### **EXHIBIT R**

FAIR MARKET VALUE APPRAISAL – HERBERT, ROWLAND & GRUBIC, INC.





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		April 6, 2017
	-	

### **FINAL REPORT**

FAIR MARKET VALUATION
OF THE
LIMERICK TOWNSHIP SANITARY SEWER SYSTEM

As of December 31, 2016

HRG Project No. R006471.0426

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#### **PURPOSE OF VALUATION**

The purpose of this report is to establish the fair market value of the Limerick Township Sanitary Sewer System (LTSSS) as of December 31, 2016 for the purpose of acquisition of the system by Aqua Pennsylvania Wastewater, Inc. (Aqua) pursuant to the agreement between Limerick Township (Township) and Herbert, Rowland & Grubic, Inc. (HRG) dated November 23, 2016.

HRG's valuation is governed by the requirements of Section 1329 of the Pennsylvania Public Utility Code (Code) that became effective June 13, 2016, applicable to the valuation of municipally or authority owned water and wastewater utilities acquired by investor-owned utilities. The purpose of Section 1329 is to establish a process for determining the fair market value.

#### **EXECUTIVE SUMMARY**

Based on our review of the supporting documents, discussions with Limerick Township Staff and professional advisors, the reported and observed condition of the LTSSS, planned capital projects and an evaluation of the system revenues; we concluded that a fair market value for the system is \$76,890,000\*.

Consistent with the Uniform Standards of Professional Appraisal Practice (USPAP), HRG employed the cost, market and income approaches in arriving at the fair market value as summarized below.

 Cost Approach
 \$ 90,050,000

 Market Approach
 \$ 62,760,000

 Income Approach
 \$ 77,855,000

 Average Fair Market Value:
 \$ 76,890,000\*

Courts have held "market value may be determined in many ways and does not exclusively depend upon application of the market data approach." HRG believes that each of these approaches has merits and each should be given weight in estimating fair market value as required by the Pennsylvania Public Utility Commission's (PUC) Final Implementation Order relative to Act 12 of 2016. (HRG is obliged to follow the requirements of Act 12 and PUC's Final Implementation Order.)

Andrew H. Schuster, Valuation of Public Utilities (Matthew Bender & Co., Inc., 1991) §14A.01[3]

#### **FAIR MARKET VALUATION**

Fair market value is defined as "the value established in a public market by exchanges between willing sellers and willing buyers" not under duress.<sup>2</sup> Such a market would imply substantial availability of data for comparable property exchanges. However because sales and purchase price data of comparable utilities is limited, other considerations should be given weight for purposes of estimating a fair market value.

Section 1329 (a) provides that both the buyer and seller will each choose a utility valuation expert (UVE) to "prepare an appraisal of assets, and the average of those appraisals will be used as the fair market value of the asset." The Order further states that "a fair market valuation allows consideration of cost, market and income approaches in valuing the system." A Distribution System Improvement Charge (DSIC) was not included in the valuation because the projected collection system improvements did not amount to significant capital expenditures.

HRG has addressed each of these considerations in the following appraisal of the LTSSS to estimate the fair market value.

#### **COST APPROACH**

An engineering assessment prepared by Pennoni Associates, Inc. (Pennoni) of Original Cost of the LTSSS was provided to HRG as the basis for developing the cost appraisal of the wastewater system. The listing of the inventory as provided by Pennoni is included as Exhibit 1. The assessment included an inventory of assets by location, and included year of addition, and code based upon the National Association of Regulatory Utility Commissions (NARUC) accounting system. The assessment also included anticipated future construction of utility plant for the next five years and photographs of major components of the facilities as shown in Exhibit 2.

<sup>&</sup>lt;sup>2</sup> Martson, Anson; Winfrey, Robley; Hempstead, Jean C., Engineering Valuation and Depreciation (Ames: Iowa State University Press, 1953), p. 8.

<sup>&</sup>lt;sup>3</sup> Implementation of Section 1329 of the Public Utility Code, Docket No. M-2016-2543193 (Tentative Order entered July 21, 2016) (Final Order entered October 27, 2016).

Pennoni stated that the facilities were in sound operating condition which was supported by the photographs that indicated that the facilities were well maintained. Pennoni's costs for the utility plant were taken from construction documents and a knowledge of the LTSSS. In addition HRG representatives visited the facilities on January 24, 2017. HRG conducted further investigations and analysis for comparison with comparable construction. As a result, HRG believes the costs submitted by Pennoni combined with HRG adjustments to eliminate abandoned utility plant and errors of duplication are acceptable for purposes of the appraisal of fair market value.

There are several measures of cost depending on the purpose that it is to be used for. For example, a valuation for rate purposes is different than a valuation for tax, condemnation or for insurance purposes. Cost measures that are commonly used include Original Cost, Replacement Cost and Reproduction Cost. The measures used are discussed in the following paragraphs.

Original Cost – Original Cost is the cost of utility plant when initially dedicated to public service and is derived from work orders, construction contracts and other documents. Original Cost is the standard normally used for ratemaking purposes and forms the basis for determining the annual depreciation and return that are components of the cost of service for a regulated utility. An inventory of assets and Original Costs of the LTSSS utility plant by category was provided in the Pennoni appraisal.

HRG assigned estimated service lives for each category of utility plant based on experience of comparable wastewater utility systems and calculated annual and accrued depreciation to derive the elements of value. Depreciation is the loss in service value of depreciable utility plant not restored by current maintenance that occurs as a result of wear and tear and action of the elements.

For a regulated utility, the objective of depreciation is the cost recovery of the plant cost over the useful life from those customers receiving service at the time that the facilities are in service. In other words to match the cost recovery from those customers benefiting from the facilities in service, thus avoiding subsidizing future customers at the expense of customers receiving utility service currently.

Annual depreciation for LTSSS was calculated on a straight-line basis by dividing the Original Cost provided by Pennoni by the service life to obtain the annual write off over the useful life of the utility plant. Accumulated depreciation was calculated by multiplying the annual depreciation for each category by the age. The calculation of annual, accrued depreciation and Original Cost less depreciation is shown on Schedule B, of the Appendix.

The estimated cost of future anticipated construction was added to the cost of utility plant in service at the December 31, 2016 price level. Land and other non-depreciable property was stated at cost because these assets have unlimited useful lives. Original Cost is the standard normally used for rate making purposes with the exception of valuations for municipal acquisitions as provided for in Section 1329 of the Code.

A summary of Original Cost and calculated accumulated depreciation, including a provision for going value, as shown on Schedule B of the Appendix is summarized as follows:

Original Cost	\$ 47,480,000
Plus Provision for Going Value (See Schedule I)	<b>\$ 4,000,000</b> (1)
Depreciated Original Cost	\$ 43,480,000
Less Accumulated Depreciation	<u>\$ 24,490,000</u>
Original Cost (See Schedule B)	\$ 67,970,000

(1) Refer to page 11 of the report for an explanation of going value.

Replacement Cost - For purposes of this appraisal, Replacement Cost has not been used. Replacement Cost would allow the cost to replace an asset with some other asset capable of preforming the same function, but the cost of the replacement could be substantially different than the asset that is in service and would allow disputes among the parties of what is a legitimate replacement. Furthermore, a replacement asset may not be the same asset that is being transferred.

**Reproduction Cost** – Reproduction Cost is the cost of utility plant stated at a current price level. For purposes of this assessment, a date certain of December 31, 2016 was used. By definition, Reproduction Cost is the cost of replacing the same facilities (in kind) which are being transferred in the sale.

The Reproduction Cost was derived by restating the Original Cost of depreciable utility plant to a current price level as of December 31, 2016. There are several methods of restating costs to a current price level. In this case, Engineering News Record (ENR) cost trend indices were used. A cost trend index number measures the relative price change from one date to another. From ENR, the ratio of the index number as of December 31, 2016 to the index number as of the date of service for each asset was calculated and multiplied by the Original Cost to calculate the Reproduction Cost for all utility plant with the exception of collection system mains.

It is apparent that the unit cost for collection system mains is not in-line with current industry unit costs for collection system main construction. The Pennoni report states that the footage for mains was measured from maps of the system; however, the costs reported represent expenditures made by LTSSS and may not include the cost of mains contributed by developers. Consequently, the unit cost appears to be understated. For that reason, HRG believes that a representative sample of unit costs taken from regional municipalities would reflect a more realistic measure of the Reproduction Cost value. The Reproduction Cost for collection system mains was calculated by multiplying the measured feet of main by the current costs developed from the other regional wastewater systems.

Annual depreciation and accrued depreciation were calculated by HRG using the same process as used for the Original Cost and using the same service lives that were used in the Original Cost calculation with the exception of annual and accrued depreciation for collection system mains. For collection system mains, annual and accrued depreciation was calculated as a percentage based on the Original Cost calculations.

The estimated cost of future anticipated construction was added to the cost of utility plant in service at the December 31, 2016 price level. Land and non-depreciable property is stated at the Original Cost price. In addition, a provision for going value has been added and is explained in a subsequent section of this report.

For purposes of acquisition of the LTSSS by Aqua, the Reproduction Cost measure is used as one approach for estimating fair market value. Section 1329 of the Code states "a fair market valuation is

not tied to the original cost of construction minus accumulated depreciation." HRG used the Reproduction Cost as the measure of the cost approach.

A summary of Reproduction Cost and the calculated accumulated depreciation, including a provision for going value, as shown on Schedule C of the Appendix is summarized as follows:

Reproduction Cost – Market Value	\$ 90,050,000
Plus Provision for Going Value (See Schedule I)	<b>\$ 4,000,000</b> (1)
Depreciated Reproduction Cost	\$ 86,050,000
less Accumulated Depreciation	\$ 59,510,000
Reproduction Cost (See Schedule C)	\$ 145,560,000

<sup>(1)</sup> Refer to page 11 of the report for an explanation of going value.

#### **MARKET APPROACH**

As previously stated, market value is defined as the value established in a public market by exchanges between willing sellers and willing buyers not under duress. Developing a sound basis to determine the market value would require comparisons of comparable systems to establish a true market. Although there have been utility acquisitions in recent years, no two utilities are comparable in that each system is subject to different circumstances.

Utilities are comprised of different treatment facilities, are different ages, are located in different service areas with different terrain characteristics, subject to different physical conditions and are comprised of different customer mixes. All such factors impact the operations, worth and relative appeal to a potential purchaser.

For example, a system that is in a dilapidated condition requiring substantial repairs and upgrades would be less attractive and a buyer would seek a substantial discounted purchase price for such a system over a system that is in good repair. Conversely, a system that has potential for growth may command a premium. Due to the difficulty of compiling purchase prices of comparable systems, various parameters were used by HRG to estimate the market value.

Comparison of Other Wastewater System Acquisitions - HRG used a sample of recent municipal wastewater acquisitions to approximate the value on a per customer basis and then averaged the findings to develop an average cost of \$8,661 per customer. The average system purchase price was then multiplied by the number of projected LTSSS customers over the twenty year period of the analysis. The total number of connections at the end of the projection period are estimated to be 7,246. HRG arrived at this total by assuming the customer base grows by 1.9% annually from 2017 through 2026 and by 1% annually from 2027 through 2036. The projected customer growth through 2026 was based on the number of projected developments that are outlined in Limerick's 2015 Chapter 94 report. The resulting estimated value based on a cost per customer is \$62,760,000 as shown on Schedule D of the Appendix.

As one consideration of Fair Market Valuation, HRG finds a value of: \$62,760,000

#### **INCOME APPROACH**

HRG used a cash flow method and a utility method to develop the income value of the LTSSS. The cash flow method is derived from discounting future earnings derived from revenues less expenditures less taxes to calculate available cash flow. The utility method develops a net income (cash flow) based on annual depreciation and return.

Typically, the cash method is used by municipal entities that must meet debt and other operating obligations on an annual basis from available cash flow. The utility basis is applicable for a regulated utility (investor owned utility) and allows a more equitable recovery of capital costs from customers over time since utility plant has a long useful service life. An investor owned utility has access to equity funds from investors and avoids the need to meet annual debt obligations on an annual basis.

In place of principle and interest payments required by municipal systems, investors receive a return on their investment based on the depreciated cost of the utility plant times a fair rate of return. For purposes of developing the income value, HRG has averaged the calculated market value as discussed in the following paragraphs.

#### **Cash Flow Present Value Analysis**

Earnings value of a property is the present worth of its probable future net earnings, based on expenses, earnings and the business outlook which are discounted to a present day price level. The projection includes a provision for income taxes applicable to regulated wastewater operations that would be incurred by Aqua. Net income after tax has been projected over a twenty year period and was discounted to a present value. Schedule E presents a summary of Limerick's actual revenues and expenditures for 2014, 2015, 2016 and budgeted revenues and expenditures for 2017.

Schedule F presents a projection of revenues, expenditures and cash flow for a twenty year period, a determination of the present value of cash flows and a summary of the components to estimate the market value based on the cash flow. The growth and rate increase assumptions applicable to revenues and variable treatment expenses are also shown on this schedule. Schedule F is adjusted to incorporate operational savings that would be realized under Aqua's operations. The percentage of savings is calculated on a per customer basis for those expenses where savings can be achieved through economies of scale. An explanation of assumed revenue increases is shown in the following paragraphs.

It is assumed that current user rates will remain frozen for three years, therefore revenue for years 2017 through 2019 is based on Limerick's presently effective rates. It is assumed that Aqua will not incur income taxes for these years because for tax purposes, depreciation and tax loss carry forward will offset net income. For subsequent years, it is assumed that Aqua will increase rates and will receive revenue to recover the full cost of service in each year of a rate increase as provided for by statute. For years between rate increases, a provision for erosion of cash flow is deducted. Schedule H presents a calculation to estimate the earnings erosion.

Recent rate practice has distributed rate increases over Aqua's customer base and not necessarily by each utility system or service area. That means that some service areas may receive greater increases than others, conversely, other service areas may receive lesser increases. Many factors influence how a rate increase will be implemented including historic rate structures of acquired systems and the magnitude of increases to specific service areas.

For the acquisition of the LTSSS the following assumptions have been incorporated into determining the revenue requirement:

55% rate increase, effective January 1, 2020 10% rate increase, effective January 1, 2023, 2026, 2029, 2032 and 2035

The following explanation provides support for increased revenue to Aqua resulting from the purchase of the LTSSS. We are aware that PUC may not allow Aqua to fully recover the purchase price in order to achieve a level of rate stability for LTSSS customers. It is assumed that Aqua will file for a system-wide rate increase to recover the full cost of service of the LTSSS, however, the increase will not be recovered entirely by LTSSS customers. The estimated cost of service\* of the LTSSS as a regulated utility is significantly above the revenue at existing LTSSS rates as shown below, based on 2020, the year Aqua rates become effective:

O&M Expense (See Schedule F)	\$ 1,911,300
Plus Annual Depreciation	\$ 1,894,800
Plus Income Taxes	-
<u>Plus Return</u>	\$ 2,518,100
Cost of Service in 2020 (Regulated Utility)	\$ 6,324,200
Less LTSSS Revenue Current Rates	\$ 4,039,400
Shortfall	\$ 2,284,800

The indicated increase to recover the full cost of service from LTSSS customers would be approximately 55%. As indicated, the shortfall of \$2,284,800 would be recovered over the Aqua customer base.

Estimated Value based on Present Value of Cash Flow \$ 55,020,000

#### Estimated Rate Base/Rate of Return Present Value Analysis

The present value (present worth) for a regulated utility is a function of the depreciation and return as presented on Schedule G. Years 2017, 2018 and 2019 are based on the cash flow approach because Aqua will not recover depreciation and return until it receives a rate increase which is projected for 2020

<sup>\*</sup>Cost of Service for a regulated utility is the sum of O&M expenses, annual depreciation, taxes and return (see Schedule G).

per the calculations on Schedule G. Subsequent years from 2021 through 2036 assume a regulated utility basis of depreciation and return.

Annual depreciation has been calculated using estimated service lives for comparable wastewater utility systems. Development of annual accrued depreciation and depreciated cost has been described in the cost approach section of this report. An estimated rate of return on the depreciated cost of 7.5% has been used to calculate return based on Aqua's estimated weighted cost of capital. Available cash as stated is the sum of annual depreciation plus return on the rate base. Income taxes are not reflected in the utility approach because return is calculated after taxes.

The estimated market value is equal to annual depreciation and return discounted to a present value at a rate of 2.5% to reflect the estimated impact of annual inflation. An additional adjustment is made to reflect the impact of erosion on return in years when there is no rate increase as shown on Schedule H. In addition, a provision for going value is added to the present value to reflect the estimated market value. An explanation of going value is described in the following section.

Estimated Value based on Rate Base/Rate of Return

\$ 100,690,000

For purposes of estimating the fair market value of the LTSSS, the two market values as determined by the income approach are averaged.

Value based on Present Value of Cash Flows:

\$ 55,020,000

Value based on Rate Base/Rate of Return:

\$ 100,690,000

Estimated Fair Market Value – Income Approach:

\$ 77,855,000

As one consideration of Fair Market Valuation, HRG finds a value of: \$ 77,855,000

#### **GOING VALUE**

It is readily apparent that an established enterprise has an incremental value in excess of the cost value of the physical facilities. A wastewater system requires a substantial investment in collection, treatment and disposal plant, a component of the value. In addition, an entity must acquire a customer base, hire

employees, develop an accounting and record keeping process and develop operating and management policies and procedures. This process takes time and the entity will incur losses during initial years.

As a component of the value of an enterprise, the cumulative losses should be considered in addition to the cost of the facilities for acquisition purposes. A calculation of an estimate of the going value to reflect the cumulative losses is presented in Schedule I of the Appendix. The calculation assumes operations under the LTSSS over five year period to develop the current customer base and operating expenses as shown on the schedule.

Losses are stated in terms of a present value. The cumulative losses are discounted at a rate of 2.5% to reflect the estimated impact of annual inflation which results in an estimated going value of \$4,000,000 that is added to the applicable approaches for valuing the LTSSS.

#### CONCLUSION

As previously stated, HRG developed three approaches to estimate the fair market value of the LTSSS based on the requirements of Section 1329 of the Code. The approaches incorporate expectations of future events and assumptions and represent a good faith attempt to develop the fair market value based on information available and informed judgement of wastewater systems.

Each of the approaches incorporates assumptions and no one approach can be assumed to be superior. For this reason, HRG believes that equal weightings should be given to each.

A summary of the approaches and HRG's finding of value is presented as follows:

 Cost Approach
 \$ 90,050,000

 Market Approach
 \$ 62,760,000

 Income Approach
 \$ 77,855,000

 Average Fair Market Value:
 \$ 76,890,000

Based on HRG's analysis and investigations HRG finds the Fair Market Value for the LTSSS as of December 31, 2016 to be: \$ 76,890,000

SCHEDULE: A

### **CERTIFICATE OF MARKET VALUATION**

for

Limerick Township Sanitary Sewer System

as of

December 31, 2016

Based on analysis, investigations, professional judgement and experience of wastewater valuations and considering several approaches for determining fair market value, HRG finds in their professional opinion that the fair market value of the Limerick Township Sanitary Sewer System as of December 31, 2016 is:

\$76,890,000

Calculation of Original Cost less Accumulated Depreciation (as of 12/31/2016)

Year	NARUC Account		Service Life	Age	Original Cost	Annual Depreciation	Accumulated Depreciation	OCLD
Code 353 - L	and and I	and Rights			F1-7			
1988	353	King Rd Plant- Property	0	28.5	53,000	0	0	53,000
1988	353	ROW- Pump Station Land Acq.	0	28.5	28,522	0	0	28,522
1988	353	ROW- Pump Station Land Acq.	0	28.5	25,402	0	0	25,402
1989	353	King Rd Plant- Property	0	27.5	150,267	0	0	150,267
1989 1990	353 353	ROW- Pump Station Land Acq. ROW - Pump Station Land Acq.	0	27.5 26.5	4,827 5,000	0 0	0	4,827 5,000
1991	353	ROW - Pump Station Land Acq.	0	25.5	19,503	0	0	19,503
1991	353	ROW - Pump Station Land Acq.	0	25.5	3,056	0	0	3,056
1991	353	ROW - Pump Station Land Acq.	0	25.5	13,280	0	0	13,280
1993	353	ROW - Pump Station Land Acq.	0	23.5	11,500	0	0	11,500
1994	353	ROW- Pump Station Land Acq.	0	22.5	16,809	0	0	16,809
2000	353	ROW - Mingo Creek Interceptor	0	16.5	189,540	0	0	189,540
2001 2002	353 353	Easement & ROW Easement -King Rd Pump Station	0	15.5 14.5	83,639 1,950	0	0	83,639 1,950
2002	353	Easements King Rd	0	14.5	12,455	0	0	1,930
2002	353	Easement - Galie	0	14.5	11,104	0	Ö	11,104
2003	353	Easement & ROW	0	13.5	1,907	0	0	1,907
2003	353	Easement & ROW	0	13.5	15,716	0	0	15,716
2003	353	Easements & ROW King Rd	0	13.5	10,250	0	0	10,250
2004	353	Easement & ROW	0	12.5	30,772	0	0	30,772
2004	353	Easement & ROW	0	12.5	357	0	0	357
2004 2004	353 353	Possum Hollow- Property Easements & ROW King Rd	0	12.5 12.5	7,010 2,907	0	0	7,010 2,907
2004	353	Easement & ROW	0	11.5	22,646	0	0	22,646
2006	353	Easement & ROW	0	10.5	1,243	0	0	1,243
2006	353	Land- Galie Property	0	10.5	325,722	0	0	325,722
-		Total Land and Land Rights:			1,048,383	0	0	1,048,383
Code 354 - S	tructures :	and Improvements		N. Hall		2 TO 28 TO 1 TO 1 S	Section 1	
1991	354	KR - Operation Building	30	25.5	873,890	29,130	742,807	131,084
2007	354	KR - Paving	30	9.5	135,744	4,525	42,986	92,758
2012	354	KR - Operation Building Roof	30	4.5	40,962	1,365	6,144	34,818
2016	354	KR -Headworks coating Total Structures and Improvements:	30	0.5	15,100 1,065,696	503 <b>35,523</b>	252 792,188	14,848 273,508
C-1-160 C	allastina G	Sewers - Force Main						
2000	360	Bradford Woods 4" force main	50	16.5	194,378	3,888	64,145	130,233
2000	360	Bradford Woods 2" force main	50	16.5	13,020	260	4,297	8,723
2006	360	PS#15 - forcemain	50	10.5	11,194	224	2,351	8,843
2015	360	PS#20 - Forcemain	50	1.5	25,000	500	750	24,250
		Total Collection Sewers - Force Main:			243,592	4,872	71,542	172,050
		Sewers - Gravity Main	PAFFE					
1986	361	Various Interceptor Projects	50	30.5	5,596,725	111,935	3,414,002	2,182,723
1988	361	The Fairways	50	28.5	212,850	4,257	121,325	91,526
1989 1989	361 361	Aronimink D&L Associates	50 50	27.5 27.5	118,001 35,320	2,360 706	64,901 19,426	53,100 15,894
1989	361	Greenfields (Ph. 2)	50	27.5	71,630	1,433	39,396	32,233
1989	361	The Glen**	50	27.5	101,011	2,020	55,556	45,455
1990	361	Montgomery Brook**	50	26.5	8,345	167	4,423	3,922
1991	361	Brookwood SD (Sara Ln)	50	25.5	27,502	550	14,026	13,476
1991	361	Fox Ridge**	50	25.5	207,327	4,147	105,737	101,590
1992	361	Limerick Airport Business Center	50	24.5	107,972	2,159	52,906	55,066
1994	361	Abbey Downs (Ph. 2-3) Springford Country Club	50	22.5	185,848 109,289	3,717	83,631	102,216
1994 1994	361 361	Herritage Ridge (Ph. 1-3)	50 50	22.5 22.5	150,820	2,186 3,016	49,180 67,869	60,109 82,951
1994	361	Muirfield (Ph. 1-2)	50	22.5	199,735	3,995	89,881	109,854
1995	361	Deer Run / Neiffer Road	50	21.5	158,529	3,171	68,167	90,362
1995	361	Linfield Corporate Center (Ph. 1)	50	21.5	154,385	3,088	66,386	88,000
1995	361	Royersford/Limerick Center LP	50	21.5	176,508	3,530	75,898	100,610
1996	361	Pump Station 6A Interceptors	50	20.5	232,260	4,645	95,227	137,033
1996	361	Chapel Heights/The Fields	50	20.5	111,819	2,236	45,846	65,973
1996 1996	361 361	Zappone Springford High School Sewer Extension	50 50	20.5 20.5	22,135	443	9,075	13,060
1990	361	Merion	50	19.5	59,155 480,080	1,183 9,602	24,254 187,231	34,901 292,849
					.00,000	2,002	101,231	272,077

Calculation of Original Cost less Accumulated Depreciation (as of 12/31/2016)

1997   361   The Meadows	Year	NARUC Account	Asset	Service Life	Age	Original Cost	Annual Depreciation	Accumulated Depreciation	OCLD
1997   361   Walnut Crossing   59   19.5   191,338   3.927   74,622   116,716   1997   361   Marterford Greene (Ph. 1-6)   59   19.5   64,6679   4.934   50,603   150,474   1997   361   Marterford Greene (Ph. 1-6)   50   19.5   645,400   13,710   267,341   418,149   1997   361   Marterford Greene (Ph. 1-6)   50   19.5   175,544   3.531   6.852   107,692	1007	261	The Meadour	50	10.5	161 706	2 226	62 100	08 605
1997   361   Heather Cien (Ph. 1a-b)   59   19.5   246,679   4,934   96,205   19.6,474   1997   361   Naperford Deceme (Ph. 1a-b)   59   19.5   176,544   3,531   68,832   107,692   1997   361   Naperford Road Sewer Extension   50   19.5   176,544   3,531   68,832   107,692   1997   361   Naperford Road Sewer Extension   50   19.5   176,544   3,531   68,832   107,692   1998   361   Naperford Road Sewer Extension   50   19.5   31,747   23,90   43,467   74,911   1998   361   Naperford Road Sewer Extension   50   18.5   33,2740   68,553   121,141   209,626   1998   361   Naperford Road Sewer Extension   50   18.5   133,900   2,678   49,543   34,577   43,111   42,943   44,571   1999   361   Naperford Road Sewer Extension   50   18.5   133,900   2,678   49,543   399,797   1999   361   Anthord SD   50   17.5   73,568   1,471   25,749   47,819									45.0
1997   361   Waterford Creene (Ph. 1-8c)   50   19.5   685,490   13,710   267,341   418,149   1997   361   Royenford Road Sewer Extension   50   19.5   175,132   3,503   68,301   106,831   1998   361   Naphra Crosse   50   18.5   175,132   3,503   68,301   106,831   1998   361   Walmut Grove   50   18.5   220,800   4,616   85,306   44,617   40,411   1998   361   Walmut Grove   50   18.5   33,7,400   6,555   121,111   299,025   1999   361   Right Flow Flater Stems Fixturation   50   18.5   33,7,400   6,555   121,111   299,025   1999   361   Right Flow Flater Stems Fixturation   50   18.5   634,598   12,672   234,801   299,707   1999   361   Linka at Springford   50   17.5   130,272   2,605   45,595   84,677   1999   361   Linfald Fram (Ph. 1-3)   50   17.5   228,766   10,575   185,668   34,698   1999   361   Vinture France (Wayside)   50   17.5   528,766   10,575   185,068   346,698   1999   361   Vinture France (Wayside)   50   17.5   528,766   10,575   185,068   346,698   1999   361   Vinture France (Wayside)   50   17.5   528,766   10,575   185,068   346,698   1999   361   Vinture France (Wayside)   50   17.5   528,766   10,575   185,068   346,698   1999   361   Vinture France (Wayside)   50   17.5   528,766   10,575   185,068   346,698   1999   361   Vinture France (Wayside)   50   17.5   528,766   10,575   185,068   346,698   1999   361   Vinture France (Wayside)   50   17.5   13,10,789   26,216   455,776   655,069   1999   361   Vinture France (Wayside)   50   17.5   13,10,789   26,216   455,776   655,069   1999   361   Vinture France (Wayside)   50   17.5   13,10,789   26,216   455,776   255,869   2000   361   Enderford Woods gravity   50   16,5   16,064   3,381   52,410   11,400   20,222   2000   361   Linfeld Knoll   50   16,5   192,093   3,342   6,1394   128,702   2000   361   Linfeld Knoll   50   16,5   192,093   3,442   6,1394   128,702   2000   361   Linfeld Knoll   50   16,5   16,664   3,381   52,410   11,6654   3,381   52,410   11,6654   3,381   52,410   3,381   52,410   3,381   52,410   3,381			_						0.000
1997   361   Royersford Road Sewer Extension   50   19.5   176,544   3,531   68,852   107,692   1998   361   Summer Classe   59   18.5   117,478   2,350   43,467   74,911   1998   361   Summer Classe   59   18.5   117,478   2,350   43,467   74,911   1998   361   Summer Classe   59   18.5   117,478   2,350   43,467   74,911   1998   361   Subject Robuston   50   18.5   332,740   6,655   123,114   209,625   1998   361   Magnet Transform   50   18.5   332,740   6,655   123,114   209,625   1998   361   Ridge Pike Sewer Extension   50   18.5   332,740   6,655   123,114   209,625   1999   361   Linfeld From (Ph. 1-3)   50   17.5   246,044   4,921   86,116   199,979   1999   361   Linfeld From (Ph. 1-3)   50   17.5   246,044   4,921   86,116   199,929   361   Linfeld From (Ph. 1-3)   50   17.5   246,044   4,921   86,116   199,929   361   Linfeld From (Ph. 1-3)   50   17.5   548,967   10,979   192,138   356,229   369,339   369,3									
1998   361   Summer Chase   50   18.5   117.478   2,359   43,467   74,011     1998   361   Buffey Roberts Lance Sewer Extension   50   18.5   332,740   6.655   123,114     1998   361   Buffey Roberts Lance Sewer Extension   50   18.5   332,740   6.655   123,114     1998   361   Ridge Pike Sewer Extension   50   18.5   332,740   6.655   123,114     1999   361   Ridge Pike Sewer Extension   50   18.5   624,598   12.692   224,801     1999   361   Ashired SD   50   17.5   73,568   12,492   224,801     1999   361   Limek at Springford   50   17.5   130,272   2.605   45,293     1999   361   Timek at Springford   50   17.5   130,272   2.605   45,293     1999   361   Timek at Springford   50   17.5   548,967   10,379     1999   361   Timek at Springford   50   17.5   548,967   10,379     1999   361   Timek at Springford   50   17.5   548,967   10,379     1999   361   Timek Stand Interceptor   50   17.5   548,967   10,379     1999   361   Timek Stand Interceptor   50   17.5   548,967   10,379     1999   361   Timek Stand Sewer Extension   50   17.5   160,456   3,200   56,160     1990   361   Timek Stand Sewer Extension   50   17.5   160,456   3,200   56,160     1991   361   Timek Stand Sewer Extension   50   16.5   155,026   3,101     1992   361   Timek Stand Sewer Extension   50   16.5   155,026   3,101     1993   361   Timek Stand Sewer Extension   50   16.5   155,026   3,101     1994   361   Timek Stand Sewer Extension   50   16.5   150,020   3,842     2000   361   Chemtur Pointe   50   16.5   150,020   3,842     2000   361   Chemtur Pointe   50   16.5   160,044   3,381   3,241     2001   361   Limerick Green   50   16.5   160,044   3,381   3,241     2001   361   Limerick Green   50   16.5   160,044   3,381   3,241   11.65     2001   361   Millow Tumber Stand St				50	19.5				
1998   361   Walnut Grove   50   18.5   230,800   4.616   85.396   145,404     1998   361   West Cherry Lane Sewer Extension   50   18.5   333,700   2.678   49,431     1998   361   West Cherry Lane Sewer Extension   50   18.5   133,000   2.678     1998   361   West Cherry Lane Sewer Extension   50   18.5   634,598   12,692     1999   361   Ashfords D   50   17.5   73,688   1.471   25,749   47,819     1999   361   Links at Springford   50   17.5   130,272   2.605   40,595   44,711     1999   361   Links at Springford   50   17.5   328,760   10,575   81,161   199,729     1999   361   Carrett (Waysido)   70   70   70   70   70   70   70   7	1997	361	Kugler Road Sewer Extension	50	19.5	175,132	3,503	68,301	106,831
1998   361   BestryKoberta Lames Sewer Extension   50   18.5   332,740   6.655   123,114   209,626     1998   361   West Cherny Lane Sewer Extension   50   18.5   634,998   12,692   234,801   399,797     1999   361   Links at Springford   50   17.5   73,568   1.471   23,799     1999   361   Links at Springford   50   17.5   73,568   1.471   23,799     1999   361   Links at Springford   50   17.5   246,044   4,921   86,161   1999;   1999   361   Links at Springford   50   17.5   246,044   4,921   86,161   1999;   1999   361   Links at Springford   50   17.5   246,044   4,921   85,262     1999   361   Vinite Tract (Wayside)   50   17.5   246,044   4,921   85,262     1999   361   Vinite Tract (Wayside)   50   17.5   388,967   10,979   132,183   256,822     1999   361   Mingo Creek Interceptor   50   17.5   388,967   10,979   36,168   36,822     1999   361   Mingo Creek Interceptor   50   17.5   180,465   3,209   36,169   164,296     2000   361   Bradford Woods gravity   50   16.5   34,746   40,93     2000   361   Linfield Knotl   50   16.5   34,746   40,93     2000   361   Linfield Knotl   50   16.5   34,746   40,93     2000   361   Linfield Knotl   50   16.5   34,746   40,93     2001   361   Crosswinds   50   16.5   228,806   4,576   5,391     2001   361   Grisswinds   50   16.5   228,806   4,576   5,391     2001   361   Grisswinds   50   16.5   228,806   4,576   6,391   128,702     2001   361   Grisswinds   50   16.5   228,806   4,576   6,391   128,702     2001   361   Grisswinds   50   16.5   228,806   4,576   6,391   128,702     2001   361   Grisswinds   50   16.5   143,280   4,391   1,480,2   23,934     2001   361   Grisswinds   50   16.5   143,280   4,480,2   23,948     2001   361   Grisswinds   50   16.5   143,280   2,866   4,576   4,477   4,566     2001   361   Grisswinds   50   16.5   143,280   2,866   4,576   4,477   4,566     2001   361   Grisswinds   50   15.5   143,280   2,866   4,576   4,477   4,566     2001   361   Grisswinds   50   15.5   143,280   2,866   4,576   4,477   4,566     2001   361   G	1998	361				and the second second			
1998   36									
1998   361   Ridge Pike Sewer Extension   50   18.5   644,598   12,692   234,801   399,797     1999   361   Ashford SDD   50   17.5   73,568   1,471   25,749   47,819     1999   361   Links at Springford   50   17.5   130,272   2,605   45,958   84,677     1999   361   Links at Springford   50   17.5   246,044   4,921   83,068     1999   361   Virnie Tract (Wayside)   50   17.5   248,046   10,375   185,068   343,698     1999   361   Township Line Road Interceptor   50   17.5   548,067   10,979   12,138   356,829     1999   361   Milago Crick Interceptor   50   17.5   100,455   3,209   458,776     2000   361   Bradford Woods gravity   50   16.5   835,625   16,713   275,756   599,869     2000   361   Default Province   50   16.5   835,625   16,713   275,756   559,869     2000   361   Chestum Province   50   16.5   185,022   3,101   275,756   559,869     2000   361   Linerick Oreen   50   16.5   185,023   3,102   275,756   183,876     2001   361   Crosswinds   50   16.5   182,081   3,102   275,756   183,876     2001   361   Crosswinds   50   16.5   182,081   3,103   275,756   183,876     2001   361   Grosswinds   50   16.5   183,862   4,576   4,5391   122,702     2001   361   Grosswinds   50   16.5   183,862   4,576   4,597   4,598     2001   361   Grosswinds   50   16.5   183,862   4,576   4,597   4,598     2001   361   Grosswinds   50   15.5   477,660   4,3381   52,410   116,654     2001   361   Grosswinds   50   15.5   143,280   4,576   4,598   4,576   4,598     2001   361   Lakeview Commercial Center   50   15.5   143,280   2,866   4,576   4,598     2001   361   Lakeview Commercial Center   50   15.5   143,280   2,866   4,576   4,598     2001   361   Grosswinds   50   15.5   133,982   2,760   4,417   9,858     2001   361   Grosswinds   50   15.5   133,982   2,760   4,417   9,858     2001   361   Grosswinds   50   15.5   133,982   2,760   4,417   9,858     2001   361   Grosswinds   50   15.5   133,982   2,760   4,417   9,858     2001   361   Grosswinds   50   15.5   133,982   2,760   4,417   4,417   9,858							0.0000000000000000000000000000000000000		
1999   361   Ashford SD   50   17.5   73,568   1,471   23,749   47,819   1999   361   Links at Springford   50   17.5   130,272   2,606   45,595			Similar Services Serv						
1999   361   Links at Springford   50   17.5   130,272   2,005   45,995   84,677   1999   361   Winnie Tract (Wayside)   50   17.5   246,044   49,21   1992   1999   361   Winnie Tract (Wayside)   50   17.5   548,967   10,375   185,068   343,099									
1999   361   Linfield Farm (Ph. 1-3)   50   17.5   528,766   10,579   192,138   334,898   1999   361   Township Line Road Interceptor   50   17.5   538,767   10,979   192,138   336,829   1999   361   Ningo Ceckel Interceptor   50   17.5   13,1078   26,216   32,09   56,160   104,296   2000   361   Bardford Woods gravity   50   16.5   835,625   16,713   275,756   598,869   2000   361   Chestnut Pointe   50   16.5   358,026   3,101   51,158   103,867   2000   361   Linriedk Korlen   50   16.5   34,749   695   14,667   22,382   2000   361   Linriedk Korlen   50   16.5   34,749   695   14,667   22,382   2000   361   Linriedk Korlen   50   16.5   52,298   3,842   63,391   128,702   2000   361   Villiam Pen Villas   50   16.5   22,898   43,568   45,767   75,506   33,000   2001   361   Crosswinds   50   16.5   54,776,20   9,552   418,062   329,558   2001   361   Faircest Farm (Ph I-4)   50   15.5   477,620   9,552   448,062   329,558   2001   361   Lewis Road Office Complex (Ph II)   50   15.5   134,040   681   3,72   21,272   47,346   2001   361   Lewis Road Office Complex (Ph II)   50   15.5   134,040   681   10,552   23,488   2001   361   Faircest Estates   50   15.5   134,040   681   10,552   23,488   2001   361   Pinc Tees D   50   15.5   51,504   30,044   681   10,552   23,488   2001   361   Wickford Hunt   50   15.5   51,504   40,044   681   10,552   23,488   2001   361   Wickford Hunt   50   15.5   51,504   40,044   681   10,552   23,488   2001   361   Wickford Hunt   50   15.5   51,204   40   681   10,552   23,488   2001   361   Wickford Hunt   50   15.5   51,204   40   681   10,552   23,488   2001   361   Wickford Hunt   50   15.5   12,208   446   6,912   13,304   2002   361   Wickford Hunt   50   15.5   51,204   40   681   10,552   23,488   2001   361   Wickford Hunt   50   15.5   51,204   40   681   10,552   23,488   2001   361   Wickford Hunt   50   15.5   51,204   40   681   10,552   23,488   2001   361   Wickford Hunt   50   15.5   51,204   40   681   69,304   50,404   50,404   50,404   50,404   50,404									
1999   361   Winnie Tract (Wayside)   50   17.5   548,766   10.575   185,068   343,698   1999   361   North Linearch (Enterptor   50   17.5   548,697   10,979   192,138   356,829   1999   361   North Linearck Road Sewer Extension   50   17.5   161,0486   32,09   56,160   104,296   2000   361   Bradford Woods gravity   50   16.5   155,066   31,013   275,756   559,869   2000   361   Chestur Pointe   50   16.5   155,066   31,013   275,756   559,869   2000   361   Linearck Green   50   16.5   155,066   31,013   51,158   103,867   2000   361   Linearck Green   50   16.5   152,003   38,44   63,391   128,702   2000   361   Linearck Green   50   16.5   192,093   38,44   63,391   128,702   2000   361   William Penn Villas   50   16.5   128,004   4,576   75,506   153,300   2001   361   Conswinds   50   15.5   169,064   33,81   52,410   116,654   2001   361   Conswinds   50   15.5   169,064   33,81   52,410   116,654   2001   361   Conswinds   50   15.5   68,618   1,372   21,272   47,346   2001   361   Colf Ridge (Ph. 1-3)   50   15.5   68,618   1,372   21,272   47,346   2001   361   Levis Road Office Complex (Ph. II)   50   15.5   22,298   446   6.912   15,386   2001   361   Levis Road Office Complex (Ph. II)   50   15.5   22,298   446   6.912   15,386   2001   361   Pincerect Estates   50   15.5   313,092   2,760   42,774   95,008   2001   361   Pincerect Estates   50   15.5   517,604   10,352   23,488   2001   361   Willow Road Office Complex (Ph. II)   50   15.5   517,604   10,352   23,488   2001   361   Willow Road Office Complex (Ph. II)   50   15.5   517,604   10,352   23,488   2001   361   Willow Road Office Complex (Ph. II)   50   15.5   517,604   10,352   23,488   2001   361   Willow Road Office Complex (Ph. II)   50   15.5   517,604   10,352   23,488   2001   361   Willow Road Office Complex (Ph. II)   50   15.5   517,604   10,352   23,488   2001   361   Willow Road Office Complex (Ph. II)   50   15.5   517,604   10,352   23,488   2001   361   Willow Road Office Complex (Ph. II)   50   15.5   517,604   10,352							1000-0000000		
1999   361   Township Line Road Interceptor   50   17.5   548,967   10.979   1991.38   365,329   1999   361   Mingo Creek Interceptor   50   17.5   160,456   3.209   561,60   104,296   2000   361   Bradford Woods gravity   50   16.5   155,026   3.101   275,756   559,369   2000   361   Chestrust Pointe   50   16.5   155,026   3.101   51,158   103,367   2000   361   Limérick Green   50   16.5   192,099   3.842   63,391   128,702   2000   361   Limérick Green   50   16.5   192,099   3.842   63,391   128,702   2000   361   William Penn Villas   50   16.5   192,099   3.842   63,391   128,702   2001   361   Crosswinds   50   15.5   169,064   3.381   52,410   11,654   2001   361   Faircest Farm (th 1-4)   50   15.5   169,064   3.381   32,410   11,654   2001   361   Faircest Farm (th 1-4)   50   15.5   477,620   9.552   148,062   329,558   2001   361   Cavity Commercial Center   50   15.5   143,280   2.866   44,417   98,863   2001   361   Lakview Commercial Center   50   15.5   137,992   2.760   42,774   95,208   2001   361   Pincerest Estates   50   15.5   137,992   2.760   42,774   95,208   2001   361   Pincerest Estates   50   15.5   137,992   2.760   42,774   95,208   2001   361   Wildow Run (th 1-7)   50   15.5   151,604   10,352   100,457   37,147   2001   361   Wildow Run (th 1-7)   50   15.5   17,604   10,352   100,457   37,147   2001   361   Wildow Run (th 1-7)   50   15.5   17,604   10,352   100,457   37,147   2001   361   Wildow Run (th 1-7)   50   15.5   17,604   10,352   100,457   37,147   2001   361   Wildow Run (th 1-7)   50   15.5   17,604   10,352   100,457   37,147   2001   361   Wildow Run (th 1-7)   50   15.5   17,604   10,352   100,457   37,147   2001   361   Wildow Run (th 1-7)   50   15.5   17,604   10,352   100,457   37,147   2001   361   Wildow Run (th 1-7)   50   15.5   17,604   10,352   100,457   37,147   2001   361   Wildow Run (th 1-7)   50   15.5   17,604   10,352   30,404   30,404   30,404   30,404   30,404   30,404   30,404   30,404   30,404   30,404   30,404   30,404   30,404   30,404									31.5000 - 10.10 - 10.00
1999   56  Mingo Creek Interceptor   50   17.5   1,310,789   26,216   458,776   825,015     1999   56  North Limerick Rose Sewer Extension   50   17.5   1610,456   3.209   56,160   104,296     2000   36  Limerick Green   50   16.5   835,625   16,713   275,756   589,869     2000   36  Limerick Green   50   16.5   134,749   695   11,467   23,282     2000   36  Limerick Green   50   16.5   134,749   695   11,467   23,282     2000   36  Limerick Knoll   50   16.5   122,8806   4,576   575,506   135,300     2001   36  Crosswinds   50   16.5   122,8806   4,576   575,506   135,300     2001   36  Faircrest Farm (Ph 1-4)   50   15.5   477,620   9,552   148,062   329,558     2001   36  Golf Ridge (Ph 1-3)   50   15.5   143,280   2,866   44,417   9,863     2001   36  Lakwise Gommercial Center   50   15.5   143,280   2,866   44,417   9,863     2001   36  Lewis Road Office Complex (Ph. II)   50   15.5   137,982   2,760   42,774   95,208     2001   36  Pine Tree SD   50   15.5   137,982   2,760   42,774   95,208     2001   36  Pine Tree SD   50   15.5   12,911   2,438   37,792   84,119     2001   36  Si Wilske Mun (Ph. 1-7)   50   15.5   12,200   246   3,807   34,119     2001   36  Summit Properties (Ridge Pite CVS)   50   15.5   12,200   246   3,807   37,147     2001   36  Summit Properties (Ridge Pite CVS)   50   15.5   12,200   246   3,807   37,417     2001   36  Fur Mapleic Development   50   14.5   105,655   2,113   30,640   6,682     2002   36  Fur Mapleic Development   50   14.5   105,655   2,113   30,640   7,5015     2002   36  Summit Properties (Ridge Pite CVS)   50   15.5   12,200   246   3,807   37,417     2001   36  Cross (Ridge Pite CVS)   50   15.5   12,200   246   3,807   30,413     2002   36  Fur Mapleic Development   50   14.5   105,655   2,113   30,640   7,631     2003   36  Fur Mapleic Development   50   14.5   105,655   2,113   30,640   7,631     2003   36  Fur Mapleic Development   50   12.5   48,650   3,533   47,677   12,151     2004   36  Charch Ridge Pite Cross (Mapleic Pite Cross (Mapleic Pite Cross									
2000         361         Bendford Woods gravity         50         16.5         835,625         16,713         275,756         \$98,969           2000         361         Chistmer Pointe         50         16.5         34,749         695         11,467         23,282           2000         361         Linfield Knoll         50         16.5         34,749         695         11,467         23,282           2000         361         William Penn Villas         50         16.5         228,806         4,576         75,506         183,300           2001         361         Crosswinds         50         16.5         19,604         3,381         52,410         116,554           2001         361         Glor Kingle (Ph. 1-3)         50         15.5         477,620         9,552         148,062         239,558           2001         361         Glor Kingle (Ph. 1-1)         50         15.5         143,280         2,866         44,417         98,63           2001         361         Lake Kaod Offee Complex (Ph. II)         50         15.5         137,982         2,760         42,774         92,008           2001         361         Wickford Hunt         50         15.5         137,982 <td>1999</td> <td>361</td> <td></td> <td>50</td> <td>17.5</td> <td>1,310,789</td> <td>26,216</td> <td>458,776</td> <td></td>	1999	361		50	17.5	1,310,789	26,216	458,776	
2000   361   Chestnut Pointe	1999	361	North Limerick Road Sewer Extension	50	17.5	160,456	3,209	56,160	104,296
2000   361   Limerick Green   50   16.5   34,749   695   11,467   23,282   2000   361   Limerick Manl   50   16.5   192,093   38,42   63,391   12,870   2001   361   Crosswinds   50   16.5   228,806   4.576   75,506   153,300   2001   361   Crosswinds   50   15.5   169,064   3,381   52,410   116,654   2001   361   Faircrest Farm (Ph 14)   50   15.5   477,620   9,552   148,062   329,558   2001   361   Lakeview Commercial Center   50   15.5   143,280   2,866   44,417   98,863   2001   361   Lewis Road Office Complex (Ph. II)   50   15.5   12,398   2,760   42,774   95,208   2001   361   Pincerest Estates   50   15.5   13,7982   2,760   42,774   95,208   2001   361   Pincerest Estates   50   15.5   13,7982   2,760   42,774   95,208   2001   361   Willow Run (Ph. I-7)   50   15.5   12,200   446   10,552   23,488   2001   361   Willow Run (Ph. I-7)   50   15.5   17,604   10,352   160,457   357,147   2001   361   Summit Properties (Ridge Pike CVS)   50   15.5   399,334   7,987   123,794   275,540   2002   361   Four Maples Development   50   14.5   3,901,430   60,029   870,415   2,131,500   2002   361   Four Maples Development   50   14.5   2,040   461   6,682   16,358   2002   361   Euris Gentales   50   14.5   3,001,430   60,029   870,415   2,131,500   2003   361   Lakevis General Destates   50   14.5   3,001,430   60,029   870,415   2,131,500   2003   361   Lakevis General Destates   50   14.5   3,001,430   60,029   870,415   2,131,500   2003   361   Lakevis General Destates   50   14.5   3,001,430   60,029   870,415   2,131,500   2003   361   Lakevis General Destates   50   14.5   3,001,430   60,029   870,415   2,131,500   2003   361   Lakevis General Destates   50   14.5   3,001,430   60,029   870,415   2,131,500   2,001   3,001,430   60,000   870,415   2,131,500   2,001   3,001,430   2,0	2000	361	Bradford Woods gravity	50	16.5	835,625	16,713	275,756	559,869
2000   361   Milliam Penn Villas   50   16.5   192,093   3,842   63,391   128,702								45	
2000   361   William Penn Villas   50   16.5   228,806   4.576   75,506   153,300									
2001   361   Crosswinds						PORTOTO A MARKANIAN			
2001   361   Garterest Farm (Ph 1-4)   50   15.5   477,620   9,552   148,062   329,558			110000000000000000000000000000000000000						
2001   361   Lakeview Commercial Center   50   15.5   68,618   1,372   21,272   47,346   2001   361   Lakeview Commercial Center   50   15.5   143,289   2,866   44,417   98,863   2001   361   Lewis Road Office Complex (Ph. II)   50   15.5   12,298   446   6,912   15,386   2001   361   Pine Tree SD   50   15.5   31,040   681   10,552   23,488   2001   361   Wickford Hunt   50   15.5   31,040   681   10,552   23,488   2001   361   Wickford Hunt   50   15.5   517,604   10,352   160,457   357,147   2001   361   Willow Run (Ph. 1-7)   50   15.5   517,604   10,352   160,457   357,147   2001   361   Summit Properties (Ridge Pike CVS)   50   15.5   517,604   10,352   160,457   357,147   2001   361   Graterford Road Collection System   50   15.5   399,334   7,987   123,794   275,540   2002   361   Possum Hollow Sew. System- Interceptor   50   14.5   3,001,430   60,029   870,415   2,131,015   2002   361   Four Maples Development   50   14.5   3,001,430   60,029   870,415   2,131,015   2003   361   Heritage Estates   50   14.5   105,655   2,113   30,640   75,015   2003   361   Lakeside Development   50   13.5   88,622   1,772   23,928   64,694   44,694									
2001   361   Lewis Road Office Complex (Ph. II)   50   15.5   12.298   446   6.912   15.386   2001   361   Pine Tree SD   50   15.5   137,982   2,760   42,774   95,208   2001   361   Pine Tree SD   50   15.5   137,982   2,760   42,774   95,208   2001   361   Pine Tree SD   50   15.5   137,982   2,760   42,774   95,208   2001   361   Pine Tree SD   50   15.5   12,1911   2,418   37,792   34,119   2001   361   Willow Run (Ph. 1-7)   50   15.5   12,1911   2,418   37,792   34,119   2001   361   Willow Run (Ph. 1-7)   50   15.5   12,280   10,352   160,457   357,147   2001   361   Summit Properties (Ridge Pike CVS)   50   15.5   12,280   246   3,807   34,7147   2001   361   Graterford Road Collection System   50   15.5   12,280   461   6,682   13,2794   275,540   2002   361   Four Maples Development   50   14.5   3,001,430   60,029   870,415   2,131,015   2002   361   Four Maples Development   50   14.5   105,655   2,113   30,644   75,015   2003   361   Heritage Estates   50   13.5   88,622   1,772   23,928   64,694   2003   361   Lakeside Development   50   13.5   88,622   1,772   23,928   64,694   2003   361   Lakeside Development   50   13.5   117,697   2,354   31,778   85,919   2003   361   King Koad Associates (Ph. 1-2)   50   13.5   117,697   2,354   31,778   85,919   2003   361   King Koad Associates (Ph. 1-2)   50   13.5   117,697   2,354   31,778   85,919   2004   361   Raterick Center Road Sewer Extension   50   12.5   286,855   5,737   71,714   215,141   2004   361   Raterick Center Road Sewer Extension   50   12.5   275,733   5,515   68,933   206,800   2004   361   Raterick Center Road Sewer Extension   50   12.5   275,733   5,515   68,933   206,800   2004   361   Rateristine Creek Interceptor   50   12.5   275,733   5,515   68,933   206,800   2004   361   Rateristine Creek Interceptor   50   12.5   275,733   5,515   68,933   206,800   2004   361   Rateristine Creek Interceptor   50   12.5   275,733   5,515   68,933   206,800   2004   361   Rateristine Creek Interceptor   50   11.5   38,601   76,522   87									
2001   361									25
2001   361   Pine Tree SD   50   15.5   137,982   2,760   42,774   95,208   2001   361   Pinecrest Estates   50   15.5   34,040   681   10,552   23,488   2001   361   Willow Run (Ph. 1-7)   50   15.5   12,1911   2,438   37,792   84,119   2001   361   Willow Run (Ph. 1-7)   50   15.5   15,504   10,352   160,457   357,147   2001   361   Summit Properties (Ridge Pike CVS)   50   15.5   12,280   246   3,807   8,473   2001   361   Graterford Road Collection System   50   15.5   399,334   7,987   123,794   275,540   2002   361   Possum Hollow Sew. System-Interceptor   50   14.5   3,001,430   60,029   870,415   2,131,015   2002   361   Four Maples Development   50   14.5   3,001,430   60,029   870,415   2,131,015   2003   361   Feiringe Estates   50   14.5   105,655   2,113   30,640   75,015   2003   361   Eritinge Estates   50   13.5   88,622   1,772   23,928   64,694   2003   361   Existes   50   13.5   88,622   1,772   23,928   64,694   2003   361   Existes   50   13.5   13,591   24,850   497   6,710   18,141   2003   361   Existes   50   13.5   147,141   2,943   39,728   107,413   2003   361   VMCA (Spring Valley)   50   13.5   147,141   2,943   39,728   107,413   2003   361   Existes   50   12.5   286,855   5,737   71,714   215,141   2004   361   Ballemeade   50   12.5   286,855   5,737   71,714   215,141   2004   361   Ballemeade   50   12.5   286,855   5,737   71,714   215,141   2004   361   Ballemeade   50   12.5   286,855   5,737   71,714   215,141   2004   361   Ballemeade   50   12.5   275,733   5,15   68,933   206,800   2004   361   Limerich Creek Interceptor   50   12.5   43,357   8,672   108,394   325,183   2005   361   Evans brooke   50   11.5   519,219   31,84   36,620   122,598   2005   361   Limerick Plaza   50   11.5   519,219   31,84   36,620   122,598   30,600   30,007   30,									
2001   361   Wickford Hunt									
2001   361   Willow Run (Ph. 1-7)   50   15.5   517,604   10,352   160,457   357,147	2001	361	Pinecrest Estates	50	15.5	34,040	681	10,552	23,488
2001         361         Summit Properties (Ridge Pike CVS)         50         15.5         12.280         246         3,807         8,473           2001         361         Graterford Road Collection System         50         15.5         399,334         7,987         123,794         275,540           2002         361         Fosus m Hollow Sew. System. Interceptor         50         14.5         23,040         461         6,682         16,388           2002         361         Four Maples Development         50         14.5         105,655         2,113         30,640         75,015           2003         361         Heritage Estates         50         13.5         18,662         1,772         23,928         64,694           2003         361         Lewis Road Associates (Ph. 1-2)         50         13.5         147,141         2,943         39,728         107,413           2003         361         YMCA (Spring Valley)         50         13.5         147,141         2,943         39,728         107,413           2003         361         Limerick Center Road Sewer Extension         50         13.5         147,141         2,943         39,728         107,413           2003         361         Earling S	2001	361	Wickford Hunt	50	15.5	121,911		37,792	84,119
2001         361         Graterford Road Collection System         50         15.5         399,334         7,987         123,794         275,540           2002         361         Possum Hollow Sew. System- Interceptor         50         14.5         3,001,430         60,029         870,415         2,131,015           2002         361         Four Maples Development         50         14.5         105,655         2,113         30,640         75,015           2003         361         Lakeside Development         50         13.5         24,850         497         6,710         18,141           2003         361         Lakeside Development         50         13.5         147,697         2,354         31,778         85,919           2003         361         Lewis Road Associates (Ph. 1-2)         50         13.5         117,697         2,354         31,778         85,919           2003         361         Lewis Road Associates (Ph. 1-2)         50         13.5         117,697         2,354         31,778         85,919           2003         361         Limerick Center Road Sewer Extension         50         13.5         147,697         2,354         317,78         85,919           2004         361 <td< td=""><td></td><td>361</td><td>Willow Run (Ph. 1-7)</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>		361	Willow Run (Ph. 1-7)						
2002         361         Possum Hollow Sew, System-Interceptor         50         14,5         3,001,430         60,029         870,415         2,131,015           2002         361         Four Maples Development         50         14,5         23,040         461         6,682         16,358           2003         361         Heritage Estates         50         14,5         105,655         2,113         30,640         75,015           2003         361         Heritage Estates         50         13,5         88,622         1,772         23,928         64,694           2003         361         Lewis Road Associates (Ph. 1-2)         50         13,5         117,697         2,354         31,778         85,919           2003         361         Limerick Center Road Sewer Extension         50         13,5         147,141         2,943         39,728         107,413           2004         361         Ashbrook Estates (Ph. 1-4)         50         12,5         286,855         5,737         71,714         215,141           2004         361         Bellemeade         50         12,5         286,855         5,737         71,714         215,141           2004         361         Rosa Tree Estates         5									
2002         361         Four Maples Development         50         14.5         23,040         461         6,682         16,358           2003         361         Summerdale Estates         50         14.5         105,655         2,113         30,640         75,015           2003         361         Heritage Estates         50         13.5         88,622         1,772         23,928         64,694           2003         361         Lewis Road Associates (Ph. 1-2)         50         13.5         24,850         497         6,710         18,141           2003         361         Lewis Road Associates (Ph. 1-2)         50         13.5         117,697         2,354         31,778         85,919           2003         361         Lichwis Road Associates (Ph. 1-2)         50         13.5         147,141         2,943         39,728         107,413           2003         361         Lichwis Center Road Sewer Extension         50         13.5         176,656         3,533         47,697         128,959           2004         361         Bellemeade         50         12.5         26,855         5,737         7,7174         215,141           2004         361         Calamia Subdivision         50									
2002         361         Summerdale Estates         50         14.5         105,655         2,113         30,640         75,015           2003         361         Heritage Estates         50         13.5         88,622         1,772         23,928         64,694           2003         361         Lakeside Development         50         13.5         24,850         497         6,710         18,141           2003         361         Lewis Road Associates (Ph. 1-2)         50         13.5         117,697         2,354         31,778         85,919           2003         361         ViMcA (Spring Valley)         50         13.5         176,656         3,533         47,697         128,959           2004         361         Limerick Center Road Sewer Extension         50         12.5         286,855         5,737         71,714         215,141           2004         361         Bellemeade         50         12.5         286,855         5,737         71,714         215,141           2004         361         Rose Tree Estates         50         12.5         48,036         961         12,009         36,027           2004         361         Hartenstine Creek Interceptor         50         12.5<						400 March 10 March 10			
2003         361         Heritage Estates         50         13.5         88,622         1,772         23,928         64,694           2003         361         Lakeside Development         50         13.5         24,850         497         6,710         18,141           2003         361         Lewis Road Associates (Ph. 1-2)         50         13.5         117,697         2,354         31,778         85,919           2003         361         Lewis Road Associates (Ph. 1-2)         50         13.5         114,141         2,943         39,728         107,413           2004         361         Ashbrook Estates (Ph. 1-4)         50         12.5         266,855         5,737         71,714         215,141           2004         361         Bellemeade         50         12.5         62,676         1,254         15,669         47,007           2004         361         Rose Tree Estates         50         12.5         75,221         1,504         18,805         56,416           2004         361         Hartenstine Creek Interceptor         50         12.5         48,036         961         12,009         36,027           2004         361         Hartenstine Creek Interceptor         50         <						*			
2003         361         Lakeside Development         50         13.5         24,850         497         6,710         18,141           2003         361         Lewis Road Associates (Ph. 1-2)         50         13.5         117,697         2,354         31,778         85,919           2003         361         Limerick Center Road Sewer Extension         50         13.5         147,141         2,943         39,728         107,413           2003         361         Limerick Center Road Sewer Extension         50         12.5         286,855         5,737         71,714         215,141           2004         361         Bellemeade         50         12.5         62,676         1,254         15,669         47,007           2004         361         Rose Tree Estates         50         12.5         75,221         1,504         18,805         56,416           2004         361         Rore Tree Estates         50         12.5         48,036         961         12,009         36,027           2004         361         Linfield-Trappe Road Sewer Extension         50         12.5         483,577         8,672         108,394         322,183           2005         361         Evans brooke         50						and the second			
2003         361         Lewis Road Associates (Ph. 1-2)         50         13.5         117,697         2,354         31,778         85,919           2003         361         YMCA (Spring Valley)         50         13.5         117,697         2,354         31,778         85,919           2003         361         Limerick Center Road Sewer Extension         50         13.5         176,656         3,533         47,697         128,959           2004         361         Ashbrook Estates (Ph. 1-4)         50         12.5         286,855         5,737         71,714         215,141           2004         361         Bellemeade         50         12.5         62,676         1,254         15,669         47,007           2004         361         Rose Tree Estates         50         12.5         75,221         1,504         18,805         56,416           2004         361         Hartenstine Creek Interceptor         50         12.5         275,733         5,515         68,933         206,800           2004         361         Linfield-Trappe Road Sewer Extension         50         12.5         275,733         5,515         68,933         206,800           2005         361         Evans brooke <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>									
2003         361         YMCA (Spring Valley)         50         13.5         147,141         2,943         39,728         107,413           2003         361         Limerick Center Road Sewer Extension         50         13.5         176,656         3,533         47,697         128,959           2004         361         Ashbrook Estates (Ph. 1-4)         50         12.5         286,855         5,737         71,714         215,141           2004         361         Bellemeade         50         12.5         62,676         1,254         15,669         47,007           2004         361         Calamia Subdivision         50         12.5         75,221         1,504         18,805         56,416           2004         361         Hartenstine Creek Interceptor         50         12.5         48,036         961         12,009         360,27           2004         361         Linfield-Trappe Road Sewer Extension         50         12.5         433,577         8,672         108,394         325,183           2005         361         Evans brooke         50         11.5         203,547         4,071         46,816         156,731           2005         361         Landis Farms Estates/Crosswinds II									
2003         361         Limerick Center Road Sewer Extension         50         13.5         176,656         3,533         47,697         128,959           2004         361         Ashbrook Estates (Ph. 1-4)         50         12.5         286,855         5,737         71,714         215,141           2004         361         Bellemeade         50         12.5         62,676         1,254         15,669         47,007           2004         361         Rose Tree Estates         50         12.5         75,221         1,504         18,805         56,416           2004         361         Rose Tree Estates         50         12.5         275,733         5,515         68,933         206,800           2004         361         Hartenstine Creek Interceptor         50         12.5         275,733         5,515         68,933         206,800           2004         361         Evans brooke         50         11.5         203,547         4,071         46,816         156,731           2005         361         Evans brooke         50         11.5         117,120         2,342         26,938         90,182           2005         361         Landis Farms Estates/Crosswinds II         50         11			3000 000 000 1/91 (horastan oz. basegatanton terroritario antico et 1) 3	50					
2004         361         Bellemeade         50         12.5         62,676         1,254         15,669         47,007           2004         361         Calamia Subdivision         50         12.5         75,221         1,504         18,805         56,416           2004         361         Rose Tree Estates         50         12.5         48,036         961         12,009         36,027           2004         361         Hartenstine Creek Interceptor         50         12.5         275,733         5,515         68,933         206,800           2004         361         Linfield-Trappe Road Sewer Extension         50         11.5         203,547         4,071         46,816         156,731           2005         361         Glenview Estates         50         11.5         203,547         4,071         46,816         156,731           2005         361         Landis Farms Estates/Crosswinds II         50         11.5         117,120         2,342         26,938         90,182           2005         361         Limerick Plaza         50         11.5         352,744         7,055         81,131         271,613           2005         361         Vilas         50         11.5         <	2003	361		50	13.5	176,656	3,533	47,697	128,959
2004         361         Calamia Subdivision         50         12.5         75,221         1,504         18,805         56,416           2004         361         Rose Tree Estates         50         12.5         48,036         961         12,009         36,027           2004         361         Hartenstine Creek Interceptor         50         12.5         275,733         5,515         68,933         206,800           2004         361         Linfield-Trappe Road Sewer Extension         50         12.5         275,733         5,515         68,933         206,800           2005         361         Evans brooke         50         11.5         203,547         4,071         46,816         156,731           2005         361         Glenview Estates         50         11.5         117,120         2,342         26,938         90,182           2005         361         Lindis Farms Estates/Crosswinds II         50         11.5         159,219         3,184         36,620         122,599           2005         361         Lindis Farms Estates/Crosswinds II         50         11.5         352,744         7,055         81,131         271,613           2005         361         Villas         50	2004	361	Ashbrook Estates (Ph. 1-4)	50	12.5	286,855	5,737	71,714	215,141
2004         361         Rose Tree Estates         50         12.5         48,036         961         12,009         36,027           2004         361         Hartenstine Creek Interceptor         50         12.5         275,733         5,515         68,933         206,800           2004         361         Linfield-Trappe Road Sewer Extension         50         12.5         433,577         8,672         108,394         325,183           2005         361         Evans brooke         50         11.5         203,547         4,071         46,816         156,731           2005         361         Glenview Estates         50         11.5         117,120         2,342         26,938         90,182           2005         361         Landis Farms Estates/Crosswinds II         50         11.5         159,219         3,184         36,620         122,599           2005         361         Limerick Plaza         50         11.5         352,744         7,055         81,131         271,613           2005         361         Puleo SD         50         11.5         52,089         1,042         11,980         40,108           2005         361         Puleo SD         50         11.5						100 miles (100 miles (		10.53 9 \$ 4005 Mg.	
2004         361         Hartenstine Creek Interceptor         50         12.5         275,733         5,515         68,933         206,800           2004         361         Linfield-Trappe Road Sewer Extension         50         12.5         433,577         8,672         108,394         325,183           2005         361         Evans brooke         50         11.5         203,547         4,071         46,816         156,731           2005         361         Glenview Estates         50         11.5         117,120         2,342         26,938         90,182           2005         361         Landis Farms Estates/Crosswinds II         50         11.5         159,219         3,184         36,620         122,599           2005         361         Limerick Plaza         50         11.5         352,744         7,055         81,131         271,613           2005         361         Puleo SD         50         11.5         52,089         1,042         11,980         40,108           2005         361         Landis Creek Interceptor         50         11.5         381,610         7,632         87,770         293,840           2006         361         Estates at Landis Brooke         50									
2004         361         Linfield-Trappe Road Sewer Extension         50         12.5         433,577         8,672         108,394         325,183           2005         361         Evans brooke         50         11.5         203,547         4,071         46,816         156,731           2005         361         Glenview Estates         50         11.5         117,120         2,342         26,938         90,182           2005         361         Landis Farms Estates/Crosswinds II         50         11.5         159,219         3,184         36,620         122,599           2005         361         Limerick Plaza         50         11.5         352,744         7,055         81,131         271,613           2005         361         Puleo SD         50         11.5         52,089         1,042         11,980         40,108           2005         361         Villas         50         11.5         425,383         8,508         97,838         327,545           2005         361         Landis Creek Interceptor         50         11.5         381,610         7,632         87,770         293,840           2006         361         Estates at Landis Brooke         50         10.5									
2005         361         Evans brooke         50         11.5         203,547         4,071         46,816         156,731           2005         361         Glenview Estates         50         11.5         117,120         2,342         26,938         90,182           2005         361         Landis Farms Estates/Crosswinds II         50         11.5         159,219         3,184         36,620         122,599           2005         361         Limerick Plaza         50         11.5         352,744         7,055         81,131         271,613           2005         361         Puleo SD         50         11.5         52,089         1,042         11,980         40,108           2005         361         Villas         50         11.5         52,089         1,042         11,980         40,108           2005         361         Villas         50         11.5         52,889         1,042         11,980         40,108           2005         361         Landis Creek Interceptor         50         11.5         381,610         7,632         87,770         293,840           2006         361         Estates at Landis Brooke         50         10.5         134,128         2,683<									
2005         361         Glenview Estates         50         11.5         117,120         2,342         26,938         90,182           2005         361         Landis Farms Estates/Crosswinds II         50         11.5         159,219         3,184         36,620         122,599           2005         361         Limerick Plaza         50         11.5         352,744         7,055         81,131         271,613           2005         361         Puleo SD         50         11.5         52,089         1,042         11,980         40,108           2005         361         Villas         50         11.5         425,383         8,508         97,838         327,545           2005         361         Landis Creek Interceptor         50         11.5         381,610         7,632         87,770         293,840           2006         361         Estates at Landis Brooke         50         10.5         134,128         2,683         28,167         105,961           2006         361         Bruster's Ice Cream         50         10.5         41,610         832         8,738         32,872           2006         361         Bruster's Ice Cream         50         10.5         8,975									
2005       361       Landis Farms Estates/Crosswinds II       50       11.5       159,219       3,184       36,620       122,599         2005       361       Limerick Plaza       50       11.5       352,744       7,055       81,131       271,613         2005       361       Puleo SD       50       11.5       52,089       1,042       11,980       40,108         2005       361       Villas       50       11.5       425,383       8,508       97,838       327,545         2005       361       Landis Creek Interceptor       50       11.5       381,610       7,632       87,770       293,840         2006       361       Estates at Landis Brooke       50       10.5       134,128       2,683       28,167       105,961         2006       361       Estates lice Cream       50       10.5       41,610       832       8,738       32,872         2006       361       Bruster's Ice Cream       50       10.5       8,975       180       1,885       7,090         2006       361       Fernwood Retail       50       10.5       426,224       8,524       89,507       336,717         2007       361       Posum Hollow Indust									
2005         361         Limerick Plaza         50         11.5         352,744         7,055         81,131         271,613           2005         361         Puleo SD         50         11.5         52,089         1,042         11,980         40,108           2005         361         Villas         50         11.5         425,383         8,508         97,838         327,545           2005         361         Landis Creek Interceptor         50         11.5         381,610         7,632         87,770         293,840           2006         361         Estates at Landis Brooke         50         10.5         134,128         2,683         28,167         105,961           2006         361         Estates lice Cream         50         10.5         41,610         832         8,738         32,872           2006         361         Bruster's Ice Cream         50         10.5         8,975         180         1,885         7,090           2006         361         Fernwood Retail         50         10.5         72,278         1,446         15,178         57,100           2007         361         Philadelphia Premium Outlets (Ph. 1)         50         10.5         426,224									
2005         361         Puleo SD         50         11.5         52,089         1,042         11,980         40,108           2005         361         Villas         50         11.5         425,383         8,508         97,838         327,545           2005         361         Landis Creek Interceptor         50         11.5         381,610         7,632         87,770         293,840           2006         361         Estates at Landis Brooke         50         10.5         134,128         2,683         28,167         105,961           2006         361         Estates at Landis Brooke         50         10.5         41,610         832         8,738         32,872           2006         361         Bruster's Ice Cream         50         10.5         8,975         180         1,885         7,090           2006         361         Fernwood Retail         50         10.5         72,278         1,446         15,178         57,100           2006         361         Philadelphia Premium Outlets (Ph. I)         50         10.5         426,224         8,524         89,507         336,717           2007         361         McLaughlin Land Sewer Extension         50         9.5 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>									
2005         361         Villas         50         11.5         425,383         8,508         97,838         327,545           2005         361         Landis Creek Interceptor         50         11.5         381,610         7,632         87,770         293,840           2006         361         Estates at Landis Brooke         50         10.5         134,128         2,683         28,167         105,961           2006         361         292-296 W. Ridge Pike         50         10.5         41,610         832         8,738         32,872           2006         361         Bruster's Ice Cream         50         10.5         8,975         180         1,885         7,090           2006         361         Fernwood Retail         50         10.5         72,278         1,446         15,178         57,100           2006         361         Philadelphia Premium Outlets (Ph. I)         50         10.5         426,224         8,524         89,507         336,717           2007         361         Possum Hollow Industrial Park         50         9.5         68,372         1,367         12,991         55,381           2007         361         McLaughlin Land Sewer Extension         50         9.		361	Puleo SD	50	11.5	52,089			
2006       361       Estates at Landis Brooke       50       10.5       134,128       2,683       28,167       105,961         2006       361       292-296 W. Ridge Pike       50       10.5       41,610       832       8,738       32,872         2006       361       Bruster's Ice Cream       50       10.5       8,975       180       1,885       7,090         2006       361       Fernwood Retail       50       10.5       72,278       1,446       15,178       57,100         2006       361       Philadelphia Premium Outlets (Ph. 1)       50       10.5       426,224       8,524       89,507       336,717         2007       361       Possum Hollow Industrial Park       50       9.5       68,372       1,367       12,991       55,381         2007       361       McLaughlin Land Sewer Extension       50       9.5       24,212       484       4,600       19,612         2007       361       Country Club Estates/Dinnocenti Tract       50       9.5       717,941       14,359       136,409       581,532         2007       361       Moore tract       50       9.5       18,775       376       3,567       15,208         2008				50	11.5	425,383	8,508	97,838	
2006       361       292-296 W. Ridge Pike       50       10.5       41,610       832       8,738       32,872         2006       361       Bruster's Ice Cream       50       10.5       8,975       180       1,885       7,090         2006       361       Fernwood Retail       50       10.5       72,278       1,446       15,178       57,100         2006       361       Philadelphia Premium Outlets (Ph. I)       50       10.5       426,224       8,524       89,507       336,717         2007       361       Possum Hollow Industrial Park       50       9.5       68,372       1,367       12,991       55,381         2007       361       McLaughlin Land Sewer Extension       50       9.5       24,212       484       4,600       19,612         2007       361       Country Club Estates/Dinnocenti Tract       50       9.5       717,941       14,359       136,409       581,532         2007       361       Moore tract       50       9.5       18,775       376       3,567       15,208         2008       361       Church Hill Estates (Ph. 1-2)       50       8.5       64,984       1,300       11,047       53,936	2005	361	Landis Creek Interceptor	50	11.5	381,610	7,632	87,770	293,840
2006       361       Bruster's Ice Cream       50       10.5       8,975       180       1,885       7,090         2006       361       Fernwood Retail       50       10.5       72,278       1,446       15,178       57,100         2006       361       Philadelphia Premium Outlets (Ph. I)       50       10.5       426,224       8,524       89,507       336,717         2007       361       Possum Hollow Industrial Park       50       9.5       68,372       1,367       12,991       55,381         2007       361       McLaughlin Land Sewer Extension       50       9.5       24,212       484       4,600       19,612         2007       361       Country Club Estates/Dinnocenti Tract       50       9.5       717,941       14,359       136,409       581,532         2007       361       Moore tract       50       9.5       18,775       376       3,567       15,208         2008       361       Church Hill Estates (Ph. 1-2)       50       8.5       64,984       1,300       11,047       53,936	2006	361	Estates at Landis Brooke	50	10.5			28,167	105,961
2006       361       Fernwood Retail       50       10.5       72,278       1,446       15,178       57,100         2006       361       Philadelphia Premium Outlets (Ph. 1)       50       10.5       426,224       8,524       89,507       336,717         2007       361       Possum Hollow Industrial Park       50       9.5       68,372       1,367       12,991       55,381         2007       361       McLaughlin Land Sewer Extension       50       9.5       24,212       484       4,600       19,612         2007       361       Country Club Estates/Dinnocenti Tract       50       9.5       717,941       14,359       136,409       581,532         2007       361       Moore tract       50       9.5       18,775       376       3,567       15,208         2008       361       Church Hill Estates (Ph. 1-2)       50       8.5       64,984       1,300       11,047       53,936									
2006     361     Philadelphia Premium Outlets (Ph. I)     50     10.5     426,224     8,524     89,507     336,717       2007     361     Possum Hollow Industrial Park     50     9.5     68,372     1,367     12,991     55,381       2007     361     McLaughlin Land Sewer Extension     50     9.5     24,212     484     4,600     19,612       2007     361     Country Club Estates/Dinnocenti Tract     50     9.5     717,941     14,359     136,409     581,532       2007     361     Moore tract     50     9.5     18,775     376     3,567     15,208       2008     361     Church Hill Estates (Ph. 1-2)     50     8.5     64,984     1,300     11,047     53,936									
2007     361     Possum Hollow Industrial Park     50     9.5     68,372     1,367     12,991     55,381       2007     361     McLaughlin Land Sewer Extension     50     9.5     24,212     484     4,600     19,612       2007     361     Country Club Estates/Dinnocenti Tract     50     9.5     717,941     14,359     136,409     581,532       2007     361     Moore tract     50     9.5     18,775     376     3,567     15,208       2008     361     Church Hill Estates (Ph. 1-2)     50     8.5     64,984     1,300     11,047     53,936									
2007     361     McLaughlin Land Sewer Extension     50     9.5     24,212     484     4,600     19,612       2007     361     Country Club Estates/Dinnocenti Tract     50     9.5     717,941     14,359     136,409     581,532       2007     361     Moore tract     50     9.5     18,775     376     3,567     15,208       2008     361     Church Hill Estates (Ph. 1-2)     50     8.5     64,984     1,300     11,047     53,936			The second of th						
2007     361     Country Club Estates/Dinnocenti Tract     50     9.5     717,941     14,359     136,409     581,532       2007     361     Moore tract     50     9.5     18,775     376     3,567     15,208       2008     361     Church Hill Estates (Ph. 1-2)     50     8.5     64,984     1,300     11,047     53,936								The state of the s	
2007     361     Moore tract     50     9.5     18,775     376     3,567     15,208       2008     361     Church Hill Estates (Ph. 1-2)     50     8.5     64,984     1,300     11,047     53,936									
2008 361 Church Hill Estates (Ph. 1-2) 50 8.5 64,984 1,300 11,047 53,936			415 - 301 (AUTHOR - AUTHOR AND AU					100000000000000000000000000000000000000	
	2008	361	Evans Creek Industrial Park	50	8.5	148,280	2,966	25,208	123,072

