATION**
- All hydric
- Partially hydric
- Not hydric



MAP SCALE  
1 inch = 1,500 feet



**FARMINGTON AVENUE PHASE 5 (MODIFICATION)**

POTTSTOWN

This rating indicates the proportion of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is designated as "all hydric," "partially hydric," "not hydric," or "unknown hydric," depending on the rating of its respective components.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

GIS DATA SOURCES:  
 PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY IT&S DEPARTMENT, 2007.  
 WETLANDS DATA BY THE US FISH AND WILDLIFE SERVICE 2008.  
 SOILS DATA BY THE UNITED STATES DEPARTMENT OF AGRICULTURE / NATIONAL RESOURCE CONSERVATION SERVICE.  
 STREAMS AND WATER DATASETS BY PAPEP, 2004, EDITED BY LTL CONSULTANTS, 2005.  
 ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE COORDINATE SYSTEM PENNSYLVANIA SOUTH FIPS 3702. FEET

**MAP # 6**

**LTL CONSULTANTS, LTD.**  
 ENGINEERS & CODE OFFICIALS

P.O. BOX 241  
 ONE TOWN CENTRE DR.  
 OLEY, PA 19547

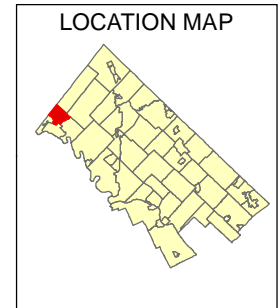
(610) 987-9290  
 FAX: (610) 987-9288

Appendix A-22-b.1

# EXISTING SEWER SYSTEM

## UPPER POTTS GROVE TWP. MONTGOMERY CO. PA

### ACT 537 UPDATE AND REVISION



**Legend**

**SANITARY SEWER FACILITIES**

**FACILITY TYPE**

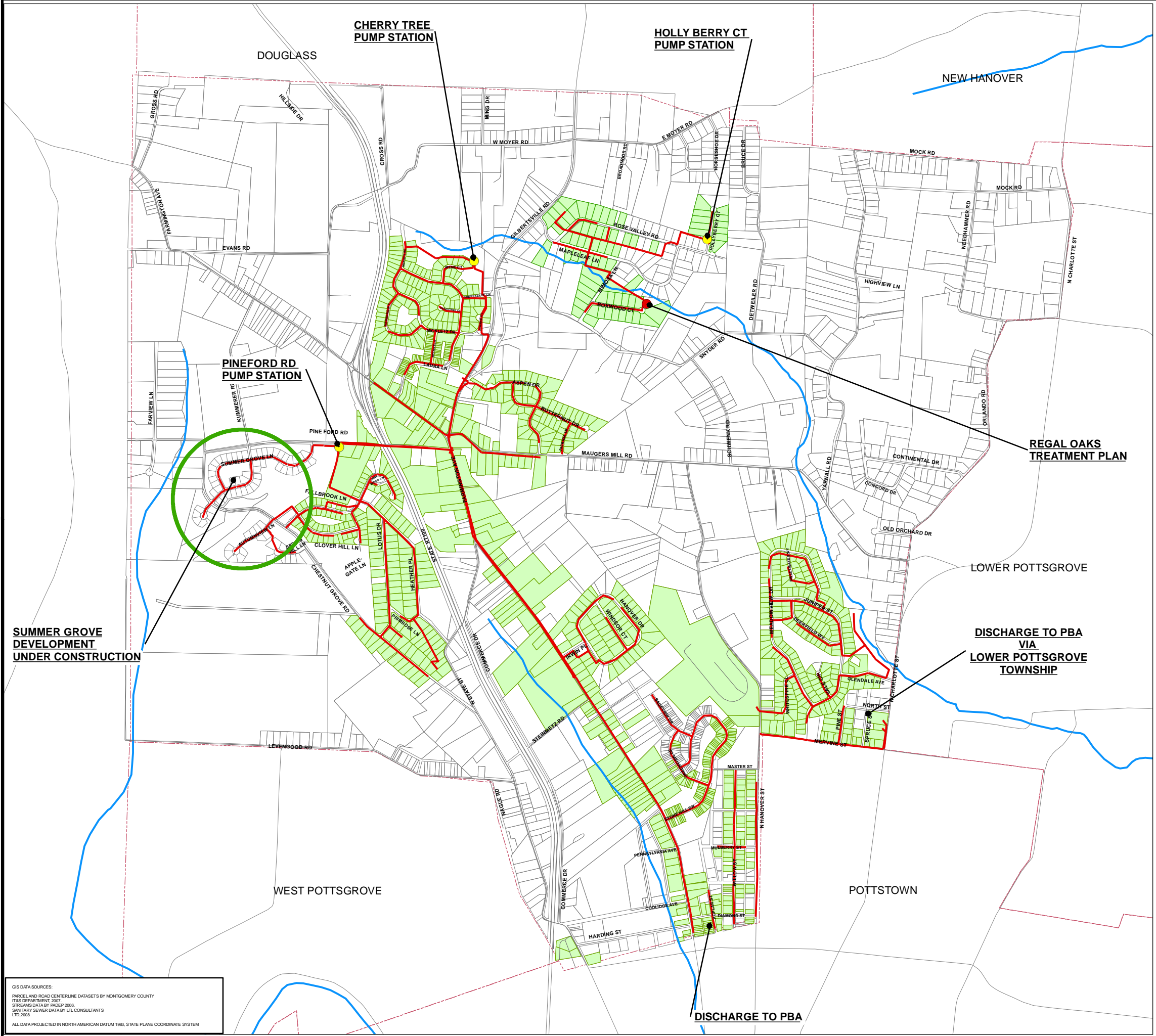
- PUMPING STATION
- TREATMENT PLAN
- SANITARY SEWER MAINS
- ROADS
- STREAMS
- SANITARY SEWER USERS
- PARCELS
- MUNICIPAL BOUNDARY



MAP SCALE  
1 inch = 1,500 feet

0 750 1,500 3,000

Feet



GIS DATA SOURCES:  
 PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY  
 ITAS DEPARTMENT, 2007  
 STREAMS DATA BY PADEP, 2006  
 SANITARY SEWER DATA BY LTL CONSULTANTS  
 LTD, 2008  
 ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE COORDINATE SYSTEM

MAP # 7

**LTL CONSULTANTS, LTD.**  
 ENGINEERS & CODE OFFICIALS

P.O. BOX 241  
 ONE TOWN CENTRE DR.  
 OLEY, PA 19547

(610) 987-9290  
 FAX: (610) 987-9288

# EXISTING AND POTENTIAL OLDS

## UPPER POTTS GROVE TWP. MONTGOMERY CO. PA

### ACT 537 UPDATE AND REVISION



**Legend**

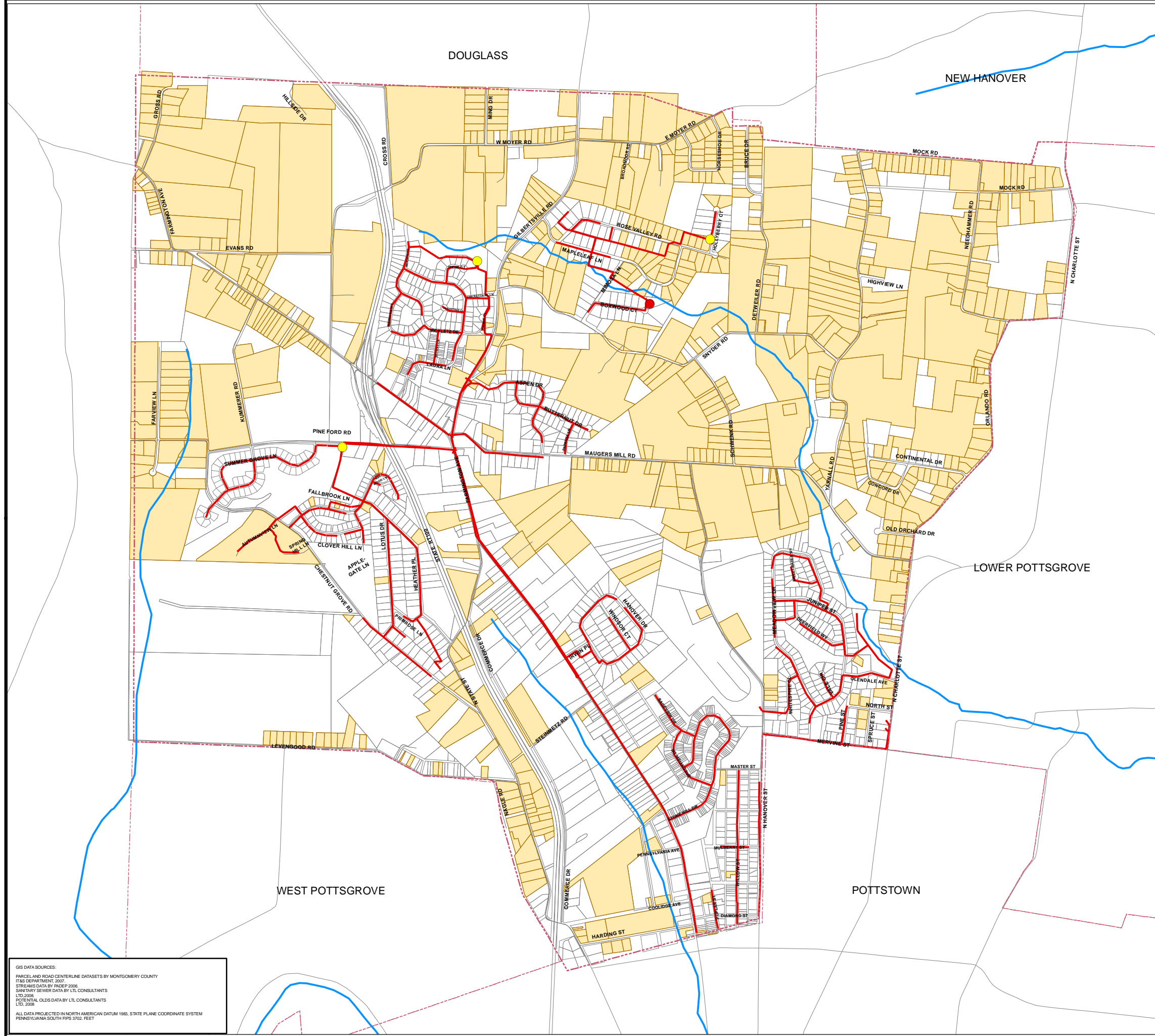
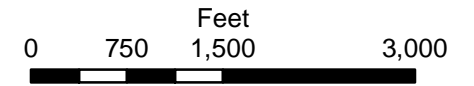
**SANITARY SEWER FACILITIES**

**FACILITY TYPE**

- PUMPING STATION
- TREATMENT PLANT
- SANITARY SEWER MAINS
- ROADS
- STREAMS
- EXISTING AND POTENTIAL OLDS
- PARCELS
- MUNICIPAL BOUNDARY



MAP SCALE  
1 inch = 1,500 feet



GIS DATA SOURCES:  
 PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY  
 ITAS DEPARTMENT, 2007.  
 STREAMS DATA BY PADEP, 2006.  
 SANITARY SEWER DATA BY LTL CONSULTANTS  
 LTD, 2008.  
 POTENTIAL OLDS DATA BY LTL CONSULTANTS  
 LTD, 2008.  
 ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE, COORDINATE SYSTEM  
 PENNSYLVANIA SOUTH RPS 3702, FEET

**LTL CONSULTANTS, LTD.**  
 ENGINEERS & CODE OFFICIALS

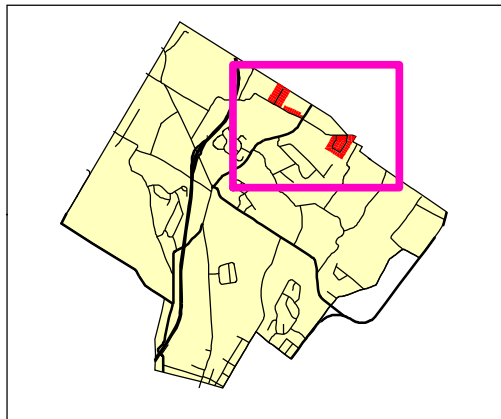
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 OLEY, PA 19547

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 FAX: (610) 987-9288

## MAP # 8

# Malfunction Points Upper Pottsgrove Township

Montgomery County, Pennsylvania



## MALFUNCTIONS BY TYPE

- None
- Potential
- Suspected
- Confirmed

2325 Street Address (TYP.)

- Roads
- Twp Boundary
- Parcels
- Study Areas

1 inch = 500 feet

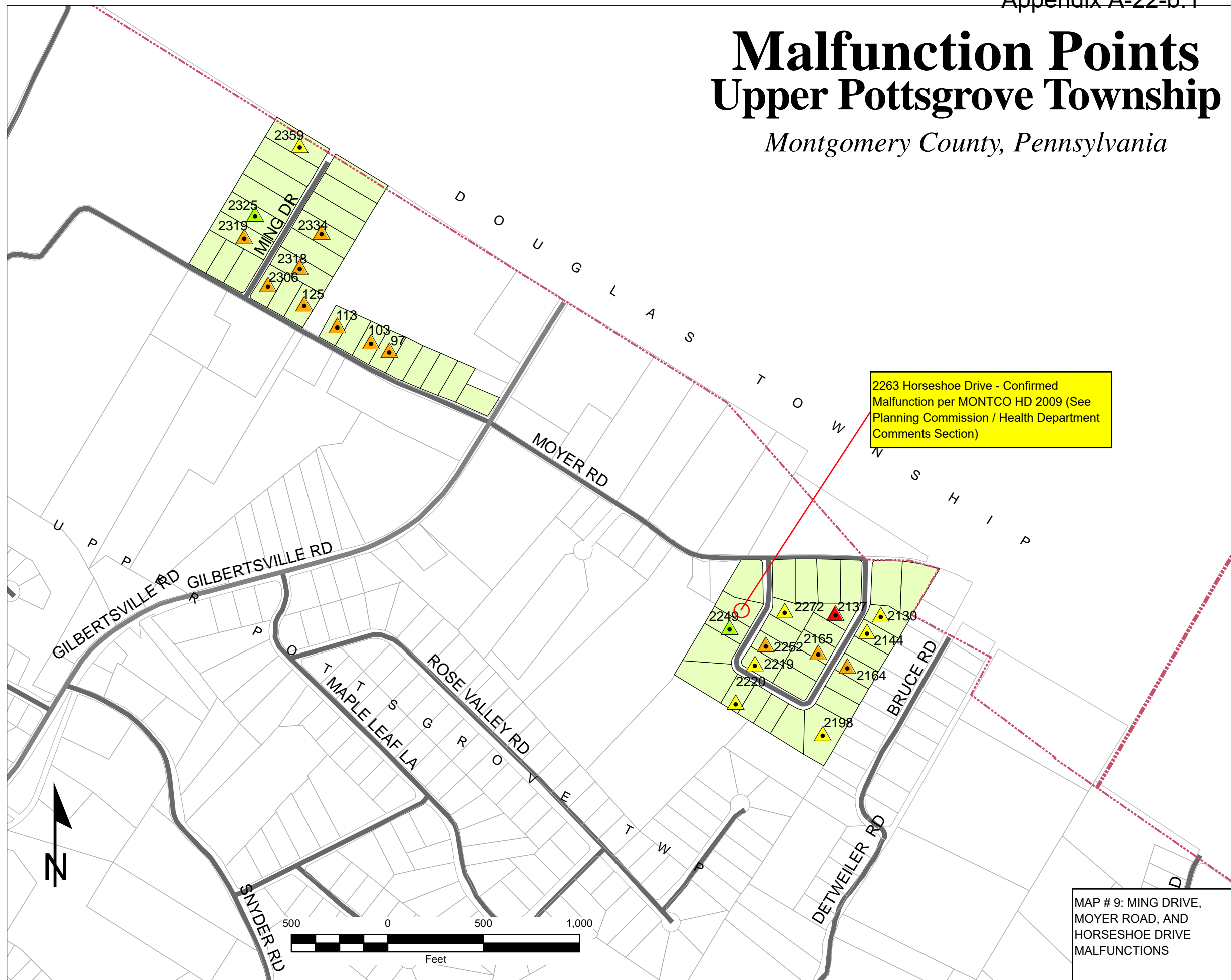
Map Compiled By LTL Consultants Ltd. March 14, 2006.

Township Boundaries, Parcels and Road Center Lines provided by PENNDOT and Berks County Assessment Office.

Zoning boundaries and Documented Malfunction and Sewage Needs (OLDS) data compiled and digitized by LTL Consultants Ltd. 2006



Map Date  
3/17/06  
LRS



2263 Horseshoe Drive - Confirmed Malfunction per MONTCO HD 2009 (See Planning Commission / Health Department Comments Section)

MAP # 9: MING DRIVE, MOYER ROAD, AND HORSESHOE DRIVE MALFUNCTIONS

# MONTCO SEO DOCUMENTED MALFUNCTIONS

## UPPER POTTS GROVE TWP. MONTGOMERY CO. PA

### ACT 537 UPDATE AND REVISION



**Legend**

**DOCUMENTED MALFUNCTIONS**

**SYSTEM TYPE**

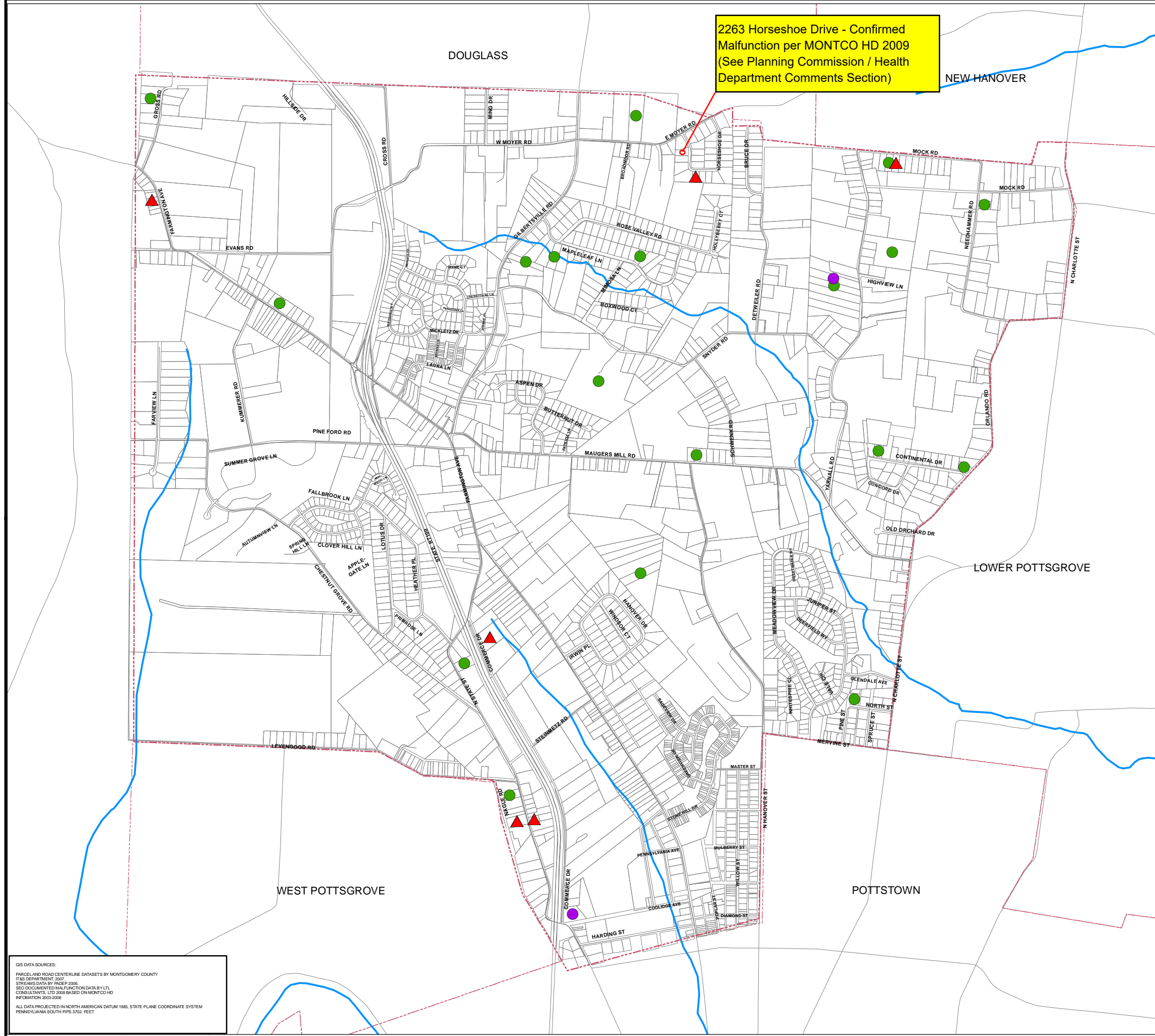
- ▲ HOLDING TANK
- SEPTIC TANK
- OTHER
- ROADS
- STREAMS
- ▭ PARCELS
- - - MUNICIPAL BOUNDARY



MAP SCALE  
1 inch = 1,500 feet

Feet

0 750 1,500 3,000



GIS DATA SOURCES:  
 PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY ITAS DEPARTMENT, 2007  
 STREAMS DATA BY PADEP, 2006  
 SEO DOCUMENTED MALFUNCTION DATA BY LTL CONSULTANTS, LTD. 2008 BASED ON MONTCO HD INFORMATION 2003-2008  
 ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE COORDINATE SYSTEM PENNSYLVANIA SOUTH RIPS 3702, FEET

MAP # 10

**LTL CONSULTANTS, LTD.**  
 ENGINEERS & CODE OFFICIALS

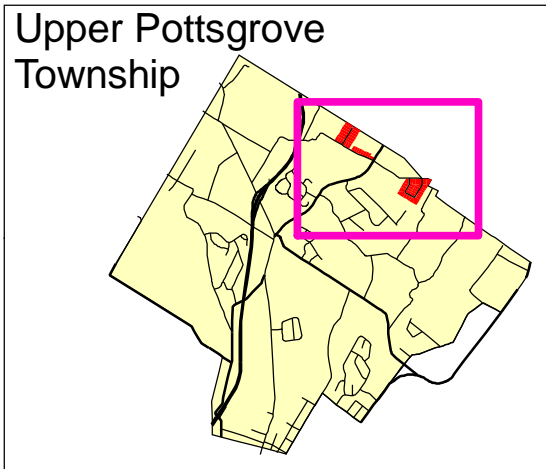
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 FAX: (610) 987-9288

# Well Sampling Results

## Upper Pottsgrove Township

Montgomery County, Pennsylvania



### Sampling Results

#### Coliform Bacteria

- No Coliform
- ✱ Coliform Present / No Fecal
- ✱ Fecal Coliform Present

#### Nitrate Levels

- ▲ Nitrates < 5 ppm
  - ▲ Nitrates 5ppm - 10ppm
- No Samples had nitrates > 10ppm

Twp Boundary

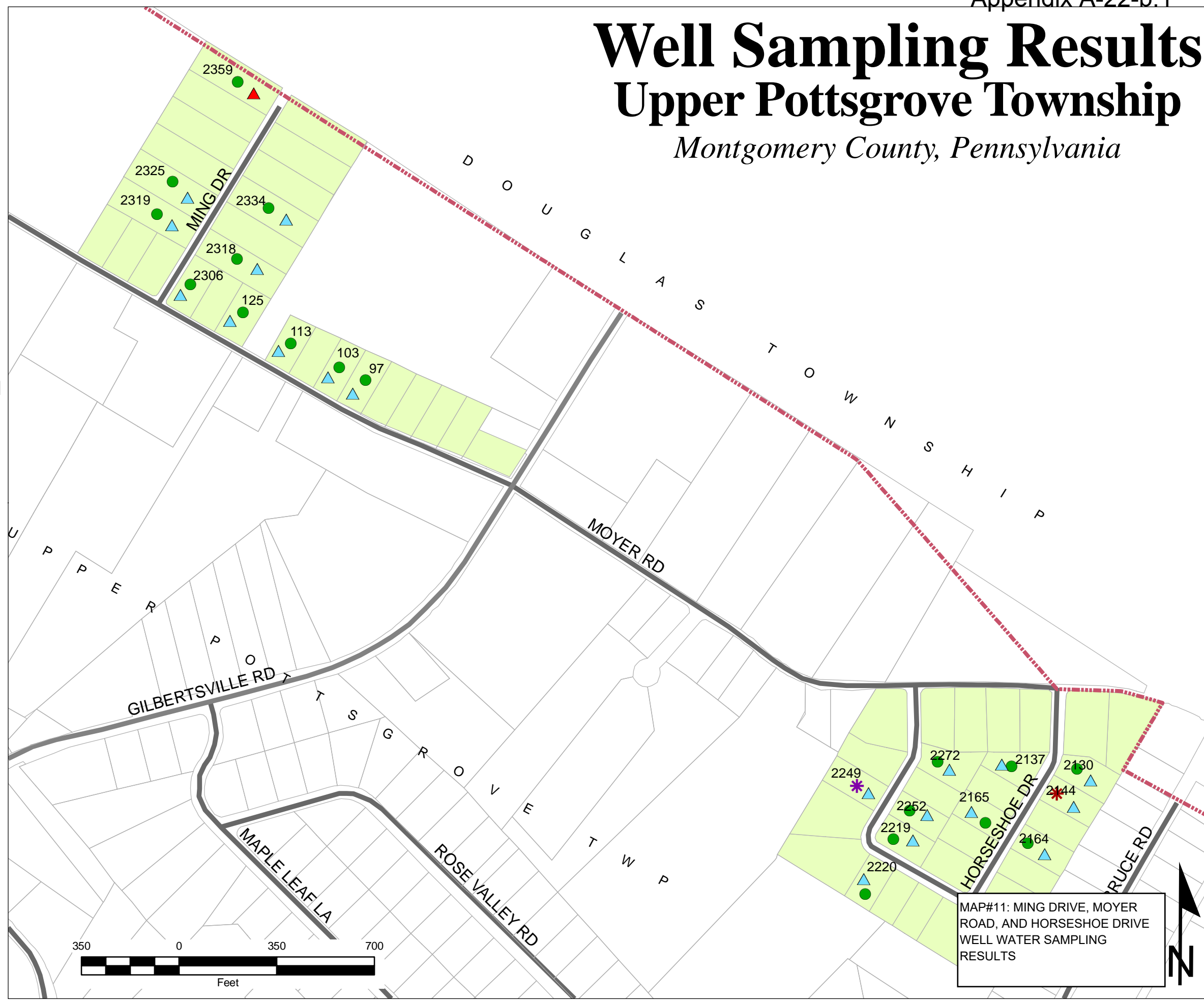
Study Areas

Parcels

Roads

**MAP SCALE:**  
1 inch = 350 feet

Map Compiled By LTL Consultants Ltd. March 14, 2006.  
Township Boundaries, Parcels and Road Center Lines provided by PENNDOT and Berks County Assessment Office.  
Zoning boundaries and Water Testing Results data obtained and digitized by LTL Consultants Ltd. 2006