Calculation of Original Cost less Accumulated Depreciation (as of 12/31/2016)

Year	NARUC Account	Asset	Service Life	Age	Original Cost	Annual Depreciation	Accumulated Depreciation	OCLD
2008	361	Heritage Crossing At Limerick	50	8.5	109,632	2,193	18,637	90,994
2008	361	Limerick Center	50	8.5	176,112	3,522	29,939	146,173
2008	361	Penn Liberty Bank	50	8.5	63,710	1,274	10,831	52,879
2010	361	Western Center	50	6.5	107,117	2,142	13,925	93,192
2011	361	Brownback Road Subdivision	50	5.5	27,270	545	3,000	24,270
2011	361	Costco	50	5.5	162,417	3,248	17,866	144,551
2011	361	GB Sheds	50	5.5	16,261	325	1,789	14,472
2011	361	Oak Creek Estates/Neiffer Woods (Ph. 1-2)	50	5.5	993,426	19,869	109,277	884,149
2014	361	190 Airport Rd**	50	2.5	30,272	605	1,514	28,758
2015	361 361	57 Neiffer Road Graterford Road	50 50	1.5 1.5	25,836 323,732	517 6,475	775 9,712	25,061
2015 2015	361	Moscariello	50	1.5	403,732	8,075	12,112	314,020 391,620
2015	361	Telvil-Landis/Carriage Crossing	50	1.5	174,470	3,489	5,234	169,235
2016	361	Cherry Ridge	50	0.5	195,551	3,911	1,956	193,595
2016	361	Mountain View Estates	50	0.5	492,210	9,844	4,922	487,288
		Total Collection Sewers - Gravity Main:			29,749,355	594,987	10,429,194	19,320,161
Code 371 - P	umping Fa	uinment		5/1-0				
1986	371	PS#5 - Pump Station constructed	25	30.5	877,481	35,099	877,481	0
1986	371	PS#7 - Pumping Stations	25	30.5	213,451	8,538	213,451	0
1988	371	Fox Hollow SD (Pump Station #1)	25	28.5	104,439	4,178	104,439	0
1990	371	PS#3 - Pump Station constructed	25	26.5	303,240	12,130	303,240	0
1990	371	PS#2 - Pump Station constructed	25	26.5	191,713	7,669	191,713	0
1990	371	PS#4 - Pump Station constructed	25	26.5	200,000	8,000	200,000	0
1992	371	PS#1 - Pumping Station	25	24.5	329,215	13,169	322,631	6,584
1995	371	PS#6 - New Pump Station	25	21.5	1,229,919	49,197	1,057,730	172,189
1996	371	PS#8 - Pump Station constructed	25	20.5	375,200	15,008	307,664	67,536
1996	371	PS#9 - Pumping Stations	25	20.5	235,752	9,430	193,317	42,435
1998	371	PS#11 - Pumping Stations	25 25	18.5	226,600	9,064	167,684	58,916
1999 2000	371 371	PS#6 - Unknown Improvement PS#2 - Pump Replacement	25	17.5 16.5	31,848 30,000	1,274 1,200	22,294 19,800	9,554 10,200
2000	371	PS#12 - Pump Station constructed	25	16.5	183,500	7,340	121,110	62,390
2000	371	PS#14 - Pump Station constructed	25	16.5	211,500	8,460	139,590	71,910
2003	371	PS#16 - Pumping Stations	25	13.5	0	0	0	0
2003	371	PS#17 - Pumping Stations	25	13.5	0	0	0	0
2004	371	PS#18 - Pumping Stations	25	12.5	300,000	12,000	150,000	150,000
2005	371	PS#5 - New Pumps and Controllers	25	11.5	262,823	10,513	120,899	141,924
2006	371	PS#15 - Pump Station constructed	25	10.5	170,000	6,800	71,400	98,600
2007	371	PS#19 - Pump Station constructed	25	9.5	305,000	12,200	115,900	189,100
2010	371	PS#4 - Pumping Station Upgrades	25	6.5	169,834	6,793	44,157	125,677
2010	371	PS #6 - unknown improvement	25	6.5	114,208	4,568	29,694	84,514
2011	371	PS#3 - HYDROMATIC PUMP	25	5.5	18,666	747	4,107	14,559
2011	371	PS#5 - Surge Protector	25	5.5	3,635	145	800	2,835
2011	371	PS#5 - Hydromatic Pump	25	5.5	22,842	914	5,025	17,817
2013	371	PS#3 - Muffin Monster Grinder Rebuild	25 25	3.5	7,980	319	1,117	6,863
2013 2013	371 371	PS#6 - Peroxide system of odor control PS#7 - Peroxide Tank	25	3.5 3.5	33,947 12,462	1,358 498	4,753	29,194
2013	371	PS#5 - Pump Control Upgrades, New Bldg	25	2.5	317,044	12,682	1,745 31,704	10,717 285,340
2014	371	PS#7 - Unknown Upgrade	25	2.5	4,191	168	419	3,772
2015	371	PS#20 - Pump Station constructed	25	1.5	483,000	19,320	28,980	454,020
2016	371	PS#5 - New Check Valves	25	0.5	23,362	934	467	22,895
2016	371	PS#2 - Omni System Crystal Ball	25	0.5	3,250	130	65	3,185
2016	371	PS#3 - Omni System Crystal Ball	25	0.5	2,492	100	50	2,442
2016	371	PS#1- Omni System Crystal Ball	25	0.5	3,250	130	65	3,185
2016	371	PS#5 - Omni System Crystal Ball	25	0.5	2,492	100	50	2,442
2016	371	PS#5 - Muffin Monster Grinder Rebuild	25	0.5	18,117	725	362	17,755
2016	371	PS#5 - Motor Control	25	0.5	8,414	337	168	8,246
2016	371	PS#5 - Transfer Controller	25	0.5	2,338	94	47	2,291
2016	371	PS#6 - Roof Replacement	25	0.5	4,084	163	82	4,002
2016	371	PS#6 - Muffin Monster	25	0.5	12,680	507	254	12,426
2016 2016	371 371	PS#10 - Crystal Ball PS#16 - Grinder Pobuild	25 25	0.5	3,209	128	64	3,145
2016	371	PS#16 - Grinder Rebuild PS#18 - Omni System Crystal Ball	25	0.5 0.5	4,900 3,250	196 130	98 65	4,802
2010	3/1	Total Pumping Equipment:	23	0,5	7,061,328	282,453	4,854,679	3,185 2,206,649
					,,001,020	2021433	7,007,077	4,400,097

Cost Approach
Calculation of Original Cost less Accumulated Depreciation (as of 12/31/2016)

	NARUC		Service		0.11.10.4	Annual	Accumulated	oct p
Year	Account	Asset	Life	Age	Original Cost	Depreciation	Depreciation	OCLD
de 380 - Ti	reatment s	and Disposal Equipment			0.000			
1986	380	King Road Sewage Treatment Plant	50	30.5	6,742,671	134,853	4,113,029	2,629,642
2002	380	Possum Hollow - WWTP and Pumping Station	50	14.5	7,904,782	158,096	2,292,387	5,612,395
2005	380	KR - Sludge Thickener Facility	50	11.5	341,075	6,822	78,447	262,628
2007	380	King Road Treatment Plant Expansion	50	9.5	8,933,119	178,662	1,697,293	7,235,827
2016	380	KR - Misc. improvements	50	0.5	37,624	752	376	37,248
		Total Treatment and Disposal Equipment:			23,959,271	479,185	8,181,532	15,777,739
de 382 - O	utfall Line	and Headwall		1 0 1				9 - 1
2001	382	KR - Outfall Relocation	50	15.5	216,433	4,329	67,094	149,339
		Total Outfall Line and Headwall:			216,433	4,329	67,094	149,339
de 396 - C	ommunica	tion Equipment	TIGAL	Sa Ta	To less the second			
2003	396	KR - SCADA	10	13.5	45,278	4,528	45,278	0
2005	396	PH - SCADA	10	11.5	44,654	4,465	44,654	0
		Total Communication Equipment:			89,932	8,993	89,932	0

SCHEDULE:

В

of Future Capital Projects	War and All Property Control
King Road Plant	•
Sewer System Construction	305,000
Pump Station Upgrades	2,590,000
I&I Program Equipment	158,000
Miscellaneous	125,000
Vehicles	610,000
Equipment	314,000
Total King Road Plant:	4,102,000
Possum Hollow Plant	
Pump Station Upgrades	101,000
Miscellaneous	100,000
Equipment	230,000
Total Possum Hollow Plant:	431,000

			Annual	Accumulated	
		Original Cost	Depreciation	Depreciation	OCLD
353	Land and Land Rights	1,048,383	0	0	1,048,383
354	Structures and Improvements	1,065,696	35,523	792,188	273,508
360	Collection Sewers - Force Main	243,592	4,872	71,542	172,050
361	Collection Sewers - Gravity Main	29,749,355	594,987	10,429,194	19,320,161
371	Pumping Equipment	7,061,328	282,453	4,854,679	2,206,649
380	Treatment and Disposal Equipment	23,959,271	479,185	8,181,532	15,777,739
382	Outfall Line and Headwall	216,433	4,329	67,094	149,339
396	Communication Equipment	89,932	8,993	89,932	0
	Future Capital Projects - King Road Plant	4,102,000	0	0	4,102,000
	Future Capital Projects - Possum Hollow Plant	431,000	0	0	431,000
L-11-0	Total Cost of Assets:	67,966,990	1,410,343	24,486,161	43,480,829

Calculation of Reproduction Cost less Accumulated Depreciation (as of 12/31/2016)

SCHEDULE: C

Year	NARUC Account	Asset	Service Life	Age	Original Cost	10385 ENR Index	Trend Factor	Reproduction Cost	Annual Depreciation	Accumulated Depreciation	Cost less Depreciatio
1988	353	nd Land Rights King Rd Plant- Property	0	28.5	53,000	4519	2.2981	121,798	0	0	121,798
1988	353	ROW- Pump Station Land Acq.	0	28.5	28,522	4519	2.2981	65,546	0	0	65,546
1988	353	ROW- Pump Station Land Acq.	0	28.5	25,402	4519	2.2981	58,376	0	0	58,376
1989	353	King Rd Plant- Property	0	27.5	150,267	4615	2.2503	338,141	0	0	338,141
1989	353	ROW- Pump Station Land Acq.	0	27.5	4,827	4615	2.2503	10,862	0	0	10,862
1990	353	ROW - Pump Station Land Acq.	0	26.5	5,000	4732	2.1946	10,973	0	0	10,973
1991	353	ROW - Pump Station Land Acq.	0	25.5	19,503	4835	2.1479	41,890	0	0	41,890
1991	353	ROW - Pump Station Land Acq.	0	25.5	3,056	4835	2.1479	6,565	0	0	6,565
1991 1993	353 353	ROW - Pump Station Land Acq. ROW - Pump Station Land Acq.	0	25.5 23.5	13,280 11,500	4835 5210	2.1479 1.9933	28,524 22,923	0	0	28,524 22,923
1993	353	ROW- Pump Station Land Acq.	0	22.5	16,809	5408	1.9203	32,278	0	0	32,278
2000	353	ROW - Mingo Creek Interceptor	0	16.5	189,540	6221	1,6693	316,399	0	0	316,399
2001	353	Easement & ROW	0	15.5	83,639	6342	1.6375	136,956	0	0	136,956
2002	353	Easement -King Rd Pump Station	0	14.5	1,950	6538	1.5884	3,097	0	0	3,097
2002	353	Easements King Rd	0	14.5	12,455	6538	1.5884	19,784	0	0	19,784
2002	353	Easement - Galie	0	14.5	11,104	6538	1.5884	17,638	0	0	17,638
2003	353	Easement & ROW	0	13.5	1,907	6695	1.5513	2,958	0	0	2,958
2003	353	Easement & ROW	0	13.5	15,716	6695	1.5513	24,380	0	0	24,380
2003	353	Easements & ROW King Rd	0	13.5	10,250	6695	1.5513	15,900	0	0	15,900
2004	353	Easement & ROW	0	12.5	30,772	7115	1.4596	44,914	0	0	44,914
2004	353	Easement & ROW	0	12.5 12.5	357 7,010	7115 7115	1.4596 1.4596	521 10,231	0	0	521 10,231
2004 2004	353 353	Possum Hollow- Property Easements & ROW King Rd	0	12,5	2,907	7115	1.4596	4,242	0	0	4,242
2004	353	Easement & ROW	0	11.5	22,646	7446	1.3947	31,584	0	0	31,584
2006	353	Easement & ROW	0	10.5	1,243	7751	1.3398	1,665	0	0	1,665
2006	353	Land- Galie Property	0	10.5	325,722	7751	1.3398	436,398	0	0	436,398
		Total Land and Land Rights:			1,048,383			1,804,542	0	0	1,804,54
ode 354	- Structu	res and Improvements		_ 1						English and	
1991	354	KR - Operation Building	30	25.5	873,890	4835	2.1479	1,877,011	62,567	1,595,459	281,552
2007	354	KR - Paving	30	9.5	135,744	7967	1.3035	176,943	5,898	56,032	120,911
2012	354	KR - Operation Building Roof	30	4.5	40,962	9308	1.1157	45,701	1,523	6,855	38,846
								15 100		252	
2016	354	KR -Headworks coating Total Structures and Improvements:	30	0,5	15,100 1,065,696	10385	1,0000	15,100 2,114,754	503 70,492	252 1,658,598	14,848
		Total Structures and Improvements:	30	0,5	15,100 1,065,696	10385	1.0000	15,100 2,114,754	503 70,492	252 1,658,598	14,848
ode 360	- Collecti	Total Structures and Improvements:		251	1,065,696			2,114,754	70,492	1,658,598	14,848 456,156
ode 360 2000	- Collecti	Total Structures and Improvements: on Sewers - Force Main Bradford Woods 4" force main	50	16.5	1,065,696 194,378	6221	1.6693	2,114,754 324,475	70,492 6,490	1,658,598	14,848 456,156 217,399
ode 360 2000 2000	360 360	Total Structures and Improvements: on Sewers - Force Main Bradford Woods 4" force main Bradford Woods 2" force main	50 50	16.5 16.5	1,065,696 194,378 13,020	6221 6221	1.6693 1.6693	2,114,754 324,475 21,734	70,492 6,490 435	1,658,598 107,077 7,172	14,848 456,156 217,399 14,562
2000 2000 2000 2006	360 360 360	Total Structures and Improvements:  on Sewers - Force Main  Bradford Woods 4" force main  Bradford Woods 2" force main  PS#15 - forcemain	50 50 50	16.5 16.5 10.5	1,065,696 194,378 13,020 11,194	6221 6221 7751	1.6693 1.6693 1.3398	2,114,754 324,475 21,734 14,998	70,492 6,490 435 300	1,658,598 107,077 7,172 3,149	14,848 456,156 217,399 14,562 11,848
ode 360 2000 2000	360 360	Total Structures and Improvements: on Sewers - Force Main Bradford Woods 4" force main Bradford Woods 2" force main	50 50	16.5 16.5	1,065,696 194,378 13,020	6221 6221	1.6693 1.6693	2,114,754 324,475 21,734	70,492 6,490 435	1,658,598 107,077 7,172	14,848 456,156 217,399 14,562 11,848 25,094
2000 2000 2000 2006 2015	360 360 360 360 360	Total Structures and Improvements:  on Sewers - Force Main  Bradford Woods 4" force main  Bradford Woods 2" force main  PS#15 - forcemain  PS#20 - Forcemain  Total Collection Sewers - Force Main:	50 50 50 50	16.5 16.5 10.5 1.5	1,065,696 194,378 13,020 11,194 25,000	6221 6221 7751	1.6693 1.6693 1.3398	2,114,754 324,475 21,734 14,998 25,870	6,490 435 300 517	1,658,598 107,077 7,172 3,149 776	14,848 456,156 217,399 14,562 11,848 25,094
2000 2000 2000 2006 2015	360 360 360 360 360	Total Structures and Improvements:  on Sewers - Force Main  Bradford Woods 4" force main  Bradford Woods 2" force main  PS#15 - forcemain  PS#20 - Forcemain	50 50 50 50	16.5 16.5 10.5 1.5	1,065,696 194,378 13,020 11,194 25,000	6221 6221 7751	1.6693 1.6693 1.3398	2,114,754 324,475 21,734 14,998 25,870	6,490 435 300 517	1,658,598 107,077 7,172 3,149 776	14,848 456,156 217,399 14,562 11,848 25,094 268,902
2000 2000 2006 2015 ode 361 1986 1995	- Collecti 360 360 360 360 360	Total Structures and Improvements:  on Sewers - Force Main  Bradford Woods 4" force main  Bradford Woods 2" force main  PS#15 - forcemain  PS#20 - Forcemain  Total Collection Sewers - Force Main:  on Sewers - Gravity Main (INTERCEPTO)	50 50 50 50 50 50 0RS ONLY	16.5 16.5 10.5 1.5	1,065,696 194,378 13,020 11,194 25,000 243,592 5,596,725 158,529	6221 6221 7751 10036	1.6693 1.6693 1.3398 1.0348 2.4179 1.8982	2,114,754 324,475 21,734 14,998 25,870 387,077 13,532,477 300,918	70,492 6,490 435 300 517 7,742 270,650 6,018	1,658,598 107,077 7,172 3,149 776 118,175 8,254,811 129,395	14,848 456,156 217,399 14,562 11,848 25,094 268,902 5,277,66 171,523
2000 2000 2006 2015 2015 2016 2015	- Collecti 360 360 360 360 360 - Collecti 361 361	Total Structures and Improvements:  on Sewers - Force Main  Bradford Woods 4" force main  Bradford Woods 2" force main  PS#15 - forcemain  PS#20 - Forcemain  Total Collection Sewers - Force Main:  on Sewers - Gravity Main (INTERCEPTO  Various Interceptor Projects  Deer Run / Neiffer Road  Pump Station 6A Interceptors	50 50 50 50 50 0RS ONLY 50 50	16.5 16.5 10.5 1.5 30.5 21.5 20.5	1,065,696 194,378 13,020 11,194 25,000 243,592 5,596,725 158,529 232,260	6221 6221 7751 10036 4295 5471 5620	1.6693 1.6693 1.3398 1.0348 2.4179 1.8982 1.8479	2,114,754 324,475 21,734 14,998 25,870 387,077 13,532,477 300,918 429,185	70,492 6,490 435 300 517 7,742 270,650 6,018 8,584	1,658,598 107,077 7,172 3,149 776 118,175 8,254,811 129,395 175,966	14,848 456,156 217,399 14,562 11,848 25,094 268,902 5,277,66 171,523 253,219
2000 2000 2006 2015 2015 2015 2015	360 360 360 360 360 361 361 361 361	Total Structures and Improvements:  on Sewers - Force Main  Bradford Woods 4" force main  Bradford Woods 2" force main  PS#15 - forcemain  PS#20 - Forcemain  Total Collection Sewers - Force Main:  on Sewers - Gravity Main (INTERCEPTO  Various Interceptor Projects  Deer Run / Neiffer Road  Pump Station 6A Interceptors  Springford HS Sewer Ext. (Auth. Portion)	50 50 50 50 50 50 50 50 50	16.5 16.5 10.5 1.5 30.5 21.5 20.5 20.5	1,065,696 194,378 13,020 11,194 25,000 243,592 5,596,725 158,529 232,260 59,155	6221 6221 7751 10036 4295 5471 5620 5620	1.6693 1.6693 1.3398 1.0348 2.4179 1.8982 1.8479 1.8479	2,114,754 324,475 21,734 14,998 25,870 387,077 13,532,477 300,918 429,185 109,310	70,492 6,490 435 300 517 7,742 270,650 6,018 8,584 2,186	1,658,598 107,077 7,172 3,149 776 118,175 8,254,811 129,395 175,966 44,817	14,848 456,156 217,399 14,562 11,848 25,094 268,902 5,277,66 171,523 253,219 64,493
2000 2000 2006 2015 2015 2016 2015 2016 1986 1996 1996 1997	- Collecti 360 360 360 360 - Collecti 361 361 361 361	Total Structures and Improvements:  on Sewers - Force Main  Bradford Woods 4" force main  Bradford Woods 2" force main  PS#15 - forcemain  PS#20 - Forcemain  Total Collection Sewers - Force Main:  on Sewers - Gravity Main (INTERCEPTO  Various Interceptor Projects  Deer Run / Neiffer Road  Pump Station 6A Interceptors  Springford HS Sewer Ext. (Auth. Portion)  Royersford Road Sewer Extension	50 50 50 50 50 50 50 50 50 50 50	16.5 16.5 10.5 1.5 30.5 21.5 20.5 20.5 19.5	1,065,696 194,378 13,020 11,194 25,000 243,592 5,596,725 158,529 232,260 59,155 176,544	6221 6221 7751 10036 4295 5471 5620 5620 5826	1.6693 1.6693 1.3398 1.0348 2.4179 1.8982 1.8479 1.8479 1.7825	2,114,754 324,475 21,734 14,998 25,870 387,077 13,532,477 300,918 429,185 109,310 314,694	70,492 6,490 435 300 517 7,742 270,650 6,018 8,584 2,186 6,294	1,658,598 107,077 7,172 3,149 776 118,175 8,254,811 129,395 175,966 44,817 122,731	14,848 456,156 217,399 14,562 11,848 25,094 268,902 5,277,66 171,523 253,219 64,493 191,964
2000 2000 2006 2015 2015 2015 2015 2016 2015 2016 2017 2016 2017 2016 2017 2017 2017 2017 2017 2017 2017 2017	- Collecti 360 360 360 360 - Collecti 361 361 361 361	Total Structures and Improvements:  on Sewers - Force Main  Bradford Woods 4" force main  Bradford Woods 2" force main  PS#15 - forcemain  PS#15 - forcemain  Total Collection Sewers - Force Main:  on Sewers - Gravity Main (INTERCEPTO  Various Interceptor Projects  Deer Run / Neiffer Road  Pump Station 6A Interceptors  Springford HS Sewer Ext. (Auth. Portion)  Royersford Road Sewer Extension  Kugler Road Sewer Extension	50 50 50 50 50 50 50 50 50 50 50 50	16.5 16.5 10.5 1.5 30.5 21.5 20.5 20.5 19.5	1,065,696  194,378 13,020 11,194 25,000 243,592  5,596,725 158,529 232,260 59,155 176,544 175,132	6221 6221 7751 10036 4295 5471 5620 5620 5826 5826	1.6693 1.6693 1.3398 1.0348 2.4179 1.8982 1.8479 1.7825 1.7825	2,114,754 324,475 21,734 14,998 25,870 387,077 13,532,477 300,918 429,185 109,310 314,694 312,177	70,492 6,490 435 300 517 7,742 270,650 6,018 8,584 2,186 6,294 6,244	1,658,598 107,077 7,172 3,149 776 118,175 8,254,811 129,395 175,966 44,817 122,731 121,749	14,848 456,156 217,399 14,562 11,848 25,094 268,902 5,277,666 171,523 253,219 64,493 191,964 190,428
2000 2000 2006 2015 2015 2015 2015 2016 2015 2016 2017 1986 1996 1996 1997 1997 1998	- Collecti 360 360 360 360 - Collecti 361 361 361 361 361	Total Structures and Improvements:  on Sewers - Force Main  Bradford Woods 4" force main  Bradford Woods 2" force main  PS#15 - forcemain  PS#15 - forcemain  Total Collection Sewers - Force Main:  on Sewers - Gravity Main (INTERCEPTO)  Various Interceptor Projects  Deer Run / Neiffer Road  Pump Station 6A Interceptors  Springford HS Sewer Ext. (Auth. Portion)  Royersford Road Sewer Extension  Kugler Road Sewer Extension  Betty/Roberta Lanes Sewer Extension	50 50 50 50 50 50 50 50 50 50 50 50	16.5 16.5 10.5 1.5 30.5 21.5 20.5 20.5 19.5 19.5 18.5	1,065,696 194,378 13,020 11,194 25,000 243,592 5,596,725 158,529 232,260 59,155 176,544 175,132 332,740	6221 6221 7751 10036 4295 5471 5620 5620 5826 5826 5920	1.6693 1.6693 1.3398 1.0348 2.4179 1.8982 1.8479 1.7825 1.7825 1.7542	2,114,754 324,475 21,734 14,998 25,870 387,077 13,532,477 300,918 429,185 109,310 314,694 312,177 583,700	70,492 6,490 435 300 517 7,742 270,650 6,018 8,584 2,186 6,294 6,244 11,674	1,658,598 107,077 7,172 3,149 776 118,175 8,254,811 129,395 175,966 44,817 122,731 121,749 215,969	14,848 456,156 217,399 14,562 11,848 25,094 268,902 5,277,66 171,523 253,219 64,493 191,964
2000 2000 2006 2015 2015 2015 2015 2015 2015 2015 2015	- Collecti 360 360 360 360 - Collecti 361 361 361 361 361 361	Total Structures and Improvements:  on Sewers - Force Main  Bradford Woods 4" force main  Bradford Woods 2" force main  PS#15 - forcemain  PS#20 - Forcemain  Total Collection Sewers - Force Main:  on Sewers - Gravity Main (INTERCEPTO)  Various Interceptor Projects  Deer Run / Neiffer Road  Pump Station 6A Interceptors  Springford HS Sewer Ext. (Auth. Portion)  Royersford Road Sewer Extension  Kugler Road Sewer Extension  Betty/Roberta Lanes Sewer Extension  West Cherry Lane Sewer Extension	50 50 50 50 50 50 50 50 50 50 50 50 50	16.5 16.5 10.5 1.5 30.5 21.5 20.5 20.5 19.5 18.5	1,065,696 194,378 13,020 11,194 25,000 243,592 5,596,725 158,529 232,260 59,155 176,544 175,132 332,740 133,900	6221 6221 7751 10036 4295 5471 5620 5620 5826 5826 5920 5920	1.6693 1.6693 1.3398 1.0348 2.4179 1.8982 1.8479 1.7825 1.7825 1.7542 1.7542	2,114,754 324,475 21,734 14,998 25,870 387,077 13,532,477 300,918 429,185 109,310 314,694 312,177 583,700 234,890	70,492 6,490 435 300 517 7,742 270,650 6,018 8,584 2,186 6,294 6,244 11,674 4,698	1,658,598 107,077 7,172 3,149 776 118,175 8,254,811 129,395 175,966 44,817 122,731 121,749 215,969 86,909	14,848 456,156 217,399 14,562 11,848 25,094 268,902 5,277,66 171,523 253,219 64,493 191,964 190,428 367,731 147,981
2000 2000 2006 2015 2015 2015 2016 2015 2016 2019 2019 2019 2019 2019 2019 2019 2019	- Collecti 360 360 360 360 360 361 361 361 361 361 361 361 361	Total Structures and Improvements:  on Sewers - Force Main  Bradford Woods 4" force main  PS#15 - forcemain  PS#20 - Forcemain  Total Collection Sewers - Force Main:  on Sewers - Gravity Main (INTERCEPTO  Various Interceptor Projects  Deer Run / Neiffer Road  Pump Station 6A Interceptors  Springford HS Sewer Ext. (Auth. Portion)  Royersford Road Sewer Extension  Kugler Road Sewer Extension  West Cherry Lanes Sewer Extension  West Cherry Lane Sewer Extension  Ridge Pike Sewer Extension	50 50 50 50 50 50 50 50 50 50 50 50 50 5	16.5 16.5 10.5 1.5 1.5 30.5 21.5 20.5 20.5 19.5 18.5 18.5	1,065,696  194,378 13,020 11,194 25,000 243,592  5,596,725 158,529 232,260 59,155 176,544 175,132 332,740 133,900 634,598	6221 6221 7751 10036 4295 5471 5620 5620 5826 5826 5920 5920 5920	1.6693 1.6693 1.3398 1.0348 2.4179 1.8982 1.8479 1.8479 1.7825 1.7542 1.7542 1.7542	2,114,754 324,475 21,734 14,998 25,870 387,077 13,532,477 300,918 429,185 109,310 314,694 312,177 583,700 234,890 1,113,226	70,492 6,490 435 300 517 7,742 270,650 6,018 8,584 2,186 6,294 6,244 11,674 4,698 22,265	1,658,598 107,077 7,172 3,149 776 118,175 8,254,811 129,395 175,966 44,817 122,731 121,749 215,969 86,909 411,894	14,848 456,156 217,399 14,562 11,848 25,094 268,902 5,277,66 171,523 253,219 64,493 191,964 190,428 367,731 147,981 701,333
2000 2000 2006 2015 2015 2015 2015 2015 2015 2016 2017 2017 2017 2017 2017 2017 2017 2017	- Collecti 360 360 360 360 360 361 361 361 361 361 361 361 361 361	Total Structures and Improvements:  on Sewers - Force Main  Bradford Woods 4" force main  Bradford Woods 2" force main  PS#15 - forcemain  PS#20 - Forcemain  Total Collection Sewers - Force Main:  on Sewers - Gravity Main (INTERCEPTO  Various Interceptor Projects  Deer Run / Neiffer Road  Pump Station 6A Interceptors  Springford HS Sewer Ext. (Auth. Portion)  Royersford Road Sewer Extension  Kugler Road Sewer Extension  Betty/Roberta Lanes Sewer Extension  West Cherry Lane Sewer Extension  Ridge Pike Sewer Extension  Township Line Road Interceptor	50 50 50 50 50 50 50 50 50 50 50 50 50 5	16.5 16.5 10.5 1.5 30.5 20.5 20.5 19.5 19.5 18.5 18.5 17.5	1,065,696  194,378 13,020 11,194 25,000 243,592  5,596,725 158,529 232,260 59,155 176,544 175,132 332,740 133,900 634,598 548,967	6221 6221 7751 10036 4295 5471 5620 5620 5826 5826 5920 5920 5920 6059	1.6693 1.6693 1.3398 1.0348 2.4179 1.8982 1.8479 1.8479 1.7825 1.7542 1.7542 1.7542 1.7542	2,114,754 324,475 21,734 14,998 25,870 387,077 13,532,477 300,918 429,185 109,310 314,694 312,177 583,700 234,890 1,113,226 940,918	70,492 6,490 435 300 517 7,742 270,650 6,018 8,584 2,186 6,294 6,244 11,674 4,698 22,265 18,818	1,658,598 107,077 7,172 3,149 776 118,175 8,254,811 129,395 175,966 44,817 122,731 121,749 215,969 86,909 411,894 329,321	14,848 456,156 217,399 14,562 11,848 25,094 268,902 5,277,666 171,523 253,219 64,493 191,964 190,428 367,731 147,981 701,333 611,597
2000 2000 2006 2015 2015 2015 2016 2015 2016 2019 2019 2019 2019 2019 2019 2019 2019	- Collecti 360 360 360 360 360 361 361 361 361 361 361 361 361	Total Structures and Improvements:  on Sewers - Force Main  Bradford Woods 4" force main  PS#15 - forcemain  PS#20 - Forcemain  Total Collection Sewers - Force Main:  on Sewers - Gravity Main (INTERCEPTO  Various Interceptor Projects  Deer Run / Neiffer Road  Pump Station 6A Interceptors  Springford HS Sewer Ext. (Auth. Portion)  Royersford Road Sewer Extension  Kugler Road Sewer Extension  West Cherry Lanes Sewer Extension  West Cherry Lane Sewer Extension  Ridge Pike Sewer Extension	50 50 50 50 50 50 50 50 50 50 50 50 50 5	16.5 16.5 10.5 1.5 1.5 30.5 21.5 20.5 20.5 19.5 18.5 18.5	1,065,696  194,378 13,020 11,194 25,000 243,592  5,596,725 158,529 232,260 59,155 176,544 175,132 332,740 133,900 634,598	6221 6221 7751 10036 4295 5471 5620 5620 5826 5826 5920 5920 5920	1.6693 1.6693 1.3398 1.0348 2.4179 1.8982 1.8479 1.8479 1.7825 1.7542 1.7542 1.7542	2,114,754 324,475 21,734 14,998 25,870 387,077 13,532,477 300,918 429,185 109,310 314,694 312,177 583,700 234,890 1,113,226	70,492 6,490 435 300 517 7,742 270,650 6,018 8,584 2,186 6,294 6,244 11,674 4,698 22,265	1,658,598 107,077 7,172 3,149 776 118,175 8,254,811 129,395 175,966 44,817 122,731 121,749 215,969 86,909 411,894	14,848 456,156 217,399 14,562 11,848 25,094 268,902 5,277,666 171,523 253,219 64,493 191,964 190,428 367,731 147,981 701,333 611,597 1,460,33
2000 2000 2015 2015 2015 2016 2015 2016 2017 2018 2019 2019 2019 2019 2019 2019 2019 2019	- Collecti 360 360 360 360 360 - Collecti 361 361 361 361 361 361 361 361 361 361	Total Structures and Improvements:  on Sewers - Force Main  Bradford Woods 4" force main  PS#15 - forcemain  PS#20 - Forcemain  Total Collection Sewers - Force Main:  on Sewers - Gravity Main (INTERCEPTO  Various Interceptor Projects  Deer Run / Neiffer Road  Pump Station 6A Interceptors  Springford HS Sewer Ext. (Auth. Portion)  Royersford Road Sewer Extension  Kugler Road Sewer Extension  Betty/Roberta Lanes Sewer Extension  West Cherry Lane Sewer Extension  Ridge Pike Sewer Extension  Township Line Road Interceptor  Mingo Creek Interceptor	50 50 50 50 50 50 50 50 50 50 50 50 50 5	16.5 16.5 10.5 1.5 30.5 21.5 20.5 20.5 19.5 18.5 18.5 17.5 17.5	1,065,696  194,378 13,020 11,194 25,000 243,592  5,596,725 158,529 232,260 59,155 176,544 175,132 332,740 133,900 634,598 548,967 1,310,789	6221 6221 7751 10036 4295 5471 5620 5620 5826 5826 5920 5920 5920 6059 6059	1.6693 1.6693 1.3398 1.0348 2.4179 1.8982 1.8479 1.7825 1.7825 1.7542 1.7542 1.7542 1.7544 1.7140	2,114,754 324,475 21,734 14,998 25,870 387,077 13,532,477 300,918 429,185 109,310 314,694 312,177 583,700 234,890 1,113,226 940,918 2,246,665	70,492 6,490 435 300 517 7,742 270,650 6,018 8,584 2,186 6,294 6,244 11,674 4,698 22,265 18,818 44,933	1,658,598 107,077 7,172 3,149 776 118,175 8,254,811 129,395 175,966 44,817 122,731 121,749 215,969 86,909 411,894 329,321 786,333	14,848 456,156 217,399 14,562 11,848 25,094 268,902 5,277,66 171,523 253,219 64,493 191,964 190,428 367,731 147,981 701,333 611,597 1,460,33 178,762
2000 2000 2006 2015 2015 2015 2015 2016 2017 2018 2019 2019 2019 2019 2019 2019 2019 2019	- Collecti 360 360 360 360 361 361 361 361 361 361 361 361 361 361	Total Structures and Improvements:  on Sewers - Force Main  Bradford Woods 4" force main  Bradford Woods 2" force main  PS#15 - forcemain  Total Collection Sewers - Force Main:  on Sewers - Gravity Main (INTERCEPTO  Various Interceptor Projects  Deer Run / Neiffer Road  Pump Station 6A Interceptors  Springford HS Sewer Ext. (Auth. Portion)  Royersford Road Sewer Extension  Kugler Road Sewer Extension  Betty/Roberta Lanes Sewer Extension  West Cherry Lane Sewer Extension  Township Line Road Interceptor  Mingo Creek Interceptor  North Limerick Road Sewer Extension	50 50 50 50 50 50 50 50 50 50 50 50 50 5	16.5 16.5 10.5 1.5 30.5 21.5 20.5 20.5 19.5 18.5 18.5 17.5 17.5	1,065,696  194,378 13,020 11,194 25,000 243,592  5,596,725 158,529 232,260 59,155 176,544 175,132 332,740 133,900 634,598 548,967 1,310,789 160,456	6221 6221 7751 10036 4295 5471 5620 5620 5826 5826 5920 5920 5920 6059 6059	1.6693 1.6693 1.3398 1.0348 2.4179 1.8982 1.8479 1.7825 1.7825 1.7542 1.7542 1.7542 1.7140 1.7140	2,114,754 324,475 21,734 14,998 25,870 387,077 13,532,477 300,918 429,185 109,310 314,694 312,177 583,700 234,890 1,113,226 940,918 2,246,665 275,018	70,492  6,490 435 300 517 7,742  270,650 6,018 8,584 2,186 6,294 6,244 11,674 4,698 22,265 18,818 44,933 5,500	1,658,598 107,077 7,172 3,149 776 118,175 8,254,811 129,395 175,966 44,817 122,731 121,749 215,969 86,909 411,894 329,321 786,333 96,256	14,848 456,156 217,399 14,562 11,848 25,094 268,902 5,277,66 171,523 253,219 64,493 191,964 190,428 367,731 147,981 701,333 611,597 1,460,33 178,762 451,190
2000 2000 2000 2015 2015 2015 2015 2015	- Collecti 360 360 360 360 361 361 361 361 361 361 361 361 361 361	Total Structures and Improvements:  On Sewers - Force Main  Bradford Woods 4" force main  PS#15 - forcemain  PS#20 - Forcemain  Total Collection Sewers - Force Main:  On Sewers - Gravity Main (INTERCEPTO)  Various Interceptor Projects  Deer Run / Neiffer Road  Pump Station 6A Interceptors  Springford HS Sewer Ext. (Auth. Portion)  Royersford Road Sewer Extension  Kugler Road Sewer Extension  Kugler Road Sewer Extension  West Cherry Lanes Sewer Extension  West Cherry Lane Sewer Extension  Township Line Road Interceptor  Mingo Creek Interceptor  North Limerick Road Sewer Extension  Graterford Road Collection System  Possum Hollow Sew. System - Interceptor  Limerick Center Road Sewer Extension	50 50 50 50 50 50 50 50 50 50 50 50 50 5	16.5 16.5 10.5 10.5 1.5 20.5 20.5 20.5 19.5 18.5 18.5 17.5 17.5 17.5 17.5 14.5 13.5	1,065,696  194,378 13,020 11,194 25,000 243,592  5,596,725 158,529 232,260 59,155 176,544 175,132 332,740 133,900 634,598 548,967 1,310,789 160,456 399,334 3,001,430 176,656	6221 6221 7751 10036 4295 5471 5620 5620 5826 5826 5920 5920 6059 6059 6059 6342 6538 6695	1.6693 1.6693 1.3398 1.0348 2.4179 1.8982 1.8479 1.8479 1.7825 1.7825 1.7542 1.7542 1.7140 1.7140 1.6375 1.5884 1.5513	2,114,754 324,475 21,734 14,998 25,870 387,077 13,532,477 300,918 429,185 109,310 314,694 312,177 583,700 234,890 1,113,226 940,918 2,246,665 275,018 653,899 4,767,490 274,038	70,492  6,490 435 300 517 7,742  270,650 6,018 8,584 2,186 6,294 6,244 11,674 4,698 22,265 18,818 44,933 5,500 13,078 95,350 5,481	1,658,598  107,077 7,172 3,149 776 118,175  8,254,811 129,395 175,966 44,817 122,731 121,749 215,969 86,909 411,894 329,321 786,333 96,256 202,709 1,382,572 73,990	14,848 456,156 217,399 14,562 11,848 25,094 268,902 5,277,66 171,523 253,219 64,493 191,964 190,428 367,731 147,981 701,333 611,597 1,460,33 178,762 451,190 3,384,91 200,048
2000 2000 2015 2015 2015 2015 2015 2015	- Collecti 360 360 360 360 360 361 361 361 361 361 361 361 361 361 361	Total Structures and Improvements:  On Sewers - Force Main  Bradford Woods 4" force main  Bradford Woods 2" force main  PS#15 - forcemain  PS#20 - Forcemain  Total Collection Sewers - Force Main:  On Sewers - Gravity Main (INTERCEPTO)  Various Interceptor Projects  Deer Run / Neiffer Road  Pump Station 6A Interceptors  Springford HS Sewer Ext. (Auth. Portion)  Royersford Road Sewer Extension  Kugler Road Sewer Extension  Betty/Roberta Lanes Sewer Extension  West Cherry Lane Sewer Extension  Ridge Pike Sewer Extension  Township Line Road Interceptor  Mingo Creek Interceptor  North Limerick Road Sewer Extension  Graterford Road Collection System  Possum Hollow Sew. System - Interceptor  Limerick Center Road Sewer Extension  Hartenstine Creek Interceptor	50 50 50 50 50 50 50 50 50 50 50 50 50 5	16.5 16.5 10.5 1.5 30.5 21.5 20.5 20.5 19.5 18.5 18.5 17.5 17.5 17.5 17.5 14.5 13.5 12.5	1,065,696  194,378 13,020 11,194 25,000 243,592  5,596,725 158,529 232,260 59,155 176,544 175,132 332,740 133,900 634,598 548,967 1,310,789 160,456 399,334 3,001,430 176,656 275,733	6221 6221 7751 10036 4295 5471 5620 5620 5826 5826 5920 5920 6059 6059 6059 6342 6538 6695 7115	1.6693 1.6693 1.3398 1.0348 2.4179 1.8982 1.8479 1.8479 1.7825 1.7542 1.7542 1.7140 1.7140 1.6375 1.5884 1.5513 1.4596	2,114,754 324,475 21,734 14,998 25,870 387,077 13,532,477 300,918 429,185 109,310 314,694 312,177 583,700 234,890 1,113,226 940,918 2,246,665 275,018 653,899 4,767,490 274,038 402,453	70,492  6,490 435 300 517 7,742  270,650 6,018 8,584 2,186 6,294 6,244 11,674 4,698 22,265 18,818 44,933 5,500 13,078 95,350 5,481 8,049	1,658,598  107,077 7,172 3,149 776 118,175  8,254,811 129,395 175,966 44,817 122,731 121,749 215,969 86,909 411,894 329,321 786,333 96,256 202,709 1,382,572 73,990 100,613	14,848 456,156 217,399 14,562 11,848 25,094 268,902 5,277,66 171,523 253,219 64,493 191,964 190,428 367,731 147,981 701,333 611,597 1,460,33; 178,762 451,190 3,384,91; 200,048 301,840
2000 2000 2000 2015 2015 2015 2015 2016 2017 2018 2018 2018 2019 2018 2018 2018 2018 2018 2018 2018 2018	- Collecti 360 360 360 360 360 361 361 361 361 361 361 361 361 361 361	Total Structures and Improvements:  on Sewers - Force Main  Bradford Woods 4" force main  Bradford Woods 2" force main  PS#15 - forcemain  PS#20 - Forcemain  Total Collection Sewers - Force Main:  on Sewers - Gravity Main (INTERCEPTO  Various Interceptor Projects  Deer Run / Neiffer Road  Pump Station 6A Interceptors  Springford HS Sewer Ext. (Auth. Portion)  Royersford Road Sewer Extension  Kugler Road Sewer Extension  Betty/Roberta Lanes Sewer Extension  West Cherry Lane Sewer Extension  Township Line Road Interceptor  Mingo Creek Interceptor  North Limerick Road Sewer Extension  Graterford Road Collection System  Possum Hollow Sew. System - Interceptor  Limerick Center Road Sewer Extension  Hartenstine Creek Interceptor  Limerick Center Road Sewer Extension  Hartenstine Creek Interceptor	50 50 50 50 50 50 50 50 50 50 50 50 50 5	16.5 16.5 10.5 1.5 30.5 21.5 20.5 20.5 19.5 18.5 18.5 17.5 17.5 17.5 14.5 13.5 12.5 12.5	1,065,696  194,378 13,020 11,194 25,000 243,592  5,596,725 158,529 232,260 59,155 176,544 175,132 332,740 133,900 634,598 548,967 1,310,789 160,456 399,334 3,001,430 176,656 275,733 433,577	6221 6221 7751 10036 4295 5471 5620 5620 5826 5826 5920 5920 6059 6059 6059 6342 6538 6695 7115	1.6693 1.6693 1.3398 1.0348 2.4179 1.8982 1.8479 1.8479 1.7825 1.7542 1.7542 1.7542 1.7140 1.7140 1.6375 1.5881 1.5513 1.4596 1.4596	2,114,754 324,475 21,734 14,998 25,870 387,077 13,532,477 300,918 429,185 109,310 314,694 312,177 583,700 234,890 1,113,226 940,918 2,246,665 275,018 653,899 4,767,490 274,038 402,453 632,838	70,492  6,490 435 300 517 7,742  270,650 6,018 8,584 2,186 6,294 6,244 11,674 4,698 22,265 18,818 44,933 5,500 13,078 95,350 5,481 8,049 12,657	1,658,598  107,077 7,172 3,149 776 118,175  8,254,811 129,395 175,966 44,817 122,731 121,749 215,969 86,909 411,894 329,321 786,333 96,256 202,709 1,382,572 73,990 100,613 158,210	14,848 456,156 217,399 14,562 11,848 25,094 268,902 5,277,666 171,523 253,219 64,493 191,964 190,428 367,731 147,981 701,333 611,597 1,460,33 178,762 451,190 3,384,91 200,048 301,840 474,629
nde 360 2000 2000 2006 2015 1986 1995 1996 1997 1997 1998 1998 1999 1999 2001 2002 2003 2004 2004 2004	- Collecti 360 360 360 360 361 361 361 361 361 361 361 361 361 361	Total Structures and Improvements:  Ion Sewers - Force Main Bradford Woods 2" force main PS#15 - forcemain PS#20 - Forcemain Total Collection Sewers - Force Main:  Ion Sewers - Gravity Main (INTERCEPTO) Various Interceptor Projects Deer Run / Neiffer Road Pump Station 6A Interceptors Springford HS Sewer Ext. (Auth. Portion) Royersford Road Sewer Extension Kugler Road Sewer Extension Betty/Roberta Lanes Sewer Extension West Cherry Lane Sewer Extension Ridge Pike Sewer Extension Township Line Road Interceptor Morth Limerick Road Sewer Extension Graterford Road Collection System Possum Hollow Sew. System - Interceptor Limerick Center Road Sewer Extension Hartenstine Creek Interceptor Limerick Creater Road Sewer Extension Landis Creek Interceptor	50 50 50 50 50 50 50 50 50 50 50 50 50 5	16.5 16.5 10.5 1.5 1.5 30.5 21.5 20.5 20.5 19.5 19.5 18.5 17.5 17.5 17.5 17.5 12.5 12.5 12.5	1,065,696  194,378 13,020 11,194 25,000 243,592  5,596,725 158,529 232,260 59,155 176,544 175,132 332,740 133,900 634,598 548,967 1,310,789 160,456 399,334 3,001,430 176,656 275,733 433,577 381,610	6221 6221 7751 10036 4295 5471 5620 5620 5826 5826 5920 5920 6059 6059 6059 6342 6538 6695 7115 7146	1.6693 1.6693 1.3398 1.0348 2.4179 1.8982 1.8479 1.7825 1.7542 1.7542 1.7542 1.7140 1.7140 1.6375 1.5884 1.5513 1.4596 1.4596 1.4596	2,114,754  324,475 21,734 14,998 25,870 387,077  13,532,477 300,918 429,185 109,310 314,694 312,177 583,700 234,890 1,113,226 940,918 2,246,665 275,018 653,899 4,767,490 274,038 402,453 632,838 532,229	70,492  6,490 435 300 517 7,742  270,650 6,018 8,584 2,186 6,294 6,244 11,674 4,698 22,265 18,818 44,933 5,500 13,078 95,350 5,481 8,049 12,657 10,645	1,658,598  107,077 7,172 3,149 776 118,175  8,254,811 129,395 175,966 44,817 122,731 121,749 215,969 86,909 411,894 329,321 786,333 96,256 202,709 1,382,572 73,990 100,613 158,210 122,413	14,848 456,156 217,399 14,562 11,848 25,094 268,902 5,277,666 171,523 253,219 64,493 191,964 190,428 367,731 147,981 701,333 611,597 1,460,33 178,762 451,190 3,384,91 200,048 301,840 474,629 409,816
2000 2000 2000 2015 2015 2015 2015 2016 2017 2018 2018 2018 2018 2018 2018 2018 2018	- Collecti 360 360 360 360 360 361 361 361 361 361 361 361 361 361 361	Total Structures and Improvements:  on Sewers - Force Main  Bradford Woods 4" force main  Bradford Woods 2" force main  PS#15 - forcemain  PS#20 - Forcemain  Total Collection Sewers - Force Main:  on Sewers - Gravity Main (INTERCEPTO  Various Interceptor Projects  Deer Run / Neiffer Road  Pump Station 6A Interceptors  Springford HS Sewer Ext. (Auth. Portion)  Royersford Road Sewer Extension  Kugler Road Sewer Extension  Betty/Roberta Lanes Sewer Extension  West Cherry Lane Sewer Extension  Township Line Road Interceptor  Mingo Creek Interceptor  North Limerick Road Sewer Extension  Graterford Road Collection System  Possum Hollow Sew. System - Interceptor  Limerick Center Road Sewer Extension  Hartenstine Creek Interceptor  Limerick Center Road Sewer Extension  Hartenstine Creek Interceptor	50 50 50 50 50 50 50 50 50 50 50 50 50 5	16.5 16.5 10.5 1.5 30.5 21.5 20.5 20.5 19.5 18.5 18.5 17.5 17.5 17.5 14.5 13.5 12.5 12.5	1,065,696  194,378 13,020 11,194 25,000 243,592  5,596,725 158,529 232,260 59,155 176,544 175,132 332,740 133,900 634,598 548,967 1,310,789 160,456 399,334 3,001,430 176,656 275,733 433,577	6221 6221 7751 10036 4295 5471 5620 5620 5826 5826 5920 5920 6059 6059 6059 6342 6538 6695 7115	1.6693 1.6693 1.3398 1.0348 2.4179 1.8982 1.8479 1.8479 1.7825 1.7542 1.7542 1.7542 1.7140 1.7140 1.6375 1.5881 1.5513 1.4596 1.4596	2,114,754 324,475 21,734 14,998 25,870 387,077 13,532,477 300,918 429,185 109,310 314,694 312,177 583,700 234,890 1,113,226 940,918 2,246,665 275,018 653,899 4,767,490 274,038 402,453 632,838	70,492  6,490 435 300 517 7,742  270,650 6,018 8,584 2,186 6,294 6,244 11,674 4,698 22,265 18,818 44,933 5,500 13,078 95,350 5,481 8,049 12,657	1,658,598  107,077 7,172 3,149 776 118,175  8,254,811 129,395 175,966 44,817 122,731 121,749 215,969 86,909 411,894 329,321 786,333 96,256 202,709 1,382,572 73,990 100,613 158,210	14,848 456,156 217,399 14,562 11,848 25,094 268,902 5,277,66 171,523 253,219 64,493 191,964 190,428 367,731 147,981 701,333 611,597 1,460,33 178,762 451,190 3,384,91 200,048 301,846 474,629

NOTE: A description of the collection system Reproduction Costs can be found at the bottom of this schedule.