MAP#11: MING DRIVE, MOYER ROAD, AND HORSESHOE DRIVE WELL WATER SAMPLING RESULTS



Map Date  
3/21/06  
LRS

Appendix A 221.1  
**ZONING DISTRICTS**  
**UPPER POTTS GROVE TWP.**  
**MONTGOMERY CO. PA**  
**ACT 537 UPDATE AND REVISION**



**Legend**

- MUNICIPAL BOUNDARY
- ROADS
- STREAMS
- PARCELS

**ZONING DISTRICTS**

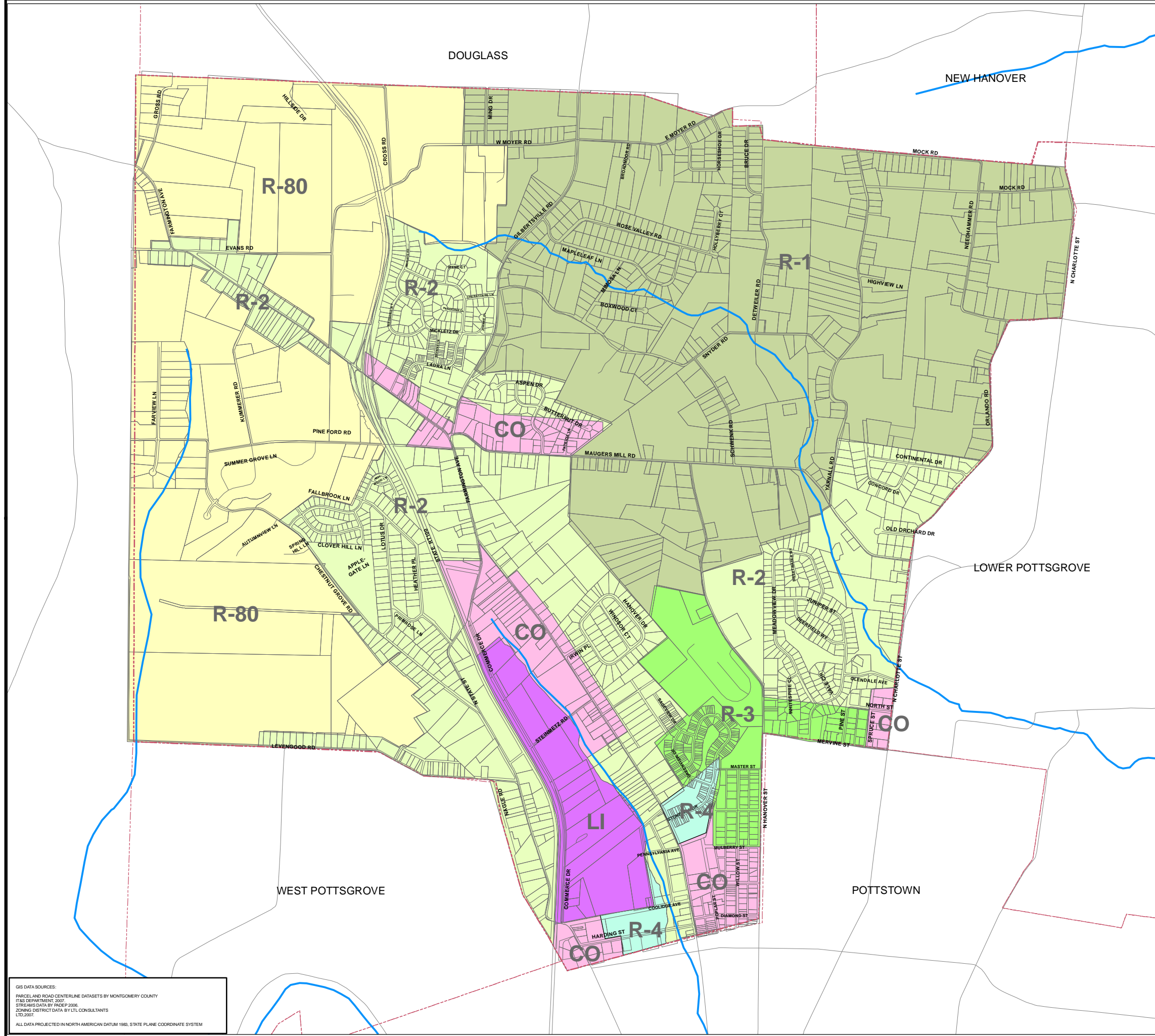
- R-80
- R-1- RESIDENTIAL DISTRICT
- R-2- RESIDENTIAL DISTRICT
- R-3- RESIDENTIAL DISTRICT
- R-4- RESIDENTIAL DISTRICT
- CO- COMMERCIAL OFFICE DISTRICT
- LI- LIMITED INDUSTRIAL DISTRICT



**MAP SCALE**  
 1 inch = 1,500 feet

Feet

0 750 1,500 3,000



GIS DATA SOURCES:  
 PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY  
 PAS DEPARTMENT 2007  
 STREAMS DATA BY PADEP 2006  
 ZONING DISTRICT DATA BY LTL CONSULTANTS  
 LTD. 2007.  
 ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE, COORDINATE SYSTEM

**MAP # 12**

**LTL CONSULTANTS, LTD.**  
 ENGINEERS & CODE OFFICIALS

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# EXISTING AND FUTURE LAND DEVELOPMENT

## UPPER POTTS GROVE TWP. MONTGOMERY CO. PA

### ACT 537 UPDATE AND REVISION



**Legend**

- ROADS
- STREAMS
- PARCELS
- MUNICIPAL BOUNDARY

**EXISTING DEVELOPMENT / SUBDIVISIONS**

**FUTURE DEVELOPMENT / SUBDIVISIONS**

**PLANNING STATUS**

- UNDER CONSTRUCTION
- PROPOSED CONSTRUCTION - APPROVED MODULE
- PROBABLE CONSTRUCTION - NO APPROVED MODULE
- TENTATIVE PLAN



MAP SCALE  
1 inch = 1,500 feet

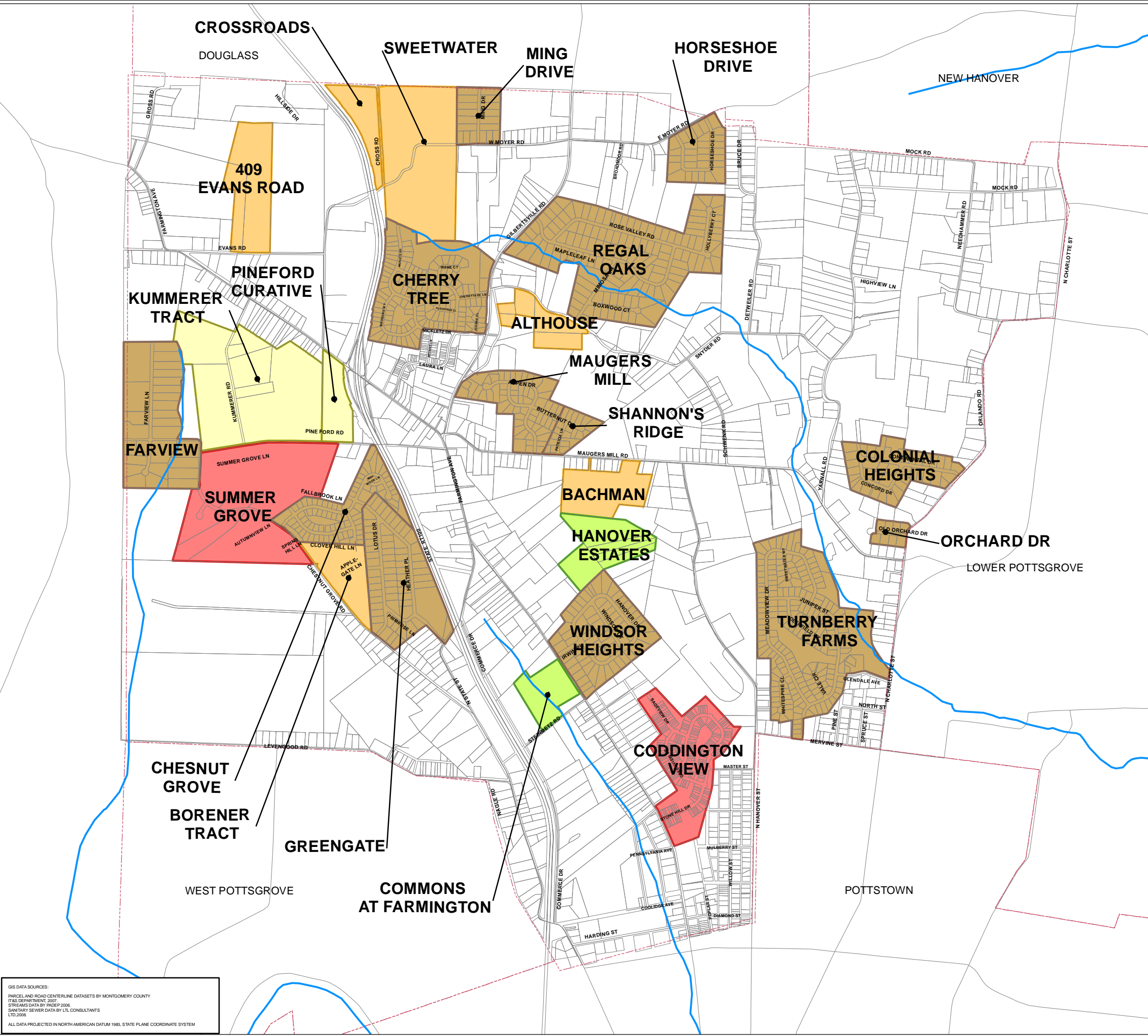
0 750 1,500 3,000  
Feet

MAP # 13

**LTL CONSULTANTS, LTD.**  
ENGINEERS & CODE OFFICIALS

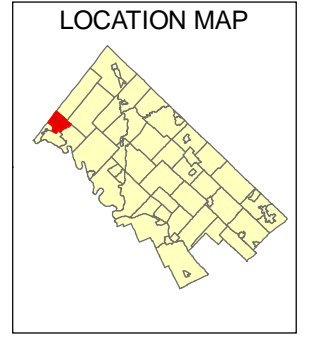
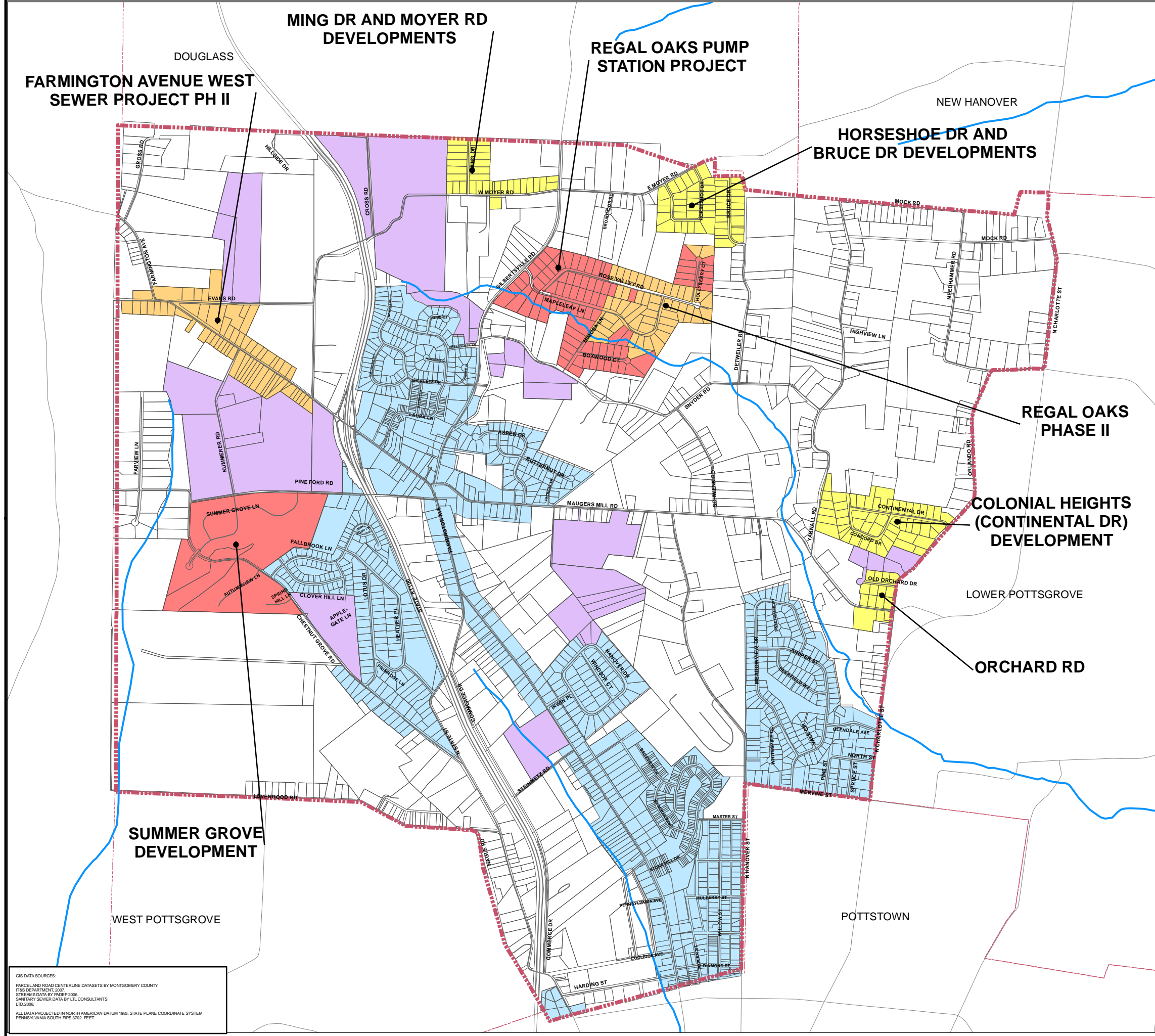
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GIS DATA SOURCES:  
PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY  
PAS DEPARTMENT 2007  
STREAMS DATA BY PADEP 2006  
SANITARY SEWER DATA BY LTL CONSULTANTS LTD. 2008  
ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE COORDINATE SYSTEM

# SEWER GROWTH AREAS CURRENT AND FUTURE UPPER POTTS GROVE TWP. MONTGOMERY CO. PA ACT 537 UPDATE AND REVISION

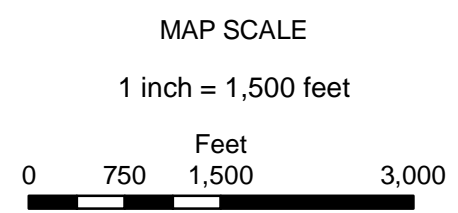


**Legend**

- ROADS
- STREAMS
- PARCELS
- MUNICIPAL BOUNDARY

**SEWER GROWTH AREAS - PER IMPLEMENTATION SCHEDULE**

- POTENTIAL LAND DEVELOPMENTS
- CONSTRUCTION TO BE COMPLETED BY...**
- 2010
- 2013
- 2018
- EXISTING SERVICE NO SEWER CONSTRUCTION



## MAP # 13-A

**LTL CONSULTANTS, LTD.**  
ENGINEERS & CODE OFFICIALS

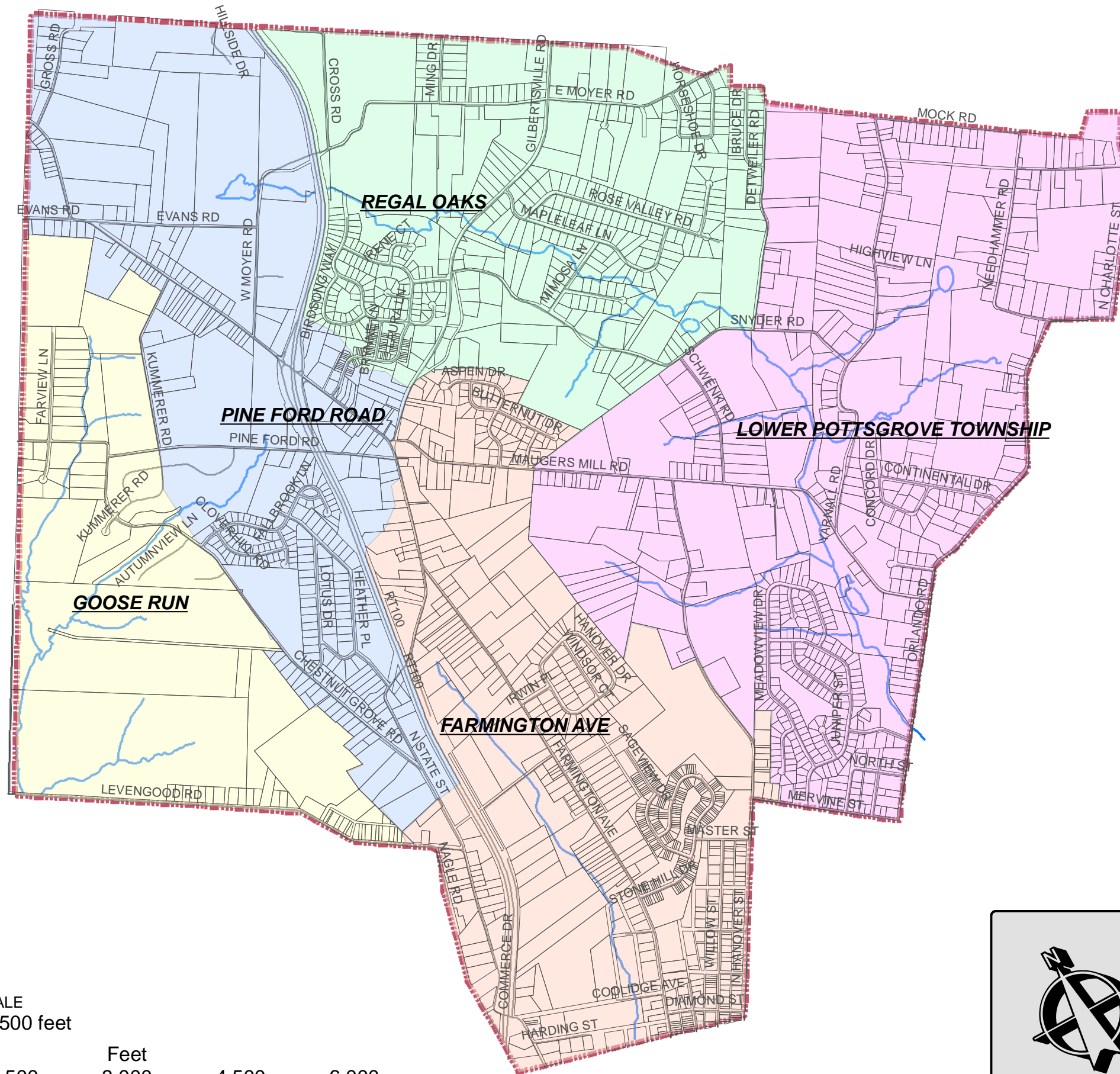
P.O. BOX 241  
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OLEY, PA 19547

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FAX: (610) 987-9288

**GIS DATA SOURCES:**  
 PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY  
 ITAS DEPARTMENT, 2007  
 STREAMS DATA BY PADEP, 2006  
 SANITARY SEWER DATA BY LTL CONSULTANTS  
 LTD, 2008  
 ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE, COORDINATE SYSTEM  
 PENNSYLVANIA SOUTH RIPS 3702, FEET

# SEWER SERVICE DISTRICTS

## UPPER POTTS GROVE TOWNSHIP

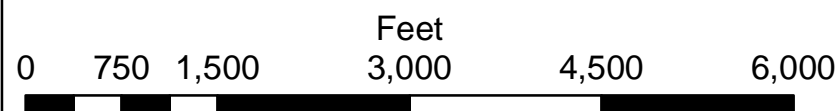


### Legend

- PARCEL BOUNDARIES
- STREET CENTERLINES
- MUNICIPAL BOUNDARIES
- SEWER DISTRICTS**
- DISTRICT**
- FARMINGTON AVE
- GOOSE RUN
- LOWER POTTS GROVE TOWNSHIP
- PINE FORD ROAD
- REGAL OAKS

GIS DATA SOURCES:  
 PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY IT&S DEPARTMENT, 2007.  
 AERIAL PHOTOGRAPHY BY DELAWARE VALLEY REGIONAL PLANNING COMMISSION (DVRPC) 2005.  
 DIGITAL ELEVATION MODEL (DEM) RASTER DATASETS BY UNITED STATES GEOLOGICAL SURVEY (USGS), 1996.  
 STREAMS AND WATER DATASETS BY PADEP, 2004, EDITED BY LTL CONSULTANTS, 2005.  
 ZONING DISTRICTS, SEWER SERVICE DISTRICTS, DEVELOPMENTS, CURRENT USERS, BUILDOUT PARCELS, FLOW CORRIDORS, BASINS, BY LTL CONSULTANTS, LTD. 2008.  
 ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE COORDINATE SYSTEM PENNSYLVANIA SOUTH FIPS 3702. FEET

MAP SCALE  
 1 inch = 1,500 feet



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MAP# 14 SEWER SERVICE DISTRICTS (FROM UPT CMP 2008)

# BUILDOUT OF UNDEVELOPED LAND

## UPPER POTTS GROVE TOWNSHIP

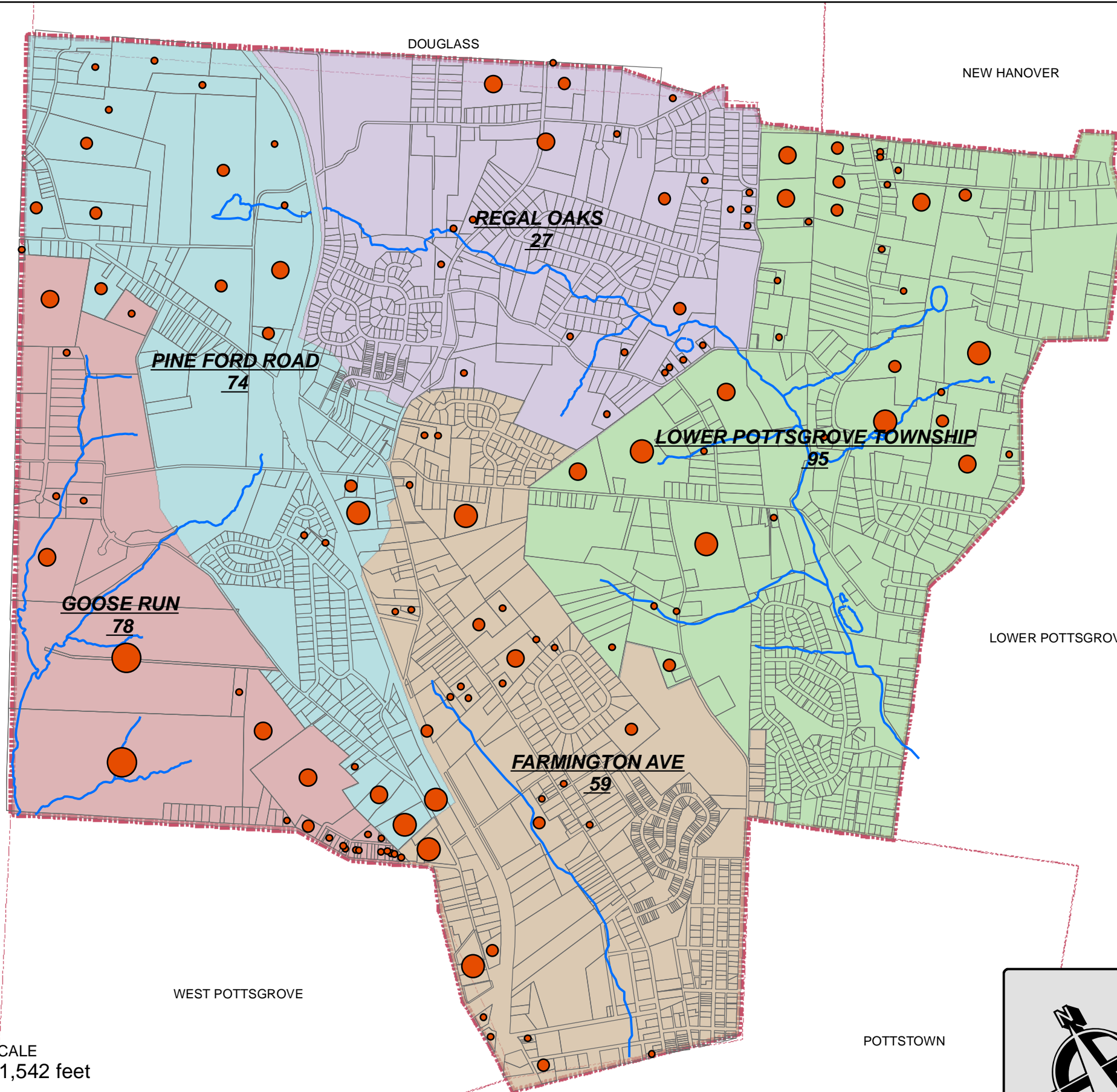


### Legend

- STREAMS
- PARCEL BOUNDARIES
- STREET CENTERLINES
- MUNICIPAL BOUNDARIES

BUILDOUT PARCELS	SEWER DISTRICTS
<b>TOTAL DEVELOPABLE LOTS</b>	<b>DISTRICT</b>
1	FARMINGTON AVE
2 - 4	GOOSE RUN
5 - 8	LOWER POTTS GROVE TOWNSHIP
9 - 14	PINE FORD ROAD
15 - 26	REGAL OAKS
	STREET CENTERLINES