2005

396

PH - SCADA

Subtotal:

**Total Communication Equipment:** 

**SCHEDULE:** C Cost Approach Calculation of Reproduction Cost less Accumulated Depreciation (as of 12/31/2016) Reproduction NARUC Service Original 10385 Trend Reproduction Annual Accumulated Cost less Life Cost **ENR Index** Factor Depreciation Year Cost Depreciation Depreciation Account Asset Age Code 371 - Pumping Equipment 25 877,481 4295 2,4179 2,121,686 1986 371 PS#5 - Pump Station constructed 30.5 84,867 2,121,686 0 1986 25 4295 371 PS#7 - Pumping Stations 30.5 213,451 2.4179 516.109 20,644 516,109 0 1988 371 Fox Hollow SD (Pump Station #1) 25 28 5 104 439 4519 2 2981 240,007 9.600 240,007 0 1990 371 PS#3 - Pump Station constructed 25 26.5 303,240 4732 2.1946 665,499 26,620 665,499 0 1990 25 191,713 4732 2.1946 420,740 371 PS#2 - Pump Station constructed 26.5 16.830 420,740 0 1990 371 PS#4 - Pump Station constructed 25 26.5 200,000 4732 2.1946 438,926 17,557 438,926 0 1992 371 PS#1 - Pumping Station 25 24.5 329.215 4985 2.0832 685,837 27,433 13.717 672,120 25 1995 371 PS#6 - New Pump Station 215 1.229,919 5471 1.8982 2,334,621 93,385 2,007,774 326,847 1996 371 PS#8 - Pump Station constructed 25 20.5 375,200 5620 1.8479 693,319 27,733 568,521 124,797 25 1996 371 PS#9 - Pumping Stations 20.5 235,752 5620 1.8479 435,638 17,426 357,223 78,415 1998 371 PS#11 - Pumping Stations 25 18.5 226,600 5920 1.7542 397,507 15.900 294.155 103.352 PS#6 - Unknown Improvement 54,587 1999 371 25 17.5 31,848 6059 1.7140 2,183 38,211 16,376 2000 371 PS#2 - Pump Replacement 25 16.5 30,000 6221 1.6693 50,079 2,003 33,052 17,027 2000 371 PS#12 - Pump Station constructed 25 16.5 183,500 6221 1.6693 306,317 12,253 202,169 104,148 2000 25 16.5 211,500 6221 1.6693 353,057 14,122 371 PS#14 - Pump Station constructed 233.018 120,039 25 6695 1.5513 2003 371 PS#16 - Pumping Stations 135 0 0 0 0 0 2003 371 PS#17 - Pumping Stations 25 13.5 0 6695 1.5513 0 0 0 0 2004 371 PS#18 - Pumping Stations 25 12.5 300,000 7115 1.4596 437,873 17,515 218,936 218,936 2005 371 PS#5 - New Pumps and Controllers 25 11.5 262,823 7446 1.3947 366,557 14,662 168,616 197,941 25 170,000 227,763 PS#15 - Pump Station constructed 7751 1.3398 132,103 2006 371 10.5 9.111 95,661 2007 371 PS#19 - Pump Station constructed 25 9.5 305,000 7967 1.3035 397,568 15,903 151,076 246,492 2010 371 PS#4 - Pumping Station Upgrades 25 6.5 169,834 8799 1.1803 200,448 8,018 148,332 52,117 2010 371 PS #6 - unknown improvement 25 6.5 114,208 8799 1.1803 134,795 5,392 35,047 99,748 371 PS#3 - HYDROMATIC PUMP 25 5.5 9070 1.1450 21,373 2011 18,666 855 4.702 16.671 2011 371 PS#5 - Surge Protector 75 55 3.635 9070 1 1450 4,162 166 916 3,246 2011 371 PS#5 - Hydromatic Pump 25 5.5 22,842 9070 1.1450 26,154 1,046 5,754 20,400 PS#3 - Muffin Monster Grinder Rebuild 3.5 7,980 9547 1.0878 2013 371 25 8,681 347 1,215 7,465 2013 371 PS#6 - Peroxide system of odor control 25 3.5 33,947 9547 1.0878 36,928 1,477 31.758 5,170 2013 371 PS#7 - Peroxide Tank 25 35 12.462 9547 1.0878 13,556 11,658 542 1.898 2014 371 PS#5 - Pump Control Upgrades, New Build 25 2.5 317,044 9807 1.0590 335,747 13,430 33,575 302,172 PS#7 - Unknown Upgrade 2014 371 25 2.5 4,191 9807 1.0590 4,438 3,994 178 444 499,805 2015 371 PS#20 - Pump Station constructed 25 1.5 483,000 10036 1.0348 19,992 29,988 469,817 2016 371 PS#5 - New Check Valves 25 0.5 23,362 10385 1.0000 23,362 934 22,895 467 371 PS#2 - Omni System Crystal Ball 25 0.5 10385 1,0000 2016 3.250 3,250 130 65 3,185 2016 371 PS#3 - Omni System Crystal Ball 25 0.5 2,492 10385 1.0000 2,492 100 2,442 50 2016 371 PS#1- Omni System Crystal Ball 25 0.5 3.250 10385 1.0000 3,250 130 65 3,185 371 25 0.5 2,492 10385 1.0000 2,492 2016 PS#5 - Omni System Crystal Ball 100 50 2,442 371 25 0.5 18,117 10385 1:0000 2016 PS#5 - Muffin Monster Grinder Rebuild 18,117 725 362 17,755 2016 371 PS#5 - Motor Control 25 0.5 8,414 10385 1.0000 8,414 337 168 8,246 2016 371 PS#5 - Transfer Controller 25 0.5 2,338 10385 1.0000 2,338 94 47 2,291 2016 371 PS#6 - Roof Replacement 25 0.5 4,084 10385 1,0000 4,084 163 4,002 82 25 12,680 2016 371 PS#6 - Muffin Monster 0.5 10385 1.0000 12,680 507 254 12,426 2016 371 PS#10 - Crystal Ball 25 0.5 3.209 10385 1.0000 3.209 128 64 3,145 2016 371 PS#16 - Grinder Rebuild 25 0.5 4,900 10385 1.0000 4,900 196 98 4,802 2016 371 PS#18 - Omni System Crystal Ball 3,250 10385 1.0000 3,250 130 3.185 65 7,061,328 500,865 Total Pumping Equipment: 12,521,617 9,616,163 2,905,454 Code 380 - Treatment and Disposal Equipment 6,742,671 16,303,292 King Road Sewage Treatment Plant 50 30.5 4295 2.4179 326,066 9,945,008 6,358,284 2002 380 Possum Hollow Sew. System - WWTP & P 14.5 7,904,782 6538 1.5884 12,556,005 251,120 50 3.641.241 8.914.764 2005 380 KR - Sludge Thickener Facility 50 341,075 7446 1.3947 475.695 11.5 9,514 109,410 366,285 2007 380 King Road Treatment Plant Expansion 50 9.5 8,933,119 7967 1.3035 11,644,338 232,887 2,212,424 9,431,914 0.5 10385 1,0000 2016 KR - Misc. improvements 50 37,624 37,624 752 376 37,248 Total Treatment and Disposal Equipment: 23,959,271 41,016,954 820,339 15,908,460 25,108,494 Code 382 - Outfall Line and Headwall KR - Outfall Relocation 50 15.5 216,433 6342 1.6375 354,404 7,088 244,538 109,865 Total Outfall Line and Headwall: 354,404 216,433 7,088 109,865 244,538 Code 396 - Communication Equipment 10 13.5 45,278 1.5513 2003 396 KR - SCADA 6695 70,238 7.024 70,238 0

Page	1	9

10

11.5

44,654

89,932

63,433,990

7446

1.3947

62,279

132,516

141,024,549

6,228

13,252

3,073,631

62,279

132,516

59,510,982

0

0

81,513,567

Cost Approach

Cost Ap	proach											
Calculati	Calculation of Reproduction Cost less Accumulated Depreciation (as of 12/31/2016)											
											Reproduction	
	NARUC		Service		Original	10385	Trend	Reproduction	Annual	Accumulated	Cost less	
Year	Account	Asset	Life	Age	Cost	ENR Index	Factor	Cost	Depreciation	Depreciation	Depreciation	

SCHEDULE:

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	NARUC		Service		Original	10385	Trend	Reproduction	Annual	Accumulated	Cost less
Year	Account	Asset	Life	Age	Cost	ENR Index	Factor	Cost	Depreciation	Depreciation	Depreciation
Cost of F	uture Capita	l Projects									
	King Road Pi	lant									
	Se	ewer System Construction			305,000	10385	1.0000	305,000			
	Pu	imp Station Upgrades			2,590,000	10385	1.0000	2,590,000			
	18	l Program Equipment			158,000	10385	1.0000	158,000			
	M	liscellaneous			125,000	10385	1.0000	125,000			
	V	ehicles			610,000	10385	1.0000	610,000			
	Ed	quipment			314,000	10385	1.0000	314,000			
	To	otal King Road Plant:			4,102,000			4,102,000	•		
	Possum Holle	ow Plant									
	Pu	ımp Station Upgrades			101,000	10385	1.0000	101,000			
		liscellaneous			100,000	10385	1.0000	100,000			
	Ed	quipment			230,000	10385	1,0000	230,000			
	-	otal Possum Hollow Plant:			431,000			431,000			

SUMMARY									
		Original Cost	Reproduction Cost	Annual Depreciation	Accumulated Depreciation	Reproduction Cost less Depreciation			
353	Land and Land Rights	1,048,383	1,804,542	0	0	1,804,542			
354	Structures and Improvements	1,065,696	2,114,754	70,492	1,658,598	456,156			
360	Collection Sewers - Force Main	243,592	387,077	7,742	118,175	268,902			
361	Collection Sewers - Gravity Main (Interceptors Only)	14,536,079	28,022,685	560,454	12,832,705	15,189,980			
361	Collection System Mains	15,213,276	54,670,000	1,093,400	19,134,500	35,535,500			
371	Pumping Equipment	7,061,328	12,521,617	500,865	9,616,163	2,905,454			
380	Treatment and Disposal Equipment	23,959,271	41,016,954	820,339	15,908,460	25,108,494			
382	Outfall Line and Headwall	216,433	354,404	7,088	109,865	244,538			
396	Communication Equipment	89,932	132,516	13,252	132,516	0			
	Future Capital Projects - King Road Plant	4,102,000	4,102,000	0	0	4,102,000			
	Future Capital Projects - Possum Hollow Plant	431,000	431,000	0	0	431,000			
F 14	Total Cost of Assets:	67,966,990	145,557,549	3,073,631	59,510,982	86,046,567			

#### Collection System Mains

Based on a detailed analysis of regional wastewater collection system construction costs, the current estimated unit cost per lineal foot (LF) is approximately \$154. The LTSSS consists of approximately 355,000 LF of pipe resulting in a total Reproduction Cost for the entire collection system of \$54,670,000, as shown below:

Approximate LF of LTSSS	355,000
Estimated Reproduction Cost of the Collection System	\$54,670,000

**Market Approach** 

Comparison of Other Wastewater System Acquisitions

SCHEDULE: D

Approx.				Total Purchase	Number of Total	1	Market
Date	Buyer	Seller	County	Price	Customers		Value
Apr-14	Aqua PA	Penn Township	Chester	\$ 5,700,000	801	\$	7,116
Dec-15	PA American Water	Fairview Township	York	\$ 30,800,000	3,912	\$	7,873
Aug-16	Aqua PA	New Garden Twp. SA	Chester	\$ 29,500,000	2,106	\$	14,008
Oct-16	PA American Water	New Cumberland Borough	Cumberland	\$ 25,000,000	3,100	\$	8,065
Dec-16	PA American Water	Scranton Sewer Authority	Lackawanna	\$ 195,000,000	31,229	\$	6,244

Average Market Value per Customer: \$ 8,661

Average Market Value per Customer*	\$ 8,661
Number of Limerick Customers	 7,246
Estimated Market Value:	\$ 62,760,000

<sup>\*</sup> The average market value per customer has been used for this approach to calculate the market value for the LTSSS. It is believed that the average per customer from the sample is more representative because it weights each system of comparable size to the LTSSS. An overall weighted average cost approach would not be representative of the fair market value per customer given the Scranton Sewer Authority purchase price was much higher than the other system sales and would result in an undue weighting of a very large system.

Actual  33	41,000 775,000 15,000 15,000 (45,000 4,700 10,500 7,000 21 13,500 \$ 3,802,121  99,172 802 29,102 8,315 5,559	41,00 780,00 15,00 40 4,70 10,50 5,50 13,50 5,3,817,66 8,71 3,00 10,10 87 31,20 10,10
22 4,413 77 770,821 51 14,446 70) (51,140 18 14,926 51 4,926 51 4,926 52 4,302 35 9,235 90 7,810	41,000 775,000 15,000 15,000 400 4,700 10,500 7,000 21 13,500 3,802,121  99,172 802 29,102 29,102 8,315 5,559 (310 750 1,166 9,660 14,109 226 2,832 341 171,723  641,212 78,973 2,086 2,220	41,00 780,00 15,00 15,00 40 4,77 10,50 7,50 5 3,817,60 8,11 3,00 13,00 14,39 12 3,00 14,39 12 3,00 177,34
77 770,821 770,821 14,446 700 (51,140 188 14,926 51 4,902 22 4,302 235 9,235 200 7,810 206 12,055 25 3,799,139 25 3,799,139 26 11,547 27 11,547 28 11,547 29 10,238 28 2,837 27 174,625 28 37,103 28 45,039 27 174,625 28 37,103 28 45,039 27 174,625 28 37,103 28 45,039 27 174,625 28 37,103 28 45,039 27 174,625 28 37,103 28 45,039 27 174,625 28 37,103 28 45,039 27 174,625 28 37,103 28 45,039 27 174,625 28 37,103 28 45,039 27 174,625 28 37,103 28 45,039 27 174,625 28 37,103 28 45,039 27 174,625 28 37,103 28 45,039 27 174,625 28 37,103 28 45,039 2	775,000 15,000 15,000 15,000 400 4,700 10,500 7,000 21 13,500 \$ 3,802,121   99,172 802 29,102  29,102  8,315 5,559 (310 750 1,166 9,660 14,109 226 2,832 341 171,723  641,212 78,973 2,086 2,220	780,00 15,00 15,00 40 4,70 10,50 5,50 5,3,817,60 101,10 87 31,20 8,11 3,00 10,50 10,50 8,11 3,00 13,00 14,39 12 3,00 14,39 12 3,00 14,39 12 3,00 14,39 12 3,00 17,7,34
51	15,000 (45,000) 400 4,700 10,500 7,000 21 13,500 \$ 3,802,121  99,172 802 29,102  29,102  8,315 5,559 (310) 750 1,166 9,660 14,109 226 2,832 341 171,723  641,212 78,973 2,086 2,220	15,00 40,45,00 40,47,00 10,50 7,50 13,50 \$ 3,817,66 101,10 87 31,20 8,11 3,00 14,39 12 3,00 14,39 12 3,00 14,39 12 3,00 177,34
(70) (51,140 18 14,926 16 495 172 4,302 185 9,235 180 7,810 196 12,055 195 3,799,139 183 4,116 184 1,164 185 245 186 12,004 187 2,388 189 1,398 18	99,172 99,172 802 29,102 8,315 5,559 (310) 750 1,166 9,660 14,109 226 2,832 341 171,723 641,212 78,973 2,086 2,220	(45,00 40 41,70 10,50 7,50 3,817,60 87 31,20 8,11 3,00 10,10
48       14,926         51       495         61       495         72       4,302         85       9,235         90       7,810         96       12,055         83       95,886         95       3,799,139         83       95,886         91       756         85       27,642         90       8,419         83       4,116         841       761         85       245         81       7,238         88       2,837         88       37,103         88       37,103         88       37,103         88       37,103         88       37,103         88       37,103         88       37,103         88       37,039         96       82,190         87       396,996         90       3,533         85       170,215         7       41,115         85       26,691         81       10,521         82       26,691         83       3,345 <td>400 4,700 10,500 7,000 21 13,500 \$ 3,802,121 99,172 802 29,102 8,315 5,559 (310) 750 1,166 9,660 14,109 226 2,832 341 171,723 641,212 78,973 2,086 2,220</td> <td>101,10 87 31,20 8,11 3,00 13,00 14,39 12 3,00 14,39 12 3,00 177,34</td>	400 4,700 10,500 7,000 21 13,500 \$ 3,802,121 99,172 802 29,102 8,315 5,559 (310) 750 1,166 9,660 14,109 226 2,832 341 171,723 641,212 78,973 2,086 2,220	101,10 87 31,20 8,11 3,00 13,00 14,39 12 3,00 14,39 12 3,00 177,34
48       14,926         51       495         61       495         72       4,302         85       9,235         90       7,810         96       12,055         83       95,886         95       3,799,139         83       95,886         91       756         85       27,642         90       8,419         83       4,116         841       761         85       245         81       7,238         88       2,837         88       37,103         88       37,103         88       37,103         88       37,103         88       37,103         88       37,103         88       37,103         88       37,039         96       82,190         87       396,996         90       3,533         85       170,215         7       41,115         85       26,691         81       10,521         82       26,691         83       3,345 <td>400 4,700 10,500 7,000 21 13,500 \$ 3,802,121 99,172 802 29,102 8,315 5,559 (310) 750 1,166 9,660 14,109 226 2,832 341 171,723 641,212 78,973 2,086 2,220</td> <td>101,10 87 31,20 8,11 3,00 13,00 14,39 12 3,00 14,39 12 3,00 177,34</td>	400 4,700 10,500 7,000 21 13,500 \$ 3,802,121 99,172 802 29,102 8,315 5,559 (310) 750 1,166 9,660 14,109 226 2,832 341 171,723 641,212 78,973 2,086 2,220	101,10 87 31,20 8,11 3,00 13,00 14,39 12 3,00 14,39 12 3,00 177,34
51	4,700 10,500 7,000 21 13,500 \$ 3,802,121  99,172 802 29,102  8,315 5,559 (310) 750 1,166 9,660 14,109 226 2,832 341 171,723  641,212 78,973 2,086 2,220	4,70 10,50 7,50 <b>\$ 3,817,60</b> <b>\$ 3,817,60</b> <b>\$ 31,20</b> <b>8,11</b> 3,00 13,00 14,39 12 3,00 20 50 177,34
72 4,302 75 9,235 760 7,810 760 12,055 765 \$ 3,799,139 766 27,642 767 11,547 761	4,700 10,500 7,000 21 13,500 \$ 3,802,121  99,172 802 29,102  8,315 5,559 (310) 750 1,166 9,660 14,109 226 2,832 341 171,723  641,212 78,973 2,086 2,220	4,70 10,50 7,50 <b>\$ 3,817,60</b> <b>\$ 3,817,60</b> <b>\$ 31,20</b> <b>8,11</b> 3,00 13,00 14,39 12 3,00 20 50 177,34
35 9,235 7,810 7,8	10,500 7,000 21 13,500 \$ 3,802,121  99,172 802 29,102  8,315 5,559 (310) 750 1,166 9,660 14,109 226 2,832 341 171,723  641,212 78,973 2,086 2,220	10,56 7,56 8 3,817,66 8 3,817,66 87 31,26 8,11 3,06 13,06 14,39 12 3,06 26 26 177,34
7,810  7,810  12,055  3,799,139  33  95,886  11,756  55  27,642  11,547  100  8,419  33  4,116  31)  (270  8,19  10,238  31  189  174,625  18  27  174,625  18  37,103  88  45,039  66  3,020  2,110  77  87,272  66  82,190  77  87,272  66  82,190  77  87,272  67  87,272  68  81  82  83  83  83  84  85  85  86  87  87  87  87  87  87  87  87  87	7,000 21 13,500 \$ 3,802,121  99,172 802 29,102  8,315 5,559 (310 750 1,166 9,660 14,109 226 2,832  341 171,723  641,212 78,973 2,086 2,220	7,50 13,50 \$ 3,817,60 \$ 3,817,60 87 31,20 8,11 3,00 13,00 14,35 12 3,00 20 50 177,34
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01	802 29,102 8,315 5,559 (310) 750 1,166 9,660 14,109 226 2,832 341 171,723 641,212 78,973 2,086 2,220	87 31,20 8,11 3,00 10 75 1,00 13,00 14,39 12 3,00 20 177,34
01	802 29,102 8,315 5,559 (310) 750 1,166 9,660 14,109 226 2,832 341 171,723 641,212 78,973 2,086 2,220	87 31,20 8,11 3,00 10 75 1,00 13,00 14,39 12 3,00 20 177,34
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00         8,419           63         4,116           631         (270           85         245           81         761           89         10,238           86         12,004           80         236           88         2,837           87         174,625           88         37,103           88         45,039           86         3,020           87         277           87,272         87,272           86         82,190           87         396,996           80         3,533           85         170,215           7         41,115           81         10,521           81         10,521           83         3,345           84         6,707	5,559 (310) 750 1,166 9,660 14,109 226 2,832 341 171,723 641,212 78,973 2,086 2,220	3,06 75 1,06 13,00 14,39 12 3,06 20 50 177,34
63         4,116           611)         (270           15         245           41         761           29         10,238           366         12,004           400         236           48         2,837           15         189           27         174,625           38         37,103           48         45,039           36         3,020           45         2,110           47         87,272           46         82,190           47         396,996           40         3,533           15         170,215           7         41,115           45         26,691           31         10,521           32         2,829           33         3,345           42         6,707	5,559 (310) 750 1,166 9,660 14,109 226 2,832 341 171,723 641,212 78,973 2,086 2,220	3,06 75 1,06 13,00 14,39 12 3,06 20 50 177,34
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29 10,238 36 12,004 40 236 48 2,837 45 18 27 174,625 48 37,103 48 45,039 46 3,020 47 87,272 41,115 45 26,691 41 10,521 41 10,521 42 6,707	9,660 14,109 226 2,832 341 171,723 641,212 78,973 2,086 2,220	13,00 14,35 12 3,00 20 50 177,34
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18     2,837       15     18       13     189       17     174,625       18     37,103       18     37,103       18     45,039       16     3,020       15     2,110       17     87,272       16     82,190       17     396,996       10     3,533       15     170,215       7     41,115       15     26,691       11     10,521       15     2,829       16     3,345       16     6,707	226 2,832 341 171,723 641,212 78,973 2,086 2,220	12 3,00 20 50 177,34
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26,691 10,521 15 2,829 16 - 3 3,345 12 6,707	167,654	165,00
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2,829 	26,521	30,00
2,829 	10,177	11,00
3 3,345 2 6,707	3,291	3,00
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3 3,345 2 6,707	2,646	8,00
6,707	3,537	3,70
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9,508	9,018	10,00
63,181	67,588	70,00
1,027	1,102	1,20
9,487	8,070	10,00
0 1,505	3,108	4,00
3 13,125	27,206	30,00
6 2,229	8,969	9,00
	0,709	
		10,00
	18,468	10,00
	18,468 10,476	13,00
2 12,455	18,468 10,476 15,725	
7 246,877	18,468 10,476 15,725 13,478	
6 2,498	18,468 10,476 15,725	14,00 170,00
7	34,598 8,282 16,253	

	2014 Actual	2015 Actual	2016 Actual	2017 Budgeted
Electric - PS #3, S. Limerick	6,649	6,883	6,493	8,000
Electric - PS #4, Benner Rd	2,468	2,387	2,616	2,500
Electric - PS #5, Trinley Rd	20,275	21,242	20,230	21,000
Electric - PS #8, Merion	1,058	938	686	1,000
Electric - PS #7, King Rd	2,602	2,316	2,341	2,500
Electric - PS #6, SE	21,030	20,006	21,795	23,000
Electric - PS #10, Ridge Pike	2,742	2,699	2,455	3,000
Electric - PS #11, Wayside	3,528	2,459	696	700
Electric - PS #9, Neiffer Rd	555	574 4,811	4,527	700 5,500
Electric - PS #12, Bradford Wo Electric - PS #13, Bradford Wo	5,896 1,569	1,599	1,540	2,000
Electric - PS #13, Bladford Wo	3,711	3,722	3,568	4,000
Electric - PS #14, Bladford Wo	1,187	1,114	1,036	1,200
Electric - Country Club Estate	3,315	3,565	3,003	3,200
Electric - PS #20, Graterford	-	1,299	2,973	4,000
Lawn Maintenance	-	-		15,000
Permits	1,071	2,305	2,361	3,500
Plant/Building Maintenance	37,624	16,381	29,697	25,000
Collection System Maintenance	36,416	62,732	82,689	90,000
Equipment Maintenance	*	1,027	1,358	50,000
Materials & Small Tools	1,813	3,136	3,884	6,000
Equipment Rental	617	436	117	1,000
Major Maintenance	10,273	20,379	14,687	
Other Contractor Services	7,122	9,046	7,692	20,000
Well Meters, Install & Repair	3,253	3,589	7,868	12,000
Private Meter Supplies	1,022	1,297	#E	
Deduct Meters	171	1,138	(2,558)	
Total King Road TP Expenses:	582,422	618,105	625,432	658,300
Possum Hollow Treatment Plant: Water	463	436	479	600
Sludge Removal	18,425	15,075	16,404	20,000
Grit Removal	3,582	4,089	4,519	3,000
Lab Supplies	930	2,314	772	1,500
Outside Lab Analysis	11,571	17,368	14,712	17,300
Odor Control			4,506	5,000
Other Chemicals	105	52	310	500
Telephone Services - Monthly	3,203	3,326	4,605	5,000
Building & Plant Insurance	5,803			
Electric - Plant	70,177	74,434	74,320	75,000
Electric - PS #17, Possum Hollow	4,496	4,265	4,787	5,000
Electric - PS #1, Airport Road	3,319	3,665	4,397	5,000
Electric - PS #, Heritage Hills	5,832	6,001	6,339	6,700
Plant/Building Maintenance	2,154	1,554	6,227	6,000
Collection System Maintenance	149	3,163	4,188	6,000
Equipment Maintenance	1,344	2,019	2,242	6,000
Materials & Small Tools	1,044	200 7,194	1,682	4,000
Major Maintenance Other Contractor Services	7,683 3,675	7,194	7,491 5,833	5,000 6,000
Deduct Meters	1,523	-	5,655	0,000
Total Possum Hollow TP Expenses:	145,478	145,155	163,814	177,600
TOTAL SEWER EXPENDITURES	1,666,168	1,801,536	2,478,143	1,891,300
Debt Service Costs				
Del Val 2001 - Principal	460,000	80,000	-	
2010 Bond - Principal	440,000	_	*	
2015 Bond - Principal	-	445,000	495,000	525,000
Del Val 2001 - Interest	49,049	36,587	45,000	75,000
2010 Bond - Interest	144,749	_	i i	1.2
2015 Bond - Interest		128,421	128,625	110,700
Total Debt Service Costs:	1,093,798	690,008	668,625	710,700
Interfund Transfers	600,000	635,000	625 000	635,000
Transfer to General Fund Transfer to Sewer Capital Fund	600,000	625,000	625,000	625,000
Transfer to Sewer Capital Fund Total Interfund Transfers:	<u>250,000</u> 850,000	450,000 1,075,000	1,025,000	400,000 1,025,000
NET INCOME	\$ 89,929	\$ 232,595	\$ (369,647)	\$ 190,600

#### **Income Approach**

Cash Flow Present Value Analysis

SCHEDULE: F

	Revenues					Exp	enses					ľ		
	11010111100		Variable					less State &					Assumed	Assumed
		O&M	T	reatment			Renewals &	Inc	ome Before	Federa	l		Growth	Rate
Year	Revenues	Expense [1]	Ex	pense [2]	Cap	oital Projects	Replacements		Taxes	Taxes [3	1	Cash Flow	Rate	Increase [4]
2017	\$ 3,817,600	\$ 1,378,840	\$	449,300	\$	3,123,000	\$ -	\$	(1,133,540)	\$ -		\$ (1,133,540)	1.9%	
2018	3,890,134	1,348,573		469,741		328,000	-		1,743,820	-		1,743,820	1.9%	
2019	3,964,047	1,382,287		481,957		216,000	:=		1,883,803	-		1,883,803	1.9%	
2020	6,261,014	1,416,844		494,492		866,000	-		3,483,677			3,483,677	1.9%	55.0%
2021	6,379,973	1,452,265		507,356		-	265,000		4,155,352	1,616,4	32	2,538,920	1.9%	
2022	6,501,193	1,488,572		529,920		=	265,000		4,217,700	1,640,6	85	2,577,015	1.9%	
2023	7,287,187	1,525,786		553,489		-	265,000		4,942,912	1,922,7	93	3,020,119	1.9%	10.0%
2024	7,425,643	1,563,931		578,105			265,000		5,018,607	1,952,2	38	3,066,369	1.9%	
2025	7,566,731	1,603,029		603,816			265,000		5,094,885	1,981,9	10	3,112,975	1.9%	
2026	8,481,548	1,643,105		630,671		-	265,000		5,942,772	2,311,7	38	3,631,034	1.9%	10.0%
2027	8,566,364	1,684,183		652,902		-	265,000		5,964,279	2,320,1	05	3,644,175	1.0%	
2028	8,652,028	1,726,287		675,917		-	265,000		5,984,823	2,328,0	96	3,656,727	1.0%	
2029	9,612,403	1,769,444		699,743		1-	265,000		6,878,215	2,675,6	26	4,202,589	1.0%	10.0%
2030	9,708,527	1,813,681		724,409		, <del>-</del>	265,000		6,905,437	2,686,2	15	4,219,222	1.0%	
2031	9,805,612	1,859,023		749,944		e-	265,000		6,931,645	2,696,4	10	4,235,235	1.0%	
2032	10,894,035	1,905,498		776,380		:-	265,000		7,947,157	3,091,4	44	4,855,713	1.0%	10.0%
2033	11,002,975	1,953,136		803,747		₹-	265,000		7,981,092	3,104,6	45	4,876,447	1.0%	
2034	11,113,005	2,001,964		832,079		-	265,000		8,013,962	3,117,4	31	4,896,531	1.0%	
2035	12,346,548	2,052,013		861,410		=	265,000		9,168,125	3,566,4	01	5,601,725	1.0%	10.0%

265,000

9,209,926

3,582,661

5,627,265

1.0%

#### Present Value of Cash Flows:

12,470,014

2,103,313

	Interest Rate	Resulting Market Value			
Rate of Inflation/Discount Rate:	2.500%	\$	51,320,000		
Resulting Market Value		\$	51,320,000		
Plus Provision for Going Value*		\$	4,000,000		
Less Provision for Erosion of Cash Flow**		\$	(300,000)		
Total Estimated Market Value:		\$	55,020,000		

891,775

#### Assumptions

2036

<sup>[1]</sup> Assumes Aqua's O&M expenses less variable expenses are 8.76% less than Limerick's (2017 reflects savings for only 6 months).

<sup>[2]</sup> Includes sludge removal, grit removal and electric at treatment plants and pump stations.

<sup>[3]</sup> Assumes state (6%) and federal (35%) taxes at a consolidated rate of 38.9%.

<sup>[4]</sup> Based on the assumed rate increases, the annual bill for the average residential customer using 15,000 gallons per quarter would increase from approx. \$531 in 2016 to approx. \$1,327 in 2036.

<sup>\*</sup>See Schedule I of the Appendix.

<sup>\*\*</sup>See Schedule H of the Appendix.

**Income Approach** 

Rate Base/Rate of Return Present Value Analysis

SCHEDULE: G

Year	Reproduction Cost	Plant Additions [1]	Reproduction Cost with Additions	Annual Depreciation	Accumulated Depreciation	Depreciated Reproduction Cost	Return 7.50%	Cash Flow (Income Approach) [2]	Cash Flow
2017	\$ 141,024,549	\$ 3,123,000	\$ 144,147,549	\$ -	\$ 61,224,304	\$ -	\$ -	\$ (1,133,540)	\$ (1,133,540)
2018	144,147,549	328,000	144,475,549	-	62,971,726	-	-	1,743,820	1,743,820
2019	144,475,549	216,000	144,691,549	7-1	64,747,548	-	-	1,883,803	1,883,803
2020	144,691,549	866,000	145,557,549	3,416,331	66,642,370	78,915,179	5,918,638		9,334,969
2021	145,557,549	-	145,557,549	3,416,331	70,058,700	75,498,849	5,662,414	-	9,078,744
2022	145,557,549	2	145,557,549	3,416,331	73,475,031	72,082,518	5,406,189		8,822,519
2023	145,557,549	-	145,557,549	3,416,331	76,891,361	68,666,188	5,149,964	-	8,566,295
2024	145,557,549	-	145,557,549	3,416,331	80,307,692	65,249,857	4,893,739		8,310,070
2025	145,557,549	_	145,557,549	3,416,331	83,724,022	61,833,527	4,637,515	-	8,053,845
2026	145,557,549	-	145,557,549	3,416,331	87,140,353	58,417,196	4,381,290	(# <u>1</u>	7,797,620
2027	145,557,549	-	145,557,549	3,416,331	90,556,683	55,000,866	4,125,065	1 (*)	7,541,395
2028	145,557,549	-	145,557,549	3,416,331	93,973,014	51,584,535	3,868,840	-	7,285,171
2029	145,557,549	-	145,557,549	3,416,331	97,389,344	48,168,205	3,612,615		7,028,946
2030	145,557,549	-	145,557,549	3,416,331	100,805,675	44,751,874	3,356,391	-	6,772,721
2031	145,557,549		145,557,549	3,416,331	104,222,005	41,335,544	3,100,166		6,516,496
2032	145,557,549	-	145,557,549	3,416,331	107,638,336	37,919,213	2,843,941	(*)	6,260,272
2033	145,557,549		145,557,549	3,416,331	111,054,666	34,502,883	2,587,716		6,004,047
2034	145,557,549	-	145,557,549	3,416,331	114,470,997	31,086,552	2,331,491		5,747,822
2035	145,557,549		145,557,549	3,416,331	117,887,327	27,670,222	2,075,267		5,491,597
2036	145,557,549	×	145,557,549	3,416,331	121,303,658	24,253,891	1,819,042		5,235,372

Present Value Discount Rate: 2.50%
Resulting Market Value: \$96,990,000

Present Value of Cash Flows:

Resulting Market Value\$ 96,990,000Plus Provision for Going Value\*\$ 4,000,000Less Provision for Erosion of Return\*\*\$ (300,000)Total Estimated Market Value:\$ 100,690,000

#### Assumptions

Note: Assumed 2.50% for discount factor to reflect the impact of inflation.

Assumes renewals and replacements offset retirements with no charge to original cost.

<sup>[1]</sup> Based on projects outlined in Limerick's Capital Improvement Plan.

<sup>[2]</sup> Since Aqua would operate under the cash flow basis for years 2017 through 2020, we are assuming the same cash flow projections as determined in the Income Approach - Cash Flow Basis as outlined in Appendix F.

<sup>\*</sup>See Schedule I of the Appendix.

<sup>\*\*</sup>See Schedule H of the Appendix.

**Income Approach** 

Provision for Erosion of Cash Flow (Schedule F) or Return (Schedule G)

Year	Rate Increases Effective [1]	O&M Expense	2.5% Inflation	Covered by Rate Increase	Not Covered by Rate Increase	After Tax 61.10%
2020	55%	1,911,337	47,783	47,783		
2021	0%	1,959,621	48,991	-	48,991	29,933
2022	0%	2,018,492	50,462	_	50,462	30,832
2023	10%	2,079,275	51,982	51,982	-	-
2024	0%	2,142,036	53,551	-	53,551	32,720
2025	0%	2,206,846	55,171	•	55,171	33,710
2026	10%	2,273,776	56,844	56,844	-	-
2027	0%	2,337,085	58,427	-	58,427	35,699
2028	0%	2,402,204	60,055	-	60,055	36,694
2029	10%	2,469,187	61,730	61,730	-	-
2030	0%	2,538,089	63,452	-	63,452	38,769
2031	0%	2,608,967	65,224	-	65,224	39,852
2032	10%	2,681,878	67,047	67,047	-	-
2033	0%	2,756,883	68,922	-	68,922	42,111
2034	0%	2,834,043	70,851	-	70,851	43,290
2035	10%	2,913,423	72,836	72,836		324
2036	0%	2,995,088	74,877	-	74,877	45,750

Discount Rate: 2.50%

Total Estimated Erosion on Return: \$300,000

**SCHEDULE:** 

H

#### Assumptions

[1] Assumes that Aqua will receive a rate increase in 2020 to recover the full cost of service as discussed in the report.

Assumes that Aqua receives the full revenue requirement at the time of each rate increase. For each year after a rate increase, the return will be offset by the inflation for that year until the next rate increase. As taxable income increases, there will be an offsetting decrease in taxes at the consolidated tax rate of 38.9% (1.000-0.611)\*100%.

Note: Assumed 2.50% for discount factor to reflect the impact of inflation.

**SCHEDULE:** 

I

Provision for Going Value

#### **Definition of Going Value:**

Going Value is that element of value of an assembled and established plant, doing business and earning money, over one that is not that advanced" [1].

#### **Assumed Operations:**

Revenue increases linearly to a normal level over a five year period. Expenses are incurred at the normal level with reductions to variable expenses for sludge removal, electric power and number of operating pump stations resulting from reduced flow. Revenue projection will remain based on the existing Limerick rates since rates are typically frozen at the existing level of the acquired utility for a period.

	<u>2017</u>	2018	2019	<u>2020</u>	<u>2021</u>
Operating Expenses Based on 2017 Proposed Budget					
General Operating	1,055,400	1,081,785	1,108,830	1,136,550	1,164,964
King Road Treatment Plant	658,300	675,108	692,346	710,026	728,159
Possum Hollow Treatment Plant	<u>177,600</u>	<u>182,140</u>	186,797	<u>191,573</u>	196,471
Total Operating Expenses:	1,891,300	1,939,033	1,987,972	2,038,149	2,089,594
Less Expenses Not Incurred in Initial Years (increasing ov	ver 5 years as flow	increases with	additional custo	mers)	
Sludge/Grit Removal - King Road Plant	(89,824)	(71,859)	(53,894)	(35,929)	(17,965)
Electric - King Road Plant	(187,648)	(150,119)	(112,589)	(75,059)	(37,530)
Electric - Pump Stations #4-15, 19 and 20 [2]	(81,241)	(64,993)	(48,744)	(32,496)	(16,248)
Sludge/Grit Removal - Possum Hollow Plant	(25,822)	(20,657)	(15,493)	(10,329)	(5,164)
Electric - Possum Hollow Plant	(82,786)	(66,229)	(49,672)	(33,114)	(16,557)
Electric - Possum Hollow Pump Stations [2]	(18,434)	(14,747)	(11,060)	(7,373)	(3,687)
Total Variable Expenses:	(485,754)	(388,603)	(291,452)	(194,302)	(97,151)
Net Expenses	1,405,546	1,550,429	1,696,520	1,843,847	1,992,443
% Decrease in Annual Operating Expenses	-25.68%	-20.04%	-14.66%	-9.53%	-4.65%
Assume Revenue Growth Over 5 Years [3]	381,760	1,145,280	1,908,800	2,672,320	3,435,840
Net Income	(1,023,786)	(405,149)	212,280	828,473	1,443,397
Cumulative	(1,023,786)	(1,428,936)	(1,216,655)	(388,182)	1,055,215
Discounted Value of Net Income [4]	(998,816)	(1,394,084)	(1,186,981)	(378,714)	1,029,478
Going Value (the Sum of Negative Income Years):				(3,958,594)	

For the purpose of determining market value under the Cost and Income Approaches, we assume Going Value is estimated at \$4,000,000.

- [1] Source: Engineering Valuation and Depreciation, Iowa State University Press, Ninth Printing 1982, Ames Iowa. p. 285.
- [2] Assume these pump stations are not in operation during the first year. Increase the expense each year for 5 years to normal level.
- [3] Assume Revenue growth over 5 year period based on half-year convention.

2017 Revenue:	3,817,600
Annual Increase:	763,520
1st Year:	381,760

<sup>[4]</sup> Assumes discount rate of 2.50%.

## Exhibit 1

### **Engineer's Assessment – List of Assets and Costs**

#### **HRG Note**

The following facilities that appear in the Engineer's Assessment have been excluded from our analysis.

<u>Year</u>	Asset	Reason
1986	PS#6 – Pumping Stations (Abandoned)	Abandoned Asset
1990	PS #7 - Pump Station constructed	Appears to be duplicate entry
1998	PS #10 - Pump Station constructed	Appears to be duplicate entry
2000	PS #13 - Pump Station constructed	Appears to be duplicate entry

				Revised 4/03/2017
V=45	cont	1000		
YEAR	CODE	ASSET	ORINGINAL COST	COMMENTS
1986	371.3	PS#5 - Pump Station constructed	\$ 877,481	
1986	371.3	PS#6 - Pumping Stations (Abandoned)	\$ 442,767	
1986	371.3	PS#7 - Pumping Stations	\$ 213,451	
1986	361	Landis Creek Interceptor	_	
1986	361	Lewis Rd Interceptor		
1986	361	King Rd Interceptor		
1986	361	Schuykill Interceptor	\$ 5,596,725	
1986	361	Railroad Ave Interceptor	_	
1986	361	Trinley Rd (Interceptor to Linfield Rd)	_	
1986	361	Linfield Interceptor		
				deleted KR Intercepto
1986	380	King Road Sewage Treatment Plant	\$ 6,742,671	
1988	353.4	King Rd Plant- Property	\$ 53,000	
1988	353.3	ROW- Pump Station Land Acq.	\$ 28,522	
1988	353.3	ROW- Pump Station Land Acq.	\$ 25,402	
1988	361	Fox Hollow SD (Pump Station #1)	\$ 104,439	
1988	361	The Fairways	\$ 212,850	
1989	361	Aronimink	\$ 118,001	
1989	361	D&L Associates	\$ 35,320	
1989	361	Greenfields (Ph. 2)	\$ 71,630	
1989	361	The Glen**	\$ 101,011	
1989	353.4	King Rd Plant- Property	\$ 150,267	
1989	353.3	ROW- Pump Station Land Acq.	\$ 4,827	
1990	371.3	PS#3 - Pump Station constructed	\$ 303,240	
1990	371.3	PS#2 - Pump+ Station constructed	\$ 191,713	
1990	371.3	PS#4 - Pump Station constructed	\$ 200,000	Estimate 1990 dollars
1990	371.3	PS#7 - Pump Station constructed	\$ 213,451	
1990	361	Montgomery Brook**	\$ 8,345	
1990	353.3	ROW - Pump Station Land Acq.	\$ 5,000	
1991	354	KR - Operation Building	\$ 873,890	
1991	361	Brookwood SD (Sara Ln)	\$ 27,502	
1991	361	Fox Ridge**	\$ 207,327	
1991	353.3	ROW - Pump Station Land Acq.	\$ 19,503	
1991	353.3	ROW - Pump Station Land Acq.	\$ 3,056	
1991	353.3	ROW - Pump Station Land Acq.	\$ 13,280	
1992	317.3	PS#1 - Pumping Station	\$ 329,215	
1992	361	Limerick Airport Business Center		Added 3-31-17
1993	353.3	ROW - Pump Station Land Acq.	\$ 11,500	
1994	361	Abbey Downs (Ph. 2-3)	\$ 185,848	
1994	361	Springford Country Club	\$ 109,289	
1994	361	Herritage Ridge (Ph. 1-3)	\$ 150,820	
1994	361	Muirfield (Ph. 1-2)	\$ 199,735	
1994	353.3	ROW- Pump Station Land Acq.	\$ 16,809	
1995	371.3	PS#6 - New Pump Station	\$ 1,229,919	
1995	361	Deer Run / Neiffer Road	\$ 158,529	
1995	361	Linfield Corporate Center (Ph. 1)	\$ 154,385	
1995	361	Royersford/Limerick Center LP	\$ 176,508	
1996	371.3	PS#8 - Pump Station constructed	\$ 375,200	
1996	371.3	PS#9 - Pumping Stations	\$ 235,752	
1996	361	Pump Station 6A Interceptors	\$ 232,260	
1996	361	Chapel Heights/The Fields	\$ 232,260	
1996	361	Zappone	\$ 22,135	
1996	361	Springford High School Sewer Extension (Authority Portion)	\$ 22,135	
1007	261	Marian		
1997	361	Merion The Meadows	\$ 480,080 \$ 161,796	

YEAR	CODE	ASSET	ORINGINAL COST	COMMENTS
1997	361	Walnut Crossing	\$ 191,338	
1997	361	Heather Glen (Ph. 1a-b)	\$ 246,679	
1997	361	Waterford Greene (Ph. 1-8c)	\$ 685,490	
1997	361	Royersford Road Sewer Extension	\$ 176,544	
1997	361	Kugler Road Sewer Extension	\$ 175,132	
1998	371.3	PS#10 - Pump Station constructed	\$ 634,598	
1998	371.3	PS#11 - Pumping Stations	\$ 226,600	
1998	361	Summer Chase	\$ 117,478	
1998	361	Walnut Grove	\$ 230,800	
1998	361	Betty/Roberta Lanes Sewer Extension	\$ 332,740	
1998	361	West Cherry Lane Sewer Extension	\$ 133,900	
1998	361	Ridge Pike Sewer Extension	\$ 634,598	
1999	371.3	PS#6 - Unknown Improvement	\$ 31,848	
1999	361	Ashford SD	\$ 73,568	
1999	361	Links at Springford	\$ 130,272	
1999	361	Linfield Farm (Ph. 1-3)	\$ 246,044	
1999	361	Winnie Tract (Wayside)		
1999	361	Township Line Road Interceptor	\$ 548,967	
1999	361	Mingo Creek Interceptor (incl. Reifsnyder Road Sewer Extension)	\$ 1,310,789	
1999	361	North Limerick Road Sewer Extension	\$ 160,456	
2000	371.3	PS#2 - Pump Replacement	70704101010	Estimate 2016 dollars
2000	371.3	PS#12 - Pump Station constructed	\$ 183,500	
2000	371.3	PS#13 - Pump Station constructed	\$ 303,239	
2000	371.3	PS#14 - Pump Station constructed	\$ 211,500	
2000	361	Bradford Woods gravity	\$ 835,625	
2000	360	Bradford Woods 4" force main	\$ 194,378	
2000	360	Bradford Woods 2" force main	\$ 13,020	
2000	361	Chestnut Pointe	\$ 155,026	
2000	361	Limerick Green	\$ 34,749	
2000	361	Linfield Knoll	\$ 192,093	
2000	353.3	ROW - Mingo Creek Interceptor	\$ 189,540	
2000	361	William Penn Villas	\$ 228,806	
2001	361	Crosswinds	\$ 169,064	
2001	382	KR - Outfall Relocation	\$ 216,433	
2001	361	Faircrest Farm (Ph 1-4)	\$ 477,620	
2001	361	Golf Ridge (Ph. 1-3)	\$ 68,618	
2001	361	Lakeview Commercial Center	\$ 143,280	
2001	361	Lewis Road Office Complex (Ph. II)	\$ 22,298	
2001	361	Pine Tree SD	\$ 137,982	
2001	361 361	Pinecrest Estates Wickford Hunt	\$ 34,040 \$ 121,911	
2001	361	Willow Run (Ph. 1-7)	\$ 517,604	
2001	361	Summit Properties (Ridge Pike CVS)	\$ 12,280	
2001	353.3	Easement & ROW	\$ 83,639	
2001	361	Graterford Road Collection System	\$ 399,334	
2002	380	Possum Hollow Sewerage System- Wastewater Treatment Plant and Pump Stations	\$ 7,904,782	
2002	361	Possum Hollow Sewerage System- Interceptor Lines	\$ 3,001,430	
2002	361	Four Maples Development	\$ 23,040	
2002	361	Summerdale Estates	\$ 105,655	
2002	353.3	Easement -King Rd Pump Station	\$ 1,950	
2002	353.3	Easements King Rd	\$ 12,455	
2002	353.4	Easement - Galie	\$ 11,104	
2003	371.3	PS#16 - Pumping Station	\$ -	(Priced as part of Possum Hollow Treatment Plant)

YEAR	CODE ASSET		ORINGINAL COST	COMMENTS	
2003	371.3	PS#17 - Pumping Station	\$ -	(Priced as part of Possum Hollow Treatment Plant)	
2003	396	KR - SCADA	\$ 45,278	Treatment riant,	
2003	361	Heritage Estates	\$ 88,622		
2003	361	Lakeside Development	\$ 24,850		
2003	361	Lewis Road Associates (Ph. 1-2)	\$ 117,697		
2003	361	YMCA (Spring Valley)	\$ 147,141		
2003	353.3	Easement & ROW	\$ 1,907		
2003	353.3	Easement & ROW	\$ 15,716		
2003	353.4	Easements & ROW King Rd	\$ 10,250		
2003	361	Limerick Center Road Sewer Extension	\$ 176,656		
2004	371.3	PS#18 - Pumping Stations	\$ 300,000	Estimated from simila	
2004	361	Ashbrook Estates (Ph. 1-4)	\$ 286,855		
2004	361	Bellemeade	\$ 62,676		
2004	361	Calamia Subdivision	\$ 75,221		
2004	361	Rose Tree Estates	\$ 48,036		
2004	353.3	Easement & ROW	\$ 30,772		
2004	353.3	Easement & ROW	\$ 357		
2004	353.4	Possum Hollow- Property	\$ 7,010		
2004	353.4	Easements & ROW King Rd	\$ 2,907		
2004	361	Hartenstine Creek Interceptor	\$ 275,733		
2004	361	Linfield-Trappe Road Sewer Extension	\$ 433,577		
2005	380	KR - Sludge Thickener Facility	\$ 341,075		
2005	396	PH - SCADA	\$ 44,654		
2005	371.3	PS#5 - New Pumps and Controllers	\$ 262,823		
2005	361	Evans brooke	\$ 203,547		
2005	361	Glenview Estates	\$ 117,120		
2005	361	Landis Farms Estates/Crosswinds II	\$ 159,219		
2005	361	Limerick Plaza	\$ 352,744		
2005	361	Puleo SD	\$ 52,089		
2005	361	Villas	\$ 425,383		
2005	353.3	Easement & ROW	\$ 22,646		
2005	361	Landis Creek Interceptor	\$ 381,610		
2006	371.3	PS#15 - Pump Station constructed	\$ 170,000		
2006	360	PS#15 - forcemain	\$ 170,000		
2006	361	Estates at Landis Brooke	\$ 134,128		
2006	361	292-296 W. Ridge Pike	\$ 41,610		
2006	361	Bruster's Ice Cream	\$ 8,975		
2006	361	Fernwood Retail	\$ 72,278		
2006	361	Philadelphia Premium Outlets (Ph. 1)	\$ 426,224		
2006	353.3	Easement & ROW	\$ 1,243		
2006	353.4	Land- Galie Property	\$ 325,722		
2007	371.3	PS#19 - Pump Station constructed	\$ 305,000		
2007	380	King Road Treatment Plant Expansion	\$ 8,933,119	_	
2007	354	KR - Paving	\$ 135,744		
2007	361	Possum Hollow Industrial Park	\$ 68,372		
2007	361	McLaughlin Land Sewer Extension	\$ 24,212		
2007	361	Country Club Estates/Dinnocenti Tract	\$ 717,941		
2007	361	Moore tract	\$ 18,775		
2008	361	Church Hill Estates (Ph. 1-2)	\$ 64,984		
2008	361	Evans Creek Industrial Park	\$ 148,280		
2008	361	Heritage Crossing At Limerick	\$ 109,632		
2008	361	Limerick Center	\$ 109,632		
2008	361	Penn Liberty Bank	\$ 63,710		
2010	371.3	PS#4 - Pumping Station Upgrades	\$ 169,834		
2010	361	Western Center	\$ 107,117		
2010	361	PS #6 - unknown improvement	\$ 107,117		

YEAR	CODE	ASSET	ORINGINAL COST	COMMENTS
2011	371.3	PS#3 - HYDROMATIC PUMP	\$ 18,666	
2011	371.3	PS#5 - Surge Protector	\$ 3,635	
2011	371.3	PS#5 - Hydromatic Pump	\$ 22,842	
2011	361	Brownback Road Subdivision	\$ 27,270	
2011	361	Costco	\$ 162,417	
2011	361	GB Sheds	\$ 16,261	
2011	361	Oak Creek Estates/Neiffer Woods (Ph. 1-2)	\$ 993,426	
2012	354	KR - Operation Building Roof	\$ 40,962	
2013	371.3	PS#3 - Muffin Monster Grinder Rebuild	\$ 7,980	
2013	371.3	PS#6 - Peroxide system of odor control	\$ 33,947	
2013	371.3	PS#7 - Peroxide Tank	\$ 12,462	
2014	371.3	PS#5 - Pump Control Upgrades, New Building	\$ 317,044	
2014	371.3	PS#7 - Unknown Upgrade	\$ 4,191	
2014	361	190 Airport Rd**	\$ 30,272	
2015	361	57 Neiffer Road	\$ 25,836	
2015	371.3	PS#20 - Forcemain	\$ 25,000	
2015	371.3	PS#20 - Pump Station constructed	\$ 483,000	
2015	361	Graterford Road	\$ 323,732	
2015	361	Moscariello	\$ 403,732	
2015	361	Telvil-Landis/Carriage Crossing	\$ 174,470	
2016	371.3	PS#5 - New Check Valves	\$ 23,362	
2016	380	KR - Misc. improvements	\$ 37,624	
2016	354	KR -Headworks coating	\$ 15,100	
2016	371.3	PS#2 - Omni System Crystal Ball	\$ 3,250	
2016	371.3	PS#3 - Omni System Crystal Ball	\$ 2,492	
2016	371.3	PS#1- Omni System Crystal Ball	\$ 3,250	
2016	371.3	PS#5 - Omni System Crystal Ball	\$ 2,492	
2016	371.3	PS#5 - Muffin Monster Grinder Rebuild	\$ 18,117	
2016	371.3	PS#5 - Motor Control	\$ 8,414	
2016	371.3	PS#5 - Transfer Controller	\$ 2,338	
2016	371.3	PS#6 - Roof Replacement	\$ 4,084	
2016	371.3	PS#6 - Muffin Monster	\$ 12,680	
2016	371.3	PS#10 - Crystal Ball	\$ 3,209	
2016	371.3	PS#16 - Grinder Rebuild	\$ 4,900	
2016	371.3	PS#18 - Omni System Crystal Ball	\$ 3,250	
2016	361	Cherry Ridge	\$ 195,551	
2017	361	Mountain View Estates	\$ 492,210	
		Total	\$ 65,028,045	

# Exhibit 2

**Engineer's Assessment – Future Capital Projects** 

### **Sewer Capital Projects - 5 Year Projections**

King Road Plant:	Budget 2016	2017	2018	2019	2020
30-428-620 Sewer System Construction					
Lewis Rd. sewer main rehab.	_	_	20,000	_	-
Manhole Rehab.	20,000	-	-	20,000	•
Ridge Pike Manhole riser replacement	-	15,000	-	-	-
Manhole Paving Riser for Public Works Paving					
Projects	10,000	-	10,000	-	10,000
Slip lining of 1400 ft. clay sewer main in Orchard					
Terrance Area	<u> </u>				200,000
	30,000	15,000	30,000	20,000	210,000
	3	A SUMMER THE	and the second s		•
31-428-630 Pumps Station Upgrade					
Upgrade to Pump Station # 3 (1984)	950,000	-	_		-
Upgrade to Pump Station # 7 (1984)	45,000	<u>-</u>	-	-	,- ,
Upgrade to Pump Station # 6 (1984)	1,500,000	-	-	-	-
Pump Station # 10 lighting & surge protection		-	25,000	- "	-
Muffin Monster Rebuilding	10,000	-	10,000	-	10,000
Pump Station Remote Montioring systems	-	10,000	10,000	10,000	10,000
	2,505,000	10,000	45,000	10,000	20,000
31-428-640 I/I Program Equipment					
Flo-Dar Portable Meters	-	16,000	-	16,000	=
MP2 & Montior Pro Meters	-	13,000	13,000	13,000	13,000
Portable Samplers	=	12,000	_	12,000	-
Sewer Main Repairs for I/I	-	-	25,000	_	25,000
	-	41,000	38,000	41,000	38,000

31-428-680 Miscellaneous	25,000	25,000	25,000	25,000	25,000
	25,000	25,000	25,000	25,000	25,000
	•	•	— 30. • ass as asset	U	NO-MODELY POWER STATES
31-428-740 Vehicles					
Replace F-250 (1999) Truck	50,000	=	=	-	=
Replace F-350 (2006) Truck	-	-	60,000	-	-
Sewer Line Flush Truck	=	-	-	=	300,000
Sewer Line Telvising Truck					200,000
	50,000	<b>:</b> ■:	60,000	-	500,000
31-428-750 Equipment					
Headworks Man Doors (3) Replacement	5,000	-	1	-	-
Ultra-Violet Bulbs, Sleeves, Gaskets & Misc. Parts	10,000	10,000	10,000	10,000	10,000
Repair Aeration Tank Air Headers	20,000	22,000	-	-	-
Thickner Sludge Discharge Pump Replacement					
(Netzsch)	-	20,000	-	-	-
Thickner Sludge Inlet Pump Replacement					
(Seepex)	=	-	20,000	=:	
Dissolved Oxygen Sensor & Controller	-	10,000		10,000	
Repair Concrete Walls in Headworks	20,000	-1	20,000	-	20,000
Replace ATS Power Transfer Switch On MCC"A"	12,000	<b>-</b> x	-		
Upgrade King Road Plant Scada System	-	-	25,000	,-	_
Rebuild Headwork Exhaust System	-	60,000	-	=:	_
Electronic Meter Reading System	-		-	•	ı. <del>-</del>
Sewer and Firewall					
	67,000	122,000	75,000	20,000	30,000
lotal King Road Plant	2,677,000	213,000	273,000	116,000	823,000

# **Possum Hollow Plant:**

	2016	2017	2018	2019	2020
31-429-630 Pump Stations Upgrades					
Upgrade Pump Station #1 ( 1990)	45,000	-	-	_	-
MP2 & MP3,control panels & Montior Pro Units	_	13,000	-	_	13,000
Muffin Monster Rebuilds	10,000		10,000		10,000
	55,000	13,000	10,000	-	23,000
31-429-680 Miscellaneous	20,000	20,000	20,000	20,000	20,000
	20,000	20,000	20,000	20,000	20,000
31-429-750 Equipment					
Headworks Exhaust System Rebuild	-	75,000	-	=	_
Upgrade Ultra-Violet System	-	-	-	80,000	-
Upgrade Waste Pumps & Flow Metering	-	50,000	-	-	-
Install SCADA Plant Montoring System			25,000		
	4,	125,000	25,000	80,000	,=.c
Total Possum Hollow Plant	75,000	158,000	55,000	100,000	43,000

# WORKPAPERS

# SCHEDULE C WORKPAPERS

### LAND DEVELOPMENT ASSET PIPING

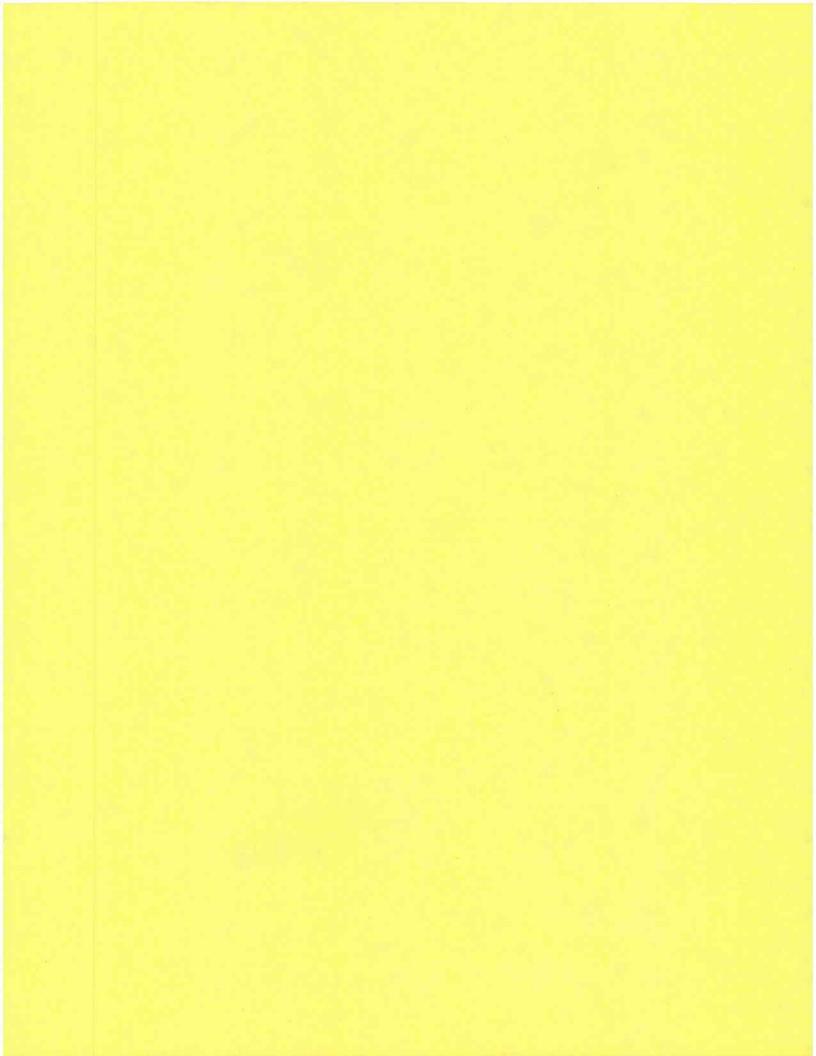
Development Name	Length of Pipe (LF)	Pipe Size	Material	Sewer Use	Comments	Category Totals	Total Length (Feet)
Brookwood SD (Sara Ln)	164	6	PVC	Gravity			
D&L Associates	260	6	PVC	Gravity			
Faircrest Farm (Ph 1-4)	182	6	DIP	Gravity			
Golf Ridge (Ph. 1-3)	340	6	DIP	Gravity			
190 Airport Rd	447	6	PVC	Gravity			
Ashbrook Estates (Ph. 1-4)	1,842	6	PVC	Gravity			
Bellemeade	405	6	PVC	Gravity			
Brownback Road Subdivision	145	6	PVC	Gravity_			
Church Hill Estates (Ph. 1-2)	620	Б	PVC	Gravity			
Costco	164	6	PVC	Gravity			
Country Club Estates/Dinnocenti Tract	3,050	6	PVC	Gravity			
Crosswinds	1,120	6	PVC	Gravity			
Estates At Landis Brooke	1,096	6	PVC	Gravity			
Evans brooke	1,400	6	PVC	Gravity			
Fernwood Retail	20	6	PVC	Gravity			
GB Sheds	10	6	PVC	Gravity			
Heather Glen (Ph. 1a-b)	3,625	6	PVC	Gravity			
Heritage Estates	585	6	PVC	Gravity			
Limerick Plaza	245	6	PVC	Gravity			
Muirfield (Ph. 1-2)	1.746	6	PVC	Gravity			
Pinecrest Estates	280	6	PVC	Gravity			
Rose Tree Estates	390	6	PVC	Gravity			
Royersford/Limerick Center LP	988	6	PVC	Gravity			
Summerdale Estates	800	6	PVC	Gravity			
The Glen	1,230	6	PVC	Gravity			
The Meadows	1,600	6	PVC	Gravity			
Wawa	31	6	PVC	Gravity			
Welsh Subaru (addition)	212	6	PVC	Gravity			
Western Center	150	6	PVC	Gravity			34
Bradford Woods	234	6	SDR-26	Gravity			
Cherry Ridge	360	6	SDR-26	Gravity			
292-296 W. Ridge Pike	680	6	SDR-35	Gravity			
Abbey Downs (Ph. 2-3)	1,740	6	SDR-35	Gravity			
Aronimink	2,458	6	SDR-35	Gravity			
Ashford SD	630	6	SDR-35	Gravity			
Bradford Woods	5,678	6	SDR-35	Gravity			
Chestnut Pointe	1,352	5	SDR-35	Gravity			
Evans Creek Industrial Park	270	6	SDR-35	Gravity			
Faircrest Farm (Ph 1-4)	2,760	6	SDR-35	Gravity			
Four Maples Development	170	6	SDR-35	Gravity			
Fox Ridge	4,160	6	5DR-35	Gravity			
Glenview Estates	624	6	SDR-35	Gravity			
Golf Ridge (Ph. 1-3)	4.804	6	SDR-35	Gravity			
Greenfields (Ph. 2)	816	6	SDR-35	Gravity			
Heritage Crossing At Limerick	974	6	SDR-35	Gravity			
Herritage Ridge (Ph. 1-3)	4.490	6	SDR-35	Gravity			
Lakeside Development	340	- 5	SDR-35	Gravity			
Lakeview Commercial Center	398	6	SDR-35	Gravity			
Lewis Road Associates (Ph. 1-2)	1,136	6	SDR-35	Gravity			
Lewis Road Office Complex (Ph. II)	298	6	SDR-35	Gravity			
Limerick Center	636	6	SDR-35	Gravity			
imerick Green	50	ō	SDR-35	Gravity			
Linfield Farm (Ph. 1-3)	2,322	- 6	SDR-35	Gravity			
Linfield Knoll	3,711	- 6	SDR-35	Gravity			
Links at Springford	2,560	6	5DR-35	Gravity			
Merion	2,216	6	SDR-35	Gravity			
Montgomery Brook	145	6	SDR-35	Gravity			
Moscariello	1,950	6	SDR-35	Gravity			
Mountain View Estates	112	6	SDR-35	Gravity			
Oak Creek Estates/Neiffer Woods (Ph. 1-2)	2,555	6	5DR-35	Gravity			
Penn Liberty Bank	114	Ď	SDR-35	Gravity			
Telvil-Landis/Carriage Crossing	965	6	SDR-35	Gravity			
	2450		SDR-35	Gravity			
Villas							