GIS DATA SOURCES:  
 PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY IT&S DEPARTMENT, 2007.  
 AERIAL PHOTOGRAPHY BY DELAWARE VALLEY REGIONAL PLANNING COMMISSION (DVRPC) 2005.  
 DIGITAL ELEVATION MODEL (DEM) RASTER DATASETS BY UNITED STATES GEOLOGICAL SURVEY (USGS), 1996.  
 STREAMS AND WATER DATASETS BY PADEP, 2004, EDITED BY LTL CONSULTANTS, 2005.  
 ZONING DISTRICTS, SEWER SERVICE DISTRICTS, DEVELOPMENTS, CURRENT USERS, BUILDOUT PARCELS, FLOW CORRIDORS, BASINS, BY LTL CONSULTANTS, LTD. 2008.  
 ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE COORDINATE SYSTEM PENNSYLVANIA SOUTH FIPS 3702. FEET



MAP SCALE  
1 inch = 1,542 feet



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MAP# 16: OPTION 1 - BMMA

# BMMA Option

BMMA Connection Point

DOUGLASS TOWNSHIP

NEW HANOVER TOWNSHIP

LOWER POTTS GROVE TOWNSHIP

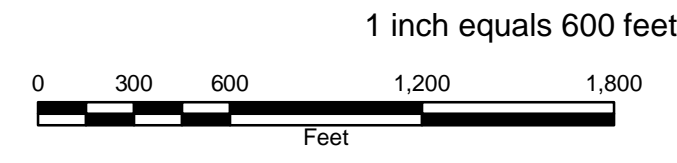
RENOVATIONS BY DESIGN

## Regal Oaks Planning Opton 1: BMMA Force Main Upper Pottsgrove Township Montgomery County, PA

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**Legend**

- Regal Oaks Proposed Manholes
- Regal Oaks Proposed Mains**
  - Horshoe & Bruce Drive Ext.
  - Ming Drive LP Ext
  - New 8" Gravity Mains
  - New 12" PVC
  - New Force Main
- PUMP STATIONS
- Existing Manholes
- Existing Sewer Mains

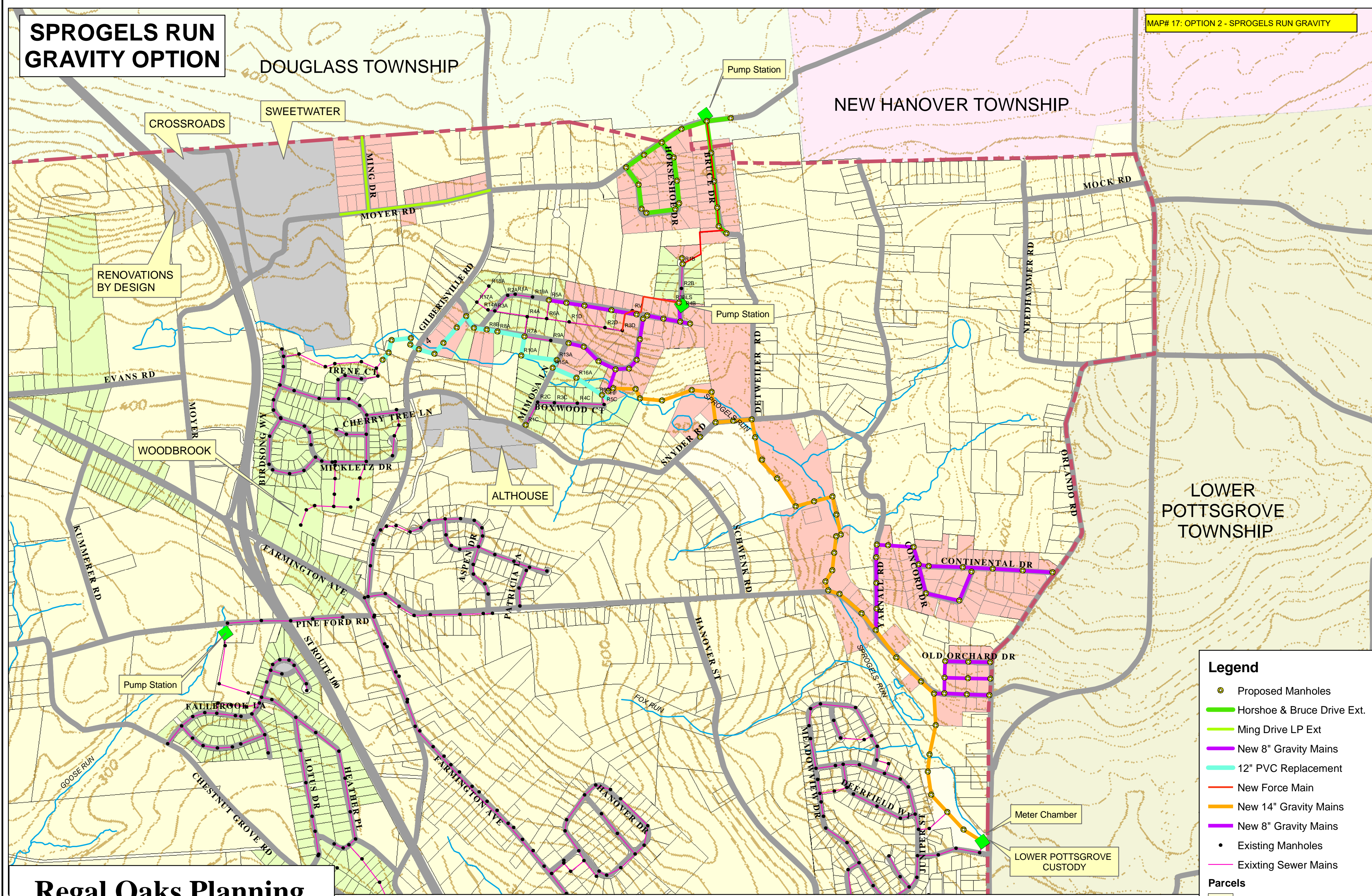
**Parcels**

- No Proposed Service
- Existing Service
- New Service
- Proposed Subdivisions

F:\Upper\_Pottsgrove\Maps\SEWER 2006\0520-0616 Regal Oaks Planning Project BMMA OptionLS22706.mxd

# SPROGELS RUN GRAVITY OPTION

MAP# 17: OPTION 2 - SPROGELS RUN GRAVITY



**Legend**

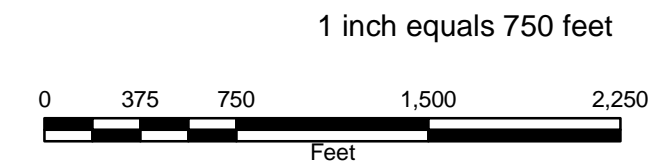
- Proposed Manholes
- Horseshoe & Bruce Drive Ext.
- Ming Drive LP Ext
- New 8" Gravity Mains
- 12" PVC Replacement
- New Force Main
- New 14" Gravity Mains
- New 8" Gravity Mains
- Existing Manholes
- Existing Sewer Mains

**Parcels**

- No Proposed Service
- Existing Service
- New Service
- Proposed Subdivisions

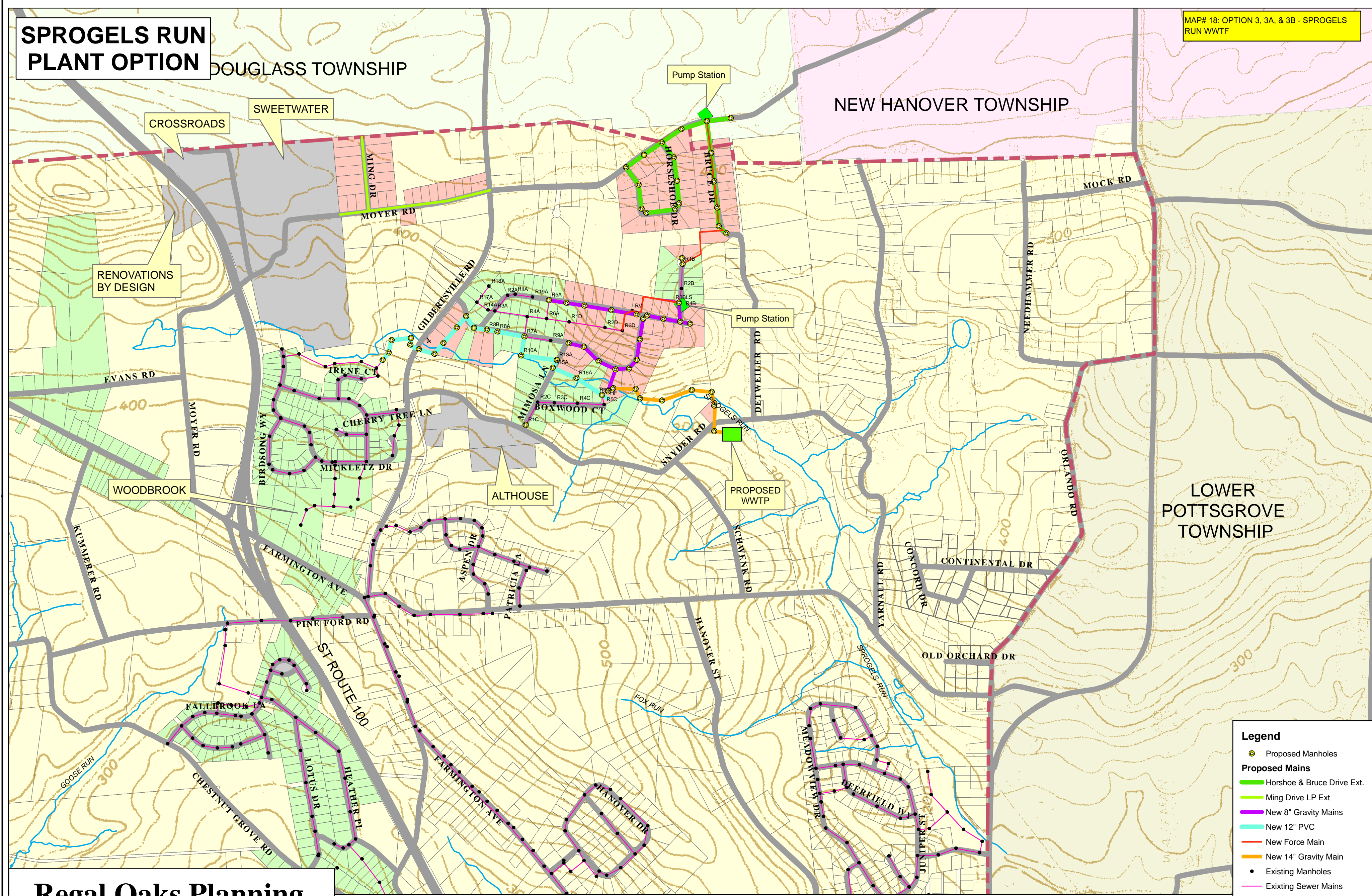
**Regal Oaks Planning**  
**Option 2: Sprogels Run Gravity**  
 Upper Pottsgrove Township  
 Montgomery County, PA