### LAND DEVELOPMENT ASSET PIPING

Waterford Greene (Ph. 1-8c)	13,376	6	SDR-35	Gravity		
Wickford Hunt	1,195	6	SDR-35	Gravity		
William Penn Villas	2,035	6	SDR-35	Gravity		
Willow Run (Ph. 1-7)	2,710	6	SDR-35	Gravity		
Winnie Tract (Wayside)	1,631	6	SDR-35	Gravity		
Summer Chase	1,495	6	SDR-35	Gravity	6 inch PVC Gravity	102,767
Bellemeade	211	8	DIP	Gravity	a menty to orating	202,701
Bradford Woods	450	8	DIP	Gravity		
Cherry Ridge	137	8	DIP	Gravity		
Country Club Estates/Dinnocenti Tract		. 8	DIP	Gravity		
Evans Creek Industrial Park	138	8	DIP	Gravity		
Faircrest Farm (Ph 1-4)	351	8	DIP	Gravity		
Golf Ridge (Ph. 1-3)	1,440	8	DIP	Gravity		
Heather Glen (Ph. 1a-b)	88	8	DIP	Gravity		
Lakeview Commercial Center	839	8	DIP	Gravity		
Limerick Center	336	8	DIP	Gravity		
Links at Springford	380	8	DIP	Gravity		
Dak Creek Estates/Neiffer Woods (Ph. 1-2)	59	8	DIP	Gravity		
Philadelphia Premium Outlets (Ph. 1)	139	8	DIP	Gravity		
Springford Country Club	LS	В	DIP	Gravity		
The Meadows	551	8	DIP	Gravity		
Vilas	110	8	DIP	Gravity		
Walnut Crossing	575	8	DIP	Gravity		
Western Center	601	8	DIP	Gravity		
Winnie Tract (Wayside)	744	8	DIP	Gravity	8 inch DIP Gravity	7,246
Brookwood SD (Sara Ln)	493	8	PVC	Gravity	Julien Bir Gravity	7,240
D&L Associates	1,399	8	PVC	Gravity		
Ely Property Subdivison	1,362	8	PVC	Gravity		
Walnut Grove	1,324	8	PVC	Gravity		
57 Neiffer Rd	903	8	PVC	Gravity		
Ashbrook Estates (Ph. 1-4)	6,417	8	PVC	Gravity		
Bellemeade	948	8	PVC	Gravity		
Brownback Road Subdivision	200	8	PVC	Gravity		
Chapel Heights/The Flelds	3,124	8	PVC	Gravity		
Church Hill Estates (Ph. 1-2)	1.736	8	PVC	Gravity		
Country Club Estates/Dinnocenti Tract	7,120	8	PVC	Gravity		
Deer Run	2,800	8	PVC	Gravity		
GB Sheds	166	В	PVC	Gravity		
Heather Gien (Ph. 1a-b)	7,867	8	PVC	Gravity		
Heritage Estates	2,069	8	PVC	Gravity		
Latitude Hotels	276	8	PVC	Gravity		
Limerick Airport Business Center	4,710	8	PVC	Gravity	-	
Limerick Plaza	589	8	PVC	Gravity		
Linfield Corporate Center (Ph. 1)	5,559	8	PVC	Gravity		
Muirfield (Ph. 1-2)	4,432	8	PVC	Gravity		
Rose Tree Estates	444	8	PVC	Gravity		
Royersford/Limerick Center LP	2080	8	PVC	Gravity		
Springford Country Club	434	8	PVC	Gravity		
Summerdale Estates	1,760	8	PVC	Gravity		
The Gien	3,891	8	PVC	Gravity		
The Meadows	3,639	8	PVC	Gravity		
Western Center	639	8	PVC	Gravity		
Country Club Estates/Dinnocenti Tract	728	8	5DR-21	Gravity		
Bradford Woods	2,234	8	SDR-26	Gravity		
Cherry Ridge	2,351	8	SDR-26	Gravity		
Landis Farms Estates/Crosswinds II	450	8	SDR-26	Gravity		
Limerick Center	266	8	SDR-26	Gravity		
Moscariello	623	8	SDR-26	Gravity		
	1.825	8	SDR-26	Gravity		
Philadelphia Premium Outlets (Pr. 1)	TO THE PARTY		SDR-35	Gravity		
	4 376	K				
Abbey Downs (Ph. 2-3)	4,376	8				
Abbey Downs (Ph. 2-3) Aronimink	3,022	8	SDR-35	Gravity		
Abbey Downs (Ph. 2-3) Aronimink Ashford SD	3,022 1,590	8	SDR-35 SDR-35	Gravity Gravity		
Ashford SD Bradford Woods	3,022 1,590 13,450	8 8	SDR-35 SDR-35 SDR-35	Gravity Gravity Gravity		
Abbey Downs (Ph. 2-3) Aronimink Ashford SD	3,022 1,590	8	SDR-35 SDR-35	Gravity Gravity		

#### LAND DEVELOPMENT ASSET PIPING

Crosswinds	2,708	8	5DR-35	Gravity		
Estates At Landis Brooke	3,156	8	SDR-35	Gravity		
Evans brooke	2,949	8	SDR-35	Gravity		
Evans Creek Industrial Park	1,731	8	SDR-35	Gravity		
Faircrest Farm (Ph 1-4)	8,313	8	SDR-35	Gravity		
Fernwood Retail	893	8	SDR-35	Gravity		
Four Maples Development	341	8	SDR-35	Gravity		
Fox Ridge	4,769	8	SDR-35	Gravity		
Glenview Estates	1,739	8	SDR-35	Gravity		
Golf Ridge (Ph. 1-3)	5,301	8	SDR-35	Gravity		
Greenfields (Ph. 2)	2,094	8	SDR-35	Gravity		
Heritage Crossing At Limerick	1.005	8	SDR-35	Gravity		
Herritage Ridge (Ph. 1-3)	3.522	8	SDR-35	Gravity		
Lakeside Development	266	8	SDR-35	Gravity		
Lakeview Commercial Center	1,351	8	SDR-35	Gravity		
Landis Farms Estates/Crosswinds II	1,439	8	SDR-35	Gravity		
7 St. Co.	1,955	8	SDR-35			
Lewis Road Associates (Ph. 1-2)				Gravity		
Lewis Road Office Complex (Ph. II)	274	- 8	SDR-35	Gravity		
Limerick Center	754	8	SDR-35	Gravity		
Limerick Green	804	8	SDR-35	Gravity		
Linfield Farm (Ph. 1-3)	5,415	8	SDR-35	Gravity		
Linfield Knoll	2,660	8	SDR-35	Gravity		
Links at Springford	2,065	В	SDR-35	Gravity		
Merion	3,118	8	SDR-35	Gravity		
Montgomery Brook	240	8	SDR-35	Gravity		
Moore tract	100	8	SDR-35	Gravity		
Moscariello	3,889	8	SDR-35	Gravity		
Mountain View Estates	1,054	8	SDR-35	Gravity		
Oak Creek Estates/Neiffer Woods (Ph. 1-2)	6,484	8	SDR-35	Gravity		
Penn Liberty Bank	623	- 8	SDR-35	Gravity		
Phlladelphia Premium Outlets (Ph. 1)	3,752	8	- SDR-35	Gravity		
Pine Tree SD	3,062	8	SDR-35	Gravity		
Pinecrest Estates	300	8	SDR-35	Gravity		
Possum Hollow Industrial Park	732	8	SDR-35	Gravity		
Puleo SD	604	8	SDR-35	Gravity		
Summer Chase	3.501	8	SDR-35	Gravity		
Summit Properties (Ridge Pike CVS)	289	8	5DR-35	Gravity		
Telvil-Landis/Carriage Crossing	3,118	8	5DR-35	Gravity		
Villas	6617	8	5DR-35	Gravity		
Walnut Crossing	2,489	8	SDR-35	Gravity		
Waterford Greene (Ph. 1-8c)	14,253	8	SDR-35	Gravity		
Wickford Hunt	2,697	8	SDR-35	Gravity		
William Penn Villas	4,537	8	SDR-35	Gravity		
Willow Run (Ph. 1-7)	8,217	В	SDR-35	Gravity		
Winnie Tract (Wayside)	4,526	8	SDR-35	Gravity		
Zappone	434	8	SDR-35	Gravity		
Dak Creek Estates/Neiffer Woods (Ph. 1-2)	393	8	SDR-35	Gravity	8 inch PVC Gravity	234,099
Dak Creek Estates/Neiffer Woods (Ph. 1-2)	489	10	DIP	Gravity		
Dak Creek Estates/Nelffer Woods (Ph. 1-2)	2,128	10	SDR-35	Gravity		
Dak Creek Estates/Neiffer Woods (Ph. 1-2)	77	10	5DR-35	Gravity	1D inch PVC Gravity	2,694
Walnut Grove	2,176	12	PVC	Gravity		
Limerick Plaza	1,160	12	DIP	Gravity		
Walnut Crossing	704	12	DIP	Gravity		
Limerick Plaza	90	12	PVC	Gravity		
Chestnut Pointe	14	12	SDR-35	Gravity		
Royersford/Limerick Center LP	2190	12	PVC	Gravity	12 Inch PVC Gravity	6,334
Chapel/Oak/Lewis Road	3,372	8	VTC	Gravity	8 inch VTC Gravity	3,372
anagad sung berna nodo	3,372		7,0	Sar or Wiley	month of Gravity	21216
TOTALE	15					
TOTALS	LF					
5 Inch PVC Gravity	102,767					
8 inch PVC Gravity	234,099					
a to the party of the state of	7,246		1			
B inch DIP Gravity						
B inch VTC Gravity	3,372					



# **Annual Average**

Annuai	Average
Year	Ave.
1908	97
1909	91
1910	96
1911	93
1912	91
1913	100
1914	89
1915	93
1916	130
1917	181
1918	189
1919	198
1920	251
1921	202
1922	174
1923	214
1924	215
1925	207
1926	208
1927	206
1928	207
1929	207
1930	203
1931	181
1932	157
1933	170
1934	198
1935	196
1936	206
1937	235
1938	236
1939	236
1940	242
1941	258
1942	276
1943	290
1944	299
1945	308
1946	346
1947	413
1948	461
1949	477

1931	181	1954	628
1932	157	1955	660
1933	170	1956	692
1934	198	1957	724
1935	196	1958	759
1936	206	1959	797
1937	235	1960	824
1938	236	1961	847
1939	236	1962	872
1940	242	1963	901
1941	258	1964	936
1942	276	1965	971
1943	290	1966	1019
1944	299	1967	1074
1945	308	1968	1155
1946	346	1969	1269
1947	413	1970	1381
1948	461	1971	1581
1949	477	1972	1753
1950	510	1973	1895
1951	543	1974	2020
1952	569	1975	2212
1953	600	1976	2401

1950	510
1951	543
1952	569
1953	600
1954	628
1955	660
1956	692
1957	724
1958	759
1959	797
1960	824
1961	847
1962	872
1963	901
1964	936
1965	971
1966	1019
1967	1074
1968	1155
1969	1269
1970	1381
1971	1581
1972	1753
1973	1895
1974	2020
1975	2212
1976	2401
1977	2576
1978	2776
1979	3003
1980	3237
1981	3535
1982	3825
1983	4066
1984	4146
1985	4195
1986	4295
1987	4406
1988	4519
1989	4615
1990	4732
1991	4835
1992	4985
1993	5210

1994	5408
1995	5471
1996	5620
1997	5826
1998	5920
1999	6059
2000	6221
2001	6342
2002	6538
2003	6695
2004	7115
2005	7446
2006	7751
2007	7967
2008	8310
2009	8570
2010	8799
2011	9070
2012	9308
2013	9547
2014	9807
2015	10036
2016	10385
2017	10505
2011	

# SCHEDULE D WORKPAPERS

	Chapter 94 Projections		
Projected	d Developm	ents	
2015	8,268	Actual	
2016	8,718	Projected	5.4%
2017	9,229	Projected	5.9%
2018	9,664	Projected	4.7%
2019	9,782	Projected	1.2%
2020	9,824	Projected	0.4%
5 Year Proj.	1,556	New EDUs	

# 5 Year Projected Growth - Per Chapter 94 Rpts.

# of EDUs:

1,556

% Growth:

18.8%

# **Projected Growth Spread Over 10 Years**

# of EDUs:

156 per year

% Growth:

1.9%

Assume 1.9% for growth in 2017 through 2026
Assume 1% for growth thereafter

	# of	Projected
	<b>Customers</b>	Growth
As of 3/2/2017	5,434	

Begin:	5,434	
2017	5,537	1.9%
2018	5,642	1.9%
2019	5,750	1.9%
2020	5,859	1.9%
2021	5,970	1.9%
2022	6,084	1.9%
2023	6,199	1.9%
2024	6,317	1.9%
2025	6,437	1.9%
2026	6,559	1.9%
2027	6,625	1.0%
2028	6,69 <mark>1</mark>	1.0%
2029	6,758	1.0%
2030	6,826	1.0%
2031	6,894	1.0%
2032	6,963	1.0%
2033	7,033	1.0%
2034	7,103	1.0%
2035	7,174	1.0%
2036	7,246	1.0%

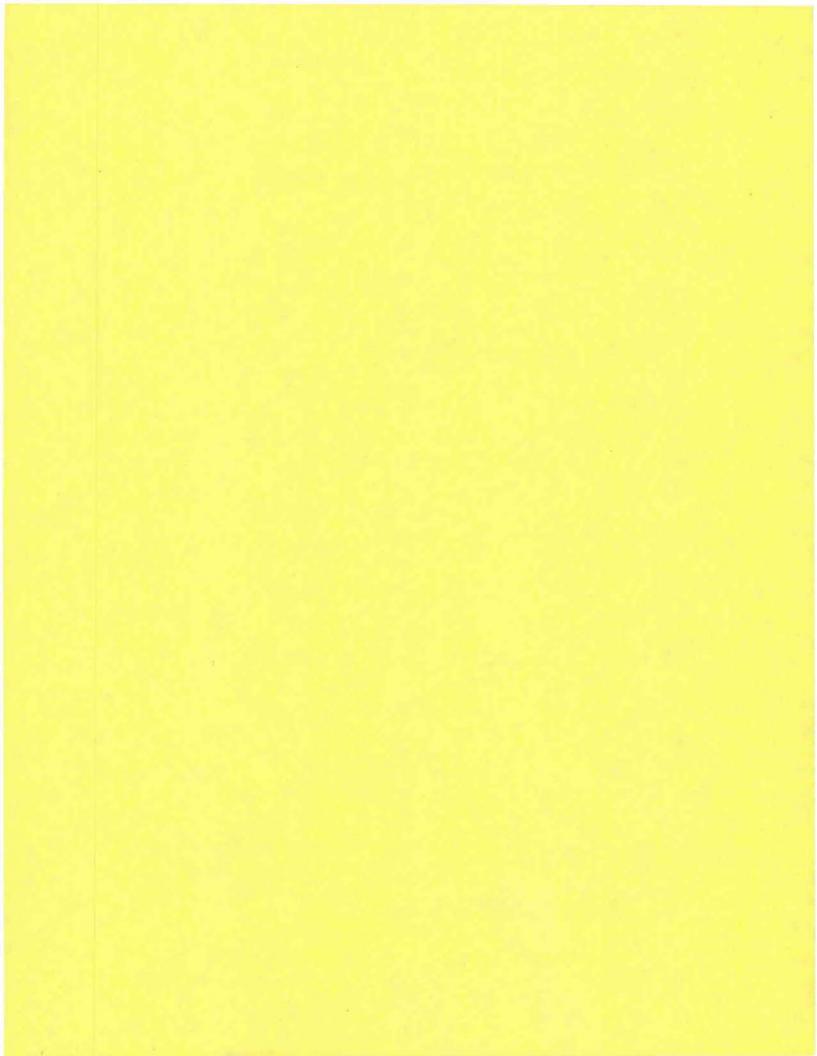
# **Assumed Growth Over 20 Years**

# of EDUs:

1,812

% Growth:

33.3%



merick Township		Page: 120 Mar 02, 2017 11:53AM			
ustomer Number	Name	Location Number	Service Address	Customer Type	Final Bill Date
61150		5000038196		RESIDENTIAL	
61151		5000036178		RESIDENTIAL	
61152		61152		RESIDENTIAL	
61153		5000036184		RESIDENTIAL	
61154		5000038600		RESIDENTIAL	
61155		5000036185		RESIDENTIAL	
61156		5000036186		RESIDENTIAL	
Grand Totals:				2	
4,882					
		Ta C			

Customer.Final bill data = (IS NULL)

Limerick Township

### Table Lists - AQUA - Active Commercial

Page: 8

						( Mai UZ 2011
Customer N	umber	Name	Location Number	Service Address	Customer Type,	Final Bill Date
	70005		9240669634		COMMERCIAL	
	70007		9240684359		COMMERCIAL	
	70008		9240647555		COMMERCIAL	
	70009		9240647042		COMMERCIAL	
	70010		9240647557		COMMERCIAL	
	70011		9240647556		COMMERCIAL	
$\alpha$	70012	*	9240647558		COMMERCIAL	
	70013		9240664367		COMMERCIAL	
	70014		9240682616		COMMERCIAL	
	70015		9240684353		COMMERCIAL	
	70016		5019	e) =	COMMERCIAL	
	70017		5020		COMMERCIAL	
	70018	W	5021		COMMERCIAL	
	70019		5022		COMMERCIAL	
	70020	+1	5024		COMMERCIAL	
	70021		9240707377		COMMERCIAL	
	70022		9240722234		COMMERCIAL	
	70023		5027		COMMERCIAL	
	70024		9240727614		COMMERCIAL	
	70025		5029		COMMERCIAL	
	70026		9240719913		COMMERCIAL	
	70027		5032		COMMERCIAL	
	70028		9240669151		COMMERCIAL	
	70029		5034		COMMERCIAL	
	70030		9240734998		COMMERCIAL	
	70031		70031		COMMERCIAL	
	70032		9240743300		COMMERCIAL	
	70033		9240727813		COMMERCIAL	
	70034		9240743299		COMMERCIAL	
	70035		5000043897		COMMERCIAL	
	70036		9240722235		COMMERCIAL	
	70037		70037		COMMERCIAL	
Gran	nd Totals:					
	315					
	====					

nerick		

#### Table Lists - AQUA - Active Apartment

Page: 6 Mar 02, 2017 1:49AM

Customer Number	Name	Location Number	Service Address	Customer Type	Final Bill Date
50157		5000053422		APARTMENT	
50158		5000053423		APARTMENT	
50159		5000053424		APARTMENT	
50160		5000053425		APARTMENT	
50161		5000053428		APARTMENT	
50162		5000053427		APARTMENT	
80974		60974		APARTMENT	
60975		60975		APARTMENT	
60991		60991		APARTMENT	
Grand Totals:					
210					

Report Criteria:

Customer Type.Customer type = "APARTMENT"
Customer,Final bill date = {IS NULL}

#### Report Criteria:

Customer Type.Customer type = "SCHOOL"
Customer.Final bill date = {IS NULL}

stomer Number	Name	Location Number	Service Address	Customer Type	Final Bill Date
214		9240847635		SCHOOL	
276		9240647584		SCHOOL	
282	6.5	9240847882		SCHOOL	
1399		9240646781		SCHOOL	
1507		9240647594		SCHOOL	
1510		9240677330		SCHOOL	
1681	F	9240647547		SCHOOL	
2955		9240647597		SCHOOL	
10779		9240735428		SCHOOL	
11617		9240671402		SCHOOL	
12065		9240719485		SCHOOL	
12106		9240733035		SCHOOL	
12113		9240735938		SCHOOL	
60965		9240731143	4	SCHOOL	

# Table Lists - AQUA - Active Church

Page: 1 Mar 02, 2017 11:52AM

Report Criteria:

Customer Type,Customer type = "CHURCH"
Customer,Final bill date = (IS NULL)

stomer Number	Name	Location Number	Service Address	Customer Type	Final Bill Date
202		9240840735		CHURCH	
208		9240647533		CHURCH	
383		• 392		CHURCH	
816		527		CHURCH	
4203		3358		CHURCH	
11377		9240673774		CHURCH	
11463		9240741794		CHURCH	
11675		9240684782		CHURCH	
60648		4603		CHURCH	
		•			
Grand Totals:				3	
9					

Limerick To	washi
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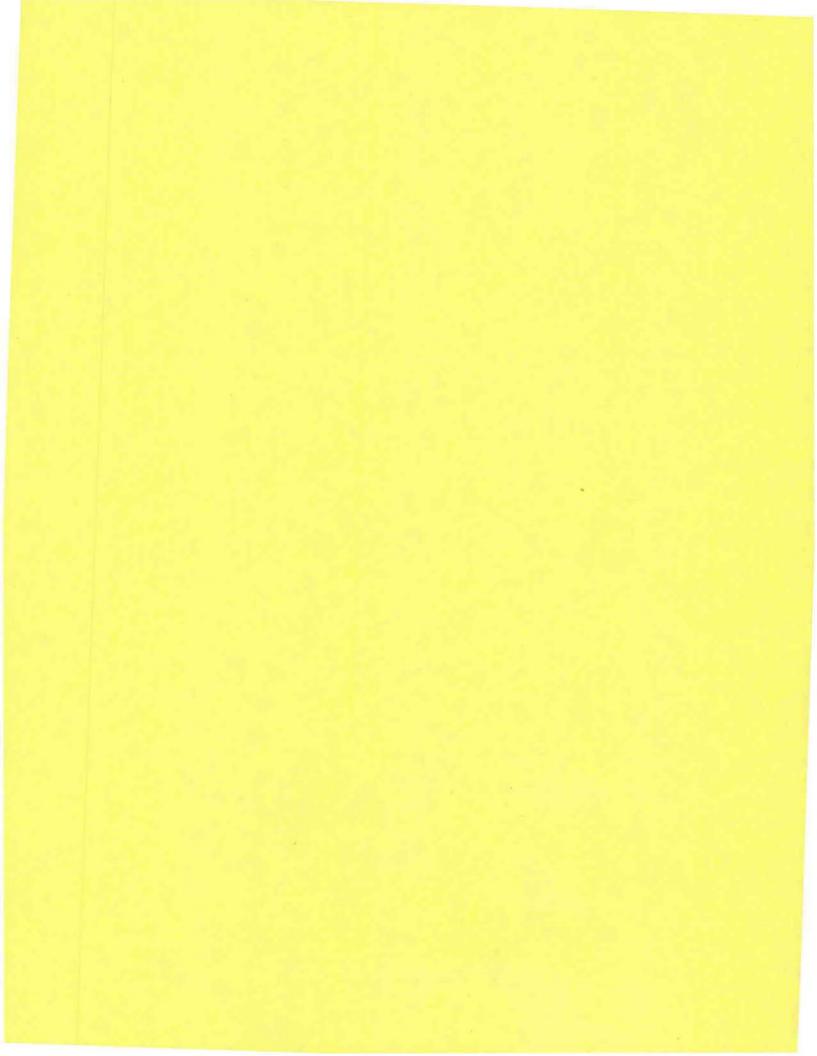
### Table Lists - AQUA - Active Public

Mar 02, 2017 1:52AM

#### Report Criteria:

Customer Type.Customer type = "PUBLIC"
Customer.Final bill date = {IS NULL}

Name	Location Number	Service Address	Customer Type	Final Bill Date
	9240647562		PUBLIC	
	9240678641		PUBLIC	
	9240694147	Tic.	PUBLIC	4.
	9240686868		PUBLIC	
	Name	9240647562 9240678641 9240694147	9240647562 9240678641 9240694147	9240647562 PUBLIC 9240678641 PUBLIC 9240694147 PUBLIC







# Aqua Pennsylvania Announces Acquisition of Penn Township Municipal Wastewater System in Chester County

Acquisition and planned capital improvements total more than \$5 million

BRYN MAWR, Pa.--(BUSINESS WIRE)-- Aqua America, Inc. (NYSE: WTR) announced today that its Pennsylvania wastewater subsidiary has purchased the Penn Township wastewater system.

Aqua Pennsylvania Wastewater (Aqua) acquired the wastewater assets of Penn Township, Chester County, which provides service to 776 residential and 25 commercial customers including Jennersville Regional Hospital in Penn Township. Aqua paid \$3.7 million for the wastewater system and plans to make improvements valued at approximately \$2 million to upgrade the system and bring it into environmental regulatory compliance.

"We are eager to bring our expertise to the Penn Township wastewater system and implement infrastructure improvements to bring the system up-to-date and ensure it remains compliant with environmental regulations," said Chairman and CEO Nicholas DeBenedictis. "We look forward to serving even more customers in this fast-growing Chester County township in the future, as it has potential for organic growth."

Last year, Aqua completed 15 water and wastewater acquisitions and grew its number of customers a total of 1.3 percent, after completing 18 acquisitions in 2012. In addition, the company recently announced its first acquisitions of 2014 - Aqua Virginia purchased four water systems and a wastewater system in three separate acquisitions.

Aqua Pennsylvania serves approximately 1.4 million people in 31 counties throughout the Commonwealth of Pennsylvania.

Aqua America is one of the largest U.S.-based, publicly traded water utilities and serves nearly 3 million people in Pennsylvania, Ohio, North Carolina, Illinois, Texas, New Jersey, Indiana and Virginia. Aqua America is listed on the New York Stock Exchange under the ticker symbol WTR. Visit <a href="AquaAmerica.com">AquaAmerica.com</a> for more information, or follow Aqua on Facebook at <a href="facebook.com/MyAquaAmerica">facebook.com/MyAquaAmerica</a> and on Twitter at <a href="mailto:myAquaAmerica">myAquaAmerica</a>.

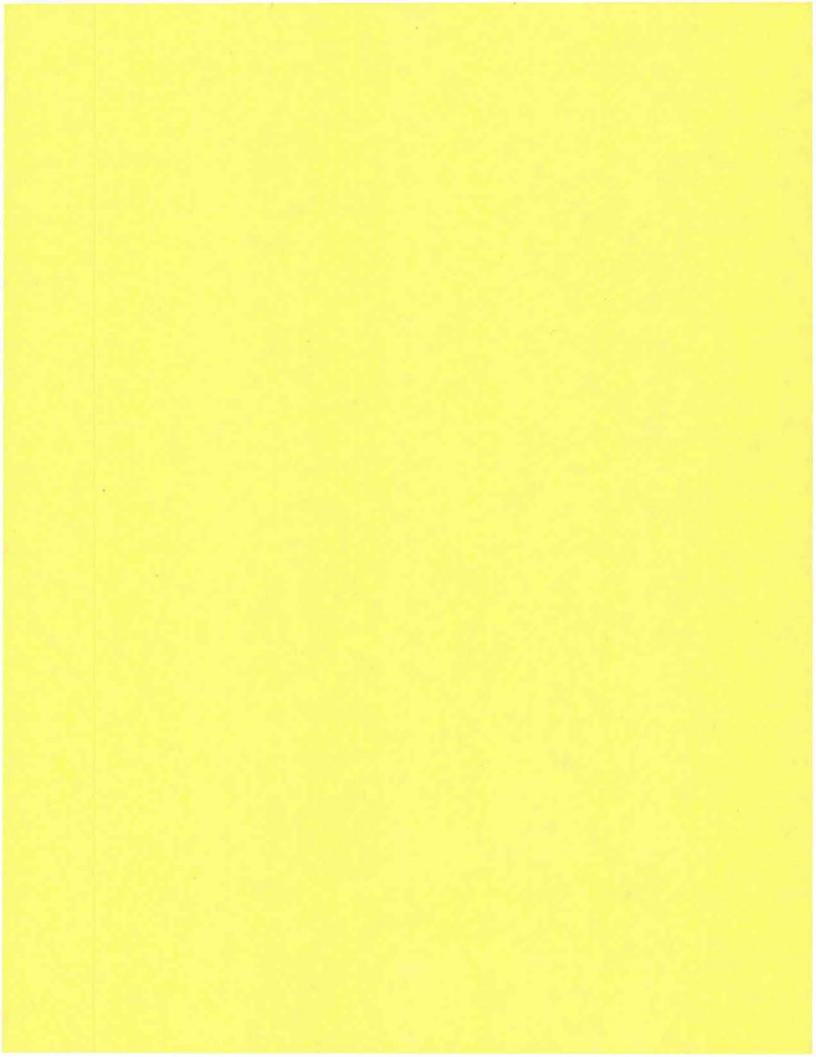
This release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including, among others: the company's ability to invest capital, ensure environmental compliance and add additional customers to the system. There are important factors that could cause actual results to differ materially from those expressed or implied by such forward-looking statements including: general economic business conditions; housing and customer growth trends; the success of growth initiatives; and other factors discussed in our Annual Report on Form 10-K, which is on file with the Securities and Exchange Commission. For more information regarding risks and uncertainties associated with Aqua America's business, please refer to Aqua America's annual, quarterly and other SEC filings. Aqua America is not under any obligation — and expressly disclaims any such obligation — to update or alter its forward-looking statements whether as a result of new information, future events or otherwise.

#### WTRG

Aqua America, Inc.
Brian Dingerdissen
Director, Investor Relations
610-645-1191
B.JDingerdissen@AquaAmerica.com
or
Donna Alston
Manager, Communications
610-645-1096
484-368-4720
DPAlston@AquaAmerica.com

Source: Aqua America, Inc.

Aqua America, Inc Aqua Pennsylvania Announces Acquisition of Penn Towns	ship Mun	Page 2 of 2
News Provided by Acquire Media	Close windo	w   Back to top
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#### **COMMONWEALTH OF PENNSYLVANIA**



#### OFFICE OF CONSUMER ADVOCATE

555 Walnut Street, 5th Floor, Forum Place Harrisburg, Pennsylvania 17101-1923 (717) 783-5048 800-684-6560

FAX (717) 783-7152 consumer@paoca.org

January 17, 2017

Rosemary Chiavetta, Secretary PA Public Utility Commission Commonwealth Keystone Bldg. 400 North Street Harrisburg, PA 17120

Re:

Application of Aqua Pennsylvania

Wastewater, Inc. pursuant to Sections 1102 and 1329 of the Public Utility Code for Approval of its Acquisition of the

Wastewater System Assets of New Garden Township and the New Garden Township

Sewer Authority

Docket No. A-2016-2580061

Dear Secretary Chiavetta:

Attached for electronic filing please find the Office of Consumer Advocate's Protest and Public Statement in the above-referenced proceeding.

Copies have been served per the attached Certificate of Service.

Respectfully submitted,

/s/ Christine Maloni Hoover
Christine Maloni Hoover
Senior Assistant Consumer Advocate
PA Attorney I.D. # 50026
E-Mail: CHoover@paoca.org

Attachment

cc:

Honorable Steven A. Haas Certificate of Service

\*228838

#### CERTIFICATE OF SERVICE

Re: Application of Aqua Pennsylvania Wastewater, Inc. pursuant to Sections 1102 and 1329 of the Public Utility Code for Approval of its Acquisition of the Wastewater System Assets of New Garden Township and the New Garden Township Sewer Authority

Docket No. A-2016-2580061

I hereby certify that I have this day served a true copy of the following document, the Office of Consumer Advocate's Protest and Public Statement, upon parties of record in this proceeding in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant), in the manner and upon the persons listed below:

Dated this 17th day of January, 2017.

# SERVICE BY E-MAIL ONLY

John Evans
Office of Small Business Advocate
Suite 202, Commerce Building
300 N. Second Street
Harrisburg, PA 17101

Thomas T. Niesen, Esquire Charles Thomas, III, Esquire Thomas, Niesen & Thomas, LLC 212 Locust Street, Suite 600 Harrisburg, PA 17101 Gina L. Miller, Esquire
Carrie B. Wright
Bureau of Investigation and Enforcement
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

/s/ Christine Maloni Hoover Christine Maloni Hoover Senior Assistant Consumer Advocate PA Attorney I.D. # 50026 E-Mail: CHoover@paoca.org

Erin L. Gannon
Senior Assistant Consumer Advocate
PA Attorney I.D. # 83487
E-Mail: EGannon@paoca.org
\*228839

Counsel for Office of Consumer Advocate 555 Walnut Street, 5th Floor, Forum Place Harrisburg, PA 17101-1923 Phone: (717) 783-5048

# BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

In re: Application of Aqua Pennsylvania Wastewater, Inc. Pursuant to Sections 1102 and 1329 of the Public Utility Code for Approval of its Acquisition of the Wastewater System Assets of New Garden Township

Docket No. A-2016-2580061

# PROTEST OF THE OFFICE OF CONSUMER ADVOCATE

The Office of Consumer Advocate (OCA) files this Protest in the above-captioned Application pursuant to the provisions of the Rules of Practice and Procedure of the Pennsylvania Public Utility Commission (PUC or Commission), 52 Pa. Code §§5.51-5.53, and Chapter 11 and Section 1329 of the Public Utility Code, 66 Pa. C.S. § 1101, et seq and 66 Pa. C.S. § 1329. Through this Application, Aqua Pennsylvania Wastewater, Inc. (Aqua or Company) seeks Commission approval for the acquisition of the wastewater assets of New Garden Township (Township), Chester County, the right of Aqua to provide wastewater service in the areas served by the Township and the ratemaking rate base of the assets as determined under Section 1329(c)(2) of the Public Utility Code. New Garden Township provides sewage collection and treatment services to 2,106 residential and commercial customers in Chester County. Application at 3.

The OCA files this Protest in order to ensure that the application is approved only if (1) it is found to be in the public interest; (2) it provides substantial, affirmative benefits to the public, and (3) it is in accordance with the Public Utility Code and applicable Commission rules and

regulations.

Specifically, the OCA avers as follows:

- 1. The Protestant is Tanya J. McCloskey, Acting Consumer Advocate, 555 Walnut Street, 5<sup>th</sup> Floor, Forum Place, Harrisburg, PA 17101-1923. Protestant's attorneys for the purpose of receiving service of all documents in this proceeding are Christine Maloni Hoover and Erin L. Gannon, Senior Assistant Consumer Advocates.
- 2. The OCA is authorized by law to represent the interests of utility ratepayers in all proceedings before the Commission. 71 P.S. §§ 309-1, et seq. This Protest is filed by the OCA to ensure that the interests of Aqua's existing and acquired customers are protected.
- 3. Section 1102 of the Public Utility Code requires that the Commission issue a Certificate of Public Convenience as a legal prerequisite to an entity offering service, abandoning service and certain property transfers by public utilities or their affiliated interests. 66 Pa. C.S. §1102(a)(1)-(3).
- 4. The Code further requires that a certificate shall only be granted upon findings that the granting of such certificate is "necessary or proper for the service, accommodation, convenience or safety of the public." 66 Pa. C.S. § 1103(a). See City of York v. Pa. P.U.C., 449 Pa. 136, 141, 295 A.2d 825, 828 (1973); see also Popowsky v. Pa. P.U.C., 594 Pa. 583; 937 A.2d 1040 (2007).
- 5. Section 1103 explicitly allows the Commission to impose conditions upon the issuance of a Certificate of Public Convenience. 66 Pa. C.S. § 1103(a). Section 1103(a) of the Code provides: "The Commission, in granting such a certificate, may impose such conditions as it may deem to be just and reasonable." The OCA submits that the Commission may wish to consider the imposition of conditions in order to ensure that the public interest standard is met.

- 6. Section 1329 of the Public Utility Code, *inter alia*, enables a public utility to use fair market valuation to determine whether the fair market valuation or the purchase price, whichever is less, will be reflected in rate base. 66 Pa. C.S. § 1329(c)(2). This recently added provision is an alternative to the use of original cost, less depreciation for ratemaking purposes, when a public utility acquires municipal water and wastewater assets. Aqua proposes to pay a \$29.5 million purchase price to the Township. Application at 14. The original cost of the assets is \$27,267,123 with a related depreciation reserve of \$8,677,034. Application at 5.
- 7. According to the Application, the average of the fair market value appraisals "is \$32,140,875 determined by \$30,615,410 presented in the appraisal of AUS and \$33,666,340 presented in the appraisal of Gannett Fleming." Application at 14. The valuation experts were paid \$17,165 for the Fair Market Value Appraisal Reports. *Id.* Aqua also indicates that it will incur transaction and closing costs of \$55,000 which will be included in rate base. *Id.*
- 8. The Township is or has negotiated a Corrective Action Plan (CAP) and/or Consent Order and Agreement (COA) with the Pennsylvania Department of Environmental Protection (DEP) related to the condition of two irrigation spray areas, following two Notices of Violation issued in 2015. Application, Exh. C1, Sched. 5n.
- 9. Aqua proposes to charge customers the base rates currently charged by the Township. Aqua and New Garden agreed that those rates would remain the same for no less than seven hundred thirty days from the closing date. Application at 8. In addition, the Asset Purchase Agreement provides a limitation on rate increases for ten years. *Id.* at 8.
- 10. Preliminarily, the OCA has identified the following areas that require further consideration by the Commission and must be resolved prior to Commission approval of this application pursuant to Chapter 11 and Section1329 of the Public Utility Code.

- 11. The valuation information provided with the Application is not sufficient to determine whether Aqua's ratemaking proposals are reasonable. For example, while Aqua has requested approval of its proposed rates and rate freeze for the acquired customers as part of the application for a certificate of public convenience, the rate impact of Aqua's proposed valuation treatment is not established in the application.
- 12. Based on the Township's current rates, Aqua would charge \$88.00, which includes up to 5,000 gallons per quarter plus \$11.50 per 1000 gallons for 5,001-15,000 gallons per quarter and \$14.50 per 1000 gallons over 15,001 gallons per quarter for residential customers. Further, Aqua proposes that the acquired customer rates would not increase by more than 4.0% over the 10 years following closing. Application Exh. C1 (Asset Purchase Agreement, ¶ 7). This Compound Annual Growth Rate (CAGR) provision appears to remove any Commission discretion to address these rate issues in future rate cases. Id. The OCA submits that this provision is not in the public interest in that it predetermines rate increases without Commission approval.
- 13. The costs for Aqua to comply with the CAP or COA are not provided. Also, the Application does not provide information regarding the estimated costs of any other planned investment in the system. Thus, it is not known whether or how those costs will bear on the cost of service and impact of proposed rates on existing or acquired customers.
- 14. The OCA submits that additional information is necessary to determine if the proposed rates, rate freeze and rate increase limitations are reasonable. Additional information is needed to determine whether Aqua's request for an approved rate base of \$29.5 million for the

<sup>&</sup>lt;sup>1</sup>[T]he compounded annual growth rate (CAGR) inclusive of Rates and Distribution System Improvement Charge ("DSIC") (as DSIC is defined in Aqua's Tariff) shall not exceed four percent (4%) for the ten year period beginning on the Closing Date..." Application Exh. C1 (Asset Purchase Agreement, ¶ 7(b).

New Garden acquisition is reasonable. The OCA reserves the right to raise additional issues as the case proceeds and further information is obtained from the Applicant.

15. The OCA submits that additional information is necessary to determine how the transaction will substantially and affirmatively benefit Aqua's existing customers.

WHEREFORE, the Office of Consumer Advocate respectfully requests that the Pennsylvania Public Utility Commission not approve this Application at this time due to the issues raised above and the need for additional information. The Office of Consumer Advocate further requests that the Pennsylvania Public Utility Commission investigate and hold full hearings, regarding the Application.

Respectfully submitted,

Erin L. Gannon

Senior Assistant Consumer Advocate

Malon Hoonly

Pa. Attorney No. 83487

EGannon@paoca.org

Christine Maloni Hoover
Senior Assistant Consumer Advocate
Pa. Attorney No. 50026
CHoover@paoca.org

Counsel for:

Tanya J. McCloskey Acting Consumer Advocate

Office of Consumer Advocate 555 Walnut Street 5<sup>th</sup> Floor, Forum Place Harrisburg, PA 17101-1923 (717) 783-5048

Dated: January 17, 2017

228752

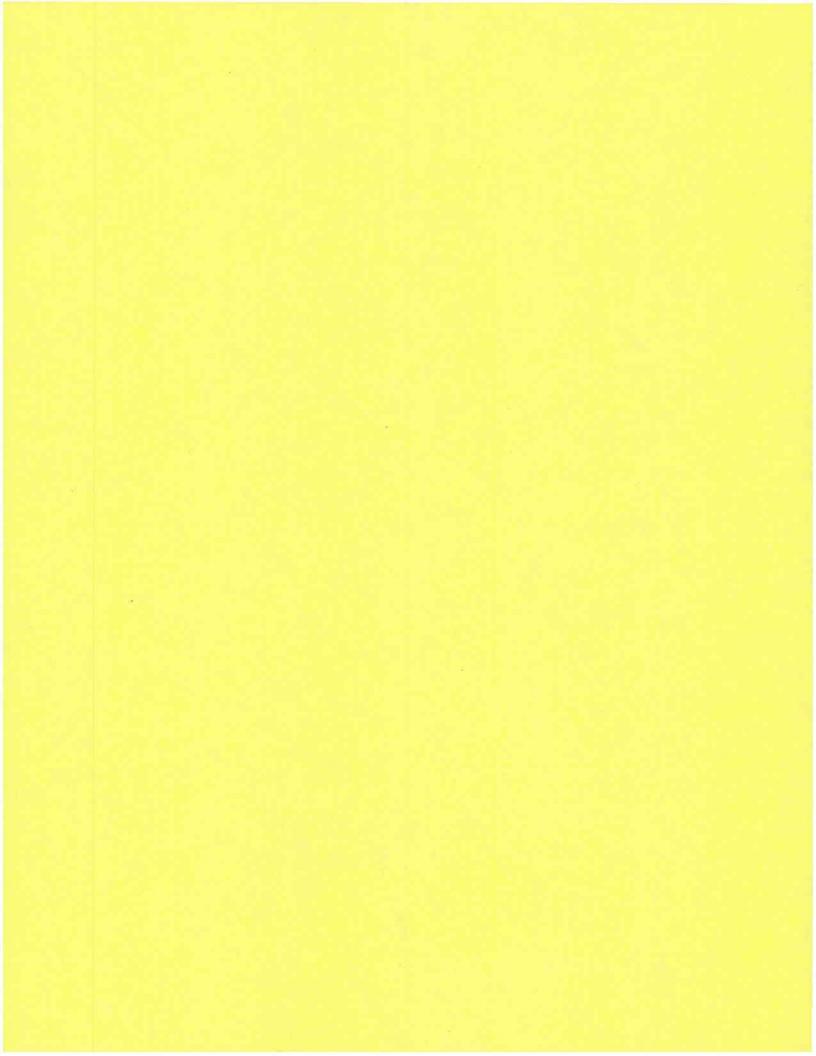
# PUBLIC STATEMENT OF THE OFFICE OF CONSUMER ADVOCATE PURSUANT TO 71 P.S. SECTION 309-4(e)

Act 161 of the Pennsylvania General Assembly, 71 P.S. § 309-2, as enacted July 9, 1976, authorizes the Consumer Advocate to represent the interests of consumers before the Pennsylvania Public Utility Commission (Commission). In accordance with Act 161, and for the following reasons, the Acting Consumer Advocate determined to file a Protest and participate in proceedings before the Commission involving the proposed acquisition by Aqua Pennsylvania Wastewater of the New Garden Township (Township) wastewater assets.

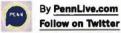
The objective of the Acting Consumer Advocate in filing a Protest in this matter is to protect the interests of Aqua's current customers and the Township customers. The Acting Consumer Advocate will endeavor to prevent ratepayers from paying costs that are unreasonable or unduly discriminatory, or otherwise violative of the Public Utility Code. The Acting Consumer Advocate will investigate the proposed acquisition and request the Public Utility Commission order all necessary and proper customer protections which are justified, reasonable, and in accordance with sound ratemaking principles.

Aqua serves approximately 20,000 wastewater customer accounts in Pennsylvania. The Township serves approximately 2,106 customers in the Township of New Garden, Chester County, Pennsylvania.

228752



# New Cumberland wastewater system transfers to Pennsylvania American Water



on October 31, 2016 at 12:03 PM, updated October 31, 2016 at 2:21 PM

Pennsylvania American Water has completed its acquisition of New Cumberland's wastewater system, the company announced Monday.

The purchase price was \$23 million for the system that serves about 3,100 customers in the borough and allows the borough to retire \$16 million in debt. PAWC already provides water service in the borough.

"Thanks to this transaction, all of the Borough's outstanding debt, currently \$16 million, will be eliminated by retiring the general obligation bonds," said New Cumberland Borough Council President Jack Murray. "The Borough not only receives 100 percent of the net sale proceeds, but we will also be relieved of all future wastewater treatment costs and capital investments to comply with increasing government mandates."

As approved last week by the Pennsylvania Public Utility Commission, the company has adopted the borough's existing wastewater rates for customers served by the borough's system, although billing will be monthly rather than quarterly. The company's wastewater tariff on file with the PUC will apply with respect to all other rates of service, as well as all rules and regulations of service, the company said in a news release.

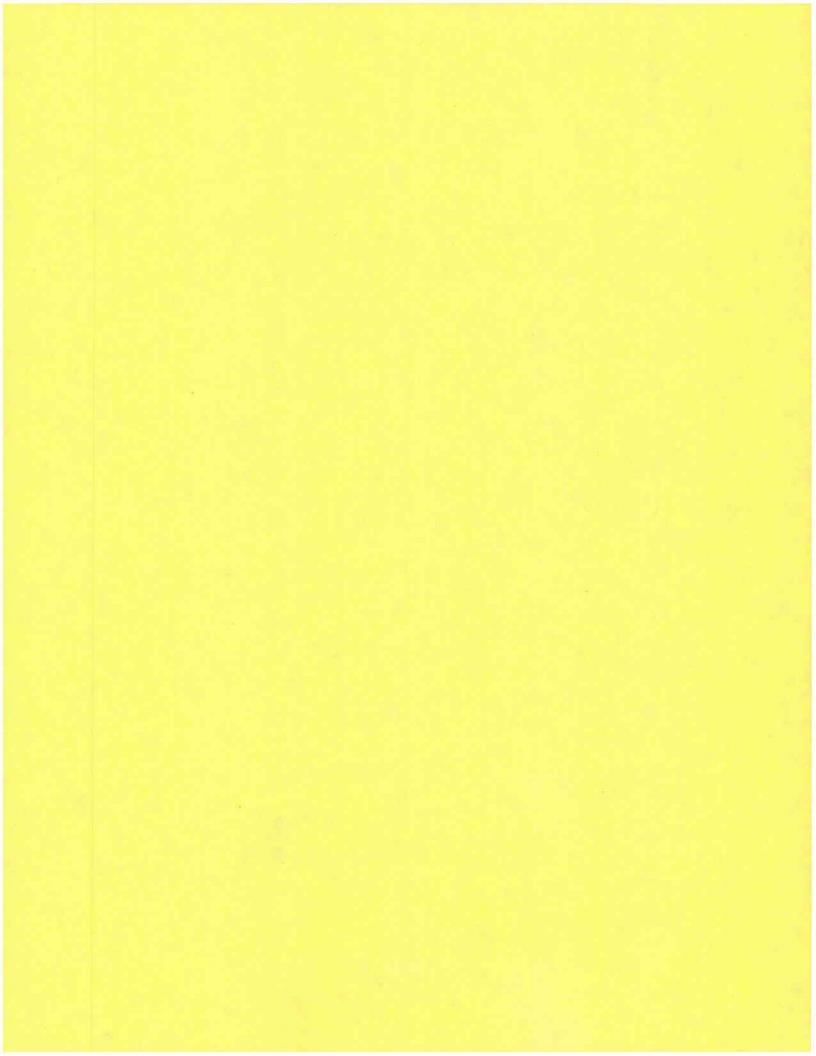
Additionally, the company agreed that no rate changes may be proposed by the company to take effect on customers' bills prior to January 1, 2018. The PUC regulates the company's rates, rules and regulations of service, so any future rate change will need to be reviewed and approved by the PUC.

Pennsylvania American Water also committed to investing \$2 million in wastewater and/or water improvements within New Cumberland over the next five years. The company said it will partner with borough officials to identify areas where aging wastewater and water facilities can be replaced in conjunction with street and sidewalk improvements.

Four borough employees who operate the wastewater system have been offered employment with Pennsylvania American Water, PAWC President, Kathy L. Pape said in a news release.

"We are very pleased to close another significant acquisition that further expands our wastewater footprint," Pape said. "The purchase not only provides long-term wastewater solutions and financial benefits for the local community, but it also aligns perfectly with our existing water service territory."

This acquisition is the latest in a string of larger municipal wastewater acquisitions. On Dec. 22, 2015, PAWC acquired the wastewater assets of Fairview Township in York County. The company also signed agreements earlier this year to acquire the wastewater assets of the Scranton Sewer Authority and the Municipal Authority of the City of McKeesport, both of which are pending regulatory approvals.



### PENNSYLVANIA PUBLIC UTILITY COMMISSION Harrisburg, PA 17105-3265

Public Meeting held December 17, 2015

#### Commissioners Present:

Gladys M. Brown, Chairman John F. Coleman, Jr., Vice Chairman Pamela A. Witmer Robert F. Powelson Andrew G. Place

Application of the Pennsylvania-American Water Company - Wastewater Division (PAWC-WD) for approval of (1) the transfer, by sale, of substantially all of the wastewater system assets and rights of Fairview Township to PAWC-WD, and (2) the right of PAWC-WD to furnish wastewater service to the public in a portion of Fairview Township, York County, Pennsylvania

A-2015-2486532

#### ORDER

#### BY THE COMMISSION:

By the application (Application) filed on June 5, 2015, the Pennsylvania-American Water Company - Wastewater Division (PAWC-WD), utility code 230073, 800 West Hersheypark Drive, Hershey, PA 17033, seeks a certificate of public convenience pursuant to Sections 1102(a)(1)(i) and (3) of the Public Utility Code, 66 Pa. C.S. §§ 1102(a)(1)(i), and (3), evidencing Commission approval of: 1) the acquisition by PAWC-WD of substantially all of the wastewater system assets of Fairview Township,

and 2) the right of PAWC-WD to begin to offer or furnish wastewater service to the public in a portion of Fairview Township, York County, Pennsylvania. PAWC-WD is a wholly-owned division of the Pennsylvania-American Water Company (PAWC), utility code 212285.

#### I. BACKGROUND AND AFFECTED ENTITIES

Proofs of publication and service to appropriate entities were submitted by PAWC-WD. In addition, notice of this Application was published in the *Pennsylvania Bulletin*, 45 Pa.B. 3297, on Saturday, June 20, 2015. The protest period ended July 6, 2015. No protests were filed and no hearings were held.

PAWC-WD is a regulated public utility company, duly organized and existing under the laws of the Commonwealth of Pennsylvania. PAWC-WD is currently engaged in the business of collecting, treating, transporting and disposing of wastewater and sewage for the public. PAWC-WD and its parent company, PAWC, respectively furnish wastewater and water service to the public in service territories encompassing more than 400 communities across the Commonwealth with a combined population of over 2,200,000. As of April 30, 2015, PAWC-WD furnished wastewater service to 17,198 customers as follows: 16,254 residential, 882 commercial, 7 industrial, 51 municipal and 4 bulk. The Application provided a description of PAWC-WD's and PAWC's certificated service territories, along with a detailed history that outlined all the mergers, acquisitions and consolidations which have created PAWC-WD and PAWC as both utilities exist today.

Fairview Township is a township of the second class, organized and existing under the laws of the Commonwealth of Pennsylvania, which owns and operates wastewater systems that provide wastewater collection, conveyance, treatment and disposal services to the public in Fairview Township, York County. Two of Fairview Township's wastewater systems include wastewater treatment plants (WWTPs) while the third system collects and conveys wastewater to a WWTP owned and operated by a municipal authority in another municipality. As of April 30, 2015, Fairview Township furnished wastewater service to 3,912 customers consisting of 3,724 residential and 188 commercial customers. Fairview Township has a mailing address of 599 Lewisberry Road, New Cumberland, PA 17070.

#### II. LOCATION OF FACILITIES TO BE ACQUIRED

Fairview Township is located in the northern most portion of York County. Cumberland County and the Yellow Breeches Creek border Fairview Township to the northwest and Dauphin County and the Suquehanna River border the Township to the northeast. Two interstate highways, I-83 and I-76 (Pennsylvania Turnpike) traverse the Township. Interstate I-83 crosses the Township generally from north to south while the Pennsylvania Turnpike crosses from east to west. The junction of the two interstate highways is situated in the northern portion of the Township. According to mapping depicting the existing sewer areas in Fairview Township's Act 537 Sewage Facilities Plan Update (Act 537 Plan Update) approved by the Pennsylvania Department of Environmental Protection (DEP) on July 27, 2011, Fairview Township's wastewater system assets are situated within the following three service areas that are generally described in terms of each service area's proximity to Interstate I-83 and the Pennsylvania Turnpike:

 Fairview Township's North WWTP service area, which is generally the northcentral and northeastern portions of Fairview Township situated along the Interstate I-83 corridor between the Pennsylvania Turnpike and Reesers Summit and extending east to the Susquehanna River,

- 2. Fairview Township's South WWTP service area, which is generally the southcentral portion of Fairview Township situated along the Interstate I-83 corridor between Reesers Summit and the border with Newberry Township, and
- 3. Lower Allen Township's WWTP service area, which is generally the developed portion of Fairview Township located north of the Pennsylvania Turnpike and west of Interstate I-83.

Maps depicting the proposed wastewater service territory and a description of the proposed territory's boundaries are contained in the Application marked as Exhibit L. The proposed overall wastewater service territory area encompasses approximately 7,517 acres. PAWC provides water service in a portion of Fairview Township and Fairview Township's wastewater systems are contained within PAWC's existing water system footprint.

#### III. DESCRIPTION OF FACILITIES TO BE ACQUIRED

As of December 31, 2014, Fairview Township owned and maintained wastewater system assets that include approximately 360,600 feet (68 miles) of collection and conveyance pipe, approximately 1,700 manholes, 12 pump stations, and two wastewater treatment plants. Fairview Township's wastewater system assets consist of three separate systems. Two of Fairview Township's wastewater systems, the North and South wastewater systems, provide collection, conveyance, treatment and disposal services to approximately 3,300 customers while its third system provides wastewater collection and conveyance services to approximately 600 customers with treatment and disposal provided by the Lower Allen Township Authority's wastewater treatment facility.

Fairview Township's North WWTP service area, generally situated in the northcentral and northeastern portions of the Township, has a collection and conveyance

system that includes approximately 99,200 feet (18 miles) of sewer pipe, approximately 510 manholes and four pump stations. According to Fairview Township's 2014 Annual Municipal Wasteload Management Report for the North WWTP (North WWTP's 2014 Report), the North WWTP's collection and conveyance facilities include sewer mains ranging in size from 8 to 12 inches in diameter. The North WWTP's 2014 Report states there are no known major problems within the North WWTP's collection system and there are no combined sewers in the collection system. Further, the North WWTP's 2014 Report states the oldest sewer lines contributing flow to the North WWTP were constructed in 1965 and describes the overall condition of the collection system as being reflective of its age and materials of construction.

The North WWTP operates under the National Pollutant Discharge Elimination System (NPDES) Permit No. PA0081868 and has a permitted and designed average wastewater flow of 0.726 million gallons per day (MGD) based on monthly average flow and 1.206 MGD based on maximum monthly flow. Following its original construction in 1965, the North WWTP underwent upgrades in 1992 and again in 2013. Improvements to the wastewater treatment plant constructed in 2013 consisted of a new headworks building, screening and replacement of chlorine disinfection with ultraviolet (UV) disinfection. The North WWTP's process now consists of preliminary screening, extended aeration activated sludge, final clarification and UV disinfection. Solids are wasted periodically and are transported to Fairview Township's South WWTP for further processing. The effluent is discharged into Lower Allen Township Authority's outfall interceptor that leads to the Susquehanna River, which is governed by the Fairview Township and Lower Allen Township Authority agreement for Fairview Township to have capacity rights to discharge treated wastewater into Lower Allen Township Authority's outfall interceptor. In addition, Fairview Township maintains an agreement with the Red Barn Trading Company for the purchase of 20,000 pounds total nitrogen credits per year for 15 years (i.e., 2010 to 2024) to comply with the Chesapeake Bay requirements contained in the North WWTP's NPDES Permit.

Fairview Township's South WWTP service area, generally situated in the southcentral portion of the Township, has a collection and conveyance system that includes approximately 210,600 feet (40 miles) of sewer pipe, approximately 1,010 manholes and six pump stations. According to Fairview Township's 2014 Annual Municipal Wasteload Management Report for the South WWTP (South WWTP's 2014 Report), the collection and conveyance facilities include sewer mains ranging in size from 8 to 16 inches in diameter. The South WWTP's 2014 Report states there are no known major problems within its collection system which was primarily constructed in 1993. The South WWTP's 2014 Report describes the collection system as in relatively good condition. There are no combined sewers in the South WWTP's collection system.

The South WWTP operates under NPDES Permit No. PA0082589 and has the permitted and designed average wastewater flow of 0.50 MGD based on monthly average flow and 0.94 MGD based on maximum monthly flow. The South WWTP was constructed in 1993 and consists of preliminary screening, sequencing batch reactors and disinfection with chorine. The treated wastewater is discharged to an unnamed tributary to Fishing Creek. Solids handling facilities are comprised of an aerobic digester/storage tank and belt press filtration. Dewatered biosolids are disposed of at Modern Landfill in Lower Windsor and Windsor Townships, York County. Fairview Township maintains an agreement with the Red Barn Trading Company for the purchase of 20,000 pounds total nitrogen credits per year for 15 years (i.e., 2010 to 2024) to comply with the Chesapeake Bay requirements contained in the South WWTP's NPDES Permit.

Fairview Township's wastewater service area that collects and conveys wastewater flow to the Lower Allen Township Authority's WWTP, generally situated in the northwest portion of the Township, has a collection and conveyance system that includes approximately 50,800 feet (10 miles) of sewer pipe, approximately 200 manholes, and two pump stations. According to PAWC, the collection area encompasses

approximately 670 acres and the collection and conveyance facilities include interceptors and gravity sewer mains ranging in size from 8 to 10 inches in diameter along with 2 inch diameter force mains that transport wastewater to the Lower Allen Township Authority's WWTP. The flow of wastewater from Fairview Township to the Lower Allen Township Authority WWTP is governed by an agreement between the two entities that allocates reserve capacity to Fairview Township at the Lower Allen Township Authority's WWTP for the collection, transportation, treatment and discharge of sewage.

#### IV. PURCHASE AGREEMENT

On June 1, 2015, PAWC-WD entered into a purchase agreement (Agreement) with Fairview Township by which PAWC-WD agreed to purchase the wastewater system assets of Fairview Township for the consideration of \$16,800,000. In addition, PAWC-WD will pay Fairview Township for the costs incurred by Fairview Township less the reimbursement from the Pennsylvania Turnpike Commission for the Lewisberry Road sewer main relocation project, referred to as the Turnpike Relocation Project, up to a maximum of \$1,000,000. Both the purchase price and the reimbursement shall be paid to Fairview Township on the date of closing. A copy of the Agreement is attached to the Application and is marked as Exhibit F. According to PAWC-WD, the negotiations were conducted at arm's length. PAWC-WD and Fairview Township are not affiliated with each other. Also, PAWC-WD states no investment securities will be transferred in the proposed transaction.

PAWC-WD will purchase Fairview Township wastewater system assets as defined in the Agreement's Section 1.1. Generally, the Agreement states that every asset, property and right owned by Fairview Township and used in the provision of sanitary wastewater service, whether real, personal, mixed, tangible or intangible, and including all the physical plant, property, equipment, and facilities comprising the wastewater systems owned by Fairview Township shall be conveyed. Also, included in the acquired

assets is the remaining deposit balance from the contract with the Red Barn Trading Company as well as developer/customer deposits.

Excluded assets are described in the Agreement's Section 1.2 and specifically exclude sewer service laterals on the customer side, any and all grinder pump units and related appurtenances of the individual customers, and all storm water system facilities as well as the assets listed in the Agreement's Schedule 1.2. The list of excluded assets in the Agreement's Schedule 1.2 consists of cash, accounts receivable, two-way radio communications equipment, 2005 John Deere tractor, 2011 Ford F-550 truck, Mitel phone equipment, Trimble survey equipment and a push camera. Excluded liabilities are discussed in the Agreement's Section 1.3 and specifically exclude any liabilities of Fairview Township including any obligations owed by Fairview Township to others.

The Agreement's Section 4.8 mentions that, at the time of closing, PAWC-WD and Fairview Township will enter into a mutually agreeable lease to allow Fairview Township's continued use of the existing yard waste and household electronics recycling center located adjacent the Fairview Township's North WWTP until such time as Fairview Township is able to relocate the recycling center to another site.<sup>1</sup>

The Agreement's Schedule 4.11 lists a land lease agreement between the Fairview Township Authority and the Pennsylvania Cellular Telephone Corp., dated April 18, 1996, for the installation of a communication tower. The initial annual rent was \$13,200 and is adjusted periodically based upon the National Consumer Price Index. The maximum length of term for this lease is 25 years. Schedule 4.11 also lists the

<sup>&</sup>lt;sup>1</sup> See Docket U-2015-2507298 filed by PAWC-WD on October 5, 2015. The term of the subject Lease is three years and the rent will be \$1.00 annually. In addition, Fairview Township has agreed to pay PAWC-WD 10% of all taxes or assessments against the premises located at 57 Fairview Road, New Cumberland, Pennsylvania 17070. The property PAWC-WD is acquiring from Fairview Township for the North WWTP is comprised of six separate parcels of which two appear to contain the proposed lease area for the recycling center.

assignment of the communication tower's land lease agreement to Fairview Township dated June 25, 1997.

The Agreement's Section 4.12 and Schedule 4.12 identify the following known contracts that Fairview Township has relating to its wastewater systems:

- 1. Red Barn Trading Agreement of Sale On April 10, 2008, the Fairview Township Authority and Fairview Township entered into an agreement with the Red Barn Trading Company for the Fairview Township Authority and Fairview Township to purchase in advance \$375,000 nitrogen water quality nutrient credits for a period of 15 years. Each year \$12,500 of this advance payment is used to meet the annual obligation. As of December 31, 2014, \$312,500 of the advance payment was still available. During 2014, Fairview Township paid \$100,051, net of the \$12,500 advance payment, for the nutrient credits. Fairview Township has commitments through 2024 of \$1,016,477, net of the advance payment of \$312,500 as of December 31, 2014. According to the Agreement, the Red Barn Trading Agreement of Sale will be assigned to PAWC-WD.
- 2. Reservation of Capacity Fee Agreements The following is a list of the six owners who purchased capacity fee reservations from Fairview Township along with their equivalent dwelling unit (EDU) allocation: Chris McKinney (1 EDU); Paul E. Shearer Trust (3 EDUs); DJH Penn Valley (13 EDUs); Eastern Development & Planning (157 EDUs); Old York Developers, LLC (26 EDUs); and Gemeraft Homes (39 EDUs). While the Application references these agreements, the filing is silent as to whether PAWC-WD will assume the same. Therefore, we shall direct PAWC-WD to provide copies of the agreements and clarify its intention thereto.

- 3. Prepaid Tapping Fee Agreements The following is a list of 8 owners who purchased prepaid tapping fees with their remaining EDUs and associated EDU value: Briarcliff, Phase 1 & 2 (3 EDUs, \$9,045); Old Orchard, Phase 3 (46 EDUs, \$204,240); Woods @ Deer Run (7 EDUs, \$31,080); Pelleschi (2 EDUs, \$8,880); Beinhower (2 EDUs, \$8,880); Woodbridge, Phase 7 S&A (6 EDUs, \$26,640); Woodbridge, Phases 8-11 (31 EDUs, \$252,030); and Weatherstone (27 EDUs, \$108,27). According to the Agreement, the Prepaid Tapping Fee Agreements will be assigned to PAWC-WD.
- 4. Lower Allen Township Agreement for Connection to the Outfall Line of the Lower Allen Township Authority The original agreement was between the Fairview Township Authority and the Lower Allen Township Authority is dated December 28, 1976. This agreement was amended twice: first on June 6, 1994 and then on March 13, 2000. The total reserved outfall capacity from Fairview Township's North wastewater treatment plant in the Lower Allen Township Authority outfall line is 726,000 gallons per day. According to the Agreement, the Connection to the Outfall Line of the Lower Allen Township Authority Agreement will be assigned to PAWC-WD.
- 5. Lower Allen Township Agreement for Collection, Transportation, Treatment, and Discharge of Sewage from Portions of Fairview Township The original Agreement between the Fairview Township/Fairview Township Authority and the Lower Allen Township is dated December 28, 1976. This agreement was amended twice; first on September 6, 1990 and then on September 4, 1997. This agreement with Lower Allen Township is for the collection, transportation, treatment and discharge of sewage from portions of Fairview Township. According to the Agreement, the Collection, Transportation, Treatment, and Discharge of Sewage from Portions of Fairview Township Agreement with Lower Allen Township will be assigned to PAWC-WD.

Finally, the Agreement's Section 6.2.3 states that PAWC-WD will construct at its sole cost and expense the Phase 2 Collection System Extension within the North WWTP's service area as identified in Fairview Township's Act 537 Plan Update. The Phase 2 Collection System Extension will be constructed within the time frame stipulated and agreed to with DEP, which as of June 1, 2015, is December 31, 2016. Prior to closing, Fairview Township shall have completed the design for the Phase 2 Collection System Extension and shall have all permits in hand and shall have secured easements, rights-of-way and property necessary for the project. The Phase 2 Collection System Extension will include the construction of 21,425 feet of gravity sewer pipe; 9,110 feet of force main; 735 feet of low pressure sewer pipe and three pump stations. The project is expected to cost approximately \$8,297,000 and will serve approximately 250 additional customer connections.

#### V. ADDITIONAL CAPITAL REQUIREMENTS

PAWC-WD provided supplemental information stating it will spend approximately \$13.1 million on improvements to Fairview Township's wastewater system and anticipates completing the capital improvements within the first five years of ownership. Of the \$13.1 million in proposed improvements, approximately \$8.3 million is for the construction of the sewer extension to serve Fairview Farms, which is identified as the Phase 2 Sewer Project in Fairview Township's Act 537 Plan Update. The Meadowbrook Mobile Home Park is included in the Fairview Farms sewer service area.

PAWC-WD
Capital Improvements Schedule and Cost Estimate
for Fairview Township Wastewater Systems

Description	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Infiltration and Inflow Study	\$46,970	\$53,680	\$0	\$0	\$0	\$100,650
Targeted Sewer Replacements	\$0	\$0	\$1,006,500	\$1,006,500	\$1,006,500	\$3,019,500
Flow Meter Installation	\$134,200	\$0	\$0	\$0	\$0	\$134,200
Safety and Security	\$67,100	\$0	\$0	\$0	\$0	\$67,100
Pump Station SCADA	\$106,018	\$0	\$0	\$0	\$0	\$106,018
Pump Station Improvements	\$201,300	\$247,599	\$0	\$0	\$0	\$448,899
Treatment Plant SCADA	\$127,490	\$0	\$0	\$0	\$0	\$127,490
Treatment Plant Improvements	\$134,200	\$641,476	\$0	\$0	\$0	\$775,676
Phase 2 Sewer Project	\$4,148,257	\$4,148,257	\$0	\$0	\$0	\$8,296,514
TOTALS	\$4,965,535	\$5,091,012	\$1,006,500	\$1,006,500	\$ 1,006,500	\$13,076,047

The following are the tentative journal entries that will be used to record the Fairview Township wastewater system purchase into the accounts of PAWC-WD:

	<u>Debit</u>	Credit
Utility Plant	\$27,499,024	
Accumulated Depreciation		\$12,213,025
Utility Plant Acquisition Adjustment	\$1,514,001	
Short Term Debt		\$16,800,000

PAWC-WD will undertake an original cost study and will establish the depreciated original costs of Fairview Township's wastewater system assets including any contributed property. Subsequently, PAWC-WD will amend the pro forma balance sheet giving effect to the transfer. PAWC-WD will initially finance the purchase by short term bank debt that will be replaced through the issuance of long-term debt at the appropriate time.

#### VI. PROPOSED RATES

At the time of closing, the Fairview Township wastewater customers will be transferred to PAWC-WD at Fairview Township's existing rates, which shall be maintained at least until December 31, 2017 as specified in the Agreement. However, PAWC-WD intends to bill on a monthly basis in lieu of quarterly billing and will propose in its next base rate filing to move the flat rate customers to a volumetric-based tariff rate. In addition, PAWC-WD will apply its currently tariffed rules and regulations as well as miscellaneous fees including the capacity reservation fee in lieu of Fairview Township's current tap-in fee effective at closing.