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# SPROGELS RUN PLANT OPTION

MAP# 18: OPTION 3, 3A, & 3B - SPROGELS RUN WWTF

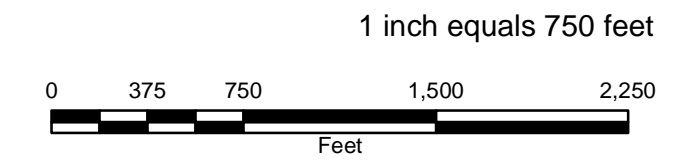


**Regal Oaks Planning**  
**Option 3: Sprogels Run WWTP**  
 Upper Pottsgrove Township  
 Montgomery County, PA

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**Legend**

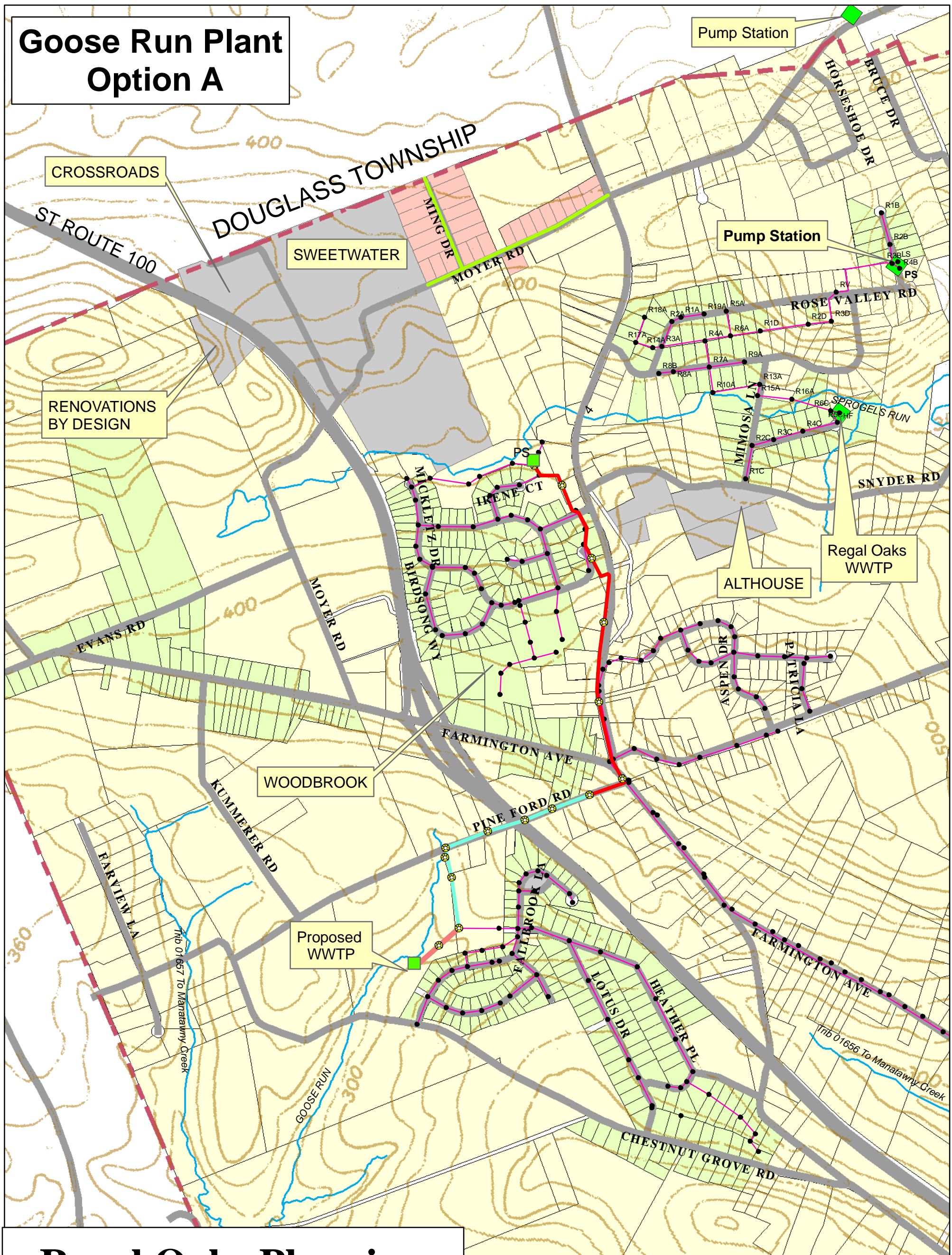
- Proposed Manholes
- Proposed Mains**
  - Horseshoe & Bruce Drive Ext.
  - Ming Drive LP Ext.
  - New 8" Gravity Mains
  - New 12" PVC
  - New Force Main
  - New 14" Gravity Main
- Existing Manholes
- Existing Sewer Mains

**Parcels**

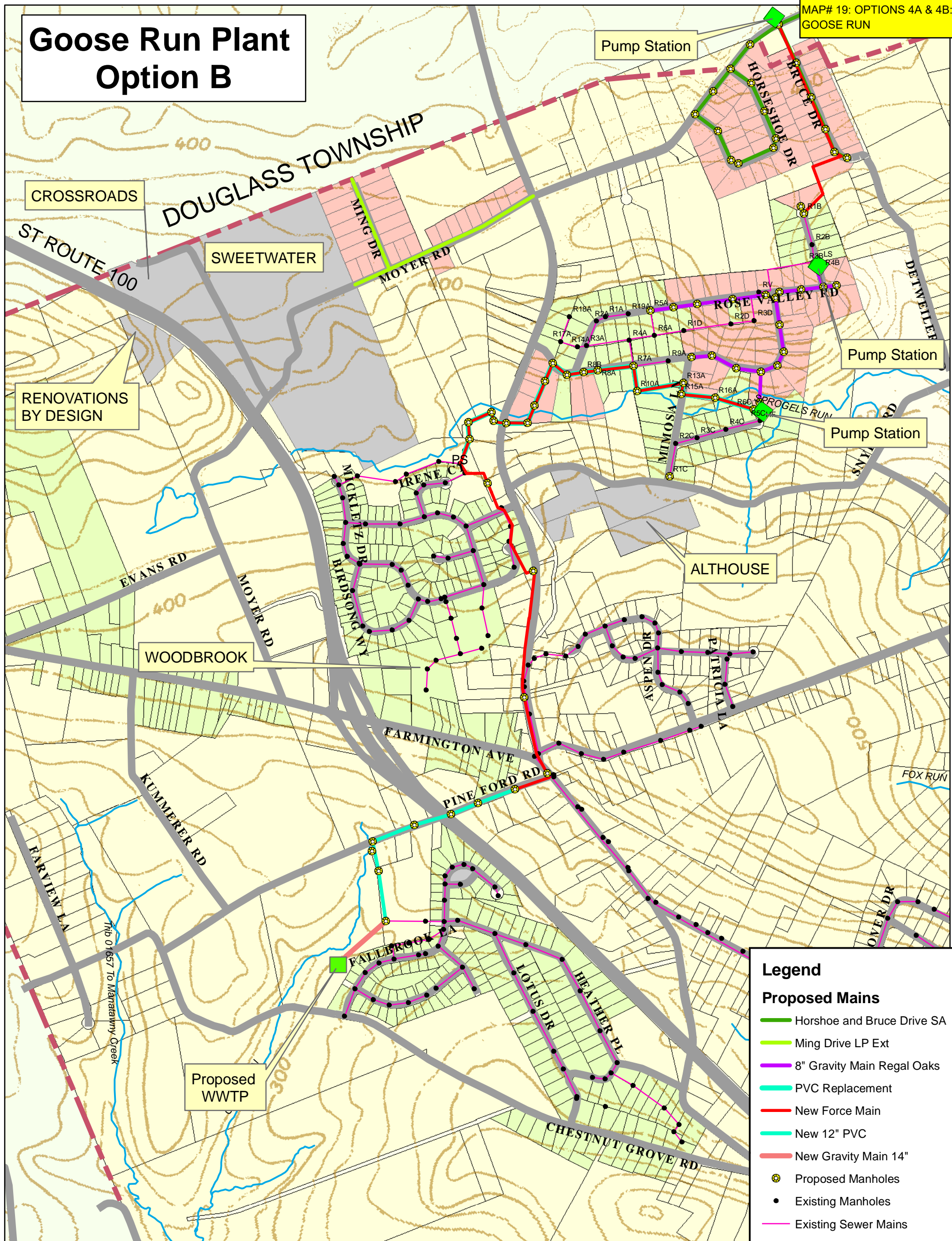
- No Proposed Service
- Existing Service
- New Service
- Proposed Subdivisions

F:\Upper\_Pottsgrove\Maps\SEWER 2006\0520-0616 Regal Oaks Planning Project Sprogels Run Plant Option LS122706.mxd

**Goose Run Plant  
Option A**



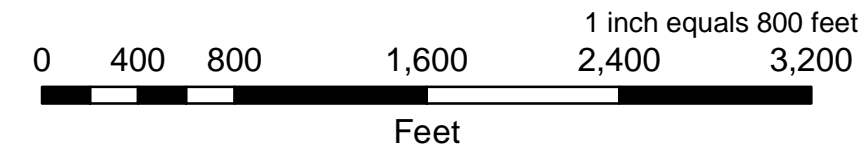
**Goose Run Plant  
Option B**



MAP# 19: OPTIONS 4A & 4B:  
GOOSE RUN

**Regal Oaks Planning  
Options 4 A/B: Goose Run WWTP**  
Upper Pottsgrove Township  
Montgomery County, PA

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**Legend**

**Proposed Mains**

- Horseshoe and Bruce Drive SA
- Ming Drive LP Ext
- 8" Gravity Main Regal Oaks
- PVC Replacement
- New Force Main
- New 12" PVC
- New Gravity Main 14"

- Proposed Manholes
- Existing Manholes
- Existing Sewer Mains
- Waterways
- No Proposed Service
- Existing Service
- New Service
- Proposed Subdivisions

# OPTION 6 REGAL OAKS PUMPING STATION

UPPER POTTS GROVE TWP.  
MONTGOMERY CO. PA

ACT 537 UPDATE AND REVISION



**Legend**

- ROAD CENTERLINES
- MUNICIPAL BOUNDARY
- PARCELS
- EXISTING FACILITIES
- EXISTING SEWER MAINS
- NEW MAINS**
- 12" Gravity Mains
- 8" High Pressure Mains



MAP SCALE  
1 inch = 500 feet

Feet

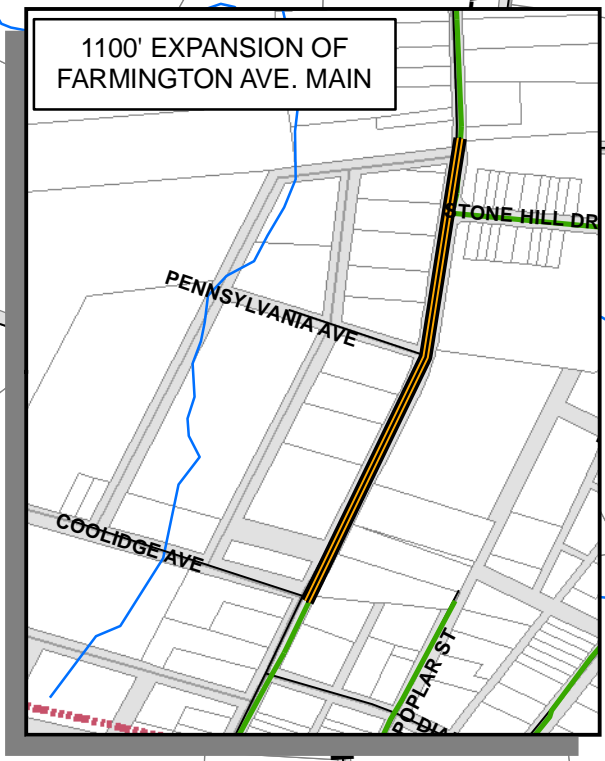
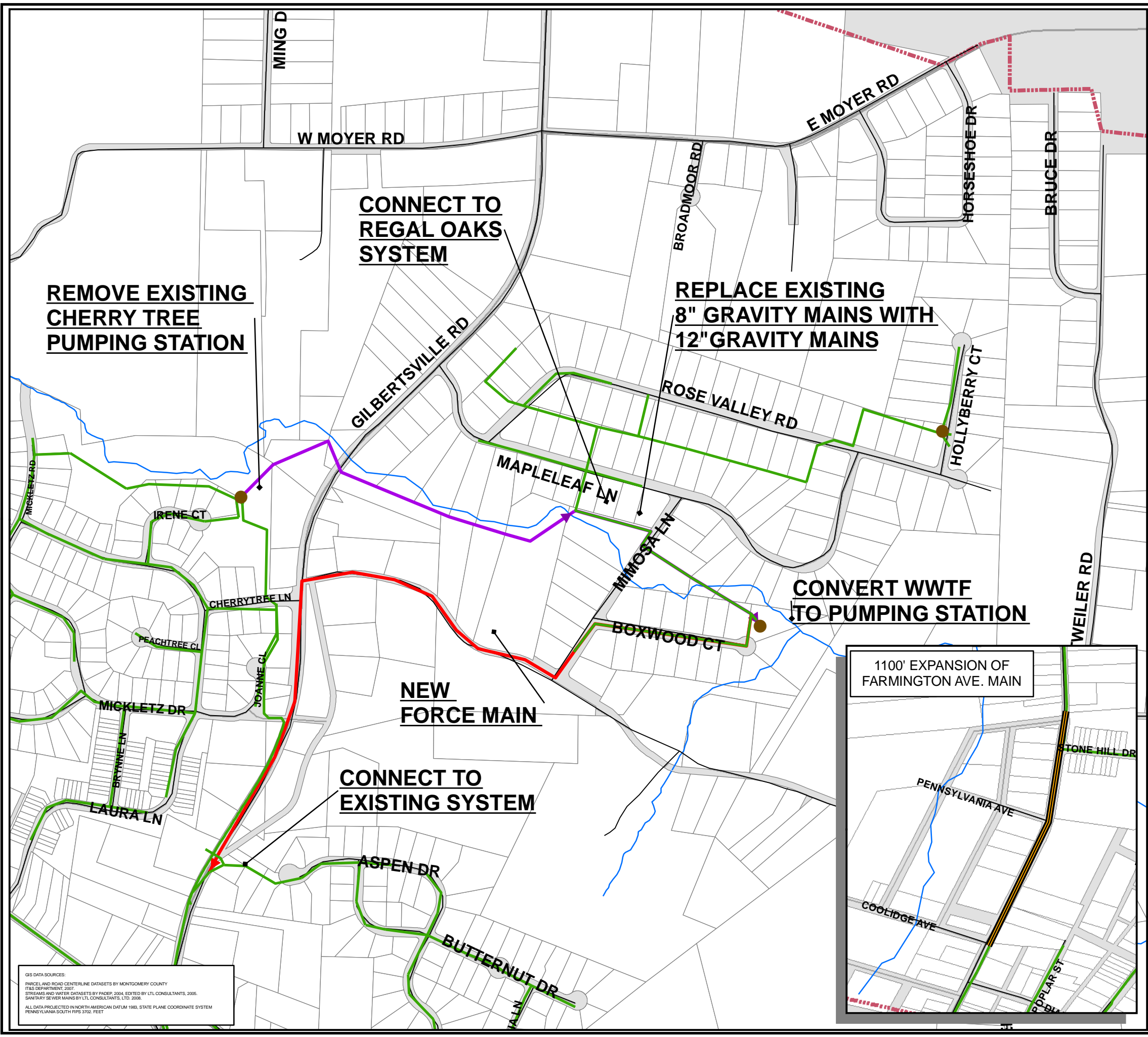
0 250 500 1,000

## MAP# 20

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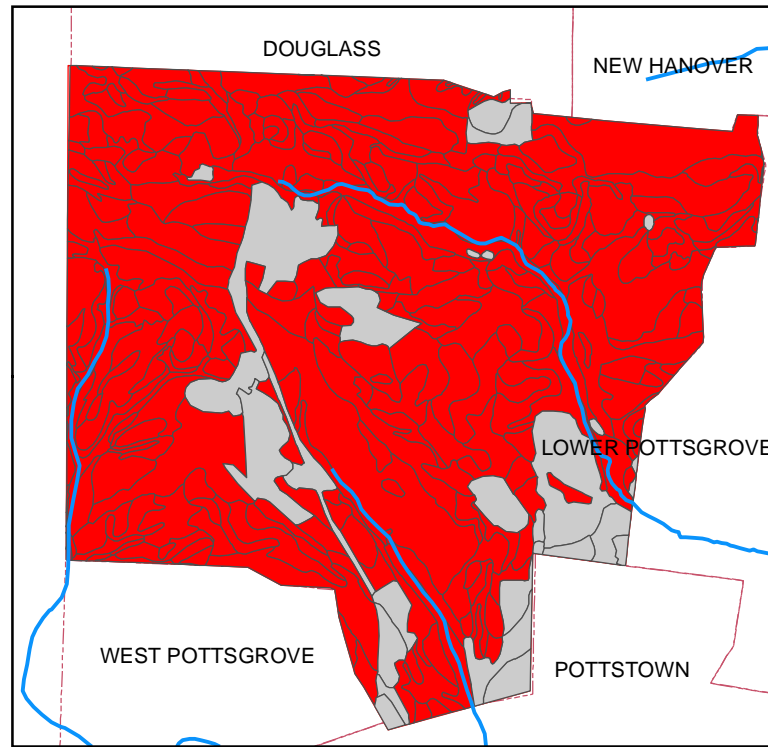
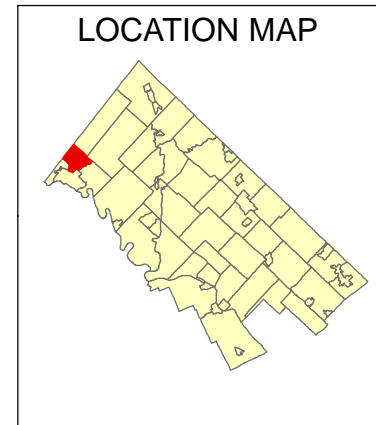


GIS DATA SOURCES:  
 PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY  
 ITAS DEPARTMENT, 2007.  
 STREAMS AND WATER DATASETS BY PADER, 2004, EDITED BY LTL CONSULTANTS, 2005.  
 SANITARY SEWER MAINS BY LTL CONSULTANTS, LTD. 2008.  
 ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE COORDINATE SYSTEM  
 PENNSYLVANIA SOUTH RIPS 3702, FEET

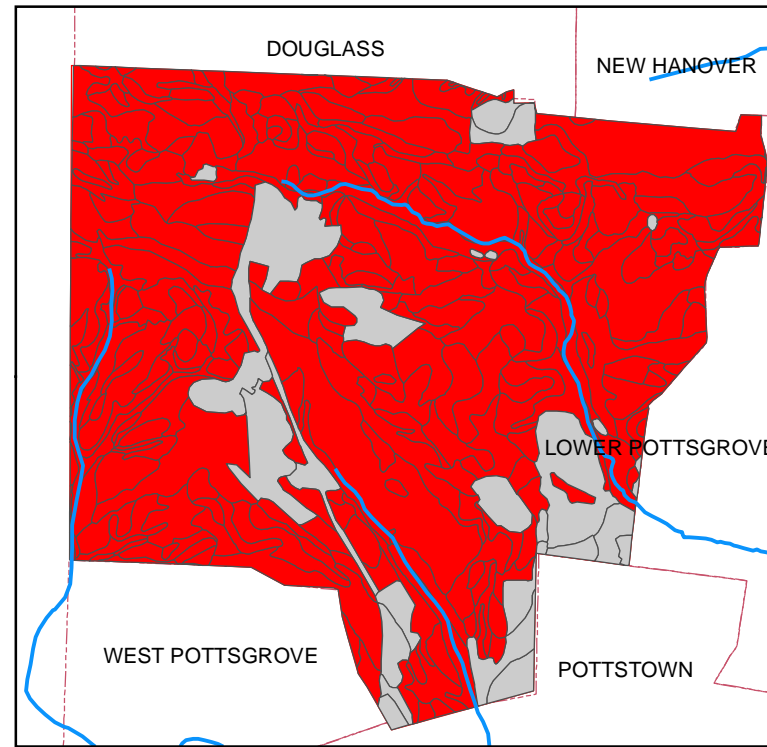
# SOIL SUITABILITY FOR ON-LOT DISPOSAL SYSTEMS (OLDS)

Appendix A-22-b.1

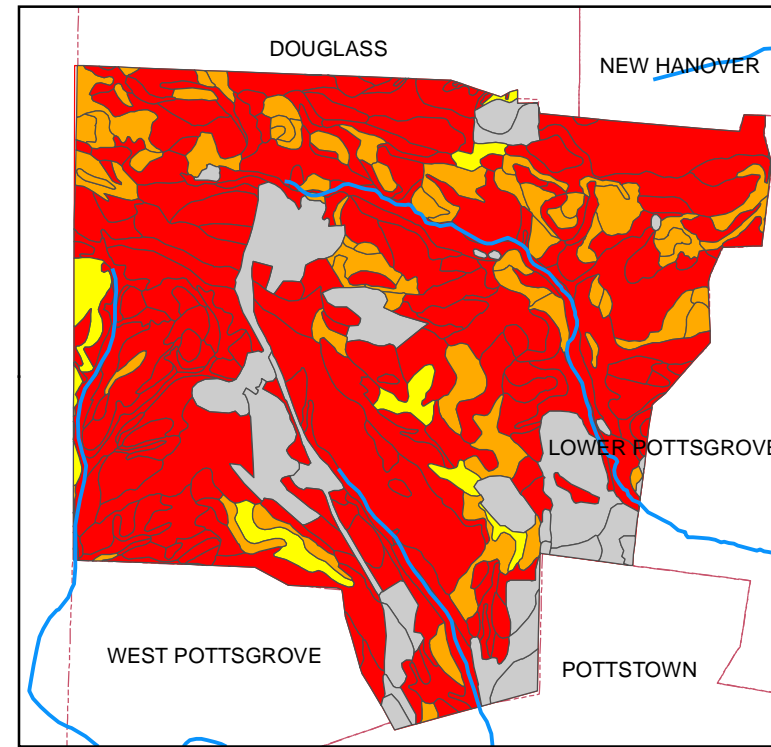
UPPER POTTS GROVE TWP. MONTGOMERY CO. PA  
ACT 537 UPDATE AND REVISION



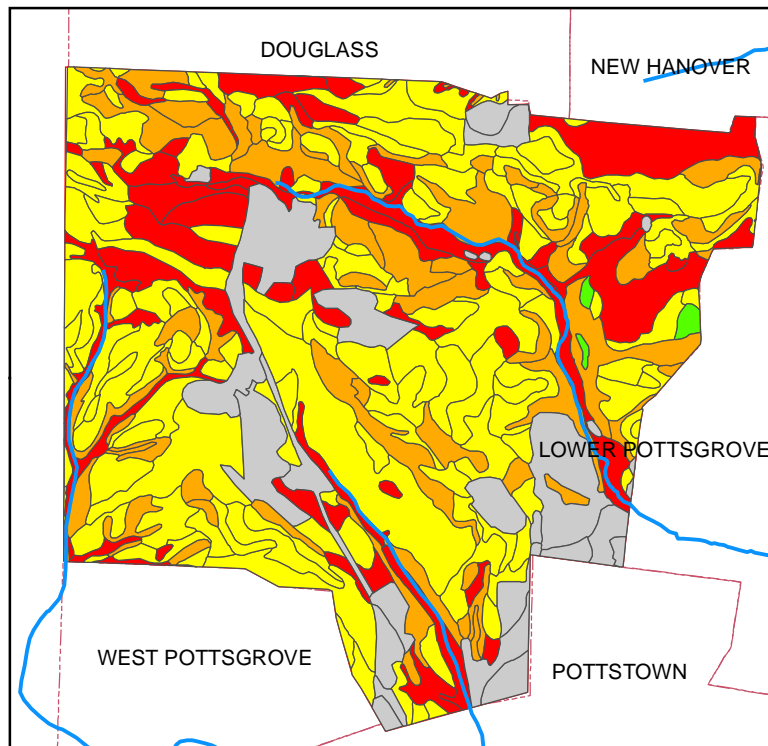
IN-GROUND BED



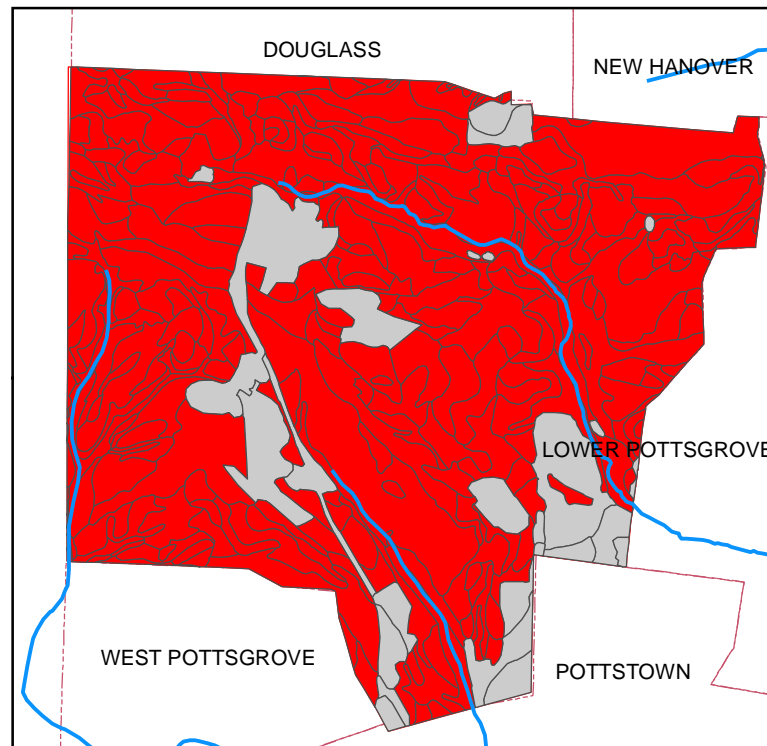
IN-GROUND TRENCH



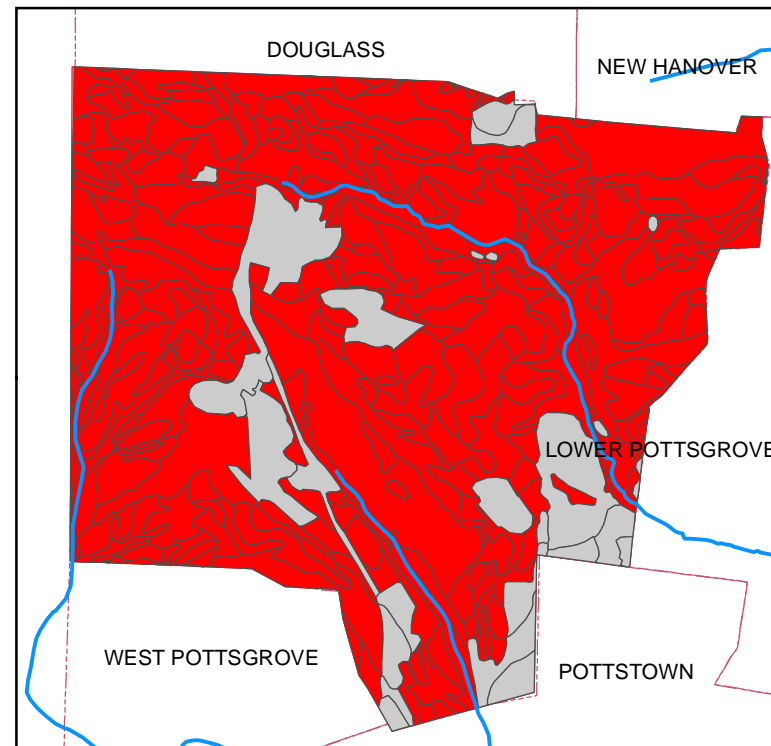
SAND MOUND BED OR TRENCH



SPRAY IRRIGATION



SUB-SURFACE SAND FILTER BED



SUB-SURFACE SAND FILTER TRENCH

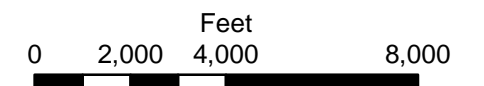
**Legend**

- STREAMS
- SUITABILITY RATING**
- 4 - Little to No Limitations
- 3 - Slightly Limited
- 2 - Moderately Limited
- 1 - Very Limited
- Not Rated (Urbanized Surface)
- MUNICIPAL BOUNDARY



MAP SCALE

1 inch = 4,000 feet



GIS DATA SOURCES:  
PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY IT&S DEPARTMENT, 2007.  
SOILS DATA PROVIDED BY UNITED STATES DEPARTMENT OF AGRICULTURE - NATURAL RESOURCES CONSERVATION SERVICE 2008 (SSURGO DATABASE - SOIL DATA VIEWER)  
ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE COORDINATE SYSTEM PENNSYLVANIA SOUTH FIPS 3702, FEET

MAP# 21

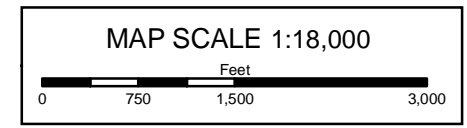
**LTL CONSULTANTS, LTD.**  
ENGINEERS & CODE OFFICIALS  
P.O. BOX 241  
ONE TOWN CENTRE DR.  
OLEY, PA 19547  
(610) 987-9290  
FAX: (610) 987-9288

Appendix A-22-b.1  
**SEWER SERVICE AND  
 ON LOT AREAS**  
**UPPER POTTS GROVE TWP.**  
**MONTGOMERY CO. PA**  
 ACT 537 UPDATE AND REVISION



**Legend**

- ROADS
- STREAMS
- MUNICIPAL BOUNDARY
- PARCEL BOUNDARIES - ON LOT AREA
- SEWER SERVICE AREA (SSA)



GIS DATA SOURCES:  
 PARCEL AND ROAD CENTERLINE DATASETS BY MONTGOMERY COUNTY IT&S DEPARTMENT, 2007.  
 STREAMS DATA BY PADEP 2006.  
 SEWER SERVICE AREA DATA BY LTL CONSULTANTS, 2008, MODIFIED IN 2010.