For residential customers, Fairview Township currently charges a quarterly flat rate of \$192 per EDU in accordance with Sections 232-14 and A302-10f its municipal ordinances. Further, Section 232-13 of Fairview Township's municipal ordinance, last amended December 6, 2010, defines an EDU as a daily sewage flow in any amount up to 225 gallons per day. Accordingly, a typical Fairview Township residential customer using 10,950 gallons per quarter with a 1 EDU allocation currently pays \$192 quarterly or \$768 annually. After closing, the same Fairview Township residential customer will pay \$64 monthly or \$768 annually. Under PAWC-WD's current Zone 1 Rates, the same Fairview Township residential customer would pay \$54.51 per month (\$7.50 Service Charge + [\$1.2880 Usage Charge/100 gallons x 3,650 gallons]) or \$654.12 annually.

PAWC-WD represents that the Fairview Township non-residential customers are metered and billed on a volumetric-basis. Accordingly, a typical Fairview Township non-residential customer using 55,290 gallons per quarter with a 1 EDU allocation currently pays \$636.17 quarterly (\$233.00 per EDU + [(55,290 gallons – 20,250 gallons) x \$1.1506/100 gallons] ) or \$2,544.68 annually. After closing, the same Fairview Township non-residential customer will pay \$212.06 monthly (\$77.67 per EDU +

[(18,430 gallons – 6,750 gallons) x \$1.1506/100 gallons]) or \$2,544.72 annually. Under PAWC-WD's current Zone 1 Rates, the same Fairview Township non-residential customer would pay \$226.31 monthly (\$20.00 Service Charge + [\$1.1194 Usage Charge/100 gallons x 18,430 gallons]) or about \$2,715.72 annually.

We note that Fairview Township also has a non-metered quarterly flat rate contained in Sections 232-14 and A302-1 of its municipal ordinances. For clarification, we shall direct PAWC-WD to confirm whether all non-residential customers are metered and, if not, how those customers will be billed.

In supplemental information provided, PAWC-WD estimated its annual revenue based upon Fairview Township's 2014 financial information will be approximately \$4,198,000. PAWC-WD estimated its annual operating expenses will be \$2,191,000 producing an estimated operating income of approximately \$2,007,000 (\$4,198,000 Annual Revenues – \$2,191,000 Annual Expenses).

#### VII. OPERATIONS UNDER PAWC-WD

PAWC-WD's target date to begin providing service to the homes currently served by the Fairview Township wastewater systems is immediately upon closing. PAWC-WD stated Fairview Township's wastewater systems will be operated as stand-alone systems and will be operated and managed from PAWC's Mechanicsburg operations.

#### VIII. ACT 537 SEWAGE FACILITIES PLAN AND LAND-USE PLANNING COMPLIANCE

PAWC-WD stated its proposed service territory is in accordance with Fairview Township's Act 537 Plan Update as approved by DEP on July 27, 2011. The proposed service territory includes the Timber Ridge and Fairview Farms areas of Fairview

Township. The Timber Ridge area is being served by the Phase 1 Collection System extension to the North WTTP. The Fairview Farms area will be served by the Phase 2 Collection System extension to the same plant.

PAWC-WD sent letters to Fairview Township and the York County Planning Commission seeking verification that its acquisition of the Fairview Township wastewater system will comply with municipal and county land use planning. PAWC-WD submitted copies of the subject request letters that it sent to Fairview Township and York County along with corresponding certified mail receipts as well as the responses from entities indicating the acquisition is in compliance with current municipal and county land use planning.

#### IX. OTHER CONSIDERATIONS

According to DEP, PAWC-WD and Fairview Township have no outstanding compliance or operational issues. Also, PAWC-WD is current with its annual, quarterly earnings and security planning and readiness report filing requirements. Further, PAWC-WD has no outstanding fines or assessments due to the Commission.

#### X. CONCLUSION

PAWC-WD avers the proposed transfer will have no detrimental effect on the service provided to PAWC-WD's existing customers or the customers transferred by Fairview Township. The transferred customers will receive the benefit of PAWC-WD's experience in managing and operating wastewater systems which will result in efficiencies and improvements in service. PAWC-WD's existing customers will benefit because the acquisition will expand the customer base, over which existing costs are recovered and thereby stabilize per-customer costs. PAWC-WD also has the managerial, technical and financial capabilities to safely and adequately operate the Fairview

Township's wastewater systems in compliance with the Public Utility Code, the Clean Streams Law and other regulatory requirements, and to make improvements as needed, on a short and long term basis.

Based upon the facts that PAWC-WD will expand its service territory to customers in compliance with Commission regulations and that PAWC-WD will be meeting the needs of new customers without any detriment to its existing customers, the Commission finds that granting PAWC-WD's application for the acquisition is necessary or proper for the service, accommodation, convenience, or safety of the public; THEREFORE,

#### IT IS ORDERED:

- 1. That the Application of the Pennsylvania-American Water Company Wastewater Division at Docket A-2015-2486532 is hereby approved.
- 2. That Pennsylvania-American Water Company Wastewater Division shall notify the Commission within 10 days of the closing with Fairview Township.
- 3. That upon notice of closing, a Certificate of Public Convenience be issued pursuant to 66 Pa. C.S. § 1102(a)(1)(i) evidencing Commission approval for the Pennsylvania-American Water Company Wastewater Division to begin to offer, render, furnish and supply wastewater service to the public in a portion of Fairview Township, York County.
- 4. That within 10 days of the date of this Order, Pennsylvania-American Water Company Wastewater Division shall provide the Commission with clarification as to how each of Fairview Township's 188 non-residential wastewater customers were previously billed (i.e., flat rate, volumetric-based, or other) in order to verify

Pennsylvania-American Water Company – Wastewater Division's commitment to retaining the same rates as Fairview Township.

- 5. That a Certificate of Public Convenience be issued pursuant to 66 Pa. C.S. § 1102(a)(3) evidencing Commission approval of the acquisition by the Pennsylvania-American Water Company Wastewater Division of substantially all of the wastewater system assets of Fairview Township as described in the Application.
- 6. That Pennsylvania-American Water Company Wastewater Division will file copies of its original cost study of the wastewater system assets acquired from Fairview Township with the Secretary's Bureau and the Bureau of Technical Utility Services, upon completion of said study.
- 7. That Pennsylvania-American Water Company Wastewater Division file copies of all the Reservation of Capacity Fee Agreements listed in the Application's Schedule 4.12 with the Secretary's Bureau and the Bureau of Technical Utility Services within 10 days of the closing with Fairview Township and clarify whether PAWC-WD will assume responsibility for the agreements.
- 8. That Pennsylvania-American Water Company Wastewater Division file copies of all the Prepaid Tapping Fees Agreements listed in the Application's Schedule 4.12 with the Secretary's Bureau and the Bureau of Technical Utility Services within 10 days of the closing with Fairview Township.
- 9. That Pennsylvania-American Water Company Wastewater Division shall file a tariff supplement incorporating Fairview Township's wastewater service territory and existing wastewater service rates within 10 days following the date of closing, to become effective on one day's notice.

- 10. That nothing herein shall be construed as an approval or determination of costs or expenses for the purpose of just or reasonable rates or to exempt Pennsylvania-American Water Company Wastewater Division from obtaining all necessary permits, licenses, and approvals from other federal, state, and local government agencies having jurisdiction.
- 11. That a copy of this Order be served upon The Pennsylvania-American Water Company Wastewater Division, York County Commissioners, Fairview Township Board of Supervisors, the Bureau of Investigation and Enforcement, the Office of Consumer Advocate, the Office of Small Business Advocate, the Department of Revenue, the Bureau of Corporate Taxes, the Department of Environmental Protection Southcentral Regional Office and its Central Office Bureau of Regulatory Counsel.

BY THE COMMISSION,

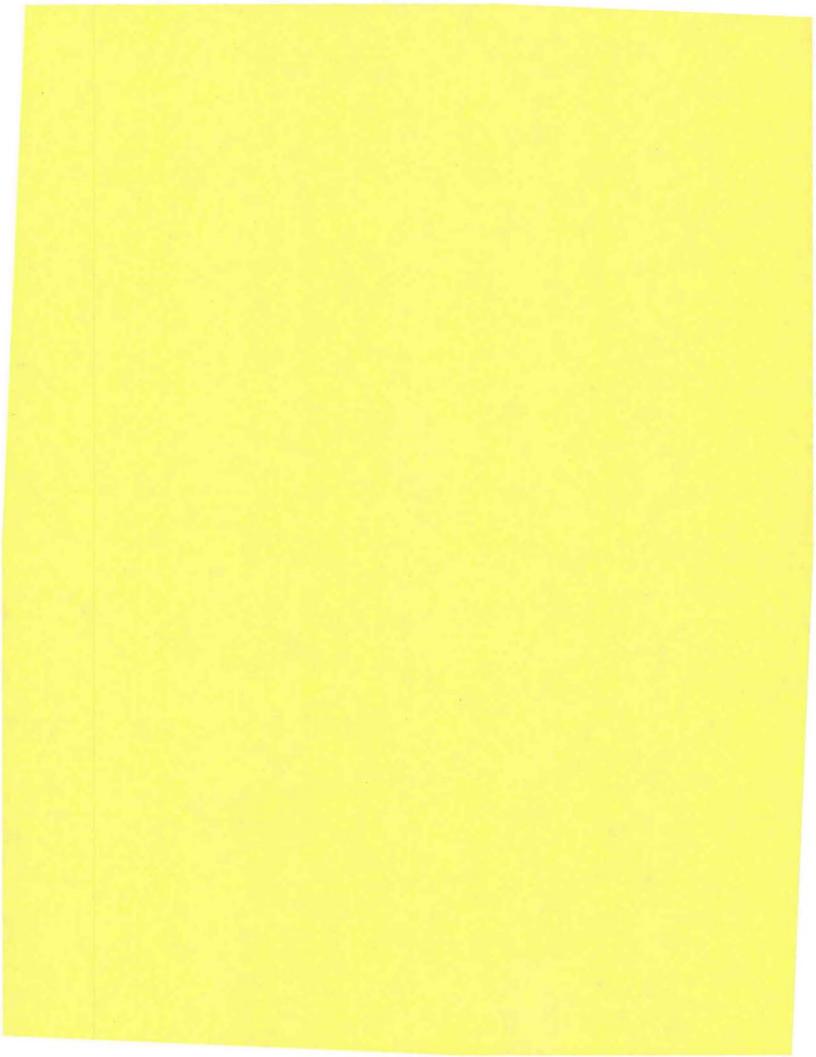
Rosemary Chiavetta

Secretary

(SEAL)

ORDER ADOPTED: December 17, 2015

ORDER ENTERED: December 17, 2015







#### Pennsylvania American Water Announces Agreement to Acquire Scranton Sewer System

March 30, 2016 06:45 AM Eastern Daylight Time

SCRANTON, Pa.--(<u>BUSINESS WIRE</u>)—Pennsylvania American Water, announced today that it has signed an agreement to acquire the wastewater assets of the Scranton Sewer Authority (SSA). The total value of the transaction is approximately \$195 million.

Pennsylvania American Water and the SSA will seek approval of the acquisition from the U.S. Environmental Protection Agency, Pennsylvania Department of Environmental Protection, and Pennsylvania Public Utility Commission. The signing of the purchase agreement is the culmination of negotiations between Pennsylvania American Water and SSA officials after the parties signed a Memorandum of Understanding last December. Pennsylvania American Water originally submitted its bid on May 1, 2015, as part of SSA's extensive request for proposals process.

"Our company and our employees have been the water service provider for this community for decades, and we are excited for the opportunity to be the future provider of wastewater service to our Scranton and Dunmore customers," said Pennsylvania American Water President Kathy L. Pape. "Once the transaction is closed, we can ensure long-term rate stabilization for customers while providing the expertise and financial resources needed to address the significant environmental compliance challenges facing the sewer system."

The SSA, which serves approximately 31,000 customers, is under an EPA Consent Decree that mandates significant upgrades to the sewer system totaling an estimated \$140 million. After the transaction closes, Pennsylvania American Water will build on the progress already made by the SSA and will manage the Consent Decree process to complete all system improvements according to the mandated timelines.

Pape said long-term rate stability is one of the most important benefits for wastewater customers. "The rates under this agreement are considerably lower than those projected under the status quo, according to the independent rates study prepared for the SSA. In fact, the cumulative savings in customers' sewer bills would total more than \$350 million over next 30 years, which translates to approximately \$7,600 per residential customer," she said.

Pennsylvania American Water's purchase of the sewer system will enable SSA to pay off its existing debt, which is estimated at approximately \$70 million. After SSA repays the debt and debt defeasance costs and other required closing costs, the City of Scranton and Dunmore Borough will split the net proceeds 80 percent to 20 percent, respectively.

Scranton Mayor William L. Courtright said, "Since the beginning of my Administration, we have been working with the Authority to develop a deal that we believe could provide for the absolute greatest public benefit to ratepayers and taxpayers in Scranton and Dunmore. This deal means significant long-term rate mitigation, a more thorough and complete program of environmental stewardship, increased efficiency and customer service, and it keeps the Authority's jobs intact while adding 100 new ones in Scranton by 2020. Finally, this deal offers us the financial resources we need to deliver the City's most pressing long-term obligations, allowing us to meet the goals of our recovery strategy outlined two years ago and make a compelling case for an exit from Act 47's financial oversight."

Pape also noted, "Upon closing the acquisition, we look forward to welcoming SSA employees to the Pennsylvania American Water team." Under the purchase agreement, all active SSA employees will be offered jobs, subject to standard pre-employment screening. The employees would also gain immediate access to the training, development and career opportunities in any of the operations of Pennsylvania American Water or its parent company, American Water.

Under the agreement, American Water committed to bring 100 new jobs to Scranton by 2020. "These will be important jobs as American Water continues to grow in Scranton, throughout Pennsylvania, and across our national footprint," said Walter Lynch, Chief Operating Officer, American Water. "We believe these new jobs will have a very positive economic impact not only through the payroll generated, but they will also stimulate additional business activity in Scranton."

The agreement is subject to the review and approval from the U.S. Environmental Protection Agency, U.S. Department of Justice, Pennsylvania Department of Environmental Protection and Pennsylvania Public Utility Commission, as well as the satisfaction of other closing conditions that are provided in the final purchase agreement. The company expects to close the transaction by September 30, 2016.

Pennsylvania American Water, a subsidiary of American Water (NYSE: AWK), is the largest investor-owned water utility in Pennsylvania, providing high-quality and reliable water and/or wastewater services to approximately 2.3 million people. Founded in 1886, American Water is the largest publicly traded U.S. water and wastewater utility company. Marking its 130th anniversary this year, the company employs more than 6,700 dedicated professionals who provide regulated and market-based drinking water, wastewater and other related services to an estimated 15 million people in 47 states and Ontario, Canada. More information can be found at www.amwater.com.

#### Cautionary Statement Concerning Forward-Looking Statements

Certain statements in this press release are forward-looking statements within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements relate to, among other things, the ability to complete the proposed acquisition and the timing thereof;

the ability to satisfy closing and other conditions related to the proposed transaction, including obtaining regulatory and other approvals and consents; anticipated capital investments; the ability of Pennsylvania American Water to comply with the Consent Decree after completion of the proposed acquisition, and the ability to achieve certain benefits, synergies and goals relating to the transaction and the operations to be acquired. These statements are based on the current expectations of management of Pennsylvania American Water. There are a number of risks and uncertainties that could cause actual results to differ materially from these forward-looking statements, including with respect to (1) obtaining the regulatory and other approvals and consents required for the acquisition; (2) satisfying other conditions to the closing of the acquisition; (3) the occurrence of the benefits and synergies expected or predicted to occur as a result of the acquisition; (4) unexpected costs, liabilities or delays associated with the acquisition or the integration of the acquired business; (5) regulatory, legislative, local or municipal actions affecting the water and wastewater industries, which could adversely affect Pennsylvania American Water; (6) Pennsylvania American Water's ongoing compliance with the Consent Decree after completion of the acquisition; and (7) other economic, business and other factors. Forward-looking statements are not guarantees or assurances of future performance or results, and Pennsylvania American Water and its affiliates do not undertake any duty to update any forward-looking statement.

#### Click here to subscribe to Mobile Alerts for American Water.

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#### Tweets by @paamwater



**PA American Water** 

@paamwater

Congratulations to Renee Saraka, a senior at Hanover Area Jr/Sr HS, Hanover. Renee received a Stream of Learning... fb.me/88aZxtFnJ

5h



**PA American Water** 

@paamwater

Our volunteers had a great day along the River Common with Riverfront Parks Committee for the United Way of... fb.me/7Zlq9l9l6

7h



PA American Water

@paamwater

We have 35 volunteers along the River Common with Riverfront Parks Committee for the United Way of the Wyoming... fb.me/1in6MOzW3

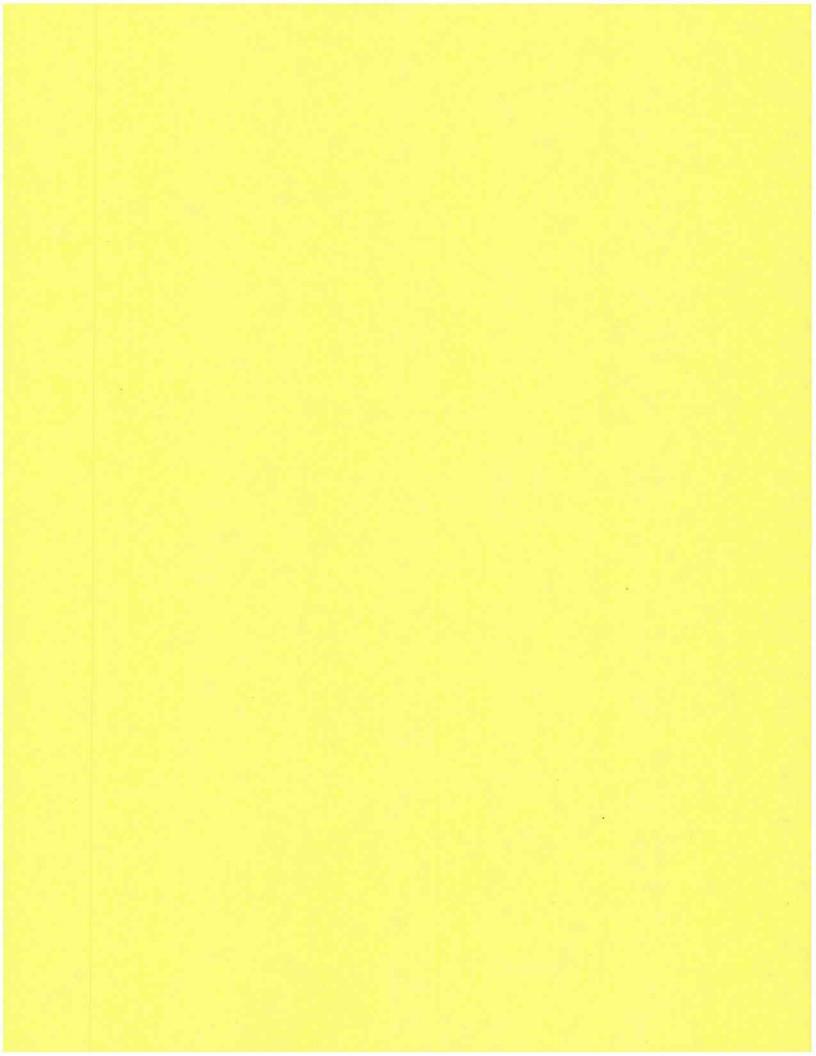
12h

#### #Hashtags

#Scranton

#wastewater

#acquisitions



# CHAPTER 94 MUNICIPAL WASTELOAD MANAGEMENT ANNUAL REPORT

#### 2015

## LIMERICK TOWNSHIP KING ROAD WWTP SERVICE AREA MONTGOMERY COUNTY, PENNSYLVANIA

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LMSD 0100.2015

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#### 1.0 INTRODUCTION

This Report is submitted in compliance with the latest regulation set forth under Title 25, Part I, Subpart C, Article II, Chapter 94 Municipal Wasteload Management Regulations of the Pennsylvania Department of Environmental Protection (PADEP) concerning sewerage facilities.

#### 1.1 Delineation of Sewerage Service Areas

Limerick Township, Montgomery County, PA borders Upper Frederick and New Hanover Townships to the north; Lower Frederick Township to the northeast; Lower Pottsgrove Township to the northwest; Perkiomen Township to the east; Upper Providence Township to the southeast; the Borough of Royersford to the south and Chester County boundaries to the west.

The size of the Township is approximately 22 square miles. Approximately 75% of the township is zoned residential, 22% industrial and 3% commercial. The Township zoning ordinance allows for a number of land uses as described below.

- Residential-Agricultural (R-I) is intended to preserve agricultural and natural areas while allowing limited compatible residential development. This encompasses much of the land north of Ridge Pike.
- Low Density Residential (R-2) is intended to provide residential neighborhoods that primarily include single family detached dwelling units at a low density
- Medium Density Residential (R-3) is intended for residential neighborhoods with a mix of dwelling types at a medium density.
- Medium-High Density Residential (R-4) is intended for a mix of housing types at medium- high densities around village centers.
- Village Residential (R-5) is intended for a mix of housing types and densities within a village area, with emphasis on pedestrian circulation.
- Mobile Home Park (MHP) is intended to provide that mobile homes are integrated into the community.
- Village Commercial (VC) is intended to encourage compact mixed development within the historic village areas.
- Retail Business (RB) is intended to encourage commercial development that is less restrictive than the VC district, but less permissive that the HC district.
- **Highway Commercial (HC)** is intended to focus larger commercial development in areas where public facilities and appropriate lot sizes are available.
- Interchange Office (IO) is intended to provide concentrated employment centers that will have easy to access to Route 422.
- Office/Limited Industrial (O/LI) is intended to provide appropriate areas for a mix of business oriented land uses.
- Limited Light Industrial (LLI) is intended for a wide range of industrial uses while avoiding heavy industrial uses that are likely to cause nuisances and hazards.

- **Heavy Industrial (HI)** is intended for a wide range of industrial uses and complementary commercial uses. A coordinated interior road system and control of nuisances and hazards are encouraged.
- Heavy Industrial and Energy (HI/E) is intended to provide appropriate areas for heavy industrial use.

\*Zoning district designation and description per report entitled "Land Use Assumptions Report" dated February 2011 by Traftic Planning and Design

The Township has entered into inter-municipal Sewer Agreements with the downstream municipality, Borough of Royersford, to provide for sewer conveyance, and treatment of wastewater at the Royersford Wastewater Treatment Plant. The Agreements establish the following items: terms of the relationship; location of connection points; flow limits, loading and billing information; and other necessary requirements for the wastewater which passes through the Borough of Royersford's sewer collection and conveyance system. A copy of the inter-municipal sewer agreement can be found in Appendix D.

#### 1.2 General Description of Existing Sewage Facilities

The wastewater system in the Township consists of multiple collectors and interceptors ranging in size from eight (8) to thirty-six (36) inches, seventeen (17) dedicated sewage pumping stations, a 1.7 MGD wastewater treatment plant (King Road) and a 0.7 MGD wastewater treatment plant (Possum Hollow). The wastewater systems are owned and operated by Limerick Township, which took ownership and operational responsibility from the Municipal Authority in September 2008.

#### 1.3 Description of Treatment Plant

The King Road Wastewater Treatment Plant (WWTP) was built in 2007 and is located at 529 King Road. The primary source of wastewater is residential, although there are several industrial and commercial operations located throughout the Township. All of the WWTP's incoming sewage flows thru a 16" diameter force main that runs from Pump Station #6 located in Limerick Center and Plaza.

Under NPDES Permit # PA0051934 (expires at midnight on 2/29/2020), the plant is permitted for the following:

Flow:

Design	1.70 MGD	
One (1) Hour Peak	5.10 MGD	
Sustained Peak	4.80 MGD	

Influent:

	Average	Maximum Daily		
BOD <sub>5</sub>	3,900 ppd	6,238 ppd		
TSS	3,900 ppd	6,238 ppd		
NH3-N	709 ppd	1,133 ppd		

Effluent:

BOD <sub>5</sub>	10 mg/l	
TSS	15 mg/l	
NH3-N	1.0 mg/l	

The treatment process at the King Road Wastewater Treatment Plant is summarized below.

- A pretreatment process contained within and around the headworks building consisting of a mechanical fine screen, aerated grit chamber, and grit classifier.
- The plant utilizes an AeroMod activated sludge biological treatment system that includes two-stage aeration and clarification.
- In-line ultraviolet disinfection and effluent metering.
- Two (2) aerobic sludge digesters and holding tanks converted from the former treatment units. Sludge is mechanically thickened by a rotary drum thickener and then hauled off-site.

Treated effluent is discharged to the Schuylkill River.

All sludge generated at the WWTP is hauled away as thickened liquid to the Pottstown Wastewater Treatment Plant for further processing before final disposal.

The overall condition of the WWTP is in good condition, operating well and consistently producing effluent that meets the permitted requirements.

At the WWTP, Township staff monitors and visually inspects the treatment processes and supporting mechanical equipment daily for any signs of failure or malfunctioning. Discharge Monitoring Reports (DMRs) are generated and forwarded to the PaDEP monthly, providing useful data of the WWTP operation to produce a clean effluent in accordance with the NPDES effluent limitation. The frequency of sampling and analysis for the final effluent can be found in the NPDES permit which is provided in Appendix D.

The WWTP was designed, permitted, and built in 2007 without an influent flow meter. The Township currently utilizes the measured effluent flow for calculating and reporting the loadings at the WWTP. Since there are no equalization facilities at the WWTP, the effluent flow measured after final treatment also reasonably measures the flow coming into the plant. Should daily flows increase, Township staff then inspect the collection system for leaks. The Township is currently working towards ascertaining a method to meet the DEP's request of influent flow monitoring that is able to continuously measure, indicate, and report the flows entering the WWTP. This may include metering the influent/effluent at the two (2) pump stations that feed the WWTP and then adding the flows together to determine the influent loading at the plant.

Routine maintenance is performed at the WWTP on a regular basis. Maintenance includes the following:

- Service/lubricate equipment
- Monthly exercising of the emergency generator
- Wet wells are cleaned
- Weirs are cleaned
- Pumps are checked for wear
- Meters calibrated (calibration records are provided in the Appendix D).

There were no major repairs or rehabilitation of equipment at the WWTP in 2015.

#### 1.4 Current WWTP Service Area

The Township's existing sewerage facilities map is located in Appendix B. The King Road plant serves approximately 10.8 square miles and, as of December 31, 2015, consists of the approximately 6,662 EDUs.

The current service area for the WWTP consists of the connections found in Table 1.4-A. These connections are either existing or under construction (connection by lateral). Total Connections are based on number of water billing users, residential and non-residential. There were 220 connections constructed and/or connected in 2015 as can be seen on Table 1.4-A. Proposed and/or projected connections can be found in Table 2.2-A and is discussed in section 2.2 of this report

As previously mentioned, the Township has entered into inter-municipal Sewer Agreements with the downstream municipality, Borough of Royersford, to provide for sewer conveyance, and treatment of wastewater at the Royersford Wastewater Treatment Plant. Limerick Township has 103 connections resulting in an estimated 127 EDUs that discharge from the Chester View Apartments development into the Borough of Royersford's collection system.

Limerick Township Sewer Department 2015 Wasteload Management Report

#### Table 1.4-A

#### 2015 Connection Data

Connection Date	Address	Town	EDU'S	Туре	Sewage Service Area	Pump Station Service
1/16/2015	55 & 57 Fruitville Rd.	Pottstown	2	Residential	Possum Hollow WWTP	PS #18
2/20/2015	44 Fruitville Rd.	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
2/20/2015	55 Fruitville Rd.	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
4/7/2015	3 Montella Circle	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
4/7/2015	34 Montella Circle	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
4/7/2015	32 Montella Circle	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
4/9/2015	14 Lightcap Rd Ste 500	Pottstown	5	Commercial	Possum Hollow WWTP	PS #17
4/10/2015	103 Enterprise Dr.	Royersford	1	Commercial	King Road WWTP	PS #5
4/30/2015	31 Montella Circle	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
4/30/2015	125 Benner Rd.	Royersford	1	Residential	King Road WWTP	PS #4
4/30/2015	90 Springford Rd.	Royersford	1	Residential	King Road WWTP	PS #19
5/5/2015	67 Neiffer Rd.	Limerick	1	Residential	Possum Hollow WWTP	PS #18
5/4/2015	14 Oak Lane	Royersford	1	Residential	King Road WWTP	PS #5
5/8/2015	104 Redwood Dr.	Royersford	1	Residential	King Road WWTP	PS #5
5/8/2015	108 Redwood Dr.	Royersford	1	Residential	King Road WWTP	PS #5
5/8/2015	112 Redwood Dr.	Royersford	1	Residential	King Road WWTP	PS #5
5/8/2015	124 Sage Ct.	Royersford	1	Residential	King Road WWTP	PS #5
5/11/2015	116 Redwood Dr.	Royersford	1	Residential	King Road WWTP	PS #5
5/11/2015	120 Sage Ct.	Royersford	1	Residential	King Road WWTP	PS #5
5/11/2015	116 Sage Ct.	Royersford	1	Residential	King Road WWTP	PS #5
5/11/2015	112 Sage Ct.	Royersford	1	Residential	King Road WWTP	PS #5
5/11/2015	108 Sage Ct.	Royersford	1	Residential	King Road WWTP	PS #5
5/11/2015	104 Sage Ct.	Royersford	1	Residential	King Road WWTP	PS #5
5/12/2015	151 Holly Dr. Clbhs	Royersford	1	Commercial	King Road WWTP	PS #5
5/12/2015	400 Redwood Dr.	Royersford	22	Residential	King Road WWTP	PS #5
5/13/2015	100 Holly Dr.	Royersford	36	Residential	King Road WWTP	PS #5
5/14/2015	500 Redwood Dr.	Royersford	22	Residential	King Road WWTP	PS #5
5/15/2015	200 Holly Dr.	Royersford	36	Residential	King Road WWTP	PS #5
5/18/2015	100 Cypress Ct	Royersford	22	Residential	King Road WWTP	PS #5
5/19/2015	100 Cypress Ct	Royersford	22	Residential	King Road WWTP	PS #5
5/14/2015	28 Montella Cir	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
5/15/2015	18 Montella Cir	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
6/30/2015	250 Holly Dr. (Maint Garage)	Royersford	1	Commercial	King Road WWTP	PS #5
6/30/2015	22 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
6/30/2015	21 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
7/1/2015	27 Benner Rd.	Royersford	1	Residential	King Road WWTP	PS #7
7/1/2015	25 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
7/1/2015	13 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
7/9/2015	10 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
7/9/2015	6 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
7/10/2015	82 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
7/14/2015	94 Springford Rd.	Royersford	1	Residential	King Road WWTP	PS #19
7/24/2015	11 S. Limerick Rd.	Royersford	1	Residential	King Road WWTP	PS #6
7/24/2015	504 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5

7/24/2015	508 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
7/24/2015	512 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
7/24/2015	516 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
7/28/2015	30 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
7/29/2015	207 W. Ridge Pike	Limerick	1	Commercial	King Road WWTP	PS #10
7/29/2015	71 Neiffer Rd.	Limerick	1	Residential	Possum Hollow WWTP	PS #18
8/6/2015	30 Montella Cir	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
8/12/2015	58 Fruitville Rd	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
8/10/2015	52 Fruitville Rd.	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
8/13/2015	50 Fruitville Rd.	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
8/18/2015	353 Sunset Rd.	Limerick	1	Residential	King Road WWTP	PS #20
8/19/2015	78 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
8/19/2015	56 Fruitville Rd.	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
8/21/2015	27 Montella Cir	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
8/21/2015	12 Montella Cir	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
8/24/2015	135 N Limerick Rd.	Limerick	1	Residential	King Road WWTP	PS #2/#3
8/24/2015	32 Inverness Cir.	Royersford	1	Residential	King Road WWTP	PS #19
8/20/2015	54 Fruitville Rd.	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
8/20/2013	70 Buckwalter Rd. Ste	Fousiowii	1	Residential	FOSSUIII FIOROW W W IF	FS #10
9/3/2015	113	Royersford	18	Commercial	Vinc Dood WWTD	DC #4
9/14/2015	26 Phaeton Way	Limerick	1	Residential	King Road WWTP King Road WWTP	PS #6 PS #3
			1	Residential		
9/24/2015	404 Holly Dr. 408 Holly Dr.	Royersford		Residential	King Road WWTP	PS #5
9/24/2015		Royersford	1_	Residential	King Road WWTP	PS #5
9/24/2015	412 Holly Dr.	Royersford	1		King Road WWTP	PS #5
9/24/2015	416 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
10/8/2015	321 Jones Blvd	Pottstown	3	Commercial	Possum Hollow WWTP	PS #1
10/23/2015	204 Redwood Dr.	Royersford	1	Residential	King Road WWTP	PS #5
10/23/2015	208 Redwood Dr.	Royersford	1	Residential	King Road WWTP	PS #5
10/28/2015	9 Mountain View Ln	Schwenksville	1	Residential	King Road WWTP	PS #20
10/28/2015	14 Montella Cir	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
10/28/2015	15 Montella Cir	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
11/12/2015	22 Montella Cir	Pottstown	1_	Residential	Possum Hollow WWTP	PS #18
1/17/2015	297 Swamp Pike	Schwenksville	1	Residential	Possum Hollow WWTP	PS #18
11/17/2015	11 Montella Cir.	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
11/12/2015	13 Mountain View Ln	Schwenksville	1	Residential	King Road WWTP	PS #20
11/13/2015	63 Phaeton Way	Limerick	1_	Residential	King Road WWTP	PS #3
1/23/2015	17 Mountain View Ln	Schwenksville	111	Residential	King Road WWTP	PS #20
1/24/2015	9 Metka Rd.	Limerick	1_	Residential	King Road WWTP	PS #2/#3
2/10/2015	5 Mountain View Ln	Schwenksville	1	Residential	King Road WWTP	PS #20
2/10/2015	304 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
2/10/2015	308 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
2/10/2015	312 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
2/10/2015	316 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
2/10/2015	320 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
2/16/2015	159 N Twp Line Rd.	Royersford	1	Residential	King Road WWTP	PS #6
2/16/2015	332 Graterford Rd.	Schwenksville	1	Residential	King Road WWTP	PS #6
2/16/2015	340 Graterford Rd.	Schwenksville	1	Residential	King Road WWTP	PS #6
2/16/2015	14 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
2/16/2015	18 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
2/29/2015	6 Mountain View Ln	Schwenksville	1	Residential	King Road WWTP	PS #20

2015 Total

Kir	g Road WWTP
Existing Connections:	6,442
New Connections:	220
Total Connections:	6,662

Possum Hollow W	WTP
Existing Connections:	1,573
New Connections:	33
Total Connections:	1,606

**Total Township Connections:** 

8,268

#### 2.0 HYDRAULIC & ORGANIC LOADINGS [§ 94.12.Sec. (a) (1), (2), (3)]

#### 2.1 Historical & Present Loadings

#### A. <u>Hydraulic Loading</u>

The permitted hydraulic capacity of the WWTP is 1.7 million gallons per day (MGD). Table 2.1-A shows monthly average wastewater flows for the WWTP during 2015.

		Table	2.1-A						
King Ro	King Road Hydraulic Loading (MGD)								
Month	2011	2012	2013	2014	2015	2015			
January	0.841	0.807	0.805	0.811	0.816	3.54			
February	0.967	0.745	0.796	0.969	0.783	1.76			
March	0.975	0.759	0.793	0.884	0.993	5.55			
April	0.944	0.729	0.798	0.937	0.815	2.32			
May	0.823	0.773	0.776	0.949	0.762	1.86			
June	0.821	0.705	0.916	0.825	0.831	7.12			
July	0.723	0.694	0.758	0.718	0.808	4.27			
August	0.909	0.751	0.754	0.744	0.74	2.65			
September	1.107	0.774	0.735	0.734	0.742	5.51			
October	0.848	0.795	0.714	0.714	0.795	4.43			
November	0.895	0.737	0.708	0.774	0.752	1.81			
December	0.879	0.802	0.835	0.841	0.846	4.99			
Annual Average (AA)	0.894	0.756	0.782	0.825	0.807	3.82			
3 Month Max Avg	0.962	0.778	0.830	0.930	0.864				
Ratio Max/AA	1.08	1.03	1.06	1.13	1.07				
5-year Avg Hydraulic Ratio					1.07				

The monthly average flows ranged from 0.740 MGD in August to 0.993 MGD in February. The annual average flow of 0.807 MGD was generated by approximately 6,662 connections which results in a calculated unit flow of 121 gallons per equivalent dwelling unit (EDU) which is lower than the average flow

per EDU of 230 gpd per the Township's Ordinance. The calculated unit flow is used later in the report for development of the projected hydraulic loadings.

It should be noted that the maximum 3-month average flow of 0.864 MGD did not exceed the plant's permitted hydraulic capacity of 1.7 MGD for 3-consecutive months in 2015. *Therefore, the WWTP was not hydraulically overloaded in 2015.* 

Table 2.1-A also shows historical (past 5 years) hydraulic flows at the WWTP, including monthly total rainfall data for the reporting year. Based on these historical flows, a hydraulic ratio (peaking factor) of the 3-month maximum flow divided by the annual average flow was calculated in each year. A 5-Year average hydraulic ratio of 1.07 has been calculated and is used later in the report for development of the projected hydraulic loadings.

A hydraulic loading graph incorporating the historical monthly average and annual average flows to the WWTP is located in Appendix A.

#### B. Organic Loading

The permitted organic capacity of the WWTP is 3,900 pounds per day (ppd) of BOD<sub>5</sub>. Table 2.1-B1 shows average daily influent organic loadings for the WWTP during 2015, expressed in pounds per day (ppd) of calculated organic load.

	Tab	le 2.1-B1			
King Road Organic Loading (lbs / day)					
Month	2011	2012	2013	2014	2015
January	2,068	1,853	1,798	1,361	1,874
February	2,989	2,128	1,636	2,158	1,712
March	2,232	1,887	1,548	1,810	1,774
April	2,178	1,814	1,581	2,691	1,923
May	2,454	3,092	1,574	1,743	1,870
June	2,189	1,102	1,862	1,813	1,837
July	1,970	1,535	1,451	1,642	2,335
August	1,720	1,449	1,548	1,803	1,606
September	2,119	1,618	1,582	1,422	1,489
October	1,979	1,879	1,545	1,834	1,672
November	2,140	2,028	1,740	1,923	1,621
December	2,392	1,885	1,530	2,165	1,838
Annual Average	2,203	1,856	1,616	1,864	1,796
Max Month	2,989	3,092	1,862	2,691	2,335
Ratio (Max Month to					
Annual Average Ratio)	1.36	1.67	1.15	1.44	1.30
5-Year Average Organic Ratio =					1.38

The average daily organic load ranged from 1,606 ppd to 2,335 ppd for the WWTP during 2015. The annual average organic load of 1,796 ppd was generated by approximately 6,662 connections which resulted in a calculated organic load of 0.269 pounds per day (ppd) per equivalent dwelling unit (EDU) which is used later in the report for development of the projected organic loadings.

It should be noted that the maximum average daily organic loading of 2,335 pounds per day of BOD<sub>5</sub> for the month of July did not exceed the plant's permitted organic capacity of 3,900 ppd in 2015. Therefore, the WWTP was not organically overloaded in 2015.

Table 2.1-B1 also shows historical (past 5 years) organic loading at the WWTP. Based on the historical organic loadings, an organic ratio (peaking factor) of the maximum average organic divided by the annual average organic loading was calculated in each year. A 5-Year average organic ration of 1.38 has been calculated and is used later in the report for development of the projected organic loadings. It was influent BOD<sub>5</sub> that is used to determine the organic capacity of a treatment plant.

Table 2.1-B2 shows a summary of the WWTP's influent organic sampling events in 2015. The average daily organic load is calculated by multiplying the influent BOD<sub>5</sub> concentration by the recorded flow the day of the influent BOD<sub>5</sub> concentration was sampled and the unit conversion factor 8.34. The calculated average daily organic load for the month is the average of all the sampling events in that month.

Based on the organic sampling events at the WWTP, an annual average daily influent concentration strength of 264.12 mg/l was calculated in 2015. The organic concentration strength is a flow based calculation of the sum of the entire year average daily organic loadings divided by the total flow the day the samples were taken.

Regarding current influent sampling of organic load (5-day biochemical oxygen demand or "BOD<sub>5</sub>"):

- 1. 24-hour composite samples of treatment plant influent are collected and analyzed weekly at the force main discharge chamber prior to screening and grit removal. The sample collection is not flow proportioned. The treatment plant does not accept hauled-in waste.
- 2. Weekly organic loadings are calculated by multiplying the flow on sample day (in MGD) by that day's BOD₂ concentration in milligrams per liter (mg/l) sampled and a conversion factor of 8.34.

3. Monthly average organic loading is the average of the weekly loading values in a calendar month.

An organic loading graph incorporating the historical annual average and maximum average daily organic loadings to the WWTP is located in Appendix A.

		Table 2	.1-B2	
ŀ	(ing Roa	d Organic Loa	ading Samplin	g Data
	А	В	C = A x B x 8.34	
Date of Sample	BOD5 (mg/l)	Flow (MGD)	Daily BOD5 (lbs/day)	Monthly Average (Ibds/day)
1/7/2015	298	0.784	1948	
1/14/2015	307	0.766	1961	
1/21/2015	297	0.782	1937	
1/28/2015	254	0.779	1650	1874
2/4/2015	190	0.816	1293	
2/11/2015	255	0.769	1635	
2/19/2015	327	0.721	1966	
2/25/2015	312	0.750	1952	1711.5
3/4/2015	200	0.951	1586	
3/11/2015	169	1.534	2162	
3/18/2015	203	0.873	1478	
3/25/2015	272	0.824	1869	1773.75
4/1/2015	235	0.820	1607	
4/8/2015	328	0.794	2172	
4/15/2015	347	0.756	2188	
4/22/2015	247	0.882	1817	
4/29/2015	292	0.752	1831	1923
5/6/2015	320	0.776	2071	
5/13/2015	284	0.746	1767	
5/20/2015	310	0.748	1934	
5/28/2015	270	0.759	1709	1870.25
6/3/2015	250	0.869	1812	
6/10/2015	227	0.857	1622	
6/17/2015	302	0.730	1839	
6/24/2015	325	0.765	2074	1836.75
7/1/2015	222	0.962	1781	
7/8/2015	284	0.782	1852	
7/15/2015	370	1.532	4727	

	1653	0.809	245	7/22/2015
2335.2	1663	0.733	272	7/29/2015
	1513	0.703	258	8/5/2015
	1806	0.739	293	8/12/2015
	1598	0.726	264	8/19/2015
1606.2	1508	0.741	244	8/26/2015
	1663	0.770	259	9/2/2015
	1673	0.724	277	9/9/2015
	982	0.705	167	9/16/2015
1489.2	1639	0.728	270	9/23/2015
	1821	0.933	234	10/2/2015
	1388	0.753	221	10/7/2015
	1504	0.742	243	10/14/2015
	1567	0.770	244	10/21/2015
1672.4	2082	0.861	290	10/28/2015
	1756	0.702	300	11/4/2015
	1824	0.781	280	11/11/2015
	1566	0.728	258	11/18/2015
1621	1338	0.757	212	11/25/2015
	1624	0.854	228	12/2/2015
	1659	0.734	271	12/9/2015
	1921	0.773	298	12/16/2015
1	2358	1.006	281	12/23/2015
1838.2	1629	1.012	193	12/30/2015
1807.21	Average (ppd):	Daily BOD5		
0.820	verage (MGD):	Flow A		
264.12	ntration (mg/l):	ily Influent Concer	AA Da	

Sampling Data per Township Provided DMRs

### 2.2 Projected Loadings

### A. Projected Connections

Prior to 2015, the total number of connections was 6,442. During 2015, there were 225 new connections to the WWTP. Development within the Township will continue. Table 2.2-A shows a summary of total existing connections and EDU connections projected to occur within the next five (5) years that are existing, under construction, or awaiting Act 537 planning approval.

Accordingly, the WWTP projected hydraulic loadings for the next five (5) years are shown in Table 2.2-B3. The annual average and maximum 3-month average

flows are indicated. Likewise, the annual average and maximum daily organic loadings are indicated. Graphs incorporating the historical and projected loadings for the next five (5) years to the WWTP are located in Appendix A for hydraulic and organic loadings.

Table 2.2-A King Road Wasterwater Treatment Plant Active or Planned Developments (as of 12/31/2015)

Name	Remaining	Sewage	Pump Station		Projected Buildout Schedule						
Name	No. of EDUs	Flow (GPD)	Service Area	2016	2017	2018	2019	2020			
Active or Planned											
Developments											
430 Linfield Trappe Road											
(Restaurant)	10	2,300	PS #5	10							
1310 Main Street	9	2,070	PS #5	9							
826 Associates	4	920	PS #3	2	2						
Bradford Woods	1	230	PS #12			1					
Brunk/Ashbrook	1	230	PS #6	1							
Brownback Road Subdivision	4	920	PS #5	2	2						
Country Club Estates	7	1,610	PS #19	7							
Demcor	50	11,500	PS #20								
Diesinger Subdivision	2	460	PS #20			2					
Heritage Crossing Shopping											
Center	32	7,360	PS #6	12	20						
lacobucci, Golf Ridge	1	230	PS #3		1						
Leroy Wensel, Limerick Village	1	230	PS #5		1						
Lewis Ridge Retail	12	2,760	PS #3	12							
Limerick View Shopping Center											
(Home Depot)	34	7,820	PS #6	34							
Limerick PF LTD	27	6,210	PS #5								
Limerick Square Shopping											
Center (Brandolini)	32	7,360	PS #6	32							
Linfield Corporate Center											
(Gambone)	178	40,940	PS #5	20	20	20	20	40			
Linfield National Golf Club -											
Clubhouse	15	3,450	PS #5	15							
Linsenmaier	99	22,770	PS #5		50	49					
Mountainview Estates (incl.											
Sunset Road)	43	9,890	P5 #20	20	23						
Pottstown Honda	1	230	PS #5	1							
Sankey (Residential)	119	27,370	PS #3		50	59					
Staybridge Suites Restaurant	23	5,290	PS #6	23							
Telvil	26	5,980	PS #2		13	13					
Township Line Road (incl.											
Bradford Woods)	6	1,380	PS #12	6							
Villas	4	920	PS #5	4							
Walmart	13	2,990	PS#6	13							
Subtotal	754	173,420		223	192	144	20	40			

Table 2.2-A King Road Wasterwater Treatment Plant Projected Developments (as of 12/31/2015)

	Remaining	Remaining Sewage F			Projecte	d Buildou	t Schedule		
Name	No. of EDUs	Flow (GPD)	Service Area	2016	2017	2018	2019	2020	
Projected Developments									
Albert S. Herr and Sons	2	242	PS #3	2					
Al Blough	4	484	PS #3	4					
Grateford Road	12	1453	PS #3			12			
Gregory Dinnocenti (39 Springford Rd)	5	606	PS #19	5					
Harold Herr	2	242			2				
Linfield Industrial Park (Publicker Site)	25	3028	PS #5		25				
Moore	5	606	PS #3		5				
Oehlert Brothers	3	363	PS #6	3					
Ridge Swamp Associates, 1, LP	50	6056	PS #3		25	25			
Tomaselli Subdivision	5	606	PS #20			3	2		
Waltz Golf Farm	2	242	PS #10		2				
Miscellaneous Connections	15	1817		2	2	2	2	2	
Subtotal	130	15746		16	61	42	4	2	
EDU Totals	884			239	253	186	24	42	
Current No. of EDUs	6,662								
Flow Totals		189,166		54970	58190	42780	5520	9660	
Cummulative EDU Totals (2015 = 6662 EDUs)				6,814	7,067	7,253	7,277	7,319	
Cummulative Flow Totals (2015 = 806917 gpd)				861,887	920,077	962,857	968,377	978,037	

<sup>\*</sup>Flow Totals Based off of Township Planning flow Rate of 230 gpd/EDU

### B. Basis for Projected Hydraulic Loading

The projected hydraulic loadings were developed as follow:

- 1. First, by calculating new flow at the WWTP in each calendar year; the number of new EDUs that connected multiplied by the calculated unit flow in the calendar year. The unit flow is based on the total flow at the WWTP divided by the total number of connection to in the plant. New flows were calculated for each year as can be seen in Table 2.2-B1.
- 2. Second, a 5-Year adjusted annual average flow is derived by adjusting 2011 thru 2015 calendar years flow by adding new flow to the previous calendar years annual average flow as can be seen in Table 2.2-B2.
- 3. The adjusted annual average flow of 0.844 MGD in lieu of the 0.813 is used as the previous year's annual average flow (2015) in Table 2.2-B3 to begin hydraulic projections.

- 4. Third, the projected annual average flows for the Township are based on projected new connections flows that are added to the previous year annual average flow for the next 5 years. New connections are multiplied by 2015 unit flow of 128 gallons per day per EDU. The projected annual average flow at the end of the next five year period is estimated to be 0.934 MGD.
- 5. Last, the maximum 3-month average flow projections (2016 to 2020) to the plant on Table 2.2-B3 were calculated by multiplying the 5-Year Average Hydraulic Ratio of 1.07 times the projected annual average flow to the WWTP. The projected maximum 3-month average daily flow at the end of the next five (5) years is estimated to be 1.002 MGD.

As evident in Table 2.2-B3 and the hydraulic loading graph, projections for maximum 3-month average flow to the WWTP will not exceed the permitted hydraulic capacity of 1.7 MGD for the next five (5) years. Therefore, the WWTP is not projected to be hydraulically overloaded within the next five (5) years.

	Table	2.2-B1						
King Road Historical Added Flow								
Year	# EDUs Connected	gpd/EDU*	New Flow					
2011	23	105	0.002					
2012	64	105	0.007					
2013	39	105	0.004					
2014	39	129	0.005					
2015	220	121	0.027					

<sup>\*</sup>Planning Flow Rate:

230

121

	Table 2.2-B2										
	Ki	ng Road	5-Year Ad	ljusted Flow	Projections						
Year	AA Flow in MGD			All Projects Con	nected		Adjusted AA Flow				
		2011	2012	2013	2014	2015					
2011	0.894	0.002	0.007	0.004	0.005	0.027	0.939				
2012	0.756		0.007	0.004	0.005	0.027	0.798				
2013	0.782			0.004	0.005	0.027	0.818				
2014	0.825				0.005	0.027	0.857				
2015	0.807		D				0.807				
Total	3.258						4.219				
5 Yr Avg	0.813						0.844				

	Table 2.2-B3										
King Road Adjusted Flow Projections											
Year	Previous Year's Annual Average Flow	New EDUs	Increased Flow (MGD)	Projected Annual Average Flow (MGD)	Hydraulic Ratio	Projected Max Month Flow (MGD)					
2016	0.844	239	0.029	0.873	1.07	0.936					
2017	0.873	253	0.031	0.903	1.07	0.969					
2018	0.903	186	0.023	0.926	1.07	0.993					
2019	0.926	24	0.003	0.929	1.07	0.996					
2020	0.929	42	0.005	0.934	1.07	1.002					

<sup>\*</sup>Calculated Flow Rate:

### C. Basis for Projected Organic Loading

The projected organic loadings were developed as follow:

- 1. First, the 2015 annual average organic load of 1,796 ppd is used as the previous annual average organic load in Table 2.2-C to begin organic projections.
- 2. Second, the projected annual average organic loadings for the Township are based on projected new connections' organic load that are added to the previous calendar year organic loading for the next 5 years. New connections are multiplied by the 2015 calculated organic load of 0.27 ppd per EDU. The projected annual average organic load at the end of the next five (5) year period is estimated to be 1,987 ppd.
- 3. Last, the maximum average daily organic loading projections (2016 to 2020) to the plant on Table 2.2-C were calculated by multiplying the 5-Year Average Daily Organic Ratio of 1.38 times the projected annual average daily organic load. The projected maximum average daily organic loading at the end of the next five years period is estimated to be 2,758 ppd.

As evident in Table 2.2-C and the organic loading graph, projections for maximum average daily organic loading to the WWTP will not exceed the permitted organic rating of 3,900 ppd for the next five years. Therefore, the WWTP is not projected to be organically overloaded within the next five (5) years.

			Т	able 2.2-C						
Loading Projections										
Year	Previous Year's Annual Average Loading	New EDUs	Load/EDU	Increased Load (ppd)	Projected Annual Average Loading (ppd)	Organic Ratio	Projected Max Month Loading (lbs/day)			
2015	-	220	0.27	59.31	1,795.96		1,837			
2016	1,795.96	219	0.27	59.04	1,855.00	1.38	2,559.90			
2017	1,855.00	230	0.27	62.00	1,917.01	1.38	2,645.47			
2018	1,917.01	206	0.27	55.53	1,972.54	1.38	2,722.10			
2019	1,972.54	54	0.27	14.56	1,987.10	1.38	2,742.19			
2020	1,987.10	42	0.27	11.32	1,998.42	1.38	2,757.82			

### 3.0 SEWER EXTENSIONS [§ 94.12Sec. (a) (4)]

The following is a summary of new/proposed sewer extensions in 2015 for the Township.

### 3.1 Extensions Constructed

Sewer extensions were constructed for the following developments: Cherry Ridge, Mountain View Estates, Fruitville Road, and Telvil Landis. In addition, the Township constructed a sewer extension from Pump Station #11 to the new Pump Station #20.

### 3.2 Extensions Exempted

An exemption was granted for Country Club Views.

### 3.3 Proposed Project Extensions and Planned Build-out

There are multiple active and planned developments for the King Road Service Area. As discussed previously, a list summarizing the planned developments and anticipated EDU allotment are included in Table 2.2-A.

### 4.0 SEWER SYSTEM MONITORING, MAINTENANCE, REPAIR, & REHABILITATION[§ 94.12.Sec. (a) (5)]

The Township has the duty to monitor, maintain, repair and rehabilitate the WWTP and sanitary sewer collection and conveyance system on a regularly basis. The Township has a certified operator and staff in the Sewer Department that operates and maintains the sanitary sewer collection and conveyance system and the WWTP. Assistance with larger tasks is provided by additional staff from the Township Sewer Department or is contracted out.

The sanitary sewers are inspected for leaks if there is an increase in daily flow monitored at the WWTP. The Township has a backhoe, dump trucks, and hand tools available for routine maintenance and excavation. Maintenance and repairs to the sewer system that cannot be performed by the Township's staff are carried out by independent contractors hired on an "as needed" basis.

There were no problematic sewer sections found to be in need of repair or rehabilitated in 2015.

### 4.1 Monitoring and Maintenance

The sanitary sewer collection and pumping systems are monitored daily. Township staff visits the pump stations weekly to check for operational problems, to perform periodic and routine maintenance, and to perform routine monitoring such as recording the total time each pumping unit is operated per day. Each pump station is continuously monitored 24 hours a day via alarm system/auto dialer which contacts the Township personnel currently on duty, than the WWTP Superintendent and then the WWTP phone in case of an emergency. This cycle continues every 10 minutes until the alarm is acknowledged. The following conditions are electronically monitored:

- · Wetwell high and low water levels
- Pump motor failure
- Loss of electrical service
- Emergency generator start at relative pump stations

There are no permanent flow meters on the influent sewers entering the pumping stations. The Township is currently working towards ascertaining a method to meet the DEPs request of influent flow monitoring at the pump stations to record actual flow data that will provide annual average and peak instantaneous flows within the sanitary sewer collection system.

### 4.2 Repair and Rehabilitation

Repair and/or rehabilitation efforts within the Limerick Township collection and conveyance system in 2015 include:

### January 2015

- Pump Station #5 (Trinley Rd.) new VFD project 100% complete
- Pump Station #6 (Royersford Rd.) and #7 (King Rd.) repair minor peroxide leaks, cold weather problem
- Pump Station #18 (Ravens Claw) new diesel generator engine battery
- Pump Station #17 (Possum Hollow Run) repair broken main sewer line, work done by outside contractor

#### February 2015

- Pump Station #2 (North Limerick Rd.) new diesel engine water pump, belts and antifreeze
- Pump Station #6 (Royersford Rd.) and #7 (King Rd.) new Micro Pacer unit for peroxide pumps
- Pump Station #6 (Royersford Rd.) and #7 (King Rd.) repair minor peroxide leaks, cold weather problem

#### March 2015

- Pump Station #6 (Royersford Rd.) new phase monitor on pump #2 and new wire on control relay.
- Pump Station #12 (Township Line Rd.) new diesel fuel lines and filters
- Pump Station #1 (Airport Rd.) new off float
- Pump Station #18 (Ravens Claw) new diesel generator engine battery
- Pump Station #17 (Possum Hollow Run) remove debris and rags from Exelon power plant monitoring manhole
- Pump Station #6 (Royersford Rd.) and #7 (King Rd.) repair minor peroxide leaks, cold weather problem

#### April 2015

- Pump Station #6 (Royersford Rd.) new hydraulic hoses for muffin monster #2
- Pump Station #3 (South Limerick Rd.) new off float
- Pump Station #2 (North Limerick Rd.) new motor contacts on both pumps

#### May 2015

- Pump Station #4 (Benner Rd.) and #5 (Trinley Rd.) power outage alarm, reset
- Pump Station #1 (Airport Rd.) new Verbatim alarm dialer, sent out for repairs.
- Pump Station #18 (Ravens Claw) reset pump controller
- Pump Station #1 (Airport Rd.) pump #2 sent for repairs.

#### June 2015

- Pump Station #2 (North Limerick Rd.) replaced intrinsically safe relay & control relay.
- Pump Station #20 (Graterford Rd.) started up, with Pump Station #11 (Llewellyn Lane) shut off to bypass to Pump Station #20 (Graterford Rd.).
- Pump Station #19 (Springford Country Club) new generator engine battery
- Pump Station #1 (Airport Rd.) new generator engine batteries.
- Pump Station #1 (Airport Rd.) pump returned and installed

#### July 2015

systems, connection of house drainage system to a public sanitary sewer or lateral thereof, and supervision of all plumbing work within the township (reference Ordinance No.143 §129-8: P-123.1, P-123.6, P-123.7).

• Strictly prohibiting floor drains, basement sump-pump, and area drain connections to the sanitary sewer system (reference Ordinance No.143 §129-8: P-1211.4).

Limerick Township has implemented procedures for lateral and sump pump inspections. The Lateral Inspection Procedure has been included in Appendix D. Proper sump pump discharge connections are inspected: (1) during lateral inspections for new home construction or (2) during water meter inspection and/or upon receiving permission from the homeowner. In the instance where an inspection reveals an illegal discharge connection, the Township requests the owner to rectify and then re-inspects. Should the owner fail to correct the situation, the manner is sent to the Codes Office for review and enforcement.

The Township's current I&I preventative measures are adequate for maintaining the Kings Road service area portion of the system.

### 4.4 Engineering Studies

There have been no engineering studies performed in the Township.

#### 5.0 CONDITION OF SEWER SYSTEM [§ 94.12.Sec. (a) (6)]

The Township is divided into two (2) service areas. The Township collects sanitary sewage in each service area and conveys it to the respective WWTP. A majority of the Township's sanitary sewer system was originally constructed between 1986 and 1992 and has since been extended to accommodate additional developments as needed. The sanitary sewer system consists of interceptors ranging in size from eight (8) inch to thirty-six (36) inches and several pump stations. A bulk the gravity system is constructed of PVC pipe while a majority of the force mains are made of ductile iron pipe. The sanitary sewer collection system totals approximately 533,280 feet (101 miles) of pipe. The Possum Hollow Service area accounts for approximately 89,760 feet (17 miles) of this pipe; while the King Road Service area accounts for the remaining 443,530 feet (84 miles) of pipe. There are seven (7) private pump stations in addition to the seventeen (17) active Township owned pumping stations. Private sewer lines also exist within the system.

The overall condition of the sewer system is in fair to good condition, typical of systems of similar age and construction.

There is no portion of the system where conveyance capacity is being exceeded or will be exceeded in the next 5 years.

### 5.1 Discussion of Repaired, Replaced, or Rehabilitated Sewers

There are no known portions of the sewer collection system that have been identified as requiring immediate repair or replacement.

Significant I&I from the Ridgeview Terrace Mobile Home Park is the root cause of the backup pump in Pump Station #10 operating during major storm events. On September 24, 2009 RHG Properties, the owner of the Ridgeview Terrace Mobile Home Park at the time, entered into an agreement with the Township to address these I&I issues. In 2011/2012 GPS Properties took over ownership of the Ridge View Terrace Mobile Home Park. On September 28, 2012 a Consent Decree between the United States Environmental Protection Agency (EPA) and the PADEP and GPS Properties was filed. Due to the EPA mandate, repair and rehabilitation information within the mobile home park is unknown. Per a conference call between Pennoni and the DEP, held on January 14, 2013, the Department offered to lend assistance to the Township in ascertaining the quarterly status reports from the EPA. To date, we have not been provided any additional information.

### 5.2 Sanitary Sewer Overflows

There are no combined sewers in the Township sewer collection system; hence, there are no possibilities for any combined sewer overflows (CSO). The Township reports that there were no sanitary sewer overflows (SSO) in 2015.

### 5.3 Sanitary Sewer Surcharges

There were no reported events or evidence to indicate that any sanitary sewer surcharges occurred in the King Road Service area in 2015.

### 6.0 SEWERAGE PUMPING STATIONS [§ 94.12.Sec. (a) (7)]

There are seventeen (17) sewage pump stations currently operating within the two (2) service areas in the Township. Pump Stations 1, 18, 17, and 16 operate within the Possum Hollow service area; while Pump Stations 2, 3, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15 and 19 operate within the King Road service area. A pump station flow schematic diagram of the service area has been included within Appendix D. These pump stations are owned and maintained by the Township and are described below.

### 1. Pump Station #2 AKA North Limerick Road Pump Station

Pump Station #2 is located on North Limerick Road and is equipped with two (2) explosion proof 130-gpm submersible pumps. Wastewater is discharged through a four (4) inch force main that ties into the existing sewer at Manhole 229 located on Ridge Pike where it flows by gravity to Pump Station #3 and inevitably on to the WWTP.

Pump Station #2 also has an emergency generator associated with it and an autodialer that alerts Township personnel when the generator is engaged.

There is no flow meter or monitoring equipment currently at this site. Currently, flows are derived from a pump run timer. An auto-dialer is installed on this pump station to alert Township personnel of high flow conditions. This station is not believed to be hydraulically over loaded. The Township is anticipating to overhaul this station with new pumps, controls, and a SCADA system within the next few years.

#### 2. Pump Station #3 AKA South Limerick Road Pump Station

Pump Station #3 is located along South Limerick Road and is equipped with two (2) explosion proof 1,150-gpm submersible pumps. Wastewater is discharged through a twelve (12) inch force main that ties into the existing sewage collection system at Manhole A107 located on East Cherry Lane where it flows by gravity to Pump Station #5 and inevitably on to the WWTP.

Pump Station #3 also has an emergency generator associated with it and an auto-dialer that alerts Township personnel when the generator is engaged.

There is no flow meter or monitoring equipment currently at this site. Currently, flows are derived from a pump run timer. An auto-dialer is installed on Pump Station #3 to alert Township personnel of high flow conditions. It is proposed to add flow monitoring capabilities to Pump Station #3 when it is in need of upgrading or overhauling or if it is believed that it is approaching its design capacity.

There were no instances recorded of the lag pump coming on in conjunction with the lead pump in 2015. This station is not believed to be hydraulically over loaded. The Township is anticipating overhaul of Pump Station #3 with new pumps, controls, and a SCADA system within the next few years to accommodate new connections.

### 3. Pump Station #4 AKA Benner Road Pump Station

Pump Station #4 is located along Major Hollow Road and is equipped with two (2) explosion proof 120-gpm submersible pumps. Wastewater is discharged through a four (4) inch force main that ties into the eighteen (18) inch force main from Pump Station #5 around the intersection of Benner and Major Road that ties into Manhole A16 located on Lewis Road where it flows by gravity to Pump Station #6 and on to the WWTP.

Pump Station #4 last underwent major upgrades in 2010 which included:

- Two (2) new Flygt submersible pumps each rated at 120 gpm @104 TDH
- New pump controller and starter panel
- New Muffin Monster grinder
- Replacement of four (4) inch force main

Pump Station #4 also has an emergency generator associated with it and an autodialer that alerts Township personnel when the generator is engaged.

The 2010 upgrades included a pump controller that has the capability of calculating and recording the peak influent flow. Data was unavailable in 2015. An auto-dialer is installed on this pump station to alert Township personnel of high flow conditions.

Pump Station #4 is not believed to be hydraulically overloaded.

### 4. Pump Station #5 AKA Trinley Road Pump Station

Pump Station #5 is located near Trinley Road and is equipped with two (2) explosion proof 1,900-gpm submersible pumps. Wastewater is discharged through an eighteen (18) inch force main that ties into Manhole A16 located on Lewis Road where it flows by gravity to Pump Station #6 and on to the WWTP.

Pump Station #5 also has an emergency generator associated with it and an auto-dialer that alerts Township personnel when the generator is engaged.

Pump Station #5 does not have the capability to monitor or measure the influent flows. Currently, flows taken from a magmeter located on the discharge side of the pump station. The magmeter is not configured to log the instantaneous flows,

only the totalized flow which is recorded by hand daily. An auto-dialer is installed on Pump Station #5 to alert Township personnel of high flow conditions.

This station is not believed to be hydraulically over loaded.

#### 5. Pump Station #6 AKA #6a - Southeast Pump Station

Pump Station #6 is located northeast of Route 422 and Royersford Road and is equipped with two (2) 2,225-gpm dry pit non-clog sewage pumps. Wastewater is discharged through a sixteen (16) inch force main that ties into the headworks building of the WWTP.

Pump Station #6 last underwent major upgrades in 2010 which included:

- Two (2) new VFD pump motor controls
- New pump control and monitor unit
- New wet well exhaust and intake roof fans

The controls for each of the VFDs are currently set to operate at a maximum of 94% of their maximum speed under normal operating conditions in an effort to optimize the pump station efficiency. The discharge rate for both pumps operating simultaneously is below the permitted discharge for one (1) pump operating. In the event that one (1) pump is out of service, the system is equipped with a high flow switch that will override the pump limits and operate the pump at full capacity.

The controls for the VFD try to "match" the flow that comes into the WWTP. Because of this operation, the flow in the force main may not be high enough to provide adequate scour velocity. The control software accounts for this and automatically turns both pumps on in order to "flush" the force main. This flushing sequence is considered maintenance and therefore any events where both the lead and lag pumps come on in conjunction for short durations (20 minutes or less) have been omitted from the analysis.

Pump Station #6 also has an emergency generator associated with it and an autodialer that alerts Township personnel when the generator is engaged.

Pump Station #6 does not have the capability to monitor or measure the influent flows. Currently, flows taken from a magmeter located on the discharge side of the pump station. The magmeter is not configured to log the instantaneous flows, only the totalized flow which is recorded by hand daily. An auto-dialer is installed on Pump Station #6 to alert Township personnel of high flow conditions.

Throughout 2015 there were instances where the lag pump came online in conjunction with the lead pump. This is within the approved design parameters. Pump Station #6 is proposed for expansion in 2016.

### 6. Pump Station #7 AKA King Road Pump Station

Pump Station #7 is located along King Road and is equipped with two (2) explosion proof 260-gpm submersible pumps. Wastewater is discharged through a four (4) inch force main that ties into the sixteen (16) inch force main from Pump Station #6 around the intersection of Walnel Drive and King Road. The sixteen (16) inch force main discharges directly to the headworks of the WWTP.

Pump Station #7 also has an emergency generator associated with it and an autodialer that alerts Township personnel when the generator is engaged.

There is no flow meter or monitoring equipment currently at this site. Flows are derived from a pump run timer. An auto-dialer is installed on Pump Station #7 to alert Township personnel of high flow conditions. It is proposed to add flow monitoring capabilities to Pump Station #7 when it is in need of upgrading or overhauling or if it is believed that it is approaching its design capacity.

This station is not believed to be hydraulically over loaded.

### 7. Pump Station #10 AKA Ridge Pike Pump Station

Pump Station #10 is located along Ridge Pike and is equipped with two (2) explosion proof, 180-gpm submersible pumps. Wastewater is discharged through a six (6) inch force main that ties into an eight (8) inch gravity sewer at Manhole A206 located approximately ¼ mile east of the intersection of Limerick Road and Ridge Pike which conveys sewage to Pump Station #3 and inevitably to the WWTP.

Pump Station #10 also has an emergency generator associated with it and an autodialer that alerts Township personnel when the generator is engaged. Pump Station #10 also includes an emergency bypass connection that the Township can connect one of their portable pumps to in the event that one of the pumps becomes inoperable.

Pump Station #10 includes a pump controller that has the capability of calculating and recording the peak influent flow. The instantaneous peak influent values were analyzed and provided in table 6.1-A.2 where available. The Instantaneous Peak Flow was taken on 4/20/2015 during a storm event of 1.29" (an average wet weather event in 2015). An auto-dialer is installed on Pump Station #10 to alert Township personnel of high flow conditions.

Influent Flow data has been recorded via portable flow monitors.

### 8. Pump Station #11 AKA Winnie Tract Subdivision / Llewellyn Lane Pump Station

This station was taken offline in June 2015 and demolished in October 2015. Flow to Pump Station #11 is now conveyed to Pump Station #20.

### 9. Pump Station #12 AKA Township Line Road Pump Station

Pump Station #12 is located along Township Line Road within the Bradford Woods subdivision and is equipped with two (2) explosion proof 94-gpm submersible pumps. Wastewater is discharged through a four (4) inch force main that ties into an existing manhole located near the intersection of Township Line Road and Graterford Road where it flows by gravity to Pump Station #6 and on to the WWTP.

Pump Station #12 also has an emergency generator associated with it and an auto-dialer that alerts Township personnel when the generator is engaged.

Currently, flow data is obtained from a magmeter located on the discharge side of the pump station. The maximum pumping rate recorded was the pumping rate of the pumps. The magmeter is not configured to log the instantaneous flows, only the totalized flow which is recorded by hand daily. An auto-dialer is installed on Pump Station #12 to alert Township personnel of high flow conditions.

This station is not believed to be hydraulically over loaded.

### 10. Pump Station #13 AKA Cambridge Drive - Grinder Pump Station

Pump Station #13 is located along the cul-de-sac at the end of Bradford Drive within the Bradford Woods subdivision and is equipped with two (2) 27.5-gpm submersible grinder pumps. Wastewater is discharged through a two (2) inch force main that ties into an existing manhole on Bradford Drive where it flows by gravity to Pump Station #14 and inevitably to the WWTP.

Pump Station #13 also has an emergency generator associated with it and an autodialer that alerts Township personnel when the generator is engaged. Pump Station #13 also includes an emergency bypass connection that the Township can connect one of their portable pumps to in the event that one of the pumps becomes inoperable.

Currently, flow data is obtained from a magmeter located on the discharge side of the pump station. The maximum pumping rate recorded was the pumping rate of the pumps. The magmeter is not configured to log the instantaneous flows, only the totalized flow which is recorded by hand daily. An auto-dialer is installed on Pump Station #13 to alert Township personnel of high flow conditions.

This station is not believed to be hydraulically overloaded.

### 11. Pump Station #14 AKA Cambridge Drive Pump Station

Pump Station #14 is located along Bradford Drive within the Bradford Woods subdivision and is equipped with two (2) 103-gpm submersible pumps. Wastewater is discharged through a four (4) inch force main that ties into the four (4) inch force main from Pump Station #12 around the intersection of Township Line Road and Tanglewood Drive that ties into an existing manhole where it flows by gravity to Pump Station #6 and on to the WWTP.

Pump Station #14 also has an emergency generator associated with it and an autodialer that alerts Township personnel when the generator is engaged.

Pump Station #14 includes a pump controller that has the capability of calculating and recording the peak influent flow. The instantaneous peak influent values were analyzed and provided in table 6.1-A.2 where available. The Instantaneous Peak Flow was taken on 4/20/2015 during a storm event of 1.29" (an average wet weather event in 2015). An auto-dialer is installed on Pump Station #14 to alert Township personnel of high flow conditions.

This station is not believed to be hydraulically over loaded.

### 12. Pump Station #15 AKA Landis Brooke Pump Station

Pump Station #15 is located along Sunny Brooke Road within the Estates of Landis Brooke subdivision and is equipped with two (2) 33-gpm submersible grinder pumps. Wastewater is discharged through a two (2) inch force main that ties into the existing sewer manhole on Sunny Brooke Road where it flows by gravity to Pump Station #10 and inevitably on to the WWTP.

Pump Station #15 also has an emergency generator associated with it and an autodialer that alerts Township personnel when the generator is engaged.

There is no flow meter or monitoring equipment currently at this site. Currently, flows are derived from a pump run timer. An auto-dialer is installed on Pump Station #15 to alert Township personnel of high flow conditions. It is proposed to add flow monitoring capabilities to Pump Station #15 when it is in need of upgrading or overhauling or if it is believed that it is approaching its design capacity.

This station is not believed to be hydraulically over loaded.

### 13. Pump Station #19 AKA Springford Country Club Pump Station

Pump Station #19 is located along Country Club Road within the Country Club Estates Subdivision and is equipped with two (2) explosion proof 96-gpm submersible pumps. Wastewater is discharged through a four (4) inch force main to a manhole located on Country Club Road where it flows by gravity to Pump Station #6 and on to the WWTP.

Pump Station #19 also has an emergency generator associated with it and an autodialer that alerts Township personnel when the generator is engaged.

Pump Station #19 includes a pump controller that has the capability of calculating and recording the peak influent flow. The instantaneous peak influent values were analyzed and provided in table 6.1-A.2 where available. The Instantaneous Peak Flow was taken on 4/20/2015 during a storm event of 1.29" (an average wet weather event in 2015). An auto-dialer is installed on Pump Station #19 to alert Township personnel of high flow conditions.

This station is not believed to be hydraulically over loaded.

### 14. Pump Station #20 AKA Graterford Pump Station

Pump Station #20 began receiving flows conveyed from Pump Station #11 (now demolished) in June 2015 and was accepted by the Township in October 2015. Pump Station #20 is located along Graterford Road northeast of Township Line Road and is equipped with two (2) explosion proof 320-gpm non-clog submersible pumps. Wastewater is discharged through a 6-inch ductile iron force main to a manhole located on Township Line Road where it flows by gravity to Pump Station #6 and on to the WWTP.

Pump Station #20 has an emergency generator associated with it and an autodialer that alerts Township personnel when the generator is engaged.

Pump Station #20 includes a pump controller that has the capability of calculating flow rates, but is not currently capable of outputting the flow data for recording or storage. An auto-dialer is installed on Pump Station #19 to alert Township personnel of high flow conditions.

In general, the pumping stations are running without any mechanical problems and are in good condition. Each pump station is inspected, at a minimum, once a week and adjustments made as necessary. All necessary maintenance is done by the Authority's personnel or by service contractors. The Township's extensive preventative maintenance program continues to maintain all facilities in good working condition.

The Township reports that the pump stations were capable of pumping peak instantaneous flows during dry weather conditions without problem.

Major repairs and/or upgrades during 2015 are listed in the pump station descriptions and Section 4.2. Presently, the Township is currently working towards ascertaining a method to meet the DEPs request of influent flow monitoring that is able to measure, indicate, and record the flow at the pump stations to document peak hour or instantaneous readings during a major storm event(s).

### 6.1 Hydraulic Load Projection to the Pump Stations

Pump stations #4, #5, #10, #14 and #19 have been identified as having controllers capable of calculating and recording peak influent flows. Peak influent flows are included in this report except for pump station #4, due to issues with the equipment. The Township has been working with equipment vendors in an effort to utilize this controller feature for the requested purpose.

There were no flow metering devices installed at pumping stations #2, #3, #6, #7, #11, #12, or #15 to indicate present peak hourly or instantaneous flow recordings during major storm events in 2014; therefore, an actual peaking factor ratio of peak flow to annual average flow cannot be determined for each pump station. The peaking factor from the 2010 Wasteload Management Report was used to project the hydraulic loading at each pump station.

The annual flow data for the pumping stations is summarized in Table 6.1-A1 and 6.1-A2 of this Report. Table 6.1-A2 - "King Road Pump Station Capacity Projections" compares the present maximum and projected 2-year maximum flows to the available maximum pumping rate at each station. Please note that the peak instantaneous flow was not available and; therefore, the peaking factor was taken from the previous year's report. Flow projections have been calculated using the Townships standard planning flow rate of 230 gpd/edu. The Townships growth projections have been taken from Table 2.2-A.

As can be seen in Table 6.1-A2 there is no projected overload within the next 5-years. The 2-year projected maximum loading does not present an overload condition either.

A projected overload of Pump Station #11 was identified in past Chapter 94 reports which referenced a Corrective Action Plan that was originally included in the 2004 Chapter 94 report. The CAP described the need for the design and permitting of a new pump station and interceptor along Graterford Road and the decommissioning of Pump Station #11. The Graterford Road Pump Station received PADEP Part 2 Water Quality Management Permits and was accepted by the Township in October 2015.

With the exception of Pump Station #10 where influent flows are under EPA jurisdiction, there are no projected hydraulic overloads at the Township's pump stations based on the calculated peak flows.

#### Table 6.1-A1

King Road Pump Station Flow Data (MGD)

Month	PS#1	PS#2	PS#3	PS#4	PS#5	PS#6	PS #7	PS #10	PS #11	PS#12	PS #13	PS #14	PS #15	PS#16	PS #17	PS #18	PS #19	PS #20
January	0.0524	0.1082	0.2604	0.0170	0.5639	0.9520	0.0266	0.0577	0.0374	0.0308	0.0072	0.0190	0.0074	0.1101	0.1417	0.1025	0.0069	0.0000
February	0.0483	0.0808	0.2727	0.0165	0.5335	0.9062	0.0244	0.0432	0.0339	0.0273	0.0064	0.0177	0.0068	0.1025	0.1310	0.1029	0.0066	0.0000
March	0.0660	0.1067	0.3675	0.0310	0.6709	1.0784	0.0258	0.0653	0.0411	0.0363	0.0071	0.0209	0.0062	0.1224	0.1807	0.0841	0.0088	0.0000
April	0.0468	0.0865	0.2948	0.0157	0.5425	0.9288	0.0231	0.0584	0.0353	0.0271	0.0069	0.0229	0.0057	0.1028	0.1778	0.1075	0.0074	0.0000
May	0.0491	0.0825	0.2684	0.0224	0.5117	0.8251	0.0241	0.0531	0.0340	0.0226	0.0074	0.0245	0.0068	0.1041	0.1179	0.1086	0.0067	0.0000
June	0.0607	0.0723	0.2824	0.0193	0.5346	0.8812	0.0247	0.0477	0.0311	0.0264	0.0073	0.0331	0.0076	0.1047	0.1381	0.0870	0.0069	0.0452
July	0.0619	0.0394	0.2624	0.0172	0.5257	0.8772	0.0257	0.0532	0.0000	0.0267	0.0075	0.0465	0.0073	0.1022	0.1442	0.0990	0.0085	0.0473
August	0.0583	0.0382	0.2329	0.0158	0.4710	0.8387	0.0233	0.0724	0.0000	0.0218	0.0067	0.0433	0.0076	0.0980	0.1332	0.1020	0.0090	0.0372
September	0.0782	0.0337	0.2341	0.0166	0.4927	0.8058	0.0231	0.0611	0.0000	0.0075	0.0075	0.0423	0.0079	0.1154	0.1308	0.1554	0.0069	0.0412
October	0.0760	0.0390	0.2647	0.0134	0.5089	0.9055	0.0259	0.0399	0.0000	0.0274	0.0078	0.0210	0.0078	0.1265	0.1373	0.1125	0.0083	0.0461
November	0.0668	0.2335	0.2335	0.0129	0.4738	0.8568	0.7253	0.2900	0.0000	0.0250	0.0069	0.0187	0.0084	0.1135	0.1350	0.0970	0.0016	0.0480
December	0.0690	0.0430	0.2910	0.0170	0.5270	0.9060	0.0260	0.0380	0.0000	0.0310	0.0077	0.0260	0.0089	0.1290	0.1690	0.1150	0.0080	0.0870
Annual																		
Average	0.0611	0.0803	0.2721	0.0179	0.5297	0.8968	0.0832	0.0733	0.0177	0.0258	0.0072	0.0280	0.0074	0.1109	0.1447	0.1061	0.0071	0.0503
Max Month	0.0782	0.2335	0.3675	0.0310	0.6709	1.0784	0.7253	0.2900	0.0411	0.0363	0.0078	0.0465	0.0089	0.1290	0.1807	0.1554	0.0090	0.0870

Note: Pump Station Data for both the King Road and Possum Hollow Service Areas

### Table 6.1-A2 King Road Pump Station Capacity Projections (MGD)

Pump Station ID	No. of Pumps	Hydraulic Design Capacity (gpm)	Annual Average Permitted Capacity (gpd)	Annual Average Flows (gpd)	Maximum Monthly Flows (gpd)	Peak Instantaneous Flow (gpm)	Peaking Factor	Projected 2-Year EDU Buildout	Projected 5-Year EDU Buildout	GPD/ EDU*	2-Year Projected Annual Average Flow	5-Year Projected Annual Average Flow	2-Year Projected Maximum Flow (gpd)	Projected Overload?
PS #1	2	142	204,480	61,125	78,200		1.53	0	0	230	61,130	61,125	93,376	No
PS #2	2	130	187,200	80,317	233,500		1.55	13	26	230	83,310	86,297	129,339	No
PS #3	2	1,150	1,656,000	272,067	367,500	<u> </u>	1.51	113	209	230	298,060	320,137	451,263	No
PS #4	2	120	172,800	17,900	31,000	1112	2.07	0	0	230	17,900	17,900	37,024	No
PS #5	2	1,900	2,736,000	529,683	670,900	E E	4.08	159	288	230	566,250	595,923	2,309,226	No
PS #6	2	2,225	3,204,000	896,808	1,078,400	-	1.57	138	138	230	928,550	928,548	1,458,102	No
PS #7	2	260	374,400	83,167	725,300	-	1.24	0	0	230	83,170	83,167	103,197	No
PS #10	2	180	259,200	73,333	290,000	139	0.69	2	2	230	73,790	73,793	50,930	No
PS #11	2	90	129,600	17,733	41,100	-	1.57	N/A	N/A	N/A	NA/	N/A	N/A	N/A
PS #12	2	94	135,360	25,825	36,300		1.34	6	7	230	27,210	27,435	36,559	No
PS #13	2	28	39,600	7,200	7,800		1.13	0	0	230	7,200	7,200	8,100	No
PS #14	2	103	148,320	27,992	46,500	76	2.37	0	0	230	27,990	27,992	66,223	No
PS #15	2	33	47,520	7,367	8,900	-	1.24	0	0	230	7,370	7,367	9,157	No
P5 #16	3	1,213	1,746,720	110,933	129,000	•	13.54	5	5	230	112,080	112,083	1,517,615	No
PS #17	3	810	1,166,400	144,725	180,700	203	1.62	336	635	230	222,010	290,775	359,148	No
PS #18	2	510	734,400	106,125	155,400	199	1.84	127	170	230	135,340	145,225	249,193	No
PS #19	2	96	138,240	7,133	9,000	21	3.39	12	12	230	9,890	9,893	33,547	No
PS #20	2	320	460,800	50,286	87,000		5.30	0	50	230	50,290	61,786	266,364	No

\*Planning

Flow Rate: 230

\*Calculated Flow Rate: 121

Note:

Hydraulic Design Capacity does not include the capacity of backup pumps

Pump Station data for both King Road and Possum Hollow Service Areas

Peaking Factors from previous years report

Peak Instantaneous Value taken on 4/20/2015 during strom event of 1.29"

### 7.0 INDUSTRIAL WASTES [§ 94.12.Sec. (a) (8)]

The primary source of wastewater to the treatment plant is residential. The Township is currently not required to implement a Municipal Industrial Pretreatment Program (MIPP); however, the Township must assure that the effluent discharge from the plant is in compliance with the limitations outlined in their NPDES Permit. Rules and Regulations Governing Use of the Sewer System was adopted in 1986 to facilitate maintaining compliance. Amendments made in 1994, 2001, and 2006, enable the Township, as successor to the Municipal Authority, to enforce compliance with the standards set in the Rules, to require all industrial facilities to be permitted and to complete on-site inspections of industrial facilities. A copy of the resolution as amended is provided in Appendix D in this report.

At present time there are no permitted industrial wastewater dischargers in the King Road WWTP service area

There are no significant problems caused at the WWTP due to industrial discharge.

### 8.0 PREVENTION OF OVERLOAD CONDITIONS [§ 94.12.Sec. (a) (9)]

### 8.1 Hydraulics

While there is no projected hydraulic overload of the Township's sewage facilities based on the calculations provided, there is evidence that a possible overload condition could exist at Pump Stations #10 and #11. As previously discussed, the occurrence of the lag pump coming online in conjunction with the lead pump may indicate a possible overload condition at the pump station. Pump Station #10 overloading is a result of high inflow from the Ridge View Terrace Mobile Home Park along Ridge Pike. Ridge View Terrace is currently under mandate from US EPA to eliminate I&I. Pump Station #11 is proposed to be replaced by developers with anticipated completion in May 2015.

The WWTP receives increased influent volume during wet weather, which is an indication of I&I into the sewage collection system. Potential sources for this I&I include leaks in sewer joints and manholes; failed house connections; direct inflow into low manholes; root intrusion; illegal connections from building sump pumps; and possibly storm drains connected to the collection system.

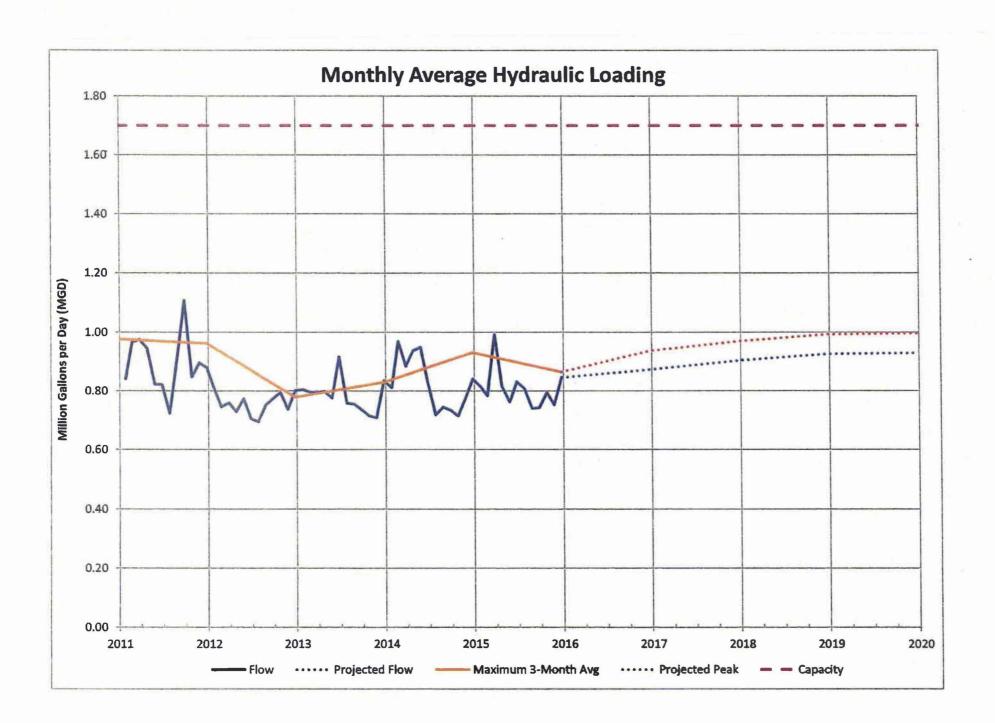
Based on the Township's extensive flow monitoring and televising efforts, it is believed that a majority of the I&I comes from faulty laterals and illegal sump pump connections. The Township is currently looking into modifying their ordinances and developing a plan to assess and have these problems corrected.

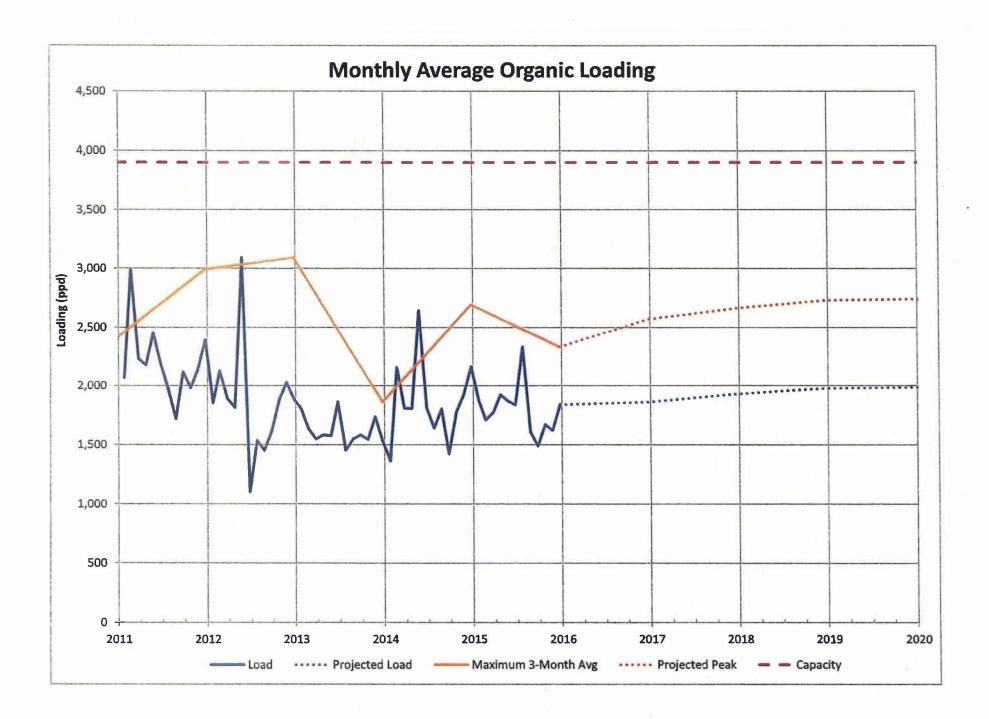
#### 8.2 Organics

There is no current or projected organic overloads, therefore no action is required at this time.

### APPENDIX A

Hydraulic and Organic Loading





### APPENDIX B

Wastewater Facilities Map and Year 2015 Connections

### APPENDIX C

Attachment 1	NPDES Permit
Attachment 2	Pump Station Flow Schematic Diagram
Attachment 3	Meter Calibration Records
Attachment 4	Township Industrial Discharge Resolution
Attachment 5	Inter-Municipal Sewer Agreement
Attachment 6	Sewer and Plumbing Ordinances
Attachment 7	Lateral Inspection Procedures

### NPDES Permit



February 9, 2015

### CERTIFIED MAIL NO. 7007 3020 0002 8265 3762

Daniel Kerr Limerick Township Montgomery County 646 West Ridge Pike Limerick, PA 19468

Re: Final NPDES Permit - Sewage

Limerick Township King Rd Sewer System & STP

NPDES Permit No. PA0051934 Authorization ID No. 997020

Limerick Township, Montgomery County

Dear Mr. Kerr:

Your NPDES permit is enclosed. Please read the permit carefully. The permit expires on the date identified on page 1 of the permit. A renewal application must be submitted to this office 180 days prior to the permit expiration date, if a discharge is expected to continue past the expiration date of the permit.

Enclosed are Discharge Monitoring Report (DMR) templates and DMR instructions. It is recommended that you retain the DMR templates in the event you are unable to submit DMRs electronically through DEP's eDMR system. Routine use of the eDMR system is a requirement of the permit unless the conditions in Part A III.B of the permit are met to withdraw from the eDMR system.

Also enclosed is a Supplemental Form Inventory, which identifies the forms that are attached to the permit and must be submitted as attachments to eDMR reports, as applicable (see individual form instructions). The submission of other supplemental forms may be required in accordance with the permit. We encourage you to use the spreadsheet versions of supplemental forms that contain appropriate validation and DEP-approved calculations.

Part C of the permit contains requirements relating to Whole Effluent Toxicity (WET) testing. These requirements have changed in comparison to previous permits. Please review the WET requirements carefully and contact this office if you have questions. Additional information may be found on DEP's website at <a href="www.depweb.state.pa.us/wett">www.depweb.state.pa.us/wett</a>.

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 contact Laurel Ateyeh at 484.250.5198.

Sincerely,

Jenifer L. Fields, P.E.

Environmental Program Manager

Clean Water Program

#### Enclosures

cc:

U. S. Environmental Protection Agency

MCHD (w/o enc.)

Operations Section

Mr. O'Neil

Mr. Salkowski – Plant Superintendent

Mr. Campbell - Pennoni Associates, Inc.

DRBC

Ms. Lashley (w/o enc.)

Central Office, Division of Operations, Monitoring and Data Systems

File

Re

### COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT



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

NPDES PERMIT NO: PA0051934

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.*,

Limerick Township 646 West Ridge Pike Limerick, PA 19468

is authorized to discharge from a facility known as **King Rd STP**, located in **Limerick Township**, **Montgomery County**, to **Schuylkill River** in Watershed(s) **3-D** 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	MARCH 1, 2015
THIS PERMIT SHALL EXPIRE AT MIDNIGHT ON	FEBRUARY 29, 2020

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. (40 CFR 122.41(a))
- 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. (40 CFR 122.41(b), 122.21(d))

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. (25 Pa. Code 92a.7(b), (c))

4.	This NPDES permit does not cons	titute authorization to construct or m	ake modification	is to wastewater treatment
	facilities necessary to meet the terr	ms and conditions of this permit.	C (	10.00

DATE PERMIT ISSUED

February 9, 2015

ISSUED BY

Jenifer L. Fields, P.E. Clean Water Program Manager Southeast Regional Office

### PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

l. A.	For Outfall 002	, Latitude 40° 11′ 32" , Longitude 75° 32′ 59" , River Mile Index 42.75 , Stream Code 00833	- 1
	Receiving Waters:	Schuylkill River	
	Type of Effluent:	Treated sewage from King Road STP	

2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

	Effluent Limitations						Monitoring Requirement	
Parameter	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2)	Required
Farameter	Average Monthly	Weekly Average	Instant. Minimum	Average Monthly	Weekly Average	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report Daily Max	xxx	XXX	xxx	xxx	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	xxx	XXX	5.0	xxx	XXX	XXX	1/day	Grab
CBOD5	284	425	XXX	20	30	40	1/week	24-Hr Composite
CBOD5 Raw Sewage Influent	XXX	XXX	XXX	Report	xxx	xxx	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	XXX	xxx	Report	xxx	xxx	1/week	24-Hr Composite
Total Suspended Solids	425	638	xxx	30	45	60	1/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	xxx	XXX	xxx	Report	xxx	xxx	1/week	24-Hr Composite
Total Dissolved Solids	XXX	xxx	XXX	1,000	xxx	2,500	1/quarter	24-Hr Composite

<sup>1.</sup> The permittee is authorized to discharge during the period from March 1, 2015 through February 29, 2020.

### Outfall 002, Continued (from March 1, 2015 through February 29, 2020)

	Effluent Limitations						Monitoring Requirements	
Parameter	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2)	Required
ratameter	Average Monthly	Weekly Average	Instant. Minimum	Average Monthly	Weekly Average	Instant. Maximum	Measurement Frequency	Sample Type
Fecal Coliform (No./100 ml)				200				
May 1 - Sep 30	XXX	XXX	XXX	Geo Mean	XXX	1,000*	1/week	Grab
Fecal Coliform (No./100 ml)				200		8		
Oct 1 – Apr 30	XXX	XXX	XXX	Geo Mean	XXX	1,000*	1/week	Grab
UV Transmittance (%)	XXX	XXX	Report Min	XXX	xxx	XXX	1/day	Metered
							W	24-Нг
Total Nitrogen	Report	XXX	XXX	Report	XXX	Report	1/week	Composite
	1							24-Нг
Ammonia-Nitrogen	114	XXX	XXX	8	XXX	16	1/week	Composite
Total Phosphorus	Report	XXX	XXX	Report	XXX	Report	1/week	24-Hr Composite
Total Copper	xxx	Report Daily Max	XXX	XXX	Report Daily Max	xxx	1/quarter	24-Hr Composite
Total Zinc	xxx	Report Daily Max	xxx	xxx	Report Daily Max	xxx	1/quarter	24-Hr Composite
PCBs (Dry Weather) (pg/L)	XXX	XXX	xxx	XXX	Report Daily Max	XXX	1/year	24-Hr Composite
PCBs (Wet Weather) (pg/L)	xxx	XXX	XXX	XXX	Report Daily Max	XXX	1/year	24-Hr Composite

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 002 \*Not to exceed 1,000/100 ml as an instantaneous maximum from May 1<sup>st</sup> through September 30<sup>th</sup>. Not to exceed 1,000/100 ml in greater than 10 percent of the samples tested from October 1<sup>st</sup> through April 30<sup>th</sup>. See Part C.I. Other Requirement E.

#### PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. B. For Outfall Latitude Longitude River Mile Index 40° 11' 28" 75° 32' 52" Stream Code 00833 River Mile Index For Outfall 004 Latitude Longitude Stream Code 40° 11' 32" 75° 32' 54" For Outfall 005 Longitude **River Mile Index** 42.75 Latitude Stream Code 40° 11' 35" 75° 32' 56" 00833 **Receiving Waters:** Schuylkill River

Type of Effluent:

Site stormwater

1. The permittee is authorized to discharge during the period from March 1, 2015 through February 29, 2020.

2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

			Effluent L	imitations			Monitoring Red	quirements	
Parameter  pH (S.U.)  CBOD5  Chemical Oxygen Demand  Total Suspended Solids	Mass Units	(lbs/day) <sup>(1)</sup>		Concentrati	Minimum (2)	Required			
raiametei	Average Monthly		Minimum	Average Monthly		Instant. Maximum	Measurement Frequency	Sample Type	
pH (S.U.)	xxx	XXX	xxx	xxx	XXX	Report	1/year	Grab	
CBOD5	XXX	XXX	XXX	xxx	XXX	Report	1/year	Grab	
Chemical Oxygen Demand	XXX	XXX	xxx	xxx	XXX	Report	1/year	Grab	
Total Suspended Solids	xxx	XXX	xxx	xxx	XXX	Report	1/year	Grab	
Oil and Grease	XXX	XXX	XXX	xxx	XXX	Report	1/year	Grab	
Fecal Coliform (No./100 ml)	xxx	XXX	XXX	xxx	XXX	Report	1/year	Grab	
Total Kjeldahl Nitrogen	XXX	XXX	xxx	xxx	XXX	Report	1/year	Grab	
Total Phosphorus	xxx	XXX	xxx	xxx	·xxx	Report	1/year	Grab	
Dissolved Iron	xxx	XXX	XXX	xxx	XXX	Report	1/year	Grab	

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 003. Sampling is not required at Outfalls 004 and 005.

## PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS (Continued)

#### Additional Requirements

- The permittee may not discharge:
  - a. Floating solids, scum, sheen or substances that result in observed deposits in the receiving water. (25 Pa Code 92a.41(c))
  - b. Oil and grease in amounts that cause a film or sheen upon or discoloration of the waters of this Commonwealth or adjoining shoreline, or that exceed 15 mg/l as a daily average or 30 mg/l at any time (or lesser amounts if specified in this permit). (25 Pa. Code 92a.47(a)(7) and 95.2(2))
  - c. Substances in concentration or amounts sufficient to be inimical or harmful to the water uses to be protected or to human, animal, plant or aquatic life. (25 Pa Code 93.6(a))
  - d. Foam or substances that produce an observed change in the color, taste, odor or turbidity of the receiving water, unless those conditions are otherwise controlled through effluent limitations or other requirements in this permit. (25 Pa Code 92a.41(c))
- 2. The monthly average percent removal of BOD<sub>5</sub> or CBOD<sub>5</sub> and TSS must be at least 85% for POTW facilities on a concentration basis except where 25 Pa. Code 92a.47(g) and (h) are applicable to facilities with combined sewer overflows (CSOs) or as otherwise specified in this permit. (25 Pa. Code 92a.47(a)(3))
- 3. If the permit requires the reporting of average weekly statistical results, the maximum weekly average concentration and maximum weekly average mass loading shall be reported, regardless of whether the results are obtained for the same or different weeks.
- 4. The permittee shall monitor the sewage effluent discharge(s) for the effluent parameters identified in the Part A limitations table(s) during all bypass events at the facility, using the sample types that are specified in the limitations table(s). Where the required sample type is "composite", the permittee must commence sample collection within one hour of the start of the bypass, wherever possible. The results shall be reported on the Daily Effluent Monitoring supplemental form (3800-FM-BPNPSM0435) and be incorporated into the calculations used to report self-monitoring data on Discharge Monitoring Reports (DMRs).

#### **Footnotes**

- (1) When sampling to determine compliance with mass effluent limitations, the discharge flow at the time of sampling must be measured and recorded.
- (2) This is the minimum number of sampling events required. Permittees are encouraged, and it may be advantageous in demonstrating compliance, to perform more than the minimum number of sampling events.

#### Supplemental Information

- (1) The hydraulic design capacity of 1.7 million gallons per day for the treatment facility is used to prepare the annual Municipal Wasteload Management Report to help determine whether a "hydraulic overload" situation exists, as defined in Title 25 Pa. Code Chapter 94.
- (2) The effluent limitations for Outfall 002 were determined using an effluent discharge rate of 1.7 MGD.
- (3) The organic design capacity of 3900 lbs BOD₅ per day for the treatment facility is used to prepare the annual Municipal Wasteload Management Report to determine whether an "organic overload" condition exists, as defined in 25 Pa. Code Chapter 94.
- (4) Total Nitrogen is the sum of Total Kjeldahl-N (TKN) plus Nitrite-Nitrate as N (NO<sub>2</sub>+NO<sub>3</sub>-N), where TKN and NO<sub>2</sub>+NO<sub>3</sub>-N are measured in the same sample.

#### II. DEFINITIONS

At Outfall (XXX) means a sampling location in outfall line XXX below the last point at which wastes are added to outfall line (XXX), or where otherwise specified.

Average refers to the use of an arithmetic mean, unless otherwise specified in this permit. (40 CFR 122.41(I)(4)(iii))

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce the pollutant loading to surface waters of the Commonwealth. The term also includes treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. The term includes activities, facilities, measures, planning or procedures used to minimize accelerated erosion and sedimentation and manage stormwater to protect, maintain, reclaim, and restore the quality of waters and the existing and designated uses of waters within this Commonwealth before, during and after earth disturbance activities. (25 Pa. Code 92a.2)

Bypass means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR 122.41(m)(1)(i))

Calendar Week is defined as the seven consecutive days from Sunday through Saturday, unless the permittee has been given permission by DEP to provide weekly data as Monday through Friday based on showing excellent performance of the facility and a history of compliance. In cases when the week falls in two separate months, the month with the most days in that week shall be the month for reporting.

Clean Water Act means the Federal Water Pollution Control Act, as amended (33 U.S.C.A. §§1251 to 1387).

Composite Sample (for all except GC/MS volatile organic analysis) means a combination of individual samples (at least eight for a 24-hour period or four for an 8-hour period) of at least 100 milliliters (mL) each obtained at spaced time intervals during the compositing period. The composite must be flow-proportional; either the volume of each individual sample is proportional to discharge flow rates, or the sampling interval is proportional to the flow rates over the time period used to produce the composite. (EPA Form 2C)

Composite Sample (for GC/MS volatile organic analysis) consists of at least four aliquots or grab samples collected during the sampling event (not necessarily flow proportioned). The samples must be combined in the laboratory immediately before analysis and then one analysis is performed. (EPA Form 2C)

Daily Average Temperature means the average of all temperature measurements made, or the mean value plot of the record of a continuous automated temperature recording instrument, either during a calendar day or during the operating day if flows are of a shorter duration.

Daily Discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day. (25 Pa. Code 92a.2. 40 CFR 122.2)

Daily Maximum Discharge Limitation means the highest allowable "daily discharge."

Discharge Monitoring Report (DMR) means the DEP or EPA supplied form(s) for the reporting of self-monitoring results by the permittee. (25 Pa. Code 92a.2 and 40 CFR 122.2)

Estimated Flow means any method of liquid volume measurement based on a technical evaluation of the sources contributing to the discharge including, but not limited to, pump capabilities, water meters and batch discharge volumes.

Geometric Mean means the average of a set of n sample results given by the nth root of their product.

Grab Sample means an individual sample of at least 100 mL collected at a randomly selected time over a period not to exceed 15 minutes. (EPA Form 2C)

Hauled-In Wastes means any waste that is introduced into a treatment facility through any method other than a direct connection to the sewage collection system. The term includes wastes transported to and disposed of within the treatment facility or other entry points within the collection system.

Hazardous Substance means any substance designated under 40 CFR Part 116 pursuant to Section 311 of the Clean Water Act. (40 CFR 122.2)

Immersion Stabilization (i-s) means a calibrated device is immersed in the wastewater until the reading is stabilized.

Indirect Discharger means a non-domestic discharger introducing pollutants to a Publicly Owned Treatment Works (POTW) or other treatment works. (25 Pa. Code 92a,2 and 40 CFR 122.2)

Industrial User means a source of Indirect Discharge. (40 CFR 403.3)

Instantaneous Maximum Effluent Limitation means the highest allowable discharge of a concentration or mass of a substance at any one time as measured by a grab sample. (25 Pa. Code 92a.2)

Measured Flow means any method of liquid volume measurement, the accuracy of which has been previously demonstrated in engineering practice, or for which a relationship to absolute volume has been obtained.

Monthly Average Discharge Limitation means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month. (25 Pa. Code 92a.2)

Municipality means a city, town, borough, county, township, school district, institution, authority or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes. (25 Pa. Code 92a.2)

Municipal Waste Garbage, refuse, industrial lunchroom or office waste and other material, including solid, liquid, semisolid or contained gaseous material resulting from operation of residential, municipal, commercial or institutional establishments and from community activities; and sludge not meeting the definition of residual or hazardous waste under this section from a municipal, commercial or institutional water supply treatment plant, waste water treatment plant or air pollution control facility. (25 Pa. Code 271.1)

Publicly Owned Treatment Works (POTW) means a treatment works as defined by §212 of the Clean Water Act, owned by a state or municipality. The term includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. The term also includes sewers, pipes or other conveyances if they convey wastewater to a POTW providing treatment. The term also means the municipality as defined in section 502(4) of the Clean Water Act, which has jurisdiction over the indirect discharges to and the discharges from such a treatment works. (25 Pa Code 92a.2 and 40 CFR 122.2)

Residual Waste Garbage, refuse, other discarded material or other waste, including solid, liquid, semisolid or contained gaseous materials resulting from industrial, mining and agricultural operations and sludge from an industrial, mining or agricultural water supply treatment facility, wastewater treatment facility or air pollution control facility, if it is not hazardous. The term does not include coal refuse as defined in the Coal Refuse Disposal Control Act. The term does not include treatment sludges from coal mine drainage treatment plants, disposal of which is being carried on under and in compliance with a valid permit issued under the Clean Streams Law. (25 Pa Code 287.1)

Severe Property Damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR 122.41(m)(1)(ii))

Stormwater means the runoff from precipitation, snow melt runoff, and surface runoff and drainage. (25 Pa. Code 92a.2)

Stormwater Associated With Industrial Activity means the discharge from any conveyance that is used for collecting and conveying stormwater and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant, and as defined at 40 CFR §122.26(b)(14)(i) – (ix) and (xi) and 25 Pa. Code 92a.2.

Toxic Pollutant means those pollutants, or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains may, on the basis of information available to DEP cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions, including malfunctions in reproduction, or physical deformations in these organisms or their offspring. (25 Pa. Code 92a.2)

Weekly Average Discharge Limitation means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week.

#### III. SELF-MONITORING, REPORTING AND RECORDKEEPING

#### A. Representative Sampling

Samples and measurements taken for the purpose of monitoring shall be representative of the
monitored activity (40 CFR 122.41(j)(1)). Representative sampling includes the collection of samples,
where possible, during periods of adverse weather, changes in treatment plant performance and
changes in treatment plant loading. If possible, effluent samples must be collected where the effluent
is well mixed near the center of the discharge conveyance and at the approximate mid-depth point,
where the turbulence is at a maximum and the settlement of solids is minimized. (40 CFR 122.48 and
25 Pa. Code § 92a.61)

#### 2. Records Retention (40 CFR 122.41(i)(2))

Except for records of monitoring information required by this permit related to the permittee's sludge use and disposal activities which shall be retained for a period of at least 5 years, all records of monitoring activities and results (including all original strip chart recordings for continuous monitoring instrumentation and calibration and maintenance records), copies of all reports required by this permit, and records of all data used to complete the application for this permit shall be retained by the permittee for 3 years from the date of the sample measurement, report or application, unless a longer retention period is required by the permit. The 3-year period shall be extended as requested by DEP or the EPA Regional Administrator.

#### 3. Recording of Results (40 CFR 122.41(j)(3))

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- a. The exact place, date and time of sampling or measurements.
- b. The person(s) who performed the sampling or measurements.
- The date(s) the analyses were performed.
- d. The person(s) who performed the analyses.
- e. The analytical techniques or methods used; and the associated detection level.
- f. The results of such analyses.

#### 4. Test Procedures (40 CFR 122.41(j)(4))

Facilities that test or analyze environmental samples used to demonstrate compliance with this permit shall be in compliance with laboratory accreditation requirements of Act 90 of 2002 (27 Pa. C.S. §§4101-4113) and 25 Pa. Code Chapter 252, relating to environmental laboratory accreditation. Unless otherwise specified in this permit, the test procedures for the analysis of pollutants shall be those approved under 40 CFR Part 136 (or in the case of sludge use or disposal, approved under 40 CFR Part 136, unless otherwise specified in 40 CFR Part 503 or Subpart J of 25 Pa. Code Chapter 271), or alternate test procedures approved pursuant to those parts, unless other test procedures have been specified in this permit.

#### 5. Quality/Assurance/Control

In an effort to assure accurate self-monitoring analyses results:

- a. The permittee, or its designated laboratory, shall participate in the periodic scheduled quality assurance inspections conducted by DEP and EPA. (40 CFR 122.41(e), 122.41(i)(3))
- b. The permittee, or its designated laboratory, shall develop and implement a program to assure the quality and accurateness of the analyses performed to satisfy the requirements of this permit, in accordance with 40 CFR Part 136. (40 CFR 122.41(j)(4))

#### B. Reporting of Monitoring Results

- 1. The permittee shall effectively monitor the operation and efficiency of all wastewater treatment and control facilities, and the quantity and quality of the discharge(s) as specified in this permit. (40 CFR 122.44(e), 122.44(i)(1))
- Discharge Monitoring Reports (DMRs) must be completed in accordance with DEP's published DMR Instructions (3800-FM-BPNPSM0463). DMRs are based on calendar reporting periods unless Part C of this permit requires otherwise. DMR(s) must be received by the agency(ies) specified in paragraph 3 below in accordance with the following schedule:
  - Monthly DMRs must be received within 28 days following the end of each calendar month.
  - Quarterly DMRs must be received within 28 days following the end of each calendar quarter, i.e.,
     January 28, April 28, July 28, and October 28.
  - Semiannual DMRs must be received within 28 days following the end of each calendar semiannual period, i.e., January 28 and July 28.
  - Annual DMRs must be received by January 28, unless Part C of this permit requires otherwise.
- 3. The permittee shall complete all Supplemental Reporting forms (Supplemental DMRs) provided by DEP in this permit (or an approved equivalent), and submit the signed, completed forms as an attachment to the DMR(s). If the permittee elects to use DEP's electronic DMR (eDMR) system, one electronic submission may be made for DMRs and Supplemental DMRs. If paper forms are used, the completed forms shall be mailed to:

Department of Environmental Protection Clean Water Program 2 East Main Street Norristown, PA 19401

NPDES Enforcement Branch (3WP42) Office of Permits & Enforcement Water Protection Division U.S. EPA - Region III 1650 Arch Street Philadelphia, PA 19103-2029

- 4. If the permittee elects to begin using DEP's eDMR system to submit DMRs required by the permit, the permittee shall, to assure continuity of business operations, continue using the eDMR system to submit all DMRs and Supplemental Reports required by the permit, unless the following steps are completed to discontinue use of eDMR:
  - a. The permittee shall submit written notification to the regional office that issued the permit that it intends to discontinue use of eDMR. The notification shall be signed by a principal executive officer or authorized agent of the permittee.
  - b. The permittee shall continue using eDMR until the permittee receives written notification from DEP's Central Office that the facility has been removed from the eDMR system, and electronic report submissions are no longer expected.
- 5. The completed DMR Form shall be signed and certified by either of the following applicable persons, as defined in 25 Pa. Code § 92a.22;
  - For a corporation by a principal executive officer of at least the level of vice president, or an authorized representative, if the representative is responsible for the overall operation of the facility from which the discharge described in the NPDES form originates.

- For a partnership or sole proprietorship by a general partner or the proprietor, respectively.
- For a municipality, state, federal or other public agency by a principal executive officer or ranking elected official.

If signed by a person other than the above, written notification of delegation of DMR signatory authority must be submitted to DEP in advance of or along with the relevant DMR form. (40 CFR 122.22(b))

6. If the permittee monitors any pollutant at monitoring points as designated by this permit, using analytical methods described in Part A III.A.4. herein, more frequently than the permit requires, the results of this monitoring shall be incorporated, as appropriate, into the calculations used to report self-monitoring data on the DMR. (40 CFR 122.41(I)(4)(ii))

#### C. Reporting and Notification Requirements

 Planned Changes to Physical Facilities – The permittee shall give notice to DEP as soon as possible but no later than 30 days prior to planned physical alterations or additions to the permitted facility. A permit under 25 Pa. Code Chapter 91 may be required for these situations prior to implementing the planned changes. A permit application, or other written submission to DEP, can be used to satisfy the notification requirements of this section.

Notice is required when:

- a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b). (40 CFR 122.41(I)(1)(i))
- b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are not subject to effluent limitations in this permit. (40 CFR 122.41(I)(1)(ii))
- c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 CFR 122.41(I)(1)(iiii))
- d. The planned change may result in noncompliance with permit requirements. (40 CFR 122.41(l)(2))
- 2. Planned Changes to Waste Stream Under the authority of 25 Pa. Code 92a.24(a) and 40 CFR 122.42(b), the permittee shall provide notice to DEP and EPA as soon as possible but no later than 45 days prior to any planned changes in the volume or pollutant concentration of its influent waste stream as a result of indirect discharges or hauled-in wastes, as specified in paragraphs 2.a. and 2.b., below. Notice shall be provided on the "Planned Changes to Waste Stream" Supplemental Report (3800-FM-BPNPSM0482), available on DEP's website. The permittee shall provide information on the quality and quantity of waste introduced into the POTW, and any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW (40 CFR 122.42(b)(3)). The Report shall be sent via Certified Mail or other means to confirm DEP's receipt of the notification. DEP will determine if the submission of a new application and receipt of a new or amended permit is required.
  - a. Introduction of New Pollutants (25 Pa. Code 92a.24(a), 40 CFR 122.42(b)(1))

New pollutants are defined as parameters that meet one or more of the following criteria:

(i) Any pollutants that were not detected in the facilities' influent waste stream as reported in the permit application; and have not been approved to be included in the permittee's influent waste stream by DEP in writing.

(ii) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to Sections 301 or 306 of the Clean Water Act if it were directly discharging those pollutants (40 CFR 122.42(b)(1)).

The permittee shall provide notification of the introduction of new pollutants in accordance with paragraph 2 above. The permittee may not authorize the introduction of new pollutants until the permittee receives DEP's written approval.

b. Increased Loading of Approved Pollutants (25 Pa. Code 92a.24(a), 40 CFR 122.42(b)(2))

Approved pollutants are defined as parameters that meet one or more of the following criteria:

- (i) Were detected in the facilities' influent waste stream as reported in the permittee's permit application; or have been previously approved to be included in the permittee's influent waste stream by DEP in writing.
- (ii) Have an effluent limitation or monitoring requirement in this permit.

The permittee shall provide notification of the introduction of increased influent loading (lbs/day) of approved pollutants in accordance with paragraph 2 above when (1) the cumulative increase in influent loading (lbs/day) exceeds 20% of the maximum loading reported in the permit application, or a loading previously approved by DEP and/or EPA, or (2) may cause an exceedance in the effluent of Effluent Limitation Guidelines (ELGs) or limitations in Part A of this permit, or (3) may cause interference or pass through at the POTW, or (4) may cause exceedances of the applicable water quality standards in the receiving stream. Unless specified otherwise in this permit, if DEP does not respond to the notification within 30 days of its receipt, the permittee may proceed with the increase in loading. The acceptance of increased loading of approved pollutants may not result in an exceedance of ELGs or effluent limitations, may not result in a hydraulic or organic overload condition as defined in 25 Pa. Code 94.1, and may not cause exceedances of the applicable water quality standards in the receiving stream.

#### 3. Reporting Requirements for Hauled-In Wastes

- a. Receipt of Residual Waste
  - (i) The permittee shall document the receipt of all hauled-in residual wastes (including but not limited to wastewater from oil and gas wells, food processing waste, and landfill leachate), as defined at 25 Pa. Code § 287.1, that are received for processing at the treatment facility. The permittee shall report hauled-in residual wastes on a monthly basis to DEP on the "Hauled In Residual Wastes" Supplemental Report (3800-FM-BPNPSM0450) as an attachment to the DMR. If no residual wastes were received during a month, submission of the Supplemental Report is not required.

The following information is required by the Supplemental Report. The information used to develop the Report shall be retained by the permittee for five years from the date of receipt and must be made available to DEP or EPA upon request.

- (1) The dates that residual wastes were received.
- (2) The volume (gallons) of wastes received.
- (3) The license plate number of the vehicle transporting the waste to the treatment facility.
- (4) The permit number(s) of the well(s) where residual wastes were generated, if applicable.
- (5) The name and address of the generator of the residual wastes.
- (6) The type of wastewater.

The transporter of residual waste must maintain these and other records as part of the daily operational record (25 Pa. Code § 299.219). If the transporter is unable to provide this information or the permittee has not otherwise received the information from the generator, the residual wastes shall not be accepted by the permittee until such time as the permittee receives such information from the transporter or generator.

- (ii) The following conditions apply to the characterization of residual wastes received by the permittee:
  - (1) If the generator is required to complete a chemical analysis of residual wastes in accordance with 25 Pa. Code § 287.51, the permittee must receive and maintain on file a chemical analysis of the residual wastes it receives. The chemical analysis must conform to the Bureau of Waste Management's Form 26R except as noted in paragraph (2), below. Each load of residual waste received must be covered by a chemical analysis if the generator is required to complete it.
  - (2) For wastewater generated from hydraulic fracturing operations ("frac wastewater") within the first 30 production days of a well site, the chemical analysis may be a general frac wastewater characterization approved by DEP. Thereafter, the chemical analysis must be waste-specific and be reported on the Form 26R.

#### b. Receipt of Municipal Waste

(i) The permittee shall document the receipt of all hauled-in municipal wastes (including but not limited to septage and liquid sewage sludge), as defined at 25 Pa. Code § 271.1, that are received for processing at the treatment facility. The permittee shall report hauled-in municipal wastes on a monthly basis to DEP on the "Hauled In Municipal Wastes" Supplemental Report (3800-FM-BPNPSM0437) as an attachment to the DMR. If no municipal wastes were received during a month, submission of the Supplemental Report is not required.

The following information is required by the Supplemental Report:

- (1) The dates that municipal wastes were received.
- (2) The volume (gallons) of wastes received.
- (3) The BOD<sub>5</sub> concentration (mg/l) and load (lbs) for the wastes received.
- (4) The location(s) where wastes were disposed of within the treatment facility.
- (ii) Sampling and analysis of hauled-in municipal wastes must be completed to characterize the organic strength of the wastes, unless composite sampling of influent wastewater is performed at a location downstream of the point of entry for the wastes. The influent BOD₅ characterization for the treatment facility, as reported in the annual Municipal Wasteload Management Report per 25 Pa. Code Chapter 94, must be representative of the hauled-in municipal wastes received.

- 4. Unanticipated Noncompliance or Potential Pollution Reporting
  - a. Immediate Reporting The permittee shall immediately report any incident causing or threatening pollution in accordance with the requirements of 25 Pa. Code Sections 91.33 and 92a.41(b).
    - (i) If, because of an accident, other activity or incident a toxic substance or another substance which would endanger users downstream from the discharge, or would otherwise result in pollution or create a danger of pollution or would damage property, the permittee shall immediately notify DEP by telephone of the location and nature of the danger. Oral notification to the Department is required as soon as possible, but no later than 4 hours after the permittee becomes aware of the incident causing or threatening pollution.
    - (ii) If reasonably possible to do so, the permittee shall immediately notify downstream users of the waters of the Commonwealth to which the substance was discharged. Such notice shall include the location and nature of the danger.
    - (iii) The permittee shall immediately take or cause to be taken steps necessary to prevent injury to property and downstream users of the waters from pollution or a danger of pollution and, in addition, within 15 days from the incident, shall remove the residual substances contained thereon or therein from the ground and from the affected waters of this Commonwealth to the extent required by applicable law.
  - b. The permittee shall report any noncompliance which may endanger health or the environment in accordance with the requirements of 40 CFR 122.41(I)(6). These requirements include the following obligations:
    - (i) 24 Hour Reporting The permittee shall orally report any noncompliance with this permit which may endanger health or the environment within 24 hours from the time the permittee becomes aware of the circumstances. The following shall be included as information which must be reported within 24 hours under this paragraph (40 CFR 122.41(l)(6)(ii)):
      - (1) Any unanticipated bypass which exceeds any effluent limitation in the permit;
      - (2) Any upset which exceeds any effluent limitation in the permit; and
      - (3) Violation of the maximum daily discharge limitation for any of the pollutants listed in the permit as being subject to the 24-hour reporting requirement.
    - (ii) Written Report A written submission shall also be provided within 5 days of the time the permittee becomes aware of any noncompliance which may endanger health or the environment. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
    - (iii) Waiver of Written Report DEP may waive the written report on a case-by-case basis if the associated oral report has been received within 24 hours from the time the permittee becomes aware of the circumstances which may endanger health or the environment. Unless such a waiver is expressly granted by DEP, the permittee shall submit a written report in accordance with this paragraph. (40 CFR 122.41(I)(6)(iii))

#### 5. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under paragraph C.4 of this section or specific requirements of compliance schedules, at the time DMRs are submitted, on the Non-Compliance Reporting Form (3800-FM-BPNPSM0440). The reports shall contain the information listed in paragraph C.4.b.(ii) of this section. (40 CFR 122.41(I)(7))

#### PART B

#### I. MANAGEMENT REQUIREMENTS

#### A. Compliance Schedules (25 Pa. Code 92a.51, 40 CFR 122.47(a))

- 1. The permittee shall achieve compliance with the terms and conditions of this permit within the time frames specified in this permit.
- 2. The permittee shall submit reports of compliance or noncompliance, or progress reports as applicable, for any interim and final requirements contained in this permit. Such reports shall be submitted no later than 14 days following the applicable schedule date or compliance deadline. (40 CFR 122.47(a)(4))
- B. Permit Modification, Termination, or Revocation and Reissuance
  - 1. This permit may be modified, terminated, or revoked and reissued during its term in accordance with 25 Pa. Code 92a.72 and 40 CFR 122.41(f).
  - 2. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition. (40 CFR 122.41(f))
  - 3. In the absence of DEP action to modify or revoke and reissue this permit, the permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time specified in the regulations that establish those standards or prohibitions. (40 CFR 122.41(a)(1))

#### C. Duty to Provide Information

- 1. The permittee shall furnish to DEP, within a reasonable time, any information which DEP may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. (40 CFR 122.41(h))
- 2. The permittee shall furnish to DEP, upon request, copies of records required to be kept by this permit. (40 CFR 122.41(h))
- 3. Other Information Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to DEP, it shall promptly submit the correct and complete facts or information. (40 CFR 122.41(I)(8))
- 4. The permittee shall provide the following information in the annual Municipal Wasteload Management Report, required under the provisions of Title 25 Pa. Code Chapter 94:
  - a. The requirements identified in 25 Pa. Code 94.12.
  - b. The identity of any indirect discharger(s) served by the POTW which are subject to pretreatment standards adopted under Section 307(b) of the Clean Water Act; the POTW shall also specify the total volume of discharge and estimated concentration of each pollutant discharged into the POTW by the indirect discharger.
  - c. A "Solids Management Inventory" if specified in Part C of this permit.
  - d. The total volume of hauled-in residual and municipal wastes received during the year, by source.
  - e. The Annual Report requirements for permittees required to implement an industrial pretreatment program listed in Part C, as applicable.

#### D. General Pretreatment Requirements

- 1. Any POTW (or combination of POTWs operated by the same authority) with a total design flow greater than 5 million gallons per day (MGD) and receiving from industrial users pollutants which pass through or interfere with the operation of the POTW or are otherwise subject to Pretreatment Standards will be required to establish a POTW Pretreatment Program unless specifically exempted by the Approval Authority. A POTW with a design flow of 5 MGD or less may be required to develop a POTW Pretreatment Program if the Approval Authority finds that the nature or volume of the industrial influent, treatment process upsets, violations of effluent limitations, contamination of sludge, or other circumstances warrant in order to prevent interference or pass through. (40 CFR 403.8)
- 2. Each POTW with an approved Pretreatment Program pursuant to 40 CFR 403.8 shall develop and enforce specific limits to implement the prohibitions listed in 40 CFR 403.5(a)(1) and (b), and shall continue to develop these limits as necessary and effectively enforce such limits. This condition applies, for example, when there are planned changes to the waste stream as identified in Part A III.C.2. If the permittee is required to develop or continue implementation of a Pretreatment Program, detailed requirements will be contained in Part C of this permit.
- 3. For all POTWs, where pollutants contributed by indirect dischargers result in interference or pass through, and a violation is likely to recur, the permittee shall develop and enforce specific limits for indirect dischargers and other users, as appropriate, that together with appropriate facility or operational changes, are necessary to ensure renewed or continued compliance with this permit or sludge use or disposal practices. Where POTWs do not have an approved Pretreatment Program, the permittee shall submit a copy of such limits to DEP when developed. (25 Pa. Code 92a.47(d))

#### E. Proper Operation and Maintenance

- 1. The permittee shall employ operators certified in compliance with the Water and Wastewater Systems Operators Certification Act (63 P.S. §§1001-1015.1).
- 2. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes, but is not limited to, adequate laboratory controls including appropriate quality assurance procedures. This provision also includes the operation of backup or auxiliary facilities or similar systems that are installed by the permittee, only when necessary to achieve compliance with the terms and conditions of this permit. (40 CFR 122.41(e))

#### F. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge, sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment. (40 CFR 122.41(d))

#### G. Bypassing

- 1. Bypassing Not Exceeding Permit Limitations The permittee may allow a bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions in paragraphs two, three and four of this section. (40 CFR 122.41(m)(2))
- 2. Other Bypassing In all other situations, bypassing is prohibited and DEP may take enforcement action against the permittee for bypass unless:
  - A bypass is unavoidable to prevent loss of life, personal injury or "severe property damage." (40 CFR 122.41(m)(4)(i)(A))
  - b. There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise

of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance. (40 CFR 122.41(m)(4)(i)(B))

- c. The permittee submitted the necessary notice required in paragraph G.4 below. (40 CFR 122.41(m)(4)(i)(C))
- DEP may approve an anticipated bypass, after considering its adverse effects, if DEP determines that
  it will meet the conditions listed in paragraph G.2 above. (40 CFR 122.41(m)(4)(ii))

#### 4. Notice

- a. Anticipated Bypass If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible, at least 10 days before the bypass. (40 CFR 122.41(m)(3)(i))
- b. Unanticipated Bypass The permittee shall submit oral notice of any other unanticipated bypass within 24 hours, regardless of whether the bypass may endanger health or the environment or whether the bypass exceeds effluent limitations. The notice shall be in accordance with Part A III.C.4.b.

#### H. Sanitary Sewer Overflows (SSOs)

An SSO is an overflow of wastewater, or other untreated discharge from a separate sanitary sewer system (which is not a combined sewer system), which results from a flow in excess of the carrying capacity of the system or from some other cause prior to reaching the headworks of the sewage treatment facility. SSOs are not authorized under this permit. The permittee shall immediately report any SSO to DEP in accordance with Part A III.C.4 of this permit.

#### II. PENALTIES AND LIABILITY

#### A. Violations of Permit Conditions

Any person violating Sections 301, 302, 306, 307, 308, 318 or 405 of the Clean Water Act or any permit condition or limitation implementing such sections in a permit issued under Section 402 of the Act is subject to civil, administrative and/or criminal penalties as set forth in 40 CFR §122.4l(a)(2).

Any person or municipality, who violates any provision of this permit; any rule, regulation or order of DEP; or any condition or limitation of any permit issued pursuant to the Clean Streams Law, is subject to criminal and/or civil penalties as set forth in Sections 602, 603 and 605 of the Clean Streams Law.

#### B. Falsifying Information

Any person who does any of the following:

- Falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit, or
- Knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit (including monitoring reports or reports of compliance or noncompliance)

Shall, upon conviction, be punished by a fine and/or imprisonment as set forth in 18 Pa.C.S.A § 4904 and 40 CFR §122.41(j)(5) and (k)(2).

#### C. Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance pursuant to Section 309 of the Clean Water Act or Sections 602, 603 or 605 of the Clean Streams Law.

4. If the permittee or its accredited laboratory determines that QA/QC requirements and/or test acceptability standards have not been met, a re-test shall be initiated within 45 days. Original test data must be maintained by the laboratory and be submitted to DEP upon request. The justification for a re-test must be clearly documented and kept on file with the sample results.

#### G. Chemical Analyses

Chemical analyses must follow the requirements of the EPA methods and applicable State and/or Federal regulations.

- 1. Chemical analysis on effluent samples shall include pH, Conductivity, Total Alkalinity, Total Hardness, Total Residual Chlorine, Total Ammonia (Unionized Ammonia), Dissolved Oxygen and temperature. Chemical analyses as described in the EPA Methods (above) shall be performed for each sampling event, including each new batch of dilution water and each testing event.
- 2. In addition to the chemical analyses required above, those parameters listed in Part A of the NPDES permit for the outfall(s) tested shall be analyzed concurrently with the WET test by using the method(s) specified in the permit.

### H. WET Report Elements

WET test reports that are submitted to DEP must include the requirements identified in 25 Pa. Code  $\S$  252.401(j)(1) – (15) or in the TNI Standard, or equivalent, as well as the following information:

- A general test description, including the origin and age of test organisms, dates and results of reference toxicant tests, light and temperature regimes, and other documentation that QA and test acceptability criteria as specified in EPA's methods and DEP's QA Summaries have been met.
- 2. A description of sample collection procedures and sampling location.
- 3. Name(s) of individual(s) collecting and transporting samples, including sample renewals, and the date(s) and time(s) of sample collection.
- 4. All chemical and physical data including laboratory quantitation limits and observations made on the species. The hardness shall be reported for each test condition.
- 5. Copies of raw data sheets and/or bench sheets with data entries and signatures.
- 6. When effluents are dechlorinated, dechlorination procedures must be described and if applicable a thiosulfate control used in addition to the normal dilution water control. If the thiosulfate control results are significantly different from the normal control, as determined using DEP's WET Analysis Spreadsheet, the thiosulfate control shall be used in the spreadsheet for comparison with the TIWC condition. The WET report must specify which control was used to determine whether the test result is pass or fail.
- 7. A description of all observations or test conditions that may have affected the test outcome.
- 8. Control charts for the species tested regarding age, temperature test range, mortality data and all reference toxicant tests.
- 9. A completed WET test summary report (3800-FM-BPNPSM0485).
- 10. A DEP WET Analysis Spreadsheet printout that provides control and TIWC replicate data and displays the outcome of the test (pass or fail) for each endpoint tested.