USE AND PROJECTION INFORMATION:  
 THIS MAP IS INTENDED FOR REFERENCE USE ONLY, IT IS NOT INTENDED FOR USES REQUIRING ENGINEERING OR SURVEY ACCURACY.  
 ALL DATA PROJECTED IN NORTH AMERICAN DATUM 1983, STATE PLANE COORDINATE SYSTEM PENNSYLVANIA SOUTH FIPS 3702. FEET

NOTES ON PUBLICATION:  
 THIS MAP HAS BEEN GENERATED ON REQUEST BY THE PA DEPARTMENT OF ENVIRONMENTAL PROTECTION LETTER DATED 2/8/2010. THIS MAP IS INTENDED TO SPECIFICALLY ADDRESS ITEM #8 IN THE LETTER, WHICH REQUESTS THAT THE ACT 537 PLAN'S MAPPING BE REVISED "TO DEPICT WHICH AREAS IN THE TOWNSHIP ARE IN THE ON-LOT AREA AND THOSE WHICH WILL BE SERVED BY PUBLIC SEWERS."

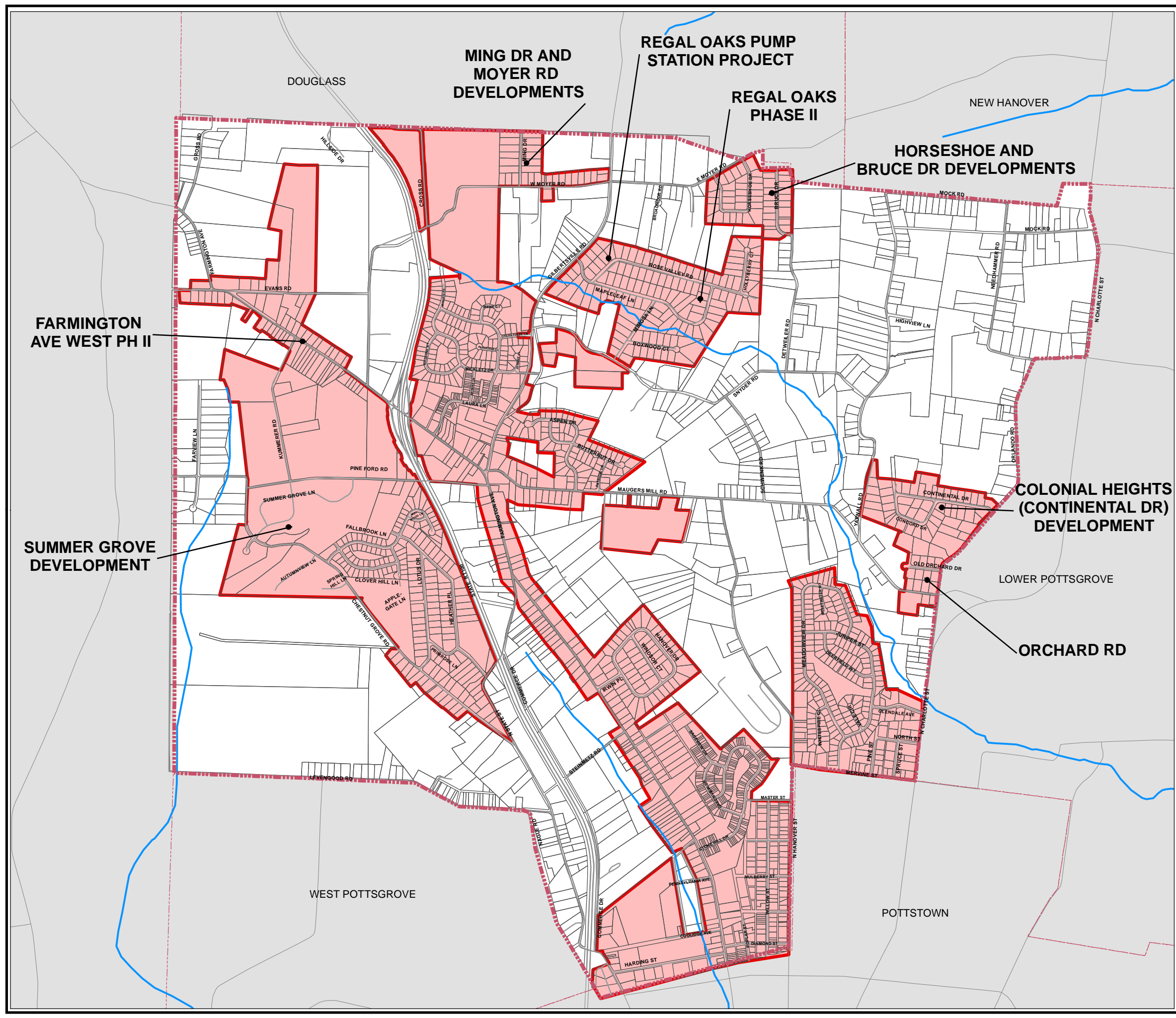
Final map version completed on March 28, 2011.

MAP NO:  
 22

**LTL CONSULTANTS, LTD.**  
 ENGINEERS & CODE OFFICIALS

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# pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
SOUTHEAST REGIONAL OFFICE

JAN 31 2011

Mr. Jack Layne, Manager  
Upper Pottsgrove Township  
1409 Farmington Avenue  
Pottstown, PA 19464-1829

Re: Act 537 Plan Update  
APS ID 29303, AUTH ID 795432  
Status: ISSUED  
Upper Pottsgrove Township  
Montgomery County

Dear Mr. Layne:

We have completed our review of your municipality's updated official sewage facilities plan titled *Act 537 Sewage Facilities Plan*, as prepared by LTL Consultants, Ltd., dated April 2009. The plan was supplemented by additional information dated October 8, 2009, April 30, 2010, August 30, 2010, and January 3, 2011. The review was conducted in accordance with the provisions of the Pennsylvania Sewage Facilities Act.

Approval of the plan is hereby granted. This approval provides for the permanent connection of the Regal Oaks Pump Station, along with all areas tributary to this pump station, to public sewers. Wastewater treatment will be provided at the Pottstown Borough Wastewater Treatment Facility.

Upper Pottsgrove Township ("UPT") has completed the following items pursuant to conditions stipulated in the Department of Environmental Protection's ("Department") May 16, 2008, approval for the Crossroads Settlement Development, the February 6, 2009, amended approval for the above-referenced project, and the Department's Consent Order and Agreement of January 13, 2009:

1. The elimination and replacement of the Regal Oaks Wastewater Treatment Facility with the Regal Oaks Pump Station.
2. The elimination of the Cherry Tree Pump Station via the rerouting of the existing flows to the Regal Oaks Pump Station.
3. The expansion of the York/Beech Street Interceptor to accommodate the additional flows listed in the Act 537 Plan.
4. The transfer of capacity of 238,000-gallon per day from Pottstown Borough Authority ("PBA") to UPT.

JAN 31 2011

Mr. Jack Layne, Manager

- 2 -

The future connections proposed for the 5–10-year time frame are depicted on Map 11, *Sewer Service and On-lot Areas*. The plan provides for the implementation of the following:

1. The inclusion of the Kummerer Tract and the Pine Ford Road Curatives Subdivisions in the municipal sewer service area. The Pine Ford Road Pump Station (“PFRPS”) will be upgraded as part of the improvement planned by UPT. UPT must secure a Department permit for the anticipated capacity upgrade to the PFRPS. The pump station must be capable of handling peak instantaneous flows with any one pump out of service. Please note that either sewage facilities planning modules or planning exemptions will be required to address the specifics of the 2 new land developments.
2. The Farmington Avenue West Sewer Project Phase 2 will be completed.
3. The connection of Regal Oaks Phase 2, the on-lot portion within Regal Oaks, to the existing collection system within 5 years.
4. The sewer extension to serve Ming Drive/Moyer Road and Horseshoe and Bruce Drives will be completed within 10 years.
5. The sewer extensions to Continental and Old Orchard Drives will be completed with 10 years.
6. The remaining areas of the UPT that have demonstrated a need for improved sewerage facilities will be connected to public sewers on an as-needed basis. Please note that additional sewage facilities planning will be required to connect areas not already addressed by this plan.

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, P.O. 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.

JAN 31 2011

Mr. Jack Layne, Manager

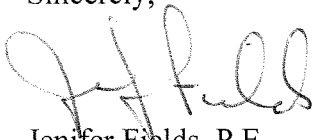
- 3 -

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 contact Ms. Linda Swagzdis of this office at 484.250.5179.

Sincerely,



Jenifer Fields, P.E.  
Regional Manager  
Water Management

cc: Montgomery County Planning Commission  
Montgomery County Health Department  
Mr. Scott - LTL Consultants, Ltd.  
Pottstown Borough Authority  
Mr. Hawthorne - Lower Pottsgrove Township  
Mr. Fair  
Ms. Swagzdis  
Ms. Moore  
Mr. McHale - RCSOB  
Planning Section  
Re 30 (joh11wqm)024


**LTL CONSULTANTS, LTD. • ENGINEERS & CODE OFFICIALS**

PO BOX 241 • ONE TOWN CENTRE DRIVE • OLEY, PA 19547  
 (610) 987-9290 • FAX: (610) 987-9288

March 28, 2011

VIA E-MAIL

Ms. Linda Swagzdis  
 Pennsylvania Department of Environmental Protection  
 Water Management Program  
 Southeast Regional Office  
 2 East Main St.  
 Norristown, PA

Re: Upper Pottsgrove Township  
 Act 537 Plan Update  
 Revised Implementation Schedule

Ms. Swagzdis,

Upper Pottsgrove Township is in receipt of the Department's approval of its Act 537 Plan Update (Plan). The Plan was submitted to DEP in April 2009 and approved in January 2011. This lapse in time has prompted an update of the Implementation Schedule, most of which was previously presented in terms of DEP approval of the Plan.

In order to avoid misunderstandings in the future, LTL Consultants is providing a copy of the new Implementation Schedule for your records. The updated schedule does not change the Plan, but rather states the dates by which the milestones will be achieved. These dates are in concurrence with the terms of the Department's approval letter as well.

<b><u>Major Milestone</u></b>	<b><u>Date</u></b>
Start Regal Oaks Pump Station Project Construction	DONE
Regal Oaks Pump Station Completion and Decommissioning of Cherry Tree Pump Station	DONE
Review of the need for Sewage Management Program and Small-Flow Sewage Facilities Ordinances delegated to Sewer Committee	BY July 31, 2011
Farmington Avenue West Construction	DONE
Sewer Committee responds to the BOC about the need for Sewage Management Program and Small-Flow Sewage Facilities Ordinances	BY July 31, 2012
Regal Oaks Phase 2	By January 31, 2016
Ming Drive/Moyer Road	By January 31, 2021
Horseshoe and Bruce Drives	By January 31, 2021
Continental and Orchard Drives	By January 31, 2021

In addition to the changes in the implementation schedule, there are a few items in your approval letter that require clarification.

1. The map referenced on page 2 of the letter should be Map 22 Sewer Service and On-Lot Areas.
2. The Pine Ford Road Pump Station upgrades were completed in the summer of 2010. (WQM Permit No. WQG02460506).
3. The Farmington Avenue West Phase 2 Sewer Project was completed in the summer of 2010.

If you have any questions regarding the schedule, please contact me at 610-987-9290. Thank you for your time.

Sincerely,



Leo R Scott  
Water & Wastewater Specialist

Cc: Jack Layne

Upper Pottsgrove Township Board of Commissioners

Charles Garner

Chris Hannum

Lisa Sweigert

File: M:\Engineering\Upper Pottsgrove Township - 20\0520-0521 Miscellaneous\Correspondence\UPT revised implementation schedule to DEP032811.doc