WETT reports shall be submitted to the DEP regional office that issued the permit and, for discharges to the Delaware River basin, the Delaware River Basin Commission (DRBC).

#### III. REQUIREMENTS APPLICABLE TO STORMWATER OUTFALLS

C. The permittee is authorized to discharge non-polluting stormwater from its site, alone or in combination with other wastewaters, through the following outfalls:

Outfall No.	Area Drained (acre)	Latitude	Longitude	Description
003	1.12	40°11'28"	75°32'52"	Sludge processing, driveway, parking
004	0.95	40°11'32"	75°32'54"	Grassed area
005	4.14	40°11'35"	75°32'56"	Driveway, parking, grassed area

Monitoring requirements and effluent limitations for these outfalls are specified in Part A of this permit, if applicable.

D. Preparedness, Prevention and Contingency (PPC) Plan

The permittee must develop and implement a PPC Plan in accordance with 25 Pa. Code § 91.34 following the guidance contained in DEP's "Guidelines for the Development and Implementation of Environmental Emergency Response Plans" (DEP ID 400-2200-001), its NPDES-specific addendum and the minimum requirements below. For existing facilities, the PPC Plan must be developed prior to permit issuance. For new facilities, the PPC Plan must be submitted to DEP no later than prior to startup of facility operation.

- 1. The PPC Plan must identify all potential sources of pollutants that may reasonably be expected to affect the quality of stormwater discharges from the facility.
- 2. The PPC Plan must describe preventative measures and best management practices (BMPs) that will be implemented to reduce or eliminate pollutants from coming into contact with stormwater resulting from routine site activities and spills.
- 3. The PPC Plan must address actions that will be taken in response to on-site spills or other pollution incidents.
- 4. The PPC Plan must identify areas which, due to topography or other factors, have a high potential for soil erosion, and identify measures to limit erosion. Where necessary, erosion and sediment control measures must be developed and implemented in accordance with 25 Pa. Code Chapter 102 and DEP's "Erosion and Sediment Pollution Control Manual" (DEP ID 363-2134-008).
- 5. The PPC Plan must address security measures to prevent accidental or intentional entry which could result in an unintentional discharge of pollutants.
- 6. The PPC Plan must include a plan for training employees and contractors on pollution prevention, BMPs, and emergency response measures.
- 7. If the facility is subject to SARA Title III, Section 313, the PPC Plan must identify releases of "Water Priority Chemicals" within the previous three years. Water Priority Chemicals are those identified in EPA's "Guidance for the Determination of Appropriate Methods for the Detection of Section 313 Water Priority Chemicals" (EPA 833-B-94-001, April 1994). The Plan must include an evaluation of all activities that may result in the stormwater discharge of Water Priority Chemicals.
- 8. Spill Prevention Control and Countermeasure (SPCC) plans may be used to meet the requirements of this section if the minimum requirements are addressed.
- 9. The PPC Plan shall be evaluated and if necessary updated on an annual basis, at a minimum, and when one or more of the following occur:
  - a. Applicable DEP or federal regulations are revised, or this permit is revised;
  - b. The Plan fails in an emergency;
  - c. There is a change in design, industrial process, operation, maintenance, or other circumstances, in

a manner that materially increases the potential for fires, explosions or releases of toxic or hazardous constituents; or which changes the response necessary in an emergency;

- d. The list of emergency coordinators or equipment changes; or
- e. When notified in writing by DEP.

All updates must be kept on-site and be made available to DEP upon request.

#### C. Minimum Required BMPs

In addition to BMPs identified in the PPC Plan, the permittee shall implement the following minimum BMPs relating to stormwater pollution prevention:

- If applicable, post-construction stormwater BMPs that are required under 25 Pa. Code Chapter 102 must be maintained.
- 2. For industrial facilities, the BMPs in the applicable Appendix to the NPDES PAG-03 General Permit for Discharges of Stormwater Associated with Industrial Activities that is currently in effect.
- 3. For POTWs, all of the following:
  - a. Manage sludge in accordance with all applicable permit requirements.
  - b. Store chemicals in secure and covered areas on impervious surfaces away from storm drains.
  - c. For new facilities and upgrades, design wastewater treatment facilities to avoid, to the maximum extent practicable, stormwater commingling with sanitary wastewater, sewage sludge, and biosolids.
  - d. Efficiently use herbicides for weed control. Where practicable, use the least toxic herbicide that will achieve pest management objectives. Do not apply during windy conditions.
  - e. Do not wash parts or equipment over impervious surfaces that wash into storm drains.
  - f. Implement infiltration techniques, including infiltration basins, trenches, dry wells, porous pavement, etc., wherever practicable.

#### D. Annual Inspection and Compliance Evaluation

- The permittee shall conduct an annual inspection of each outfall identified in paragraph A and record
  the results on the "Annual Inspection Form for NPDES Permits for Discharges of Stormwater
  Associated with Industrial Activities" (3800-PM-WSFR0083v). The permittee shall submit a copy of the
  completed and signed Annual Inspection Form to DEP at the address provided in Part A III.B.3 of this
  permit by January 28 of each year.
- Areas contributing to a stormwater discharge associated with industrial activity shall be visually
  inspected for evidence of, or the potential for, pollutants entering the drainage system. BMPs in the
  PPC Plan and required by this permit shall be evaluated to determine whether they are adequate and
  properly implemented in accordance with the terms of this permit or whether additional control
  measures are needed.

#### E. Stormwater Sampling Requirements

If stormwater sampling is required in Part A of this permit, the following requirements apply:

- 1. The permittee shall record stormwater sampling event information on the "Additional Information for the Reporting of Stormwater Discharge Monitoring" form (3800-PM-WSFR0083t) and submit the form as an attachment to the DMR.
- 2. All samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The 72-hour storm interval is waived when the preceding storm did not yield a measurable discharge, or if the permittee is able to document that a less than 72-hour interval is representative for local storm events during the sample period.
- 3. Grab samples shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is not possible, a grab sample can be taken during the first hour of the discharge, in which case the discharger shall provide an explanation of why a grab sample during the first 30 minutes was not possible.

#### IV. PCB MONITORING

- A. On April 7, 2007, the U.S. Environmental Protection Agency (EPA), Region 3, adopted a Total Maximum Daily Load (TMDL) for Polychlorinated Biphenyls (PCBs) for the Schuylkill River. Implementation of the TMDL requires that permitted facilities that discharge directly to the Schuylkill River conduct sampling for PCBs and, based upon review of the results, develop and implement a PCB Pollutant Minimization Plan (PMP). Based on the sampling results submitted by the facility, this facility is required to develop and implement a PCB PMP.
- B. The permittee shall collect one 24-hour composite sample annually during a wet weather flow and one 24-hour composite sample annually during a dry weather flow. The samples shall be collected from Outfall 002.
- C. All sample analyses shall be performed using EPA Method 1668A, Revision A: Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by HRGC/HRMS. EPA-821-R-00-002, December 1999 as supplemented or amended, and results for all 209 PCB congeners shall be reported. Project-specific, sample collection protocols, analytical procedures, and reporting requirements at http://www.state.nj.us/drbc/ quality/toxics/pcbs/monitoring.html shall be followed. Monitoring information, sample data, and reports associated with PCB monitoring shall be submitted to the DEP and the Delaware River Basin Commission (DRBC) in the form of two compact discs in the format referenced at http://www.state.nj.us/drbc/library/documents/PCB-EDD011309.pdf.
- D. In accordance with the U.S. EPA, Region 3, TMDL for PCBs for the Schuylkill River, the permittee shall submit a PMP for PCBs within 12 months from the effective date of the permit. The permittee shall comply with the requirements of Section 4.30.9 of DRBC's Water Quality Regulations. Additional information regarding PMP development may be found at http://www.state.nj.us/drbc/programs/ quality/pmp.html. In addition, the permittee shall:
  - 1. Commence implementation of its PMP as submitted within 60 days of receipt of a PMP completeness determination issued by DEP.
  - 2. Submit an Annual Report beginning one year from the date of commencement of the PMP to the DRBC and DEP consistent with the guidance specified at http://www.state.nj.us/drbc/programs/quality/pmp.html.

The PMP, PMP Annual Report, and PCB data shall be submitted to DEP at the following addresses:

PA Department of Environmental Protection Southeast Regional Office Clean Water Program 2 East Main Street Norristown, PA 19401

-000-FN	:- PSML-02	3/20
	pennsylvar	

#### **DEPARTMENT OF ENVIRONMENTAL PROTECTION** BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) DISCHARGE MONITORING REPORT (DMR)

PERMIT	NAN	IE/AL	JUr	(ES

NAME King Road STP CLIENT Limerick Township **ADDRESS** 646 West Ridge Pike Limerick, PA 19468 LOCATION Limerick Township Montgomery County 3-D WATERSHED

002
OUTFALL NUMBER

		MONITO	RING F	PERIOD		
YEAR	МО	DAY		YEAR	МО	DAY .
			то			

Reporting Frequency: Monthly DMR Effective From: March 1, 2015 DMR Effective To: February 29, 2020 Permit Expires: February 29, 2020

Permit Application Due: September 2, 2019

Check Here if No Discharge

NOTE: Read Instructions before completing this form

PARAMETER		QUAN	ITITY OR LOADIN	NG	QL	QUALITY OR CONCENTRATION				FREQUENCY	SAI	MPLE
PARAMETER		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS	EX	OF ANALYSIS	T,	YPE
	SAMPLE MEASUREMENT				****	****	***					
Flow	PERMIT REQUIREMENT	Report Avg Mo	Report Daily Max	MGD	****	****	***	****		Continuous	Rec	orded
	SAMPLE MEASUREMENT	****	****			****						
рН	PERMIT REQUIREMENT	*****	****	****	6.0 Inst Min	****	9.0 IMAX	S.U.		1/day	G	Grab
	SAMPLE MEASUREMENT	****	****			***	****					
Dissolved Oxygen	PERMIT REQUIREMENT	****	****	****	5.0 Inst Min	****	****	mg/L		1/day	G	Grab
	SAMPLE MEASUREMENT				****							
CBOD5	PERMIT REQUIREMENT	284 Avg Mo	425 Wkly Avg	lbs/day	****	20 Avg Mo	30 Wkly Avg	mg/L		1/week		4-Hr apasite
	SAMPLE MEASUREMENT	(c) this	****		****		****					
CBOD5 Raw Sewage Influent	PERMIT REQUIREMENT	****	****	****	****	Report Avg Mo	****	mg/L		1/week	100 mg 100 mg	4-Hr nposite
	SAMPLE MEASUREMENT		****		****		市场外营					
BOD5 Raw Sewage Influent	PERMIT REQUIREMENT	Report Avg Mo	****	lbs/day	***	Report Avg Mo	****	mg/L		1/week		4-Hr nposite
	SAMPLE MEASUREMENT				*******							
Total Suspended Solids	PERMIT REQUIREMENT	425 Avg Mo	638 Wkly Avg	lbs/day	****	30 Avg Mo	45 Wkly Avg	mg/L		1/week		4-Hr nposite
NAME/TITLE PRINCIPAL EX	KECUTIVE OFFICER	direction or supervision to that qualified personnel of Based on my inquiry of those persons directly	law that this document was a accordance with a system gather and evaluate the inf the person or persons who y responsible for gathering	designed to assure ormation submitted manage the system the information, the				TEL	EPHONE		DATE	
TYPED OR PF	RINTED	information submitted is, accurate and complete. for submitting false info	to the best of my knowled I am aware that there are emission, including the po- ig violations. See 18 Pa. C	ige and belief, true, significant penalties sciolity of fine and		E OF PRINCIPAL OR AUTHORIZI		AREA CODE	NUME	BER YEAR	МО	DAY

COMMENTS (Report all violations on the "Non-Compliance Reporting Form")



#### PERMITTEE NAME/ADDRESS

# CUMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) DISCHARGE MONITORING REPORT (DMR)

NAME	King Road STP
CLIENT	Limerick Township
ADDRESS	646 West Ridge Pike
	Limerick, PA 19468
LOCATION	Limerick Township
	Montgomery County
WATERSHED	3-D

PA0051934	002
PERMIT NUMBER	OUTFALL NUMBER

	002		Reporting Frequency:	Monthly	
ΓF	ALL NU	MBER	DMR Effective From:	March 1, 2015	
			DMR Effective To:	February 29, 2020	_
			Permit Expires:	February 29, 2020	
?	МО	DAY	Permit Application Due:	September 2, 2019	
			Check Here if No Disc	charge	

YEAR	MO	DAY	1	YEAR	MO	DAY
			1 то			

NOTE: Read Instructions before completing this form

PARAMETER		QUAN	TITY OR LOAD!	NG	Q	UALITY OR CON	CENTRATION		NO.	FREQUENCY	SAL	MPLE
PARAMETER		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS	EX	OF ANALYSIS	ד	YPE
4	SAMPLE MEASUREMENT	****	****		****		****					
Total Suspended Solids Raw Sewage Influent	PERMIT REQUIREMENT	****	****	****	****	Report Avg Mo	****	mg/L		1/week		4-Hr iposite
	SAMPLE MEASUREMENT	****	****		****							
Fecal Coliform	PERMIT REQUIREMENT	****	****	****	****	200 Geo Mean	1,000 IMAX	No./100 ml		1/week	G	irab
	SAMPLE MEASUREMENT	***	****			****	****					
UV Transmittance	PERMIT REQUIREMENT	****	****	****	Report Min	****	****	%		1/day	Me	tered
	SAMPLE MEASUREMENT		naka		****		****					
Total Nitrogen	PERMIT REQUIREMENT	Report Avg Mo	****	lbs/day	*****	Report Avg Mo	****	mg/L		1/week	1	4-Hr
	SAMPLE MEASUREMENT		****		****		****					
Ammonia-Nitrogen	PERMIT REQUIREMENT	114 Avg Mo	****	lbs/day	FREAK	8 Avg Mo	****	mg/L		1/week		4-Hr Iposit
	SAMPLE MEASUREMENT		41742		****		****					
Total Phosphorus	PERMIT REQUIREMENT	Report Avg Mo	****	lbs/day	****	Report Avg Mo	****	mg/L		1/week	1000	4-Hr 1posile
	SAMPLE MEASUREMENT											
	PERMIT REQUIREMENT						i Gre					
NAME/TITLE PRINCIPAL E	XECUTIVE OFFICER	direction or supervision in that qualified personnel	is that the document was accordance with a system pather and evaluate the in the person or persons who	n designed to assure formation submitted.				TEL	EPHON	Ε	DATE	
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COMMENTS (Report all violations on the "Non-Compliance Reporting Form")

PAGE 2 OF 2



#### PERMITTEE NAME/ADDRESS

#### DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) DISCHARGE MONITORING REPORT (DMR)

NAME	King Road STP
CLIENT	Limerick Township
ADDRESS	646 West Ridge Pike
	Limerick, PA 19468
LOCATION	Limerick Township
	Montgomery County
WATERSHED	3-D

002
LNUMBER
_

		MONITO	RING F	PERIOD		
YEAR	МО	DAY		YEAR	МО	DAY
			ТО			

Reporting Frequency: Quarterly

DMR Effective From: March 1, 2015

DMR Effective To: February 29, 2020

Permit Expires: February 29, 2020

Permit Application Due: September 2, 2019

\_\_\_ Check Here if No Discharge

NOTE: Read Instructions before completing this form

PARAMETER		QUAN	TITY OR LOADIN	IG	QL	JALITY OR CON	CENTRATION		NO.	FREQUENCY		/IPLE
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	SAMPLE MEASUREMENT	****			****	****						
Total Zinc	PERMIT REQUIREMENT	****	Report Daily Max	lbs/day	****	****	Report Daily Max	mg/L		1/quarter		I-Hr posite
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COMMENTS (Report all violations on the "Non-Compliance Reporting Form")



### CUMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

PERMITTEE N	AME/ADDRESS	DIS	CHAR	GE MONI	CORING	3 REPOR	T (DMF	₹)			
NAME	King Road STP										
CLIENT	Limerick Township	P	4005193	34			002		Reporting Frequency:	Annually	
ADDRESS	646 West Ridge Pike	PERM	AIT NUM	MBER		OUTF	ALL NU	MBER	DMR Effective From:	March 1, 2015	
	Limerick, PA 19468								DMR Effective To:	February 29, 2020	
LOCATION	Limerick Township			MONITO	RING F	ERIOD			Permit Expires:	February 29, 2020	
	Montgomery County	YEAR	MO	DAY		YEAR	MO	DAY	Permit Application Due:	September 2, 2019	
WATERSHED	3-D				то				Check Here if No Dis	charge	
									NOTE: Read Instructions b	efore completing this form	

PARAMETER		QUAN	TITY OR LOAD!	NG	Ql	JALITY OR CO	CENTRATION		NO.	FREQUENCY	SAN	MPLE
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*	SAMPLE MEASUREMENT	****	****		****	***						
PCBs (Wet Weather)	PERMIT REQUIREMENT	*****	****	•,,	****	****	Report Daily Max	pg/L		1/year		4-Hr aposite
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WATERSHED

#### PERMITTEE NAME/ADDRESS

## DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) DISCHARGE MONITORING REPORT (DMR)

NAME	King Road STP
CLIENT	Limerick Township
ADDRESS	646 West Ridge Pike
	Limerick, PA 19468
LOCATION	Limerick Township
	Montgomery County

P	A00519	34	1	003						
PERI	MIT NUI	MBER	OUTF	OUTFALL NUMBER						
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YEAR	МО	DAY	YEAR	МО	DAY					

Reporting Frequency:

DMR Effective From:

March 1, 2015

DMR Effective To:

February 29, 2020

Permit Expires:

February 29, 2020

September 2, 2019

\_\_\_ Check Here if No Discharge
NOTE: Read Instructions before completing this form

PARAMETER			TITY OR LOAD!	NG	QI	UALITY OR CON	CENTRATION	Contract of the second second second	NO.	FREQUENCY		WPLE
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	SAMPLE MEASUREMENT	****	****		***	****						
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	SAMPLE MEASUREMENT	****	****		****	****						
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NAME/TITLE PRINCIPAL E	XECUTIVE OFFICER	direction or supervision in that qualified personnel Based on my inquiry of t	law that this document was n accordance with a system gather and evaluate the in the person or persons who or responsible for gathering to the best of my knowle	n designed to assure formation submitted.				TEL	EPHONE		DATE	
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COMMENTS (Report all violations on the "Non-Compliance Reporting Form")



# COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) DISCHARGE MONITORING REPORT (DMR)

#### PRIMARY FACILITY NAME/ADDRESS

COMMENTS (Report all violations on the "Non-Compliance Reporting Form")

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NAME	King Road STP									
CLIENT	Limerick Township	P	A00519	34			003		Reporting Frequency:	Annually
ADDRESS	646 West Ridge Pike	PERM	AUN TIN	/IBER		OUTF	ALL NU	MBER	DMR Effective From:	March 1, 2015
	Limerick, PA 19468								DMR Effective To:	February 29, 2020
LOCATION	Limerick Township			MONITO	RING F	PERIOD	,		Permit Expires:	February 29, 2020
	Montgomery County	YEAR	МО	DAY		YEAR	MO	DAY	Permit Application Due:	September 2, 2019
WATERSHED	3-D				то			-	Check Here if No Dis	charge
									NOTE: Read Instructions b	efore completing this form

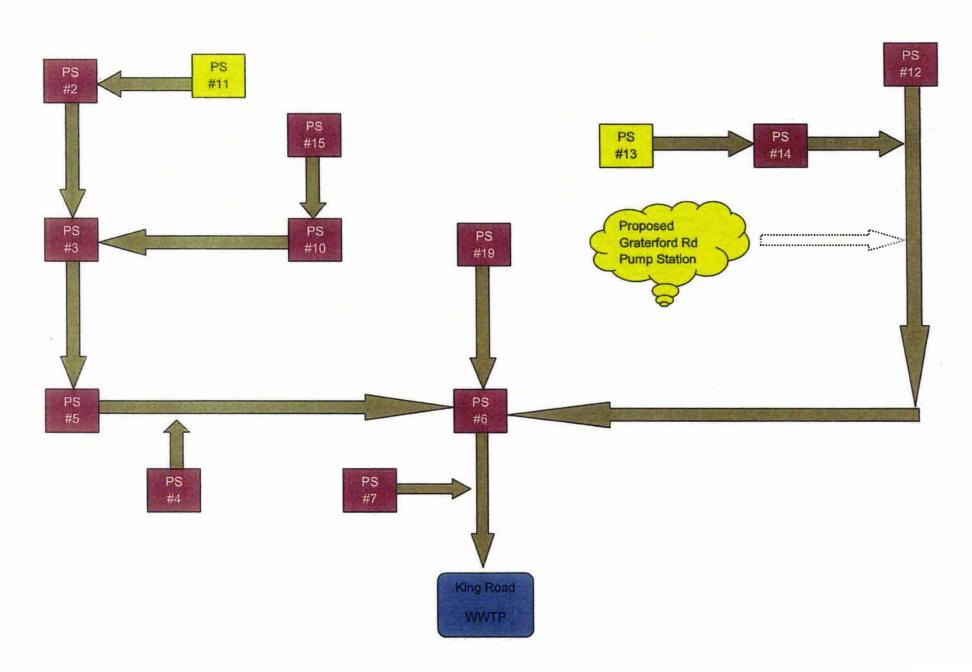
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PAGE 2 OF 2

## Pump Station Flow Schematic Diagram

King Road WWTP

Pump Station Flow Chart



## Meter Calibration Records

1 Garfield Avenue • P.O. Box 234, West Point, PA 19486 24 Hour Emergency Service 800-441-4844 Fax 215-699-9030

## **CERTIFICATE OF CALIBRATION**

CUSTOMER: Limerick	1wp	2 2		<u>.</u>		
LOCATION: Scange, TR		111				
LOOP OR SYSTEM ID: Finne						
CALIBRATED RANGE:		TOTALIZER MULTIPI	IEB (Ob)	-	2:	
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The following equipment has been accordance with the manufacturers of	urately calibrated ur documented proced	nder ambient condition ures and specification	ons at an ambient ns.	temperature of	00	deg. F,
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2 CHESSELL	392 200	UR35541-602-	Flow R	ecalder.		
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			0 .		751	
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1500	HANI	3 Book		5-717		,
Emplan		Teal Rule		903		



611 Garfield Avenue • P.O. Box 234, West Point, PA 19486
24 Hour Emergency Service 800-441-4844
Fax 215-699-9030

## **CERTIFICATE OF CALIBRATION**

1			
CUSTOMER: Limeride 1			
LOCATION: Passum Ho	1100 TREATMENT PL	9 1	
LOOP OR SYSTEM ID: FFF LOC	UT Flow		
CALIBRATED RANGE: 0-1 m	TOTALIZER MULTIP	LIER	
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	392 EH230067		
•			
			,
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CALIBRATION DATE:////		uge Busker.	
TEST EQUIPMENT USED:			
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Jsco	HAND BOOK	574	NIA
Empire			N/A
	TO THE PERSON OF		



### ALLIED CONTROL SERVICES, INC.

11 Garfield Avenue • P.O. Box 234, West Point, PA 19486 24 Hour Emergency Service 800-441-4844 Fax 215-699-9030

## CERTIFICATE OF CALIBRATION

ÇUSTO	MER: Limeride	Townshill	2		
LOCATION	ON: Excalar	Flow		*	
LOOP	DR SYSTEM ID: Cumb	STATION EF	Flueu		
CALIBR	ATED RANGE:O-100	GAM	TOTALIZER MULTIPI	LIER XICO	* -
The follo		accurately calibrated	under ambient condition	ons at an ambient temperature o	f <u>%o</u> deg. F
ITEM	MANUFACTURER	MODEL #	SERIAL #	DESCRIPTION	*
	Milliamics	Hydro Ranger	इक ०ता९०३१३१	UITRA SONIC	
_2_	Endress Hausier	392	EH230067	Flow Recappor	· ·
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Township Industrial Discharge Resolution

January 19, 1994 Rev 1 Page 1 of 23

#### THE LIMERICK TOWNSHIP MUNICIPAL AUTHORITY

#### A RESOLUTION

Approved by resolution on November 24, 1986
Amended by resolution on September 23, 1987
Amended by resolution on May 15, 1991
Amended by resolution on September 16, 1992
Amended by resolution on January 19, 1994

OF THE BOARD OF THE LIMERICK TOWNSHIP MUNICIPAL AUTHORITY, ADOPTING RULES AND REGULATIONS GOVERNING USE OF THE SEWER SYSTEM OF THIS AUTHORITY; IMPOSING SEWER RATES TO BE COLLECTED FROM THE OWNER OF EACH IMPROVED PROPERTY TO BE SERVED BY THE SEWER SYSTEM; IMPOSING A CONNECTION CHARGE AGAINST THE OWNER OF EACH IMPROVED PROPERTY TO BE SERVED BY THE SEWER SYSTEM; AND PROVIDING FOR PAYMENT AND COLLECTION OF SUCH RATES AND CHARGES.

WHEREAS, This Authority is a municipality authority existing under and governed by the Pennsylvania Municipality Authorities Act of 1945, approved May 2, 1945, P.L. 382, as amended and supplemented (the "Authorities Act"); and

WHEREAS, This Authority, pursuant to authority vested in it by law and pursuant to the request and consent of thee Township, plans to construct and to acquire the Sewer System; and

WHEREAS, The Township has enacted the Connection Ordinance requiring all owners of improved property located within the Township which is accessible to and whose principal building is within 150 feet from the Sewer System to connect with and use the Sewer System; and

WHEREAS, This Authority has power and authority under Section 4B(h)

January 19, 1994 Rev 1 Page 2 of 23

of the Authorities Act, inter alia, to fix, alter, charge and collect rates and other charges in the area served by its facilities at reasonable and uniform rates to be determined exclusively by it; and

WHEREAS, This Authority desires to impose Sewer Rates to be collected from the Owner of each Improved Property; and

WHEREAS. This Authority desires to impose a Connection Charge to be collected from the Owner of each Improved Property.

NOW, THEREFORE, BE IT RESOLVED, by the Board of this Authority, as follows:

Rev 1 Page 3 of 23

#### ARTICLE I DEFINITIONS

SECTION 1.01. Unless the context specifically and clearly indicates otherwise, the meaning of terms and phases used in this Ordinance shall be as follows:

- A. "Ammonia Nitrogen as N" shall mean ammonia nitrogen as determined pursuant to the procedure set forth in the latest edition of "Standard Methods for the Examination of Water and Wastewater", published by American Public Health Association, Inc.
- B. "Authority" shall mean The Limerick Township Municipal Authority, a municipality authority of the Commonwealth.
- C. "B.O.D." (Biochemical Oxygen Demand) shall mean the quantity of oxygen, expressing in ppm by weight, utilized in the biochemical oxidation of organic matter under standard laboratory procedure for five (5) days at twenty (20) degrees Centigrade. The standard laboratory procedure shall be that found in the latest edition of "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association.
- D. "Building Sever" shall mean the sever extension from the sewage drainage system of any Improved Property to the grinder pump or point of gravity connection with the Lateral serving such Improved Property.
- E. "Commercial Establishment" shall mean any room, group of rooms, building or enclosure connected, directly or indirectly, to the Sewer System and used or intended for use in the operation of a business enterprise for the sale and distribution of any product, commodity, article or service.
  - F. "Commonwealth" shall mean the Commonwealth of Pennsylvania.
- G. "Connection Charge" shall mean the connection or other charge imposed by the Authority hereunder, as amended from time to time, against the Owner of each Improved Property, except as provided in the Developer Agreements, for the purpose of providing for the payment of the expenses of the Authority and the construction, improvement, repair, maintenance and operation of the Sewer System, in accordance with Section 4B(h) of the Authorities Act and Article III hereof.
- H. "Connection Ordinance" shall mean the ordinance enacted by the Township, as amended and supplemented from time to time, <u>inter alia</u>, compelling all Owners of Improved Property accessible to and whose principal building is within 150 feet from the Sewer System, to connect to such Sewer System and use

## Rev 1 Page 4 of 23

the same in such manner as the Township and/or the Authority may order.

- I. "Developer Agreements" shall mean the Agreements and Reserved Capacity Deposit Agreements between the Authority and the Developers under the terms of which the Authority agrees to reserve specific amounts of capacity in the Sewer System in consideration of payments by the Developers to the Authority as provided therein, including any amendments or supplements thereto and such other and similar agreements as the Authority, from time to time, may execute and deliver.
- J. "Developer" shall mean any Person, including a real estate developer, contractor or Owner, who shall have executed and delivered a Developer Agreement.
- K. "Domestic Sanitary Sewage" shall mean normal water-carried household and toilet wastes discharged from any Improved Property.
- L. "Dwelling Unit" shall mean any room, group of rooms, house trailer, apartment, condominium, cooperative or other enclosure connected, directly or indirectly, to the Sewer System and occupied or intended for occupancy as living quarters by an individual, a single family or other discrete group of persons, excluding institutional dormitories.
- M. "Educational Establishment" shall mean each room, group of rooms, building, house trailer, mobile home, connected directly or indirectly, to the Sewer System and used or intended for use, in whole or in part, for educational purposes, including both public and private schools.
- N. "Equivalent Dwelling Unit" shall mean the unit of measure by which Sewer Rates and Connection Charges shall be imposed upon each Improved Property, as determined in this Resolution or in any subsequent resolution of the Authority which shall be deemed to constitute the estimated, equivalent amount of Domestic Sanitary Sewage discharged by a single-family Dwelling Unit or an annual average of 250 gallons per day.
- O. "Home Business" shall mean any commercial or retail operation established within the confines of a residential structure or residential building lot. This definition shall not apply to those businesses that, in the opinion of the Authority's Consulting Engineer, do not contribute sewage to the sewer system.
- P. "Improved Property" shall mean any property upon which there is erected a structure intended for continuous or periodic habitation, occupancy or use by human beings or animals and from which structure Domestic Sanitary Sewage and/or Industrial Wastes shall be or may be discharged, which is located within the Sewered Area and subject to being connected to the Sewer System pursuant to the Connection Ordinance.
  - Q. "Industrial Establishment" shall mean any Improved Property, used

#### January 19, 1994 Rev 1 Page 5 of 23

or intended for use, wholly or in part, for the manufacturing, processing, cleaning, laundering or assembling of any product, commodity or article, or any other Improved Property from which wastes, in addition to or other than Domestic Sanitary Sewage, shall or may be discharged.

- R. "Industrial Wastes" shall mean any and all wastes discharged from an Industrial Establishment other than Domestic Sanitary Sewage.
- S. "Institutional Establishment" shall mean any room, group of rooms, building or other enclosure connected, directly or indirectly, to the Sewer System, including institutional dormitories, and Educational Establishments, which do not constitute a Commercial Establishment, a Dwelling Unit or an Industrial Establishment.
- T. "Large Contributor" shall mean a Person whose metered or estimated consumption of water or volume of Domestic Sanitary Sewage discharged is in excess of 22,750 gallons per calendar quarter in the case of a Dwelling Unit, and any Commercial Establishment, Educational Establishment, Institutional Establishment or Industrial Establishment, regardless of water consumption or volume of Domestic Sanitary Sewage or Industrial Wastes discharged.
- U. "Lateral" shall mean that part of the Sewer System extending from a Sewer normally located in the Street right-of-way to the structure side of the grinder pump or to the Building Sewer serving an Improved Property. If there shall be no improvement on the property, the "Lateral" shall mean that part of the Sewer System, (1) extending from said Sewer to the curb box provided for future extension to a grinder pump, or (2) extending from said Sewer to a point of future connection to the Building Sewer, if and when said property is improved.
- V. "Multiple Use Improved Property" shall mean any Improved Property upon which there shall exist any combination of a Dwelling Unit, Commercial Establishment, Industrial Establishment, Educational Establishment and/or Institutional Establishment.
- W. "Non Residential Wastes" shall mean any and all wastes discharged from Commercial, Educational, Industrial and Institutional Establishments, including, but not necessarily limited to, Domestic Sanitary Sewage and Industrial Wastes.
- X. "Owner" shall mean any Person vested with title, legal or equitable, sole or partial, of any Improved Property.
- Y. "Person" shall mean any individual, partnership, company, association, society, trust, corporation or other group or entity, including municipalities, municipality authorities, school districts and other units of government.

#### January 19, 1994 Rev 1 Page 6 of 23

- Z. "pH" shall mean the logarithm of the reciprocal of the concentration of hydrogen ions, expressed in grams per liter of solution, indicating the degree of acidity or alkalinity of a substance.
  - AA. "ppm" shall mean parts per million parts water, by weight.
- BB. "Sewer" shall mean any pipe or conduit constituting a part of the Sewer System used or usable for sewage collection purposes.
- CC. "Sewered Area" shall mean that area of the Township served by the Sewer System as determined and designated, from time to time, by the Township and the Authority.
- DD. "Sever Rates" shall mean rates imposed by the Authority hereunder, as amended from time to time, against the Owner of each Improved Property, except as provided in the Developer Agreements, for the purpose of providing for the payment of the expenses of the Authority and the construction, improvement, repair, maintenance and operation of the Sever System, in accordance with Section 4B(h) of the Authorities Act and Article II hereof.
- EE. "Sever System" shall mean all sanitary sewage collection, transmission, treatment and disposal system facilities, at any particular time, acquired, constructed, operated, and/or owned by the Authority.
- FF. "Street" shall mean and shall include any street, road, lane, court, cul-de-sac, alley, public way or public square, including such streets as are dedicated to public use and such streets as are owned by private Persons.
- GG. "Tapping Fee" that fee which the Authority may charge based upon four components: capacity, collection, special purpose and reimbursement.
- HH. "Total Phosphorus as P" shall mean total phosphorus as determined pursuant to the procedure set forth in the latest edition of "Standard Methods for the Examination of Water and Wastewater", published by the American Public Health Association, Inc.
- II. "Total Solids" shall mean solids determined by evaporating at 100 C of a mixed sample of wastewater as determined pursuant to the procedure set forth in the latest edition of "Standard Methods for the Examination of Water and Wastewater", published by the American Public Health Association. Total solids include floating solids, suspended solids, settleable solids and dissolved solids.
- (a) "Suspended Solids" shall mean solids determined by standard lab procedure in the waste.
- (b) "Settleable Solids" solids that settle in an imhoff come from a standard sample of waste.
- (c) "Dissolved Solids" solids that are dissolved in the waste cannot be settled, but can be determined by evaporation.
- JJ. "Township" shall mean the Township of Limerick, Montgomery County, Pennsylvania.

January 19, 1994 Rev 1 Page 7 of 23

#### ARTICLE II

#### SEWER RATES

SECTION 2.01. Sewer Rates are hereby imposed upon the Owner of each Improved Property for use of the Sewer System, whether such use is direct or indirect, and for services rendered by the Authority in connection therewith, and shall be payable as provided herein.

SECTION 2.02. Sewer Rates shall be imposed upon the Owner of each Improved Property commencing the earlier of: (1) the date of actual, physical connection of an Improved Property to the Sewer System, or (2) sixty (60) days from the date indicated on the Notice to Connect described in the Connection Ordinance. At the discretion of the Authority, sewer rates may be imposed upon specific unconnected property subject to provisions of the Reserved Capacity Agreements between said property owner and the Authority.

SECTION 2.03. Sewer Rates applicable to any Improved Property constituting a Dwelling Unit or Large Consumer shall be calculated, imposed and collected on the basis of some of the following methods, in the sole discretion of the Authority:

### A. Flat Rate Basis

Each Improved Property billed on a Flat Rate Basis shall be charged a specific amount per Equivalent Dwelling Unit applicable to such Improved Property. The number of Equivalent Dwelling Units applicable to each Improved Property shall be determined as outlined in Exhibit 1.

The number of Equivalent Dwelling Units applicable to retail stores, professional offices and other commercial establishments shall be computed on the basis of the average number of full and part time employees (including the owners (s) or employer (s) for the calendar quarter immediately preceding the date of each quarterly billing. The owners of such facilities shall be responsible for advising the Authority in writing of the number of employees on the premises at all times.

If the use of classification of any Improved Property changes within a quarterannum billing period, the Sewer rate shall be prorated by the Authority. The appropriate credit or additional charge shall appear on the statement for the next succeeding quarter-annum period.

The annual Sewer Rate payable per Equivalent Dwelling Unit shall be as set by the Authority.

The Authority may, from time to time, establish additional Sever Rate classifications as it deems appropriate; and further, from time to time, to alter, modify, revise and/or amend the effective Sever Rates.

#### B. Metered Rate Basis

Sewer Rates for any Improved Property, other than a Dwelling Unit, in the discretion of the Authority, may be determined on a metered rate basis calculated according to:

(1) Metered volume of potable water consumption by the Improved Property, adjusted, if appropriate, by the Authority, or
(2) Actual metered volume of Domestic Sanitary Sewage or

Industrial Wastes discharged by the Improved Property into the Sewer System.

In either of the foregoing cases, such Sewer Rates shall be computed in accordance with the following metered rate per quarter annum:

#### METERED RATE SCHEDULE

0 to 22,750 gallons per quarter Each Additional 1,000 gallons per quarter

\$95.00; and

\$ 4.18

#### C. Estimated Rate Basis

Sewer Rates may be based upon the Authority's estimate of potable water consumed or Domestic Sanitary Sewage or Industrial Wastes discharged by any Improved Property, in accordance with the Metered Rate Schedule provided herein.

#### SECTION 2.04. Multiple Use Improved Properties

In the case of a Multiple Use Improved Property sharing a common connection to the Sewer System or a common structure, each classification of Improved Property constituting such Multiple Use Improved Property shall pay a separate Sewer Rate, as though it was housed in a separate structure and had a direct and separate connection to the Sewer System, computed in accordance with the appropriate subsection of Section 2.03 of this Resolution.

#### SECTION 2.05. Volume and Composition Surcharges

Any Person discharging non residential wastes into the sewer system of a volume greater than that authorized in his permit, as determined or reasonable estimated by the Authority, shall pay a volume surcharge . Similarly, any Person discharging non residential wastes into the sewer system having a BOD or suspended solids concentration greater than 235 milligrams per liter (mg/l) and 270 mg/l respectively, as determined through sampling and analysis of the discharge, shall pay a composition surcharge. Surcharges will be compounded, i.e., volume surcharge multiplied by compositions surcharge equals total surcharge amount,

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and will be assessed in addition to all sewer billing rates computed in accordance with the provisions of this Article II.

### Applicable Surcharges:

BOD AND SUSPENDED SOLIDS

AOTRME

r permitted

Where Q = Flow

SS = Suspended Solids

The surcharge calculated for any Person discharging non-residential waste will be multiplied by that Person's sewer billing rate to derive the actual charge. The surcharge shall never be less than one (1).

In establishing such waste strengths for surcharge purposes by analysis, analyses shall be made in accordance with procedures outlined in the latest edition of "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, Inc.

#### SECTION 2.06. Owner Supplied Information:

The Owner of any Improved Property discharging Domestic Sanitary Sewage and/or Industrial Wastes into the Sewer System shall furnish to the Authority, including by way of the application for permit described in the Connection Ordinance, all information deemed essential or appropriate by the Authority for the determination of all applicable Sewer Rates and surcharges. The costs of obtaining such information shall be borne by such Owner of the Improved Property.

In the event of the failure of the Owner to provide adequate information, the Authority shall estimate the applicable Sewer Rates and surcharges payable by such Owner based upon information available to the Authority, or until such time as adequate information is received. There shall be no rebate of past payments of Sewer Rates or surcharges if the Owner's refusal to provide such information results in overpayment.

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SECTION 2.07. Nothing herein contained shall be deemed to prohibit this Authority from entering into separate or special agreements with Owners of any Improved Property with respect to Sewer Rates to be imposed in those cases where, due to special or unusual circumstances, the Sewer Rates set forth herein shall be deemed by this Authority, in its sole discretion, to be inequitable, or that it is in the best interests of this Authority to do so.

SECTION 2.08. Sewer Rates and surcharges, as applicable, shall be payable on a quarterly basis, and shall cover a quarterly billing period consisting of the immediately preceding calendar quarter.

SECTION 2.09. Payments of Sewer Rates shall be due and payable at the office of the Secretary of the Authority, upon the billing date specified in a statement sent to the Owner of each Improved Property, computed in accordance with this Resolution, which shall constitute the "net bill". If any Sewer Rate is not paid within thirty (30) calendar days after the specified billing date, an additional sum of ten percent (10%) of the net bill shall be added to such net bill, which shall constitute the "gross bill". Payment made or mailed and postmarked on or before the last day of such thirty (30) calendar day period shall constitute payment within such period. If the end of such thirty (30) calendar day period shall fall on a legal holiday or on a Sunday, then payment made on or mailed and postmarked on the next succeeding business day or Saturday constitute payment within such period.

SECTION 2.10. It shall be the responsibility of each Gwner of an Improved Property to provide the Authority with, and thereafter keep the Authority continuously advised of, the correct mailing address of such Owner and, if applicable, the name and address of any other Person (including tenants, etc.) who will be paying the Sewer Rates. Owner is in all cases primarily responsible to the Authority for payment of all Sewer Rates and Connection Charges. Failure of any Owner or other Person to receive a bill for charges due and payable shall not be considered an excuse for non-payment, nor shall such failure result in an extension of the period of time during which the net bill shall be payable.

SECTION 2.11 No officer or employee of the Authority is authorized to reduce, vary or exempt charges imposed herein or other provisions of this Resolution without official action by the Board of this Authority authorizing such reduction, variation or exemption.

Every Owner of an Improved Property shall be liable for the payment of Sewer Rates for said property as long as he owns said property. In the event an Improved Property is sold, liability for the payment of Sewer Rates shall be prorated as of the date of settlement (transfer of legal title on the property. Both the old Owner and the new Owner are responsible for providing written notice to the Authority of the date of transfer and the correct name and mailing address of the new Owner.

SECTION 2.12 The policy of the Authority is to pursue collection of all past-due payments for Sewer Rates, surcharges and other applicable charges of the Authority through all appropriate means available.

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DESCRIPTION OF IMPROVED PROPERTY	UNIT OF MEASUREMENT	NUMBER OF EQUIVALENT DWELLING UNITS PER UNIT OF MEASUREMENT
Residential Dwelling (year round or seasonal)	Each Dwelling Unit	1
Retail Store, professional office or other commercial	1-10 employees	1 = 2
enterprise	each additional 10 employees or fraction thereof	1
Hotel, Motel, or boarding house (not including	1-4 rental rooms	1
restaurant facilities)	each additional 4 rooms or fraction thereof	1 *
Restaurant, club, tavern or other retail food or	1 to 20 customer seats	1
drink establishment	each additional 20 seats or fraction thereof	1
Automobile service station or commercial repair shop	1-3 bays	1
	each additional 2 bays or fraction thereof	1
Beauty parlor or barber shop (whether or not attached	2 chairs	1
to or part of a dwelling unit)	each additional 2 chairs or fraction thereof	1
Car Wash	each bay	1
Laundries	each machine	1
Movie Theaters	1 to 50 seats	1
	each additional 50 seats or or fraction thereof	1

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Schools	1 to 25 students or staff	1
	each additional 25 students or staff or fraction thereof	. 1
Caterer	off site service	2
8 × ×	on site service (1 to 20 customer seats)	1
	each addition 20 seats or fraction thereof	1
Bowling Alley	each lane 1-4 lanes	数
(restaurant facilities, if included, shall add EDUs per restaurant category	each alled 4 lones or fraction	1
Golf Course/Country Club (with showers)	1-10 showers	1
	each additional 10 showers or fraction thereof does not include restaurant or banquet facilities which would be extra	1,
Banquet or Ballroom	up to 150 seating capacity	2
<u>.</u>	each additional 150 seating	1
House of Worship	not including school or banquet facilities	1
Convenience Store	see footnote 3	4

### Foot Notes:

1. With regard to Retail Stores, Professional Offices and other Commercial Enterprises, if the number of projected employees is not readily available, the EDU calculation shall be based upon an estimation of employees in accordance with the following formula:

# employees = (gross building square footage) x (0.8) / (150 sq. ft./employee)

- 2. In multi-tenant retail structures, the number of EDU's shall be calculated separately for each tenant space, with each tenant space being assessed a minimum of one (1) EDU.
- 3. If available, metered water consumption and / or sewage generation records from comparable facilities will be considered in the calculation of EDU's for a proposed establishment provided that the EDU calculation is based upon the highest quarterly measurement during the immediately prior four (4) calendar quarters. In such calculations, 230 gallons per day shall be equivalent to one (1) EDU.

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#### ARTICLE IV

#### PROHIBITED WASTES

SECTION 4.01. General Discharge Prohibitions
No Person shall contribute or cause to be contributed directly or indirectly, any pollutant or wastewater which will cause pass through or which will interfere with the operation or performance of the Publicly Owned Treatment Works (POTW) or the disposal of residuals or sludge. Any person who is found to have violated this Article shall be subject to the penalty provisions provided for in Section 6.01.

SECTION 4.02. Specific Discharge Conditions
No Person shall discharge or cause to be discharged into the Sewer System:

- A. any waste having a temperature that exceeds 40 degrees C (104 degrees F) or is less than 0 degrees (32 degrees F).
- B. any waste containing petroleum oil, non biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through, and in no case shall the amount exceed 100 mg/1.
- C. any pollutants which may create a fire or explosion hazard in the POTW including but not limited to, wastestreams with a closed cup flashpoint of less than 140 degrees F or 60 degrees C, gasoline, benzene, naptha, fuel oil, or paint products.
- D. any solid or viscous substances which may cause obstruction to the flow in a sewer or other interference with the operation of the POTW such as, but not limited to: grease, garbage with particles greater than one-half  $(1/2^n)$  inch in any dimension resulting from preparation, cooking and/or dispensing of food and/or from handling, storage and sale of produce.
- E. any waste containing ashes, cinders, sand, mud, straw, string, shavings, metal, glass, rags, feathers, tar, cotton, woul or other fibers, wood, plastics, residues from refining or processing of fuel, lubricating oil or glass grinding or polishing wastes.
- F. any waste having a pH lower than 6.0 or higher than 9.0, or containing pollutants which will cause corrosive structural damage to the POTW, equipment of the sewer system or any person engaged in operation and maintenance of the Sewer System.
- G. any waste which results in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems, or create any hazards in waters which shall receive treated effluent from the sever system.
- H. any oxygen demanding pollutant (BOD, ammonia, etc.) released at a flow rate and/or pollutant concentration which will cause interference with the POTW.
- I. any trucked or hauled pollutants, except at discharge points designated by the Authority.
- J. any waste prohibited by any permit issued by the Commonwealth of Pennsylvania or the U.S. Environmental Protection Agency.
  - K. any waste having a BOD content greater than 500 mg/l.
  - L. any waste having a suspended solids content greater than 500 mg/1.

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M. any waste having a Total Phosphorus as P content greater than 20 mg/1.

N. any waste having an Ammonia Nitrogen as a N content greater than 40 mg/1.

O. any waste having an instantaneous slug flow greater than five (5) percent of the average daily sewage flow at the POTW.

P. any waste containing toxic or poisonous substances in excess of the following limits, measured at the point of discharge to the sewer system:

Parameter .	Maximum (mg/1)	Concentration
Arsenic	#5	0.05
Cadmium	(C) (E)	0.01
Chromium (trivalent)		1.0
Chromium (hexavalent)	$\simeq -\kappa$	0.05
Copper		0.2
Cyanide		0.2
Lead	Ŷ.	0.01
Mercury	02	0.1
Nickel		0.5
Phenol	-	0.009
Silver		0.05
Zinc		2.5

Categorical limits, if more stringent, shall supersede these limits for any discharge regulated by Categorical Pretreatment Standards.

Q. any waste containing any substances not mentioned in the foregoing list that will pass through the treatment plant or accumulate in the sludge and exceed the maximum permitted levels for such substance under the requirements of the Commonwealth or other governmental agencies having jurisdiction.

R. any other substance prohibited by resolution, rule or regulation of the Authority hereafter adopted from time to time.

Under no circumstances shall any Person discharge or cause to be discharged into the sewer system any of the substances listed in Section 4.02 above, unless otherwise authorized by the Authority.

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Nothing contained herein shall be construed as prohibiting any special agreement or arrangement between the Authority and the Person discharging wastewater from any improved property allowing non residential wastes of unusual strength or character to be admitted into the sewer system.

SECTION 4.03. Authorized Discharges
Whenever a Person is authorized by the Authority and the appropriate
governmental agencies to discharge any polluted water, domestic sanitary sewage,
non residential or industrial waste containing any of the substances or
possessing any of the characteristics referred to in Section 4.02, such
discharge shall be subject to of the continuing approval, inspection and review
of the Authority. If, in the opinion of the Authority, such discharges are
causing or will cause damage to the sewer system, pass through of pollutants,
accumulation of pollutants in sludge or threaten the health or safety of
workers, the Authority may order the Person causing such discharge to cease
doing so forthwith, or to take other appropriate action, including exercising
the remedies provided in Section 6.01 of these Rules and Regulations.

#### SECTION 4.04. Interceptors

Grease, oil and sand interceptors shall be provided and maintained by any Person discharging a non-residential waste into the sewer system, (.e.g., restaurant establishments, food processing operations, etc.,) at his sole cost, when required by the Authority, for the proper handling of liquid wastes containing excessive grease, flammable wastes, sand or other harmful substances. All interceptors shall be of a type and capacity approved by the Authority and constructed or installed at a satisfactory location in accordance with plans approved by the Authority prior to installation or commencement of construction. All interceptors shall be maintained in efficient operating condition through routine cleaning and inspection. The Authority reserves the right to inspect the condition of an interceptor at any reasonable time. Non-compliance with this section shall result in compliance enforcement by the Authority and/or Limerick Township.

### SECTION 4.05. Pretreatment

Whenever necessary or appropriate in the opinion of the Authority, Persons discharging non residential wastewater shall provide wastewater pretreatment facilities as required to comply with this Article IV and shall achieve compliance with all Federal Categorical Pretreatment Standards within the time limitations as specified by the Federal Pretreatment Regulations, Any person required to pretreat wastewater to a level acceptable to the Authority shall provide, operate, and maintain pretreatment facilities in good operating condition satisfactory to the Authority at his sole expense. Detailed plans showing the pretreatment facilities and operating procedures shall be submitted to the Authority for review, and shall be acceptable to the Authority before construction of the facility commences. No construction of any such facility shall commence until approval has been obtained, in writing, from the Authority, and until approval has been obtained from any and all governmental regulatory

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bodies having jurisdiction. The review of such plans and operations procedures will in no way relieve the Person from the responsibility of modifying the facility as necessary to produce an effluent acceptable to the Authority under the provisions of this Article IV. Any subsequent changes in the pretreatment facilities or method of operation shall be reported to be acceptable to the Authority prior to the initiation of the changes.

The Authority shall have access to such facilities at reasonable times, without prior notification, for purposes of inspection and sampling.

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#### ARTICLE V

#### ADMISSION OF

#### NON RESIDENTIAL WASTES INTO THE SEWER SYSTEM.

SECTION 5.01. Non Residential Discharges
No person shall discharge or cause to be discharged into the Sewer System any
Non Residential Wastes without prior application for and receipt of a Wastewater
Contribution Permit from the Authority.

SECTION 5.02. Wastewater Contribution Permits

Any Person proposing to connect to or discharge to the POTW any non-residential waste, shall file with the Authority a completed "Non Residential Wastes Questionnaire". In addition, the Person shall obtain a Wastewater Contribution Permit prior to connection to or contributing to the sewer system.

The questionnaire shall supply information necessary to evaluate the proposed discharge. After evaluation and acceptance of the information, the Authority may issue a Wastewater Contribution Permit subject to terms and conditions provided herein, or require submittal of a Baseline Monitoring Report.

All cost associated with obtaining the required information shall be borne by the Person proposing to make or use the connection to the sewer system.

Permits shall be issued for a specific time period, not to exceed five (5) years. Application for Permit re-issuance shall be made at least 180 days prior to the expiration of the existing Permit. The terms and condition of the Permit may be subject to modification by the Authority during the term of the Permit as limitations or requirements are modified or other just cause exists. Such modifications shall be binding upon the Person discharging to the POTW.

Permits are issued for a specific operation and shall not be transferred, reassigned or sold to a new Owner, another Person or a changed operation without the written approval of the Authority. Succeeding permit holders shall comply with the terms and conditions of the Permit.

SECTION 5.03. Federal Categorical Pretreatment Standards
All Persons discharging non-residential wastes to the POTW shall attain and
maintain compliance with applicable Pretreatment Standards. Upon the
promulgation of the Federal Categorical Pretreatment Standards for a particular
industrial subcategory, the affected Person (s) shall be notified by the
Authority. The Federal Standard, if more stringent than the existing
limitations imposed under the Permit, shall immediately supersede those limits
for sources in that subcategory. State requirements and limitations on
discharges shall apply in any case where they are more stringent that Federal
requirements or those in this Article.

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SECTION 5.04. Baseline Monitoring Report
Any person currently discharging to or scheduled to discharge to the sanitary
sewer any non-residential waste which is subject to Categorical Pretreatment
Standards, shall submit to the Authority a report which contains the information
listed below:

- a. name and address of facility including the name of the operator and owners.
- b. a list of any environmental control permits held by or for the facility.
- c. a brief description of the nature, average rate of production, and standard industrial classification of the operation (s) carried out at the facility. The description must include a schematic process diagram which indicates points of discharge to the sever system from the regulated process.
- d. documentation of the measured average daily flow and maximum daily flow to the sewer system from each regulated process in gallons per day.
- e. measurement of pollutants including but not limited to those mentioned in Article IV as determined by a PADER certified analytical laboratory in accordance with procedures established by the EPA contained in 40 CFR, Part 136, as amended.
- f. a statement, signed by an authorized representative of the facility and certified to by a qualified independent professional engineer, indicating whether pretreatment standards are being or will be met on a consistent basis, and, if not, whether additional operation and maintenance and/or pretreatment are required to meet the pretreatment standards and requirements.
- g. a compliance schedule by which additional pretreatment and/or operations and maintenance will be provided. The completion date in this schedule shall not be later than the compliance date established for the applicable pretreatment standard.

No sooner than ninety (90) days prior to the commencement of discharge, Persons proposing to discharge and Persons currently discharging wastewater to the sever system whose status changes due to the promulgation of an applicable Categorical Standard, must submit to the Authority a report which contains the information required in (a) - (c) of this section.

SECTION 5.05. Categorical Pretreatment Compliance

Within 90 days following the date for final compliance with the applicable Categorical Pretreatment Standards (Section 5.04 (g)), or in the case of a new source following commencement of discharge of wastewater to the sewer system, Person whose wastewater discharge is subject to Categorical Pretreatment Standards and requirements shall submit to the Authority a report containing the information required in Section 5.04 (d) - (f) of this Article.

SECTION 5.06. Periodic Compliance Report
Ten (10) days prior to the first day of March, June, September, and December of
each year, each Person discharging a waste subject to a Categorical Pretreatment
Standard shall submit to the Authority a report indicating the nature and

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concentration of pollutants in the effluent which are limited by such Categorical Pretreatment Standards. The report forms shall be supplied by the Authority.

Persons discharging non-residential wastes that are not subject to Categorical Pretreatment Standards shall submit to the Authority semi-annually a description of the nature, concentration, and flow of the pollutants required to be reported by the Authority.

Reports shall be based on sampling and analysis performed in the period covered by the report in accordance with techniques described in 40 CFR Part 136 and amendments thereto.

SECTION 5.07. Sampling and Analysis
Reports required under Sections 5.04, 5.05, and 5.06 of this Article must
contain sampling and analysis results of the discharge, including the flow and
the nature and concentration of pollutants contained therein which are limited
by the applicable pretreatment standards.

All analyses shall be performed in accordance with procedures contained in 40 CFR Part 136 and amendments thereto. Where 40 CFR Part 136 does not include sampling or analytical techniques for the pollutants in question, sampling and analyses shall be performed using validated analytical methods or any other sampling and analytical procedures approved by the Authority.

SECTION 5.08. Monitoring Facilities
When required by the Authority, any Person discharging non-residential
wastewater shall install, at his expense, a suitable control manhole, together
with such necessary meters and other appurtenances in the building sewer, to
facilitate observation, sampling and measurement of the waste flow.

The monitoring facility shall normally be situated on the premises of the Owner's property, but the Authority may, when such a location would be impractical or cause undue hardship, allow the facility to be constructed in the public street or sidewalk area and located so that it will not be obstructed by landscaping or parked vehicles.

There shall be ample room in or near such sampling manhole or facility to allow accurate sampling and preparation of samples for analysis. The facility, sampling and measuring equipment shall be maintained at all times in a safe and proper operating condition at the expense of the Person discharging wastewater from the facility.

Whether constructed on public or private property, the sampling and monitoring facilities shall be provided in accordance with the Authority's requirements and all applicable local construction standards and specifications. Construction shall be completed within ninety (90) days following written notification by the Authority.

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#### Section 5.09 Inspection

The Authority may inspect the facilities of any Person discharging non-residential wastewater to ascertain that the purposes of these Rules and Regulations are being met and all requirements are being complied with. Persons or occupants of premises where wastewater is created or discharged shall allow the Authority or its representative ready access at all reasonable times to all parts of the premises for the purposes of inspection, sampling, records examination or the performance of any of their duties. The Authority shall have the right to set up on the property, such devices as necessary to conduct sampling, inspection, compliance monitoring and/or metering operations. Where a Person has security measures in force which would require proper identification and clearance before entry into their premises, the Person shall make necessary arrangement with their security guards so that upon presentation of suitable identification, personnel from the Authority or its representative will be permitted to enter without delay, for the purposes of performing their specific responsibilities.

#### Section 5.10 Accidental/Changed Discharge

Persons discharging non-residential wastewater shall notify this Authority immediately, both verbally and in written form, of all discharges that could cause problems, pass through or interference at the POTW, including any slug loadings. Persons discharging non-residential wastewater shall also notify the Authority in writing in advance of any changes in the volume or character of pollutants in their discharge.

#### Section 5.11 Records Retention

Any person subject to reporting requirements under this Article V shall maintain records of all information resulting from any monitoring activities required by this Article V for a minimum of three (3) years. Such records shall be available for inspection and copying by the Authority and appropriate regulatory agencies. This retention period shall be extended during the course of litigation regarding the Person, the facility or the Authority.

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### ARTICLE VI

#### MISCELLANEOUS

SECTION 6.01. Pursuant to the provisions of Act 9 of 1992, which provides for enhanced penalty authority for POTWs, any Person who is found to have violated these Rules and Regulations or fails to comply with any provisions of these Rules and Regulations shall be assessed civil penalties not to exceed \$25,000 per day for each violation. Each day a violation occurs or recurs shall constitute a separate and distinct violation under this Section.

SECTION 6.02. The Owner of any Improved Property shall be held liable for all acts of tenants or other occupants of such Improved Property, as may be permitted by law, insofar as such acts shall be governed by the provisions of this Resolution.

SECTION 6.03. The Authority shall adopt, from time to time, such additional rules and regulations as it shall deem necessary and proper in connection with the use and operation of the Sewer System, which rules and regulations shall be, shall become and shall be construed as part of this Resolution.

SECTION 6.04. In the event any provision, section, sentence, clause or part of this Resolution shall be held by any Court or Administrative tribunal of competent jurisdiction to be invalid, such invalidity shall not affect or impair any remaining provision, section, sentence, clause or part of this Resolution, it being the intent of the Authority that such remainder shall be and shall remain in full force and effect.

SECTION 6.05. All resolutions or parts of resolutions of this Authority which are inconsistent herewith expressly shall be and are repealed.

SECTION 6.06. This Resolution shall become effective on the date of its adoption by the Authority.

Duly ADOPTED, this 19th day of January, 1994, by the Board of The Limerick Township Municipal Authority, in lawful session duly assembled.

THE LIMERICK TOWNSHIP MUNICIPAL AUTHORITY.

By: Jalu Hadrau Chairman

TTEST:

Crindeas Tanney

#### SEWER SERVICE AGREEMENT

TOWNSHIF MUNICIPAL AUTHORITY and LIMERICK TOWNSHIP MUNICIPAL AUTHORITY

THIS AGREEMENT made and concluded this 10 day of luly, 1973, by and between UPPER PROVIDENCE TOWNSHIP, a Township of the Second Class with its principal office at his is Rock Pool, Oaks, Pennsylvania (hereinafter "TOWNSHIP"), UPPER PROVIDENCE TOWNSHIP MUNICIPAL AUTHORITY, a Pennsylvania municipalit, authority with its principal office at Black Rock Road, Oaks, Fennsylvania (hereinafter "TOWNSHIP AUTHORITY"), and LINERIC". TOWNSHIP MUNICIPAL AUTHORITY, A Pennsylvania sunicipality authority with its principal office at Box 184, R. D. #2, Senwenksville, Fennsylvania (hereinafter "LIMERICK AUTHORITY").

#### WITNESSETH:

WHEREAS, TOWNSHIP AUTHORITY owns, and TOWNSHIP leaves and operates, a sanitary severage system serving the Schuylkill River watershed portion of Upper Providence Township, with a Schuylkill intercepting or main sever extending along the Mingo Crack and Schuylkill River, discharging to the regional treatment plant at Tooks, owned and operated by the Montgomery County Sawer authority, and

WHEREAS, said sewerage system was designed as a regional facility with capacity to accommodate estimated sewage flow from approximate potential users within the drainage limits, and

WHEREAS, TOWNSHIP and TOWNSHIP AUTHORITY have agreed to provide such regional sewer service to upstream users for some ducting nawage from the imposed sewerage system of IMERICA AUTHORITY, (within the limits provided in the design of TY ALEE AUTHORITY'S system) to the present regional treatment plant of take, Fennsylvania.

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NOW, THEREFORE, IN CONSIDERATION "THE MUTUAL PROFISES.

AND COVENANTS HEREIN CONTAINED, and intending to be logarity to ma,
the parties covenant and agree, as follows:

- 1. TOWNSHIP and TOWNSHIP AUTHORITY agree to except and convey sewage from the proposed sewers of LIMERICK AUTHORITY and to deliver same to the Oaks sewage treatment plan of the long-towery County Sewer Authority.
- 2. Said sewage shall be discharged into the upper extremity of TOWNSHIP AUTHORITY'S present sewer system at the present terminus of the Mingo interceptor, on the west side of Lewis Road. The construction of the additional line from the bimerick-Upper Providence Township boundary to the plant of discharge including but not limited to the cost of appointion, of all necessary right of way excements chall be at the sole extends of LIMERICK AUTHORITY under a plan of construction acceptable to both parties. It is further agreed that the said line shall be reappointed for all costs of maintenance and repairs of the said line. It is further agreed that future "pper Proviounce Township ages along the said line shall be permitted to connect to the raid line and shall become never rental customers of the Upper brovidence Township. It is agreed, however, the said user.

may to required to pay to LIMERICK AUTHORITY a connection to TOWAR.

- 3. Sewage small be received from the contem of proposed by LIMERICE AUTHORITY and approved by the Pennsylvania frepartment of Environmental Resources, or as may be unended from time to time by letter, agreement or other uniting. All disclarate that it is subject to rules and regulations promulgated by the TOWNSHIP AUTHORITY from time to time and further the characteristics of such discharge shall be within the limits established by the Montgomery County Sewer Authority, as acceptable for treatment at it, treatment facilities at Cake.
- 4. The acquisition and installation cost of an additional pump, if TOWNSHIP and TOWNSHIP AUTHORITY remainably require the same, to be installed in TOWNSHIP'S pumping station at Second Avenue and Mingo Creek shall be the sole expense of LIMERICK AUTHORITY. It is further agreed the payment shall be made in time for installation to be completed at or suffere the time when the anticipated flow of effluent will require the acreices of the said pump.
- 5. LIMERICK AUTHORITY will pay, with respect to all users connected to the TOWNSHIP AUTHORITY'S new-rage system a sewer rental for conveyance thru the Mingo interceptor of \$15 per year per E.L.U. (equivalent dwelling unit) as defined in TOWNSHIP'S newer rental ordinance, from time to time, for users of its own system. Quarterly payment in full of the total of such rental fees shall be a condition precedent to FOWNSHIP'S obligation to provide service hereunder.

#### JOINDER AND GUARANTY

Limerick Township, a quasi-municipal corporation under the Laws of the Commonwealth of Pennsylvania and being a Township of the Second Class, with its principal office at Box 184, R. D. #2, Schwenksville, Pennsylvania, being the political subdivision in which the Limerick Township Municipal Authority will construct and operate a sanitary sever system, does hereby confirm, approve and acknowledge the foregoing Agreement and by these presents hereby joins in its terms and conditions, agrees to be bound thereby, and guarantees to TOWNSHIP any payments required of LIMERICK TOWNSHIP MUNICIPAL AUTHORITY hereby.

LIMERICK TOWNSHIP

Attes Her bira H. Bruna, By: Frank Rumler

Chairman, Board of Supervisors

(TOWNSHIP SEAL)

EXTENSION OF AGREEMENT BETWEEN THE BOROUGH OF ROYERSFORD,
THE TOWNSHIP OF LIMERICK AND THE LIMERICK TOWNSHIP
MUNICIPAL AUTHORITY, PROVIDING FOR SEWER
SERVICE FOR THE TOWNSHIP OF LIMERICK

THIS EXTENSION made and concluded this 30th day of November ,

1976, by and between the BOROUGH OF ROYERSFORD, (hereinafter called "Royersford")

and the LIMERICK TOWNSHIP MUNICIPAL AUTHORITY and the TOWNSHIP OF LIMERICK,
(hereinafter called collectively "Limerick").

#### WITNESSETH:

WHEREAS, the parties entered into an Agreement dated the 4th day of December 1967, providing for sewer service for the Township of Limerick, to be provided by Royersford; and

WHEREAS, the said Agreement of December 4, 1967, in Paragraph 15 thereof provides that Royersford agrees to accept, treat and dispose of raw sewage from Limerick for a period of not less than ten years from December 4, 1967; and

WHEREAS, the parties desire to enter into an extension of the said Agreement of December 4, 1967.

NOW THEREFORE, and in consideration of the mutual promises and covenants herein contained, and intending to be legally bound, the parties hereto do covenant and agree as follows:

- 1. From and after December 4, 1977, Royersford agrees to accept, treat and dispose of raw sewage from Limerick, in accordance with the terms of the Agreement of December 4, 1967, for a period of one year and from year to year thereafter unless Royersford terminates this Agreement and the Agreement of December 4, 1967, by giving six months' written notice of Royersford's intention to terminate this agreement, such written notice to be delivered to the Limerick Township Secretary at least six months' prior to the expiration date of any extension or renewal period.
- 2. In all other respects, the Agreement of December 4, 1967, shall remain in full force and effect.
- 3. The Royersford Borough Authority is no longer in existence.
  The Borough of Royersford is now the owner and operator of the Sewerage Dis-

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hereto. Said map is hereby incorporated into, and made a part of, this Agreement.

- 2. Sewage received by ROYERSFORD from LIMERICK shall not contain storm water, roof or surface or subsurface drainage from storm water inlets, sump-pumps, floor drains, roof leaders and from other direct sources; nor shall it contain any industrial waste, chemical or other matters
  - a) having a temperature higher than 150°F;
     b) containing more than 100 parts per million
     by weight of fat, oil or grease;
  - c) containing any gasoline, benzine, naptha, fuel oil or other inflammable or explosive liquid, solid or gas;
  - d) containing any unground garbage;
     e) containing any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, paunch manure or other solid or viscous substance capable of causing obstruction or other interference with the proper operation of the sewage treatment plant.
  - plant;
    f) having a "PH" (as determined by consulting engineers for ROYERSFORD) lower than 4.5 or higher than 9.5 or having any other corrosive property capable of causing damage or hazard to structures, equipment or personnel of the sewage treatment plant;
  - g) containing a toxic or poisonous substance in sufficient quantity to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals, or create any hazard in the receiving waters of the sewage treatment plant. Toxic wastes shall include wastes containing cyanide, copper and/or chromium ions;
  - h) containing total solids of such character and quantity that unusual attention or expense is required to handle such materials at the sewage treatment plant;
  - containing noxious or malodorous gas or substance capable of creating a public nuisance,
- 3. All expenses of connecting the contemplated sewage collecting system of the TOWNSHIP OF LIMERICK to the present system of the BOROUGH OF ROYERSFORD shall be paid by LIMERICK. All material shall be supplied by them and all labor shall be supplied by them. Supervision shall be supplied by LIMERICK; provided that

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ROYERSFORD shall have the right to approve the type of connection or connections, material used, etc., and shall have the right of inspection at any time during construction and thereafter.

4. It is agreed and understood that ownership of all materials installed by LIMERICK shall remain in LIMERICK. LIMERICK agrees to maintain said materials at its own expense and agrees at all times to keep all lines feeding material into the ROYERSFORD system in a good state of repair so there is no possibility of the efficiency of the ROYERSFORD system being impaired by any defects of any kind of that part of the system in LIMERICK, or its use. LIMERICK shall maintain all lines, connections, and materials of any and all kinds in conformance with the standards then existing for the inhabitants of ROYERSFORD. This shall include, without being limited to, the Plumbing Code then in effect in the Borough of Royersford. This provision shall apply to both public and private facilities. ROYERSFORD shall have the right under this Agreement, at all reasonable times, to inspect all parts of the LIMERICK sewerage system feeding sewage into the ROYERSFORD system. Should any defects or inadequacies according to the standards as herein set forth be discovered LIMERICK shall immediately remedy the defects or inadequacies. Should LIMERICK fail to remedy or correct the said defect or inadequacy LIMERICK shall terminate the discharge of sewage into the ROYERSFORD system from the offending property or properties, line or lines. This paragraph shall apply to all facilities within buildings, the same as is provided for the inhabitants and buildings of the BOROUGH OF ROYERSFORD. Where necessary, LIMERICK shall provide for entry into buildings by the proper employees or officials of the BOROUGH OF ROYERSFORD.

5. LIMERICK shall maintain Liability Insurance covering Related to its sewage collection system and particularly any and all parts or connections having to do in any way with ROYERSFORD. Said policy or policies shall be at the expense of LIMERICK, shall name the component parts of ROYERSFORD as named insured, and shall be in such amounts as the parties hereto shall mutually agree upon. At all times the amount of coverage shall be in an amount not less than that found adequate by the Borough Council of the Borough of Royersford.

- 6. LIMERICK shall pay ROYERSFORD for "each user" sewer rent at the same rates that are applicable within the Borough of Royersford, as they are now established, or may hereafter be established. The said "sewer rents" shall be subject to the same time of payment, the same penalties, and to the same terms and conditions as they are in the Borough of Royersford.
- 7. ROYERSFORD shall send all bills (or a composite bill as may be determined) to the Supervisors of Limerick Township, at the same time as bills are delivered to users in the Borough of Royersford. LIMERICK shall make payment in full of the complete bill or bills within sixty (60) days of receipt thereof, subject to penalties, etc., as above set forth.
- 8. All users in Limerick Township shall be included in the above "composite billing." This shall include all users who may, at the effective date of this agreement, be already connected to the sawage system of the Borough of Royersford.
- 9. Connections to individual users shall be made by LIMERICK and at such charge as LIMERICK shall determine; provided, that if any connections are made into collecting lines that are not

provided by LIMERICK, ROYERSFORD shall be paid, by the individual user, the connection charge then in effect in ROYERSFORD (presently \$125.00).

10. It is agreed and understood that LIMERICK shall pay ROYERSFORD each quarter for the use of the ROYERSFORD sewer system as herein set forth. Payment to ROYERSFORD shall in no way be contingent upon receipt of "sewer rents" from users in Limerick Township and LIMERICK specifically agrees to assume all duties and obligations having to do with the collection of sewer rent from individual users in Limerick Township.

Il. The Supervisors of the Township of Limerick agree to become a part of this Agreement. The Supervisors may delegate certain parts of this agreement to the Limerick Municipal Authority or to other possible units in the Township of Limerick, as LIMERICK may determine; provided, that the Supervisors of the Township of Limerick specifically agree to obligate the full faith and credit of Limerick Township for the performance of all duties and obligations of Limerick Municipal Authority or any other unit of LIMERICK, under the terms of this Agreement; and ROYERSFORD may, if it sees fit, declare the Supervisors of the Township of Limerick responsible for complete performance by LIMERICK of the terms of this Agreement.

12. Connection or connections into the ROYERSFORD system shall be made at such points as may be mutually agreed by the parties hereto; provided that they shall be at such points as shall make installation of collecting lines by LIMERICK economically feasible and shall, at the same time, provide for efficient operation of the ROYERSFORD system.

13. Control, operation, maintenance, and all decisions in respect to the treatment plant of the Borough of Royersford shall remain in ROYERSFORD.

14. The lines of Limerick shall be "flushed" at such times as may be necessary and desirable for efficient operation of the LIMERICK system and the ROYERSFORD system. LIMERICK may, at its option, provide for the flushing of these lines; however, LIMERICK may, at its option, request ROYERSFORD to flush the lines in LIMERICK in which case ROYERSFORD shall do so. ROYERSFORD shall charge LIMERICK for flushing the lines in LIMERICK the actual cost of labor used and materials used, plus 15% of the total thereof. In computing "the cost of labor" there shall be added to the amount actually paid to the employees of ROYERSFORD proper amounts for Social Security and Unemployment Tax payments made by ROYERSFORD and any amount or amounts that may be expended by ROYERSFORD for Hospitalization, Pension Plans, etc.

- 15. ROYERSFORD agrees to accept, treat and dispose of raw sewage from LIMERICK as herein set forth for a period of not from December 4, 1967.

  less than ten (10) years? ROYERSFORD may terminate this Agreement at any time after the initial ten-year period as aforesaid by giving one (1) year's written notice of ROYERSFORD'S intention to terminate this Agreement, such written notice shall be delivered to the Limerick Township Secretary.
- 16. LIMERICK may discontinue the discharge into, and use of the ROYERSFORD sewage system at any time, upon the giving of six (6) months? notice to ROYERSFORD.
- 17. If and when LIMERICK shall discontinue the use of ROYERSFORD sewer facilities, either in whole or in part, it shall

nave the right to remove any and all materials added by them to the ROYERSFORD system provided that the ROYERSFORD system shall not be in any way damaged by said removal so it is in worse condition than it was before the materials were added.

18. This Agreement shall be effective when signed by all the parties hereto. ROYERSFORD shall accept raw sewage from LIMERICK at such time or times as LIMERICK shall determine and provide connection as set forth in this Agreement.

IN WITNESS WHEREOF the parties hereto have set their hands and seals the day and year first above written.

BOROUGH OF ROYERSFORD
By: Lend Greekelf
Fresident
Attest: Ringamun A. Mry. Secretary
/ Sécretary
ROYERSFORD BOROUGH AUTHORITY
By: Chairman
Attest: T. Norman Ottoline.
55023022
TOWNSHIP OF LIMERICK
Br. Frank Run lo-
By: Frank Rumler Chairman of Limerick Township
Board of Supervisors
Attest: Onebura Tol Dawnan
Secretary
LIMERICK TOWNSHIP MUNICIPAL
AUTHORITY
By: John C. Peneres
Chaffman
Attest: Dullary XI Harmin
Assistant Secretary

commenced under the contemplated comprehensive Agreement.

NOW, THEREFORE, FOR AND IN CONSIDERATION OF THE MUTUAL PROMISES AND COVENANTS HEREIN CONTAINED, and intending to be legally bound hereby pursuant to the provisions of the Pennsylvania Uniform Written Obligations Act, the parties hereto do covenant and agree as follows:

- 1. Subject to the other terms and conditions of this Agreement, ROYERSFORD agrees to accept, treat and dispose of raw sewage from the property development of New Era Development Corporation in Limerick.
- 2. LIMERICK shall measure by meter, all water used by occupiers of property now owned by New Era Development Corporation, immediately northwest of the Borough of Royersford. For purposes of this Agreement, the total amount of water supplied to or used by, said occupiers shall be conclusively presumed to be discharged into the sewerage system of ROYERSFORD. ROYERSFORD shall have the absolute right to read, inspect and test the said meter or meters at any time so desired by ROYERSFORD.
- 3. LIMERICK shall pay ROYERSFORD the sum of fifty cents (50¢) for every one thousand (1,000) gallons of raw sewage discharged into the ROYERSFORD sewage system, which sewage shall then be treated and disposed of by ROYERSFORD.
- 4. The parties hereto agree that the amount of raw sewage to be received by ROYERSFORD shall be limited to an amount not in excess of thirty-five thousand (35,000) gallons in any calendar day, that is from twelve o'clock P.M. until the next following twelve o'clock P.M. This amount of thirty-five thousand (35,000) gallons shall not be an "average figure" of the amount ROYERSFORD will receive during any given period but shall be the maximum amount received during any calendar day

as hereinabove defined.

- Sewage received by ROYERSFORD from LIMERICK shall not contain storm water, roof or surface or subsurface drainage from storm water inlets, sump-pumps, floor drains, roof leaders and from other direct sources; nor shall it contain any industrial waste, chemical or other matters
  - a. having a temperature higher than 1500 F;

b. containing more than 100 parts per million by weight of fat, oil or grease;

c. containing any gasoline, benzine, maptha, fuel oil or other inflammable or explosive liquid, solid or gas;

- d. containing any unground garbage;e. containing any ashes, cinders, s containing any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, paunch manure or other solid or viscous substance capable of causing obstruction or other interference with the proper operation of the sewage treatment plant;
- f. having a "PH" (as determined by consulting engineers for ROYERSFORD) lower than 4.5 or higher than 9.5 or having any other corrosive property capable of causing damage or hazard to structures, equipment or personnel of the sewage treatment plant;
- g. containing a toxic or poisonous substance in sufficient quantity to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals, or create any hazard in the receiving waters of the sewage treatment plant. Toxic wastes shall include wastes containing cyanide, copper and/or chromium ions;
- h. containing total solids of such character and quantity that unusual attention or expense is required to handle such materials at the sewage treatment plant;
- i. containing noxious or malodorous gas or substance capable of creating a public nuisance.
- 6. Said raw sewage shall be discharged into the Royersford sewage system at such point or points as ROYERSFORD shall determine, it being understood and agreed that this point or points shall be determined by taking into consideration reasonable cost to LIMERICK.

- 7. All expenses of connecting the contemplated sewage collecting system of the Township of Limerick to the present system of the Borough of Royersford shall be paid by LIMERICK.

  All material shall be supplied by them and all labor shall be supplied by them. Supervision shall be supplied by LIMERICK; provided that ROYERSFORD shall have the right to determine the type of connection or connections, material used, etc., and shall have the right of inspection at any time during construction and thereafter.
- 8. ROYERSFORD agrees to accept, treat and dispose of raw sewage from LIMERICK as herein set forth for a period of not less than ten (10) years, subject to the provisions of paragraph 14.
- 9. LIMERICK may discontinue the discharge into, and use of, the ROYERSFORD sewage system at any time, upon the giving of six (6) months' notice to ROYERSFORD.
- 10. The amount of raw sewage discharged into the ROYERSFORD system shall be tabulated at the end of each calendar quarter of the year, and payment shall be made by LIMERICK to ROYERSFORD within forty-five (45) days of the close of each calendar quarter. Payment shall be for the preceding quarter as above set forth.
- 11. If ROYERSFORD shall increase its sewer rates to users in the Borough of Royersford the rates to LIMERICK shall be increased by the same percent that the average rate to users in ROYERSFORD has been increased. The "average increase" shall be the total percentage by which receipts from all consumers in ROYERSFORD have been increased.

- 12. The Supervisors of the Township of Limerick agree to become a part of this Agreement and specifically agree to obligate the full faith and credit of Limerick Township for the performance of all duties and obligations of Limerick Municipal Authority under the terms of this Agreement.
- ROYERSFORD "one lump-sum" each quarter for the use of the ROYERSFORD sewage system as herein set forth. Payment to ROYERSFORD shall in no way be contingent upon receipt of "sewer rents" from users in Limerick Township and LIMERICK specifically agrees to assume all duties and obligations having to do with the collection of sewer rent from individual users in Limerick Township.
- 14. This Agreement shall be effective when signed by all the parties hereto. This Agreement shall terminate and the rights granted hereunder shall terminate when the parties hereto enter into a subsequent comprehensive Agreement covering the discharge of all sewage from LIMERICK into ROYERSFORD including inter alia the discharge of sewage from the property presently owned by New Era Development Corporation; provided that this Agreement shall absolutely terminate and the rights granted hereunder shall cease and determine on March 12, 1967 if no "Comprehensive Agreement" shall have been executed before that date.
- 15. If and when LIMERICK shall discontinue the use of ROYERSFORD sewer facilities, either in whole or in part, it shall have the right to remove any and all materials added to the ROYERSFORD system; provided that the ROYERSFORD system shall not be in any way damaged by said removal so it is in worse condition than it was before the materials were added. It is

agreed and understood that ownership of all materials installed by LIMERICK shall remain in LIMERICK. LIMERICK agrees to maintain said materials at its own expense as herein provided and shall maintain Liability Insurance covering its sewage collection system and particularly any and all parts or connections having to do in any way with ROYERSFORD. Said policy shall be at the expense of LIMERICK, shall name the component parts of ROYERSFORD as named insured, and shall be in such amounts as the parties hereto shall mutually agree upon.

- 16. Control, operation, maintenance, and all decisions in respect to the treatment plant of the Borough of Royersford shall remain in ROYERSFORD.
- 17. ROYERSFORD agrees to cooperate with LIMERICK in the establishment of sewer rents and rates, but nothing herein shall be construed to prevent either of the parties hereto from establishing such rates as they may see fit, independent of the other.

IN WITNESS WHEREOF the parties hereto have set their hands and seals the day and year first above written.

	Ву	BOROUGH OF ROYERSFORE	elaif
			President
	Attest	: Degranin A. H.	Secretary
	Ву	F 757	THORITY Chairman
	<u> À</u> ttest	: Il omanio aco	Land.
		1	Secretary
APPROVED:	GIRARD TRUST COMPANY, Tr	ustee	
	Ву:	nut-differ diffuses	

LIMERICK MUNICIPAL AUTHORITY
By:
Attest: Eleif Show
Secretary
TOWNSHIP OF LIMERICK
By: Trunk Punker
President
Attest: Author V. Lange
C a and a reserve

Sewer and Plumbing Ordinances

# Chapter 140. SEWERS AND SEWAGE DISPOSAL

ARTICLE I. Sewer Use and Connection

§ 140-1. Definitions.

§ 140-2. Use of public sewage system required.

§ 140-3. Use of private wastewater systems prohibited.

§ 140-4. Notice to connect.

§ 140-5. Connection to and use of sewer system.

§ 140-6. Permits; connections.

§ 140-7. Holding tank regulations.

§ 140-8. Private sewage systems.

§ 140-9. Violations and penalties.

ARTICLE II. Licensing of Sewage Haulers

§ 140-10. Short title.

§ 140-11. Definitions.

§ 140-12. License required.

§ 140-13. License.

§ 140-14. Prohibited acts.

§ 140-15. Conditions of license.

§ 140-16. Granting, suspension or revocation of license.

§ 140-17. Rules and regulations.

§ 140-18. Enforcement.

§ 140-19. Construal of provisions.

ARTICLE III. Sewer Rents, Fees and Charges

§ 140-20. Imposition of rents, fees and charges.

§ 140-21. Tapping fees.

[HISTORY: Adopted by the Board of Supervisors of the Township of Limerick as indicated in article histories. Amendments noted where applicable.]

#### **GENERAL REFERENCES**

Municipal Authority - See Ch. 5.

Building construction — See Ch. 60.

Sewers in flood hazard areas — See Ch. 89.

Sewage disposal in mobile home parks — See Ch. 113.

Plumbing — See Ch. 129.

Stormwater management — See Ch. 151.

Street openings — See Ch. 153.

Discharge of sewage into wells — See Ch. 181.

Article I. Sewer Use and Connection

[Adopted 7-19-2005 by Ord. No. 254 Editor's Note: Ordinance No. 254 provided for the repeal of former Art. I, Sewer Regulations for Orchard Terrace Sewer District, adopted 6-18-1968 by Ord. No. 35; Art. II, Holding Tanks, adopted 10-3-1972 by Ord. No. 48; Art. III, Private Sewage Disposal Systems, adopted 10-2-1979 by Ord. No. 78; and Art. IV, Sewer Use and Connections, adopted 11-5-1986 by Ord. No. 96. It also provided for the renumbering of former Art. V as Art. II, resulting in the renumbering of former §§ 140-32 through 140-41 as §§ 140-10 through 140-19.]

Township of Limerick, PA Thursday, January 17, 2013

### § 140-5. Connection to and use of sewer system.

- A. Where an improved property, at the time connection to a sewer is required, shall be served by a private sewerage system, the existing sewer line shall be broken on the structure side of such system and attachment shall be made, with proper fittings, to continue such sewer line as a building wastewater system.
- B. No building wastewater system shall be covered until it has been inspected and approved by the Township and/or the Authority. If any part of a building wastewater system is covered before so being inspected and approved, it shall be uncovered for inspection at the cost and expense of the owner of the property to be connected to a sewer.
- C. Every building wastewater system shall be maintained in a sanitary and safe operating condition by the owner thereof.
- D. Every excavation for the construction of a building wastewater system shall be guarded adequately with barricades and lights to protect all persons from damage and injury. Streets, sidewalks and other public property disturbed in the course of installation of a building wastewater system shall be restored to Township specifications at the cost and expense of the owner of the property.
- E. In the event the Township or the Authority determines that a building wastewater system is in an unsafe or unsatisfactory condition, notice to correct such condition shall be given to the owner of the property. If, after receipt of such notice, the owner shall fail or refuse to remedy such condition within 60 days of receipt of such notice, the Township or the Authority may refuse to permit such person to discharge wastewater and industrial wastes into the sewerage system until such unsatisfactory condition shall have been remedied to the satisfaction of the Township and the Authority.
- F. The Township and the Authority reserve the right to adopt additional rules and regulations as is deemed necessary and proper relating for the connection to and use of the sewer and the sewerage system. Such additional rules and regulations shall be construed as part of this article.

### § 140-6. Permits; connections.

A. No person shall uncover, shall connect with, shall make any opening into or shall use, shall alter or shall disturb, in any manner, any sewer or any part of the sewerage system without first obtaining a permit, in writing, from the Authority.

- B. Application for a permit required under Subsection A above shall be made by the owner or the duly authorized agent of such owner of the improved property served or to be served to the Enforcement Officer.
- C. No person shall make or shall cause to be made a connection of any improved property with a sewer until such person shall have fulfilled each of the following conditions:
  - (1) Such person shall have notified the Enforcement Officer of the desire and intention of such person to connect such improved property to a sewer.
  - (2) Such person shall have applied for and shall have obtained a permit as required by Subsection A.
  - (3) Such person shall have given the Enforcement Officer at least 48 hours' notice of the time when such connection will be made so that the Enforcement Officer may supervise and inspect or may cause to be supervised and inspected the work of connection and necessary testing.
  - (4) If applicable, such person shall have furnished satisfactory evidence to the Enforcement Officer that any and all tapping fees, connection charges, user charges and other fees and charges which have been or may be charged to or imposed upon such person, either by resolution of the Township or Authority or by written agreement between such person and the Township or Authority, have been paid in full.
- D. Except as otherwise provided in this subsection, each improved property shall be connected separately and independently with a sewer through a building wastewater system. Grouping of more than one improved property on one building wastewater system shall not be permitted, except under special circumstances and for good sanitary reasons or other good cause shown, but then only after special permission of the Authority, in writing, shall have been secured and only subject to such rules, regulations and conditions as may be prescribed by the Authority.
- E. All costs and expenses of construction of a building wastewater system and all costs and expenses of connection of a building wastewater system to a sewerage system shall be borne by the owner of the improved property to be connected, and such owner shall indemnify and shall save harmless the Township and the Authority from all loss or damage that may be occasioned, directly or indirectly, as a result of construction of a building wastewater system or of connection of a building wastewater system to a sewer, including said lateral where none exits.
  - F. A building wastewater system shall be connected to a sewer at the place designated by the Enforcement Officer and where, if applicable, the lateral is provided. The invert of a building wastewater system at the point of connection shall be at the same or a higher elevation than the invert of the sewer. A smooth, neat joint shall be made, and the connection of a building wastewater system to the lateral shall be made secure and watertight.

Township of Limerick, PA Thursday, January 17, 2013

#### Chapter 129. PLUMBING

[HISTORY: Adopted by the Board of Supervisors of the Township of Limerick 3-17-1992 by Ord. No. 143. Editor's Note: This ordinance also repealed former Ch. 129, Plumbing, adopted 10-15-1987 by Ord. No. 97, as amended. Amendments noted where applicable.]

#### **GENERAL REFERENCES**

Building construction — See Ch. 60.

Code enforcement — See Ch. 70.

Construction activities — See Ch. 72.

Uniform construction codes — See Ch. 73.

Plumbing in mobile home parks — See Ch. 113.

Sewers and sewage disposal — See Ch. 140.

Wells and well drilling — See Ch. 181.

### § 129-1. Adoption of standards.

There is hereby adopted by the Board of Supervisors of Limerick Township, for the purpose of establishing rules and regulations for the design, installation and performance of plumbing systems and establishing minimum plumbing standards, including permits and penalties, that certain Plumbing Code known as the "BOCA National Plumbing Code," as prepared by the Building Officials and Code Administrators International, Inc., being particularly the 1990 Edition thereof and supplements thereto, save and except such portions as are hereinafter deleted, modified or amended, of which not fewer than three copies have been and now are filed in the office of the Township Secretary in the Municipal Building, situate at 646 West Ridge Pike, Limerick Township, Montgomery County, Pennsylvania, and the same are hereby adopted and incorporated as fully as if set forth at length herein, and, from the date on which this chapter shall take effect, the provisions thereof shall be controlling in the installation of all plumbing systems within the corporate limits of the Township of Limerick.

### § 129-8. Modifications to standards.

- A. Deletions. The following sections of the BOCA National Plumbing Code adopted herein are hereby deleted in their entirety:
  - (1) Section P-117.4.

- (2) Section P-1702.5.2.
- B. Amendments. The following sections of the BOCA National Plumbing Code are hereby amended to read as follows:

**P-114.2 Fee schedule:** A fee schedule for new installation, replacement installation, storm sewer connection and all other fees necessary to carry out this chapter shall be, from time to time, adopted by resolution of the Board of Supervisors of Limerick Township.

#### SECTION P-123.0 PLUMBERS' LICENSES

**P-123.1 General:** No person other than a registered master plumber or journeyman shall be allowed to carry on or engage in the business of installation or preparation of house drainage systems where such drainage systems empty into a public sewage disposal or treatment system nor shall any person or persons expose a sign of doing such house drainage work or any advertisement pertaining thereto or solicit business as such unless he or they have first secured a master plumber's or journeyman's license. Apprentices are permitted to install drainage work when such drainage empties into a public sewage system only when accompanied by and under the observation of a registered plumber. In the event that a master plumber or journeyman approving an apprentice orders or permits such apprentice to perform and work in violation of this apprenticeship clause, such offense shall be held to be an act of the master plumber or journeyman and a violation of these regulations.

**P-123.2 Application for licenses:** Application for a plumber's license may be submitted through the Township Secretary or his designated agent.

**P-123.3 Insurance coverage requirements:** No application shall be complete until the applicant has furnished a certificate of insurance coverage with a reputable insurance company, providing public liability insurance coverage, in the case of claims for personal injury, of not less than \$100,000 per person and \$300,000 per occurrence and, in the case of claims for property damage, of not less than \$50,000 for a single claim and \$100,000 for multiple claims arising out of the same occurrence.

**P-123.4 Issuance of license:** The Township Secretary or his designated agent shall issue the appropriate license when, after review of a completed application, it appears that the applicant is qualified for the same. Should the Township Secretary or his authorized agent fail to grant or deny the application within 10 business days from the day the completed application is submitted, the application shall be deemed granted.

**P-123.5 Duration of license:** Certificates of license shall be issued for a period not in excess of one year.

**P-123.6 Supervision requirements:** All plumbing work within the Township shall be performed under the general direction of a person holding a certificate of license as a master plumber. Whenever any pipe laying or jointing is in progress, at least one person holding a certificate of license as a master plumber shall be present at all times. Routine in-house repairs and replacements shall be exempt and shall be made in accordance with Section P-105 of the Plumbing Code.

**P-123.7 Connection to public sanitary sewers:** In all cases of house drainage connection to a public sanitary sewer or lateral thereof, a licensed master plumber shall be required to install the trap, vent and clean out and the rest of the sewer line connecting such dwelling to the public sanitary sewer.

**P-123.8 License fee:** A fee for the following licenses shall be established, from time to time, by resolution of the Board of Supervisors of the Township: master's license, journeyman's license and apprentice's license.

**P-303.2 Public systems available:** A public water supply system and/or public sewer system shall be deemed available to the premises used for human occupancy if such premises are within 150 feet, measured along the street, alley or easement, of the public water supply or sewer system and a connection conforming with the standards set forth in this code.

**P-308.3 Freezing:** Water service piping shall be installed three feet below the finished grade. Plumbing piping in interior walls shall be adequately protected against freezing by insulation or heat, or both.

**P-308.4 Sewer depth:** Building sewers that connect to the municipally owned sewage collection system shall be a minimum of 36 inches below the finished grade.

P-403.3 Building sewers: The building sewer is that section of wastewater piping connecting the building to the public sewer. All building sewer piping shall be bituminous-coated cast-iron sewer pipe not less than service weight with watertight and rootproof joints or polyvinyl chloride (PVC) Schedule 40 plastic pipe of not less than four inches in diameter visibly marked with appropriate identification in accordance with American Society for Testing and Materials (ASTM) standards, with approved fittings connected by solvent cementing in accordance with ASTM D2855, said solvent to conform to ASTM D2564. Other types of materials referenced in this section shall not be used. In addition to the normal care of preventing rocks from coming in contact with either type of piping system, the PVC Schedule 40 pipe will require a four-inch-deep bedding and haunching to the spring line of the pipe of either Class I material, consisting of angular one-fourth-inch to three-fourths- inch graded stone or crushed stone, or Class II material, consisting of coarse sand and gravel with a maximum particle size of 3/4 inch, with a layer of either Class I or Class II material to the top of the pipe and a complete cover of a minimum of 10 inches over the top of the pipe of

either Class I or Class II material, with all fill to be placed and compacted as required so as not to displace or damage said pipes.

**P-506.1 General:** Joints for bell and spigot cast-iron soil pipe and fittings shall be made by use of a compression gasket that is compressed when the spigot is inserted in the hub of the pipe. Caulking with lead and/or oakum is prohibited.

**P-1001.7 Building traps:** Building traps shall be installed on all building sewers outside the building or at locations otherwise required by the Code Enforcement Officer. Each building trap, when installed, shall be provided with a relieving vent or fresh-air intake on the inlet side of the trap. Such relieving vent or fresh-air intake shall be carried above the grade and terminate in a vented cap at a minimum height of six inches in grass areas and three inches in paved areas, with said paved areas to be built up around the trap to prevent surface water infiltration into the building sewer and/or municipal sewer system.

The cast-iron soil pipe house trap shall be not less than service weight thickness. The PVC house trap shall be Schedule 40 weight made up of ells and tees joined together by the solvent cement in accordance with ASTM D2855, with said solvent cement to conform to ASTM D2564. Gasket-sealed PVC SDR35 shall also be permitted. Fabricated traps shall provide the same configuration and dimension and provide the same depth of water seal as the cast-iron soilpipe traps.

**P-1219.1 Approval:** The water consumption of water closets shall not exceed an average of 1.6 gallons per flush cycle over a range of test pressures from 20 to 80 pounds per square inch. The fixture shall perform in accordance with the test requirements of ANSI A112.19.2M and ANSI A112.19.6M.

Urinal water consumption shall not exceed an average of 1.5 gallons per flush cycle over a range of test pressures from 20 to 80 pounds per square inch. The fixture shall perform in accordance with the test requirements of ANSI A112.19.2M and ANSI A112.19.6M.

- C. Modifications. The following sections of the BOCA National Plumbing Code are hereby modified to prohibit the following:
  - (1) In Section P-402.4, Water service pipe, Type M copper or copper alloy pipe shall not be permitted.
  - (2) In Section P-402.5, Water distribution pipe, Type M copper or copper alloy pipe shall not be permitted.
  - (3) In Section P-403.3, Building Sewers, the use of concrete, bituminized fiber, vitrified clay and asbestos cement pipe is prohibited.

- (4) In Section P-1212.3, commercial food waste grinders are prohibited from being connected to or otherwise used to discharge their residual elements into the sanitary sewer system.
- D. Additions. The following new paragraphs shall be added to the specified sections of the BOCA National Plumbing Code:
- **P-517.7 Connections:** The connection of the building sewer (as hereinbefore defined) to the municipal sewer system shall be made by means of a special adapter, which shall be obtained and/or approved from or by the Code Enforcement Officer.
- **P-1211.4 Drains:** Floor drains, area drains and basement sump-pump connections to the sanitary sewer system are prohibited unless said aforementioned drains or sump-pump connections are for the expressed purpose of conveying sewage.
- **P-1212.6 Food grinders:** Domestic food waste grinders are prohibited from being connected to or otherwise used to discharge their residual elements into the sanitary sewer system.
- **P-1216.7 Showerheads:** Showerhead discharge rates shall not exceed three gallons of water per minute over a range of test pressures from 20 to 80 pounds per square inch. The fixture shall perform in accordance with the test requirements of ANSI A112.18.1M.

Lateral Inspection Procedures

#### LIMERICK TOWNSHIP SEWER DEPARTMENT

#### LATERAL INSPECTION

#### **PROCEDURES**

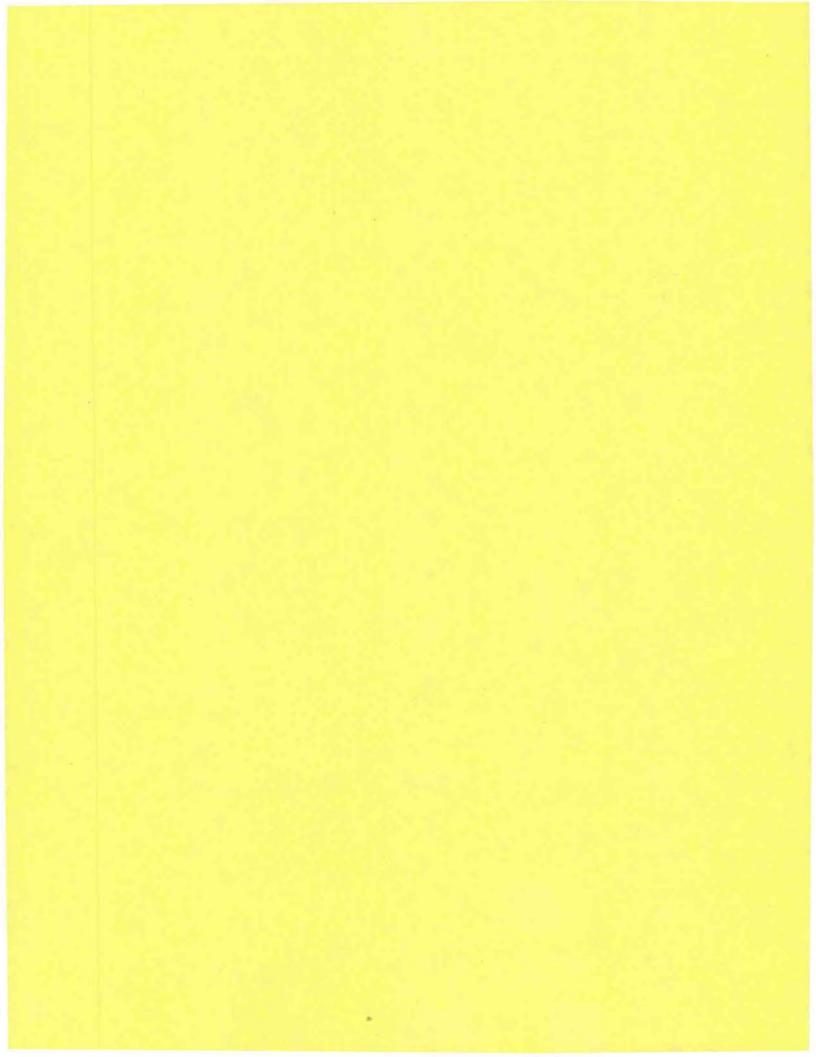
- 1. Lateral inspections are conducted by this department Monday thru Friday, 7:30 A.M. to 2:00 P.M. (Inspections will not be conducted on Sat., Sun., or Holidays).
- 2. A minimum of 24 hours notice is required. During busy times of the year more time may be required.
- 3. To schedule an inspection, contact the Township Office at (610) 495-5750.
- 4. Limerick Township Plumbing Code Ordinance No. 97, enacted October 15, 1987, shall govern all work.
- 5. Air test are required as part of the inspection.

Five pounds (5 lbs.) of air held for 15 minutes must be placed on the lateral. Air test equipment must be supplied by plumbing contractor. Air pressure gauge must be large enough to visually distinguish one pound increments.

Example: Large 3-inch boiler gauges that indicate air pressure from 0 to 15 pounds. Test will fail if the proper gauge is not used.

- 6. A safe means for the inspector to reach the top of the test pipe must be provided.
- 7. Building sewers may not be connected to the sanitary sewer system without first obtaining a connection permit.
- 8. Connection permits will not be issued until the sanitary sewers have been approved for connection by the Township Engineer.
- Specifications, Standard Details, and Township Ordinances are on file at the Township Office. Copies of this information can be obtained at the Township Office.

- 10. Abandonment of on-lot systems is required when existing homes hook-up to the municipal system.
  - A. The influent line to the system must be cut off and capped.
  - B. The septic tank or tanks, cesspools and seepage pits must be pumped out. All tanks must be pumped through the main cover. All tanks must be backflushed and pumped until all solids are removed.
  - C. A copy of the pumpers slip of manifest must be presented to the inspector at the time of the inspection.
  - D. All septic tanks, holding tanks, and cesspools must have the top broken in and properly backfilled.
  - E. All gray water must be connected to the sewer system.
- 11. Sump pumps, floor or roof drains are not permitted to discharge into sanitary sewer system.



# CHAPTER 94 MUNICIPAL WASTELOAD MANAGEMENT ANNUAL REPORT

#### 2015

# LIMERICK TOWNSHIP POSSUM HOLLOW WWTP SERVICE AREA MONTGOMERY COUNTY, PENNSYLVANIA

Prepared by:
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One Drexel Plaza
3001 Market Street
Philadelphia, PA 19104

www.pennoni.com

Prepared for: LIMERICK TOWNSHIP 646 West Ridge Pike Limerick, PA 19468

Preparer:

Pennoni Associates

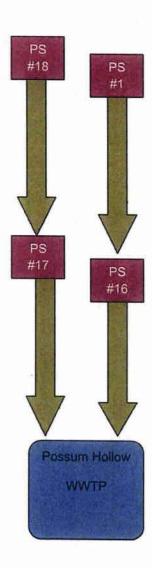
Robert M. Campbell, PE

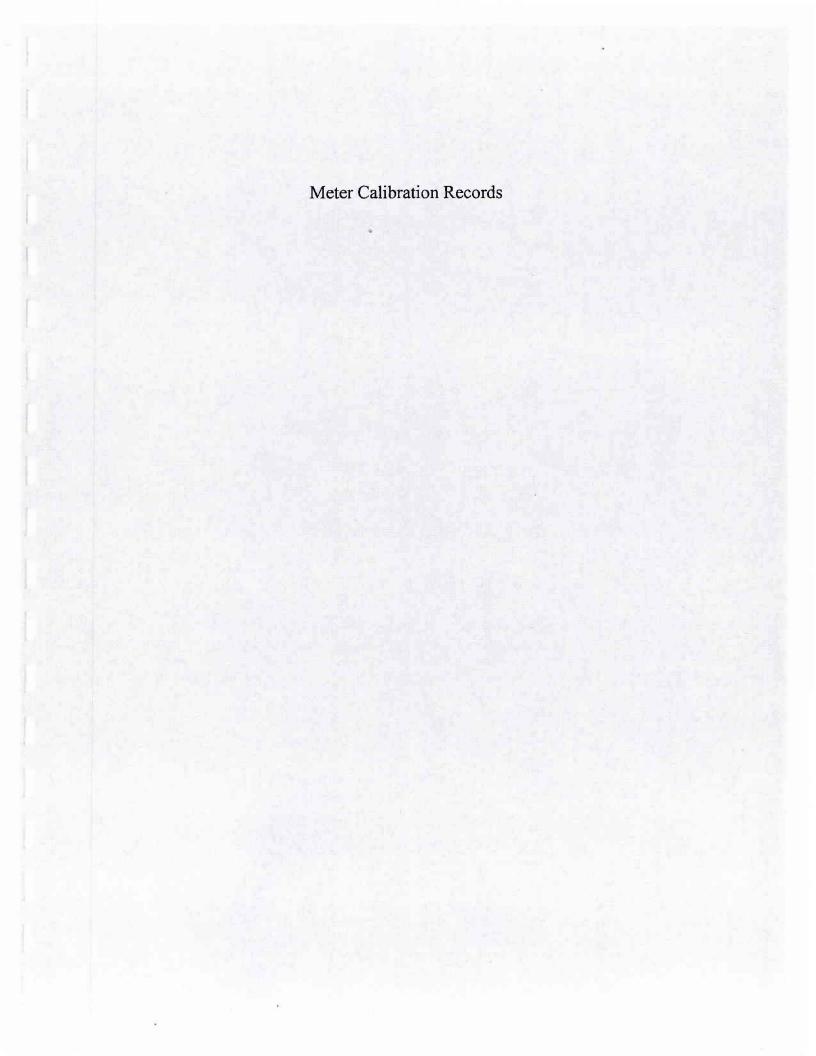
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Pump Station Flow Schematic Diagram

Possum Hollow WWTP

Pump Station Flow Chart





1 Garfield Avenue • P.O. Box 234, West Point, PA 19486 24 Hour Emergency Service 800-441-4844 Fax 215-699-9030

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11 Garfield Avenue • P.O. Box 234, West Point, PA 19486 24 Hour Emergency Service 800-441-4844 Fax 215-699-9030

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Graph 2 Possum Hollow WWTP Organic Loading

#### APPENDIX B

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#### APPENDIX C

Attachment I	NPDES Permit
Attachment 2	Pump Station Flow Schematic Diagram
Attachment 3	Meter Calibration Records
Attachment 4	Township Industrial Discharge Resolution
Attachment 5	Sewer and Plumbing Ordinances
Attachment 6	Lateral Inspection Procedures

#### 1.0 INTRODUCTION

This Report is submitted in compliance with the latest regulation set forth under Title 25, Part I, Subpart C, Article II, Chapter 94 Municipal Wasteload Management Regulations of the Pennsylvania Department of Environmental Protection (PADEP) concerning sewerage facilities.

#### 1.1 Delineation of Sewerage Service Areas

Limerick Township, Montgomery County, PA borders Upper Frederick and New Hanover Townships to the north; Lower Frederick Township to the northeast; Lower Pottsgrove Township to the northwest; Perkiomen Township to the east; Upper Providence Township to the southeast; the Borough of Royersford to the south and Chester County boundaries to the west.

The Township contains approximately 22 square miles of land. Approximately 75% of the Township is zoned residential, 22% industrial and 3% commercial. The Township zoning ordinance allows for a number of land uses as described below.

- Residential-Agricultural (R-I) is intended to preserve agricultural and natural areas while allowing limited compatible residential development. This encompasses much of the land north of Ridge Pike.
- Low Density Residential (R-2) is intended to provide residential neighborhoods that primarily include single family detached dwelling units at a low density
- Medium Density Residential (R-3) is intended for residential neighborhoods with a mix of dwelling types at a medium density.
- Medium-High Density Residential (R-4) is intended for a mix of housing types at medium-high densities around village centers.
- Village Residential (R-5) is intended for a mix of housing types and densities within a village area, with emphasis on pedestrian circulation.
- Mobile Home Park (MHP) is intended to provide that mobile homes are integrated into the community.
- Village Commercial (VC) is intended to encourage compact mixed development within the historic village areas.
- Retail Business (RB) is intended to encourage commercial development that is less restrictive than the VC district, but less permissive that the HC district.
- **Highway Commercial (HC)** is intended to focus larger commercial development in areas where public facilities and appropriate lot sizes are available.
- Interchange Office (IO) is intended to provide concentrated employment centers that will have easy to access to Route 422.
- Office/Limited Industrial (O/LI) is intended to provide appropriate areas for a mix of business oriented land uses.
- Limited Light Industrial (LLI) is intended for a wide range of industrial uses while avoiding heavy industrial uses that are likely to cause nuisances and hazards.

- Heavy Industrial (HI) is intended for a wide range of industrial uses and complementary commercial uses. A coordinated interior road system and control of nuisances and hazards are encouraged.
- Heavy Industrial and Energy (HI/E) is intended to provide appropriate areas for heavy industrial use.

\*Zoning district designation and description per report entitled "Land Use Assumptions Report" dated February 2011 by Traffic Planning and Design

The Township has entered into inter-municipal Sewer Agreements with the downstream municipality, Borough of Royersford, to provide for sewer conveyance, and treatment of wastewater at the Royersford Wastewater Treatment Plant. The Agreements establish the following items: terms of the relationship; location of connection points; flow limits, loading and billing information; and other necessary requirements for the wastewater which passes through the Borough of Royersford's sewer collection and conveyance system.

#### 1.2 General Description of Existing Sewage Facilities

The wastewater system in the Township consists of multiple collectors and interceptors ranging in size from eight (8) to thirty-six (36) inches, seventeen (17) dedicated sewage pumping stations, a 1.7 MGD wastewater treatment plant (King Road) and a 0.7 MGD wastewater treatment plant (Possum Hollow). The wastewater systems are owned and operated by Limerick Township, which took ownership and operational responsibility from the Municipal Authority in September 2008.

#### 1.3 Description of Treatment Plant

The Possum Hollow Wastewater Treatment Plant (WWTP) is located at 642 Longview Road in Limerick Township. The primary source of wastewater is residential, although there are several industrial and commercial operations located throughout the Township. A portion of the WWTP's influent flow is from Pump Station #17 while the remainder of the flow is conveyed through Pump Station #16.

Under NPDES Permit # PA0058041 (expires at midnight on 9/30/2018), the plant is permitted for the following:

Flow:

Design	0.70 MGD	
One (1) Hour Peak	2.175 MGD	
Sustained Peak	1.50 MGD	

Influent:

	Average
BOD₅	1,720 ppd
TSS	1,877 ppd
NH <sub>3</sub> -N	407 ppd

#### Effluent:

BOD <sub>5</sub>	10 mg/l
TSS	15 mg/l
NH <sub>3</sub> -N	1.0 mg/l

The treatment process at the Possum Hollow Wastewater Treatment Plant is summarized below.

- A pretreatment process contained within and around the pre-engineered steel headworks building consisting of a mechanical fine screen, aerated grit chamber, and grit classifier.
- The plant utilizes an AeroMod activated sludge biological treatment system that includes two-stage aeration, clarification, and aerobic sludge digestion.
- In-line ultraviolet disinfection and effluent metering.
- Standby power and support facilities, located in and around the pre-engineered steel service building.

Treated effluent is discharged to the Schuylkill River.

All sludge generated at the WWTP is hauled away as thickened liquid to the Pottstown Wastewater Treatment Plant for further processing before final disposal.

The overall condition of the WWTP is in good condition, operating well and consistently producing effluent that meets the permitted requirements.

At the WWTP, the Township staff monitors and visually inspects the treatment processes and supporting mechanical equipment daily for any signs of failure or malfunctioning. Discharge Monitoring Reports (DMRs) are generated and forwarded to the PaDEP monthly, providing useful data of the WWTP operation to produce a clean effluent in accordance with the NPDES effluent limitation. The frequency of sampling and analysis for the final effluent can be found in the NPDES permit which is provided in Appendix D.

The Possum Hollow WWTP does not currently have an influent flow meter. The Township utilizes the measured effluent flow for calculating and reporting the loadings at the treatment facility. Since there are no equalization facilities at the WWTP, the effluent flow measured after final treatment also reasonably measures the influent flow to the plant. Should daily flows increase, Township staff then inspect the collection system for leaks. Since the WWTP receives flow directly from two separate pump station (16 and 17), it is not feasible to measure the flow at a single point prior to the treatment plant without significant and costly changes to the headworks at the WWTP. The Township is currently working towards ascertaining a method to meet the DEP's request of influent flow monitoring that is able to continuously measure, indicate, and report the flows

entering the WWTP. This includes metering the influent/effluent at the Pump Station #16 and #17, which feed the WWTP and then adding the flows together to determine the influent flow.

Routine maintenance is performed at the WWTP on a regular basis. Maintenance includes the following:

- Grease equipment
- Weekly exercising of the emergency generator
- Wet wells are cleaned
- · Weirs are cleaned
- Pumps are checked for wear
- Meters calibrated (calibration records are provided in the Appendix D).

There were no major repairs or rehabilitation of equipment at the WWTP in 2015.

#### 1.4 Current WWTP Service Area

The Township's existing sewerage facilities map is located in Appendix B. The Possum Hollow service area is approximately 4.6 square miles and, as of December 31, 2015, consists of approximately 1,606 EDUs.

The service area for the WWTP consists of the connections found in Table 1.4-A. These connections are either existing or under construction (connection by lateral). Total Connections are based on number of water billing users, residential and non-residential. There were 33 connections constructed and/or connected in 2015 as can be seen on Table 1.4-A. Proposed and/or projected connections can be found in Table 2.2-A and is discussed in Section 2.2 of this report.

As previously mentioned, the Township has entered into inter-municipal Sewer Agreements with the downstream municipality, Borough of Royersford, to provide for sewer conveyance, and treatment of wastewater at the Royersford Wastewater Treatment Plant. Limerick Township has 103 connections resulting in an estimated 127 EDUs that discharge from the Chester View Apartments development into the Borough of Royersford's collection system.

Limerick Township Sewer Department 2015 Wasteload Management Report

#### Table 1.4-A

#### 2015 Connection Data

Connection Date	Address	Town	EDU'S	Туре	Sewage Service Area	Pump Station Service
1/16/2015	55 & 57 Fruitville Rd.	Pottstown	2	Residential	Possum Hollow WWTP	PS #18
2/20/2015	44 Fruitville Rd.	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
2/20/2015	55 Fruitville Rd.	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
4/7/2015	3 Montella Circle	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
4/7/2015	34 Montella Circle	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
4/7/2015	32 Montella Circle	Pottstown	1.	Residential	Possum Hollow WWTP	PS #18
4/9/2015	14 Lightcap Rd Ste 500	Pottstown	5	Commercial	Possum Hollow WWTP	PS #17
4/10/2015	103 Enterprise Dr.	Royersford	1	Commercial	King Road WWTP	PS #5
4/30/2015	31 Montella Circle	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
4/30/2015	125 Benner Rd.	Royersford	1	Residential	King Road WWTP	PS #4
4/30/2015	90 Springford Rd.	Royersford	1	Residential	King Road WWTP	PS #19
5/5/2015	67 Neiffer Rd.	Limerick	1	Residential	Possum Hollow WWTP	PS #18
5/4/2015	14 Oak Lane	Royersford	1	Residential	King Road WWTP	PS #5
5/8/2015	104 Redwood Dr.	Royersford	1	Residential	King Road WWTP	PS #5
5/8/2015	108 Redwood Dr.	Royersford	1	Residential	King Road WWTP	PS #5
5/8/2015	112 Redwood Dr.	Royersford	1	Residential	King Road WWTP	PS #5
5/8/2015	124 Sage Ct.	Royersford	1	Residential	King Road WWTP	PS #5
5/11/2015	116 Redwood Dr.	Royersford	1	Residential	King Road WWTP	PS #5
5/11/2015	120 Sage Ct.	Royersford	1	Residential	King Road WWTP	PS #5
5/11/2015	116 Sage Ct.	Royersford	1	Residential	King Road WWTP	PS #5
5/11/2015	112 Sage Ct.	Royersford	1	Residential	King Road WWTP	PS #5
5/11/2015	108 Sage Ct.	Royersford	1	Residential	King Road WWTP	PS #5
5/11/2015	104 Sage Ct.	Royersford	1	Residential	King Road WWTP	PS #5
5/12/2015	151 Holly Dr. Clbhs	Royersford	1	Commercial	King Road WWTP	PS #5
5/12/2015	400 Redwood Dr.	Royersford	22	Residential	King Road WWTP	PS #5
5/13/2015	100 Holly Dr.	Royersford	36	Residential	King Road WWTP	PS #5
5/14/2015	500 Redwood Dr.	Royersford	22	Residential	King Road WWTP	PS #5
5/15/2015	200 Holly Dr.	Royersford	36	Residential	King Road WWTP	PS #5
5/18/2015	100 Cypress Ct	Royersford	22	Residential	King Road WWTP	PS #5
5/19/2015	100 Dogwood Ct.	Royersford	22	Residential	King Road WWTP	PS #5
5/14/2015	28 Montella Cir	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
5/15/2015	18 Montella Cir	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
	250 Holly Dr. (Maint					
6/30/2015	Garage)	Royersford	1	Commercial	King Road WWTP	PS #5
6/30/2015	22 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
6/30/2015	21 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
7/1/2015	27 Benner Rd.	Royersford	1	Residential	King Road WWTP	PS #7
7/1/2015	25 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
7/1/2015	13 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
7/9/2015	10 Phaeton Way	Limerick	- 1	Residential	King Road WWTP	PS #3
7/9/2015	6 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
7/10/2015	82 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
7/14/2015	94 Springford Rd.	Royersford		Residential	King Road WWTP	PS #19
7/24/2015	11 S. Limerick Rd.	Royersford	1	Residential	King Road WWTP	PS #6

7/24/2015	504 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
7/24/2015	508 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
7/24/2015	512 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
7/24/2015	516 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
7/28/2015	30 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
7/29/2015	207 W. Ridge Pike	Limerick	1	Commercial	King Road WWTP	PS #10
7/29/2015	71 Neiffer Rd.	Limerick	1	Residential	Possum Hollow WWTP	PS #18
8/6/2015	30 Montella Cir	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
8/12/2015	58 Fruitville Rd	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
8/10/2015	52 Fruitville Rd.	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
8/13/2015	50 Fruitville Rd.	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
8/18/2015	353 Sunset Rd.	Limerick	1	Residential	King Road WWTP	PS #20
8/19/2015	78 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
8/19/2015	56 Fruitville Rd.	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
8/21/2015	27 Montella Cir	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
8/21/2015	12 Montella Cir	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
8/24/2015	135 N Limerick Rd.	Limerick	1	Residential	King Road WWTP	PS #2/#3
8/24/2015	32 Inverness Cir.	Royersford	1	Residential	King Road WWTP	PS #19
A STATE OF THE STA	54 Fruitville Rd.	Pottstown	1	Residential	Possum Hollow WWTP	PS #19 PS #18
8/20/2015		Pottstown	1	Residential	FOSSUM HOROW W W IP	PS#16
0/2/2015	70 Buckwalter Rd. Ste	Dannafand		Communicat	Wine Dood MAYED	DC 446
9/3/2015	113	Royersford	1	Commercial	King Road WWTP	PS #6
9/14/2015	26 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
9/24/2015	404 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
9/24/2015	408 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
9/24/2015	412 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
9/24/2015	416 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
10/8/2015	321 Jones Blvd	Pottstown	3	Commercial	Possum Hollow WWTP	PS #1
0/23/2015	204 Redwood Dr.	Royersford	1	Residential	King Road WWTP	PS #5
10/23/2015	208 Redwood Dr.	Royersford	1	Residential	King Road WWTP	PS #5
0/28/2015	9 Mountain View Ln	Schwenksville	1	Residential	King Road WWTP	PS #20
10/28/2015	14 Montella Cir	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
0/28/2015	15 Montella Cir	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
1/12/2015	22 Montella Cir	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
1/17/2015	297 Swamp Pike	Schwenksville	1	Residential	Possum Hollow WWTP	PS #18
1/17/2015	11 Montella Cir.	Pottstown	1	Residential	Possum Hollow WWTP	PS #18
1/12/2015	13 Mountain View Ln	Schwenksville	1	Residential	King Road WWTP	PS #20
1/13/2015	63 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
1/23/2015	17 Mountain View Ln	Schwenksville	1	Residential	King Road WWTP	PS #20
1/24/2015	9 Metka Rd.	Limerick	1	Residential	King Road WWTP	PS #2/#3
2/10/2015	5 Mountain View Ln	Schwenksville	1	Residential	King Road WWTP	PS #20
2/10/2015	304 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
2/10/2015	308 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
2/10/2015	312 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
2/10/2015	316 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
2/10/2015	320 Holly Dr.	Royersford	1	Residential	King Road WWTP	PS #5
2/16/2015	159 N Twp Line Rd.	Royersford	1	Residential	King Road WWTP	PS #6
2/16/2015	332 Graterford Rd.	Schwenksville	1	Residential	King Road WWTP	PS #6
2/16/2015	340 Graterford Rd.	Schwenksville	1	Residential	King Road WWTP	PS #6
2/16/2015	14 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
2/16/2015	18 Phaeton Way	Limerick	1	Residential	King Road WWTP	PS #3
2/29/2015	6 Mountain View Ln	Schwenksville	1	Residential	King Road WWTP	PS #20

2015 Total

254

Kir	ng Road WWTP
Existing Connections:	6,442
New Connections:	220
Total Connections:	6,662

Possum Hollow WWTP					
Existing Connections:	1,573				
New Connections:	33				
Total Connections:	1,606				

**Total Township Connections:** 

8,268

#### 2.0 HYDRAULIC & ORGANIC LOADINGS [§ 94.12.Sec. (a) (1), (2), (3)]

#### 2.1 Historical & Present Loadings

#### A. Hydraulic Loading

The permitted hydraulic capacity of the WWTP is 0.75 million gallons per day (MGD). Table 2.1-A shows monthly average wastewater flows for the WWTP during 2015.

Table 2.1-A

Possum H	ollow Hy	draulic Lo	ading (M	GD)		Rainfall (in)
Month	2011	2012	2013	2014	2015	2015
January	0.171	0.209	0.221	0.248	0.211	3.54
February	0.206	0.201	0.214	0.269	0.203	1.76
March	0.22	0.207	0.217	0.25	0.271	5.55
April	0.229	0.2	0.223	0.261	0.233	2.32
May	0.204	0.216	0.22	0.255	0.207	1.86
June	0.19	0.218	0.253	0.236	0.227	7.12
July	0.197	0.217	0.23	0.22	0.229	4.27
August	0.241	0.232	0.234	0.214	0.158	2.65
September	0.292	0.228	0.205	0.212	0.166	5.51
October	0.226	0.225	0.209	0.212	0.171	4.43
November	0.234	0.208	0.21	0.211	0.165	1.81
December	0.231	0.226	0.26	0.235	0.198	4.99
Annual Average (AA)	0.220	0.216	0.225	0.235	0.203	3.818
3 Month Max Avg	0.253	0.228	0.239	0.260	0.237	
Ratio Max/AA	1.15	1.06	1.06	1.11	1.17	
5-year Avg Hydraulic Ratio		4-5			1.11	

The monthly average flows ranged from 0.271 MGD in March to 0.158 MGD in August. The annual average flow of 0.203 MGD was generated by approximately 1,606 connections which results in a calculated unit flow of 127 gallons per day per equivalent dwelling unit (EDU) which is lower than the average design flow per EDU of 230 gpd per the Township's Ordinance. The calculated unit flow is used later in the report for development of the projected hydraulic loadings.

It should be noted that the maximum 3-month average flow of 0..237 MGD did not exceed the WWTP's permitted hydraulic capacity of 0.75 MGD for 3-consecutive months in 2015. Therefore, the WWTP was not hydraulically overloaded in 2015.

Table 2.1-A also shows historical (past 5 years) hydraulic flows at the WWTP, including monthly total rainfall data for the reporting year. Based on these historical flows, a hydraulic ratio (peaking factor) of the 3-month maximum flow divided by the annual average flow was calculated in each year. A 5-Year average hydraulic ratio of 1.11has been calculated and is used later in the report for development of the projected hydraulic loadings.

A hydraulic loading graph incorporating the historical monthly average and annual average flows to the WWTP is located in Appendix A.

#### B. Organic Loading

The permitted organic capacity of the WWTP is 1,700 pounds per day (ppd) of BOD<sub>5</sub>. Table 2.1-B1 shows average daily influent organic loadings for the WWTP during 2015, expressed in pounds per day (ppd) of calculated organic load.

	Tab	le 2.1-B1						
Possum Ho	llow Org	anic Loa	ding (lbs	day)				
Month	2011	2012	2013	2014	2015			
January	411	424	500 °	372	468			
February	527	535	443	515	514			
March	567	455	431	464	539			
April	427	396	525	641	584			
May	431	438	442	399	512			
June	448	354	401	406	378			
July	407	422	379	353	389			
August	391	477	463	322	315			
September	451	458	321	336	326			
October	432	507	348	405	335			
November	492	611	453	557	318			
December	664	540	402	590	387			
Annual Average	471	468	426	447	422			
Max Month	664	611	525	641	584			
Ratio (Max Month to								
Annual Average Ratio)	1.41	1.31	1.23	1.43	1.39			
-Year Average Organic Ratio = 1.35								

The average daily organic load ranged from 315 ppd in August to 584 in April ppd for the WWTP during 2015. The annual average organic load of 422 ppd was generated by approximately 1,606 connections which resulted in a calculated organic load of 0.268 pounds per day (ppd) per equivalent dwelling unit (EDU) which is used later in the report for development of the projected organic loadings.

It should be noted that the maximum average daily organic loading of 584 pounds per day of BOD<sub>5</sub> for the month of April did not exceed the WWTP's permitted organic capacity of 1,700 ppd in 2015. Therefore, the WWTP was not organically overloaded in 2015.

Table 2.1-B1 also shows historical (past 5 years) organic loading at the WWTP. Based on the historical organic loadings, an organic ratio (peaking factor) of the maximum average organic divided by the annual average organic loading was calculated in each year. A 5-Year average organic ratio of 1.35 has been calculated and is used later in the report for development of the projected organic loadings. It is influent BOD<sub>5</sub> that is used to determine the organic capacity of a treatment plant.

Table 2.1.B2 shows a summary of the WWTP's influent organic sampling events in 2015. The average daily organic load is calculated by multiplying the influent BOD<sub>5</sub> concentration by the recorded flow the day of the influent BOD<sub>5</sub> concentration was sampled and the unit conversion factor 8.34. The calculated average daily organic load for the month is the average of all the sampling events in that month.

Based on the organic sampling events at the WWTP, an annual average daily influent concentration strength of 240.32 mg/l was calculated in 2015. The organic concentration strength is a flow based calculation of the sum of the entire year average daily organic loadings divided by the total flow the day the samples were taken.

Regarding current influent sampling of organic load (5-day biochemical oxygen demand or "BOD<sub>5</sub>"):

- 1. 24-hour composite samples of treatment plant influent are collected and analyzed weekly at the force main discharge chamber prior to screening and grit removal. The sample collection is not flow proportioned. The treatment plant does not accept hauled-in waste.
- 2. Weekly organic loadings are calculated by multiplying the flow on sample day (in MGD) by that day's BOD<sub>5</sub> concentration in milligrams per liter (mg/l) sampled and a conversion factor of 8.34.
- 3. Monthly average organic loading is the average of the weekly loading values in a calendar month.

An organic loading graph incorporating the historical annual average and maximum average daily organic loadings to WWTP is located in Appendix A.

		Table 2	.1-B2	
Pos	sum Hol	low Organic	Loading Samp	ling Data
			C = A x B x	
	° A	В	8.34	
Date of Sample	BOD5 (mg/l)	Flow (MGD)	Daily BOD5 (lbs/day)	Monthly Average (lbs/day)
1/7/2015	287	0.197	472	
1/14/2015	289	0.194	468	
1/21/2015	372	0.195	605	
1/28/2015	233	0.191	371	
2/4/2015	243	0.208	422	467.6
2/11/2015	315	0.196	515	
2/19/2015	284	0.196	464	
2/25/2015	309	0.179	461	
3/4/2015	240	0.307	614	513.5
3/11/2015	239	0.409	815	
3/18/2015	212	0.239	423	
3/25/2015	217	0.233	422	
4/1/2015	268	0.221	494	538.5
4/8/2015	282	0.224	527	
4/15/2015	338	0.222	626	
1/22/2015	283	0.269	635	
5/6/2015	336	0.187	524	584.4
5/13/2015	327	0.210	573	
5/20/2015	292	0.203	494	
5/27/2015	279	0.228	531	
6/3/2015	223	0.241	448	511.5
5/10/2015	312	0.210	546	
5/17/2015	211	0.200	352	
5/24/2015	134	0.213	238	
7/1/2015	166	0.271	375	377.8
7/8/2015	190	0.226	358	
//15/2015	191	0.427	680	
//22/2015	144	0.210	252	
/29/2015	188	0.244	383	
8/5/2015	217	0.150	271	388.8
3/12/2015	253	0.141	298	
/19/2015	257	0.198	424	
3/26/2015	207	0.159	274	

9/2/2015	224	0.141	263	314.8
9/9/2015	258	0.168	361	
9/16/2015	169	0.146	206	
9/23/2015	206	0.178	306	
10/2/2015	209	0.248	432	326.3
10/7/2015	213	0.175	311	
10/14/2015	223	0.154	286	
10/21/2015	225	0.155	291	
10/28/2015	232	0.233	451	
11/4/2015	244	0.166	338	335.4
11/11/2015	243	0.164	332	
11/18/2015	266	0.155	344	
11/25/2015	178	0.165	245	
12/2/2015	220	0.190	349	317.5
12/9/2015	220	0.174	319	
12/16/2015	205	0.161	275	
12/23/2015	256	0.282	602	
12/30/2015	181	0.232	350	386.5
		Daily BOD5	Average (ppd):	419.92
			Average (MGD):	0.21
	AA D	aily Influent Conce	entration (mg/l):	240.32

Sampling Data per Township Provided DMRs

#### 2.2 Projected Loadings

#### A. Projected Connections

Prior to 2015, the total number of connections was 1,573. During 2015, there were 33 new connections to the WWTP. Development within the Township will continue; however, it is anticipated to be at a faster pace over the next couple of years. Table 2.2-A shows a summary of total existing connections and connections projected to occur within the next five (5) years that are existing, under construction, or awaiting Act 537 planning approval.

Accordingly, the WWTP projected hydraulic loadings for the next five (5) years are shown in Table 2.2-B3. The annual average and maximum 3-month average flows are indicated. Likewise, the annual average and maximum daily organic loadings are indicated. Graphs incorporating the historical and projected loadings for the next five (5) years to the WWTP are located in Appendix A for hydraulic and organic loadings.

Table 2.2-A Possum Hollow Wasterwater Treatment Plant
Active or Planned Developments (as of 12/31/2015)

Name	Remaining	Sewage	Pump Station		Projecte	d Buildout	Schedule	
Name	No. of EDUs	Flow (GPD)	Service Area	2016	2017	2018	2019	2020
Active or Planned								
Developments								
Allied Landscaping	2	460	PS #16	2				
Carr Penn	1	230	PS #18		1			
DHLP - Heritage Hills	23	5,290	PS #18	10	13			
Ely Property	7	1,610	PS #18	3 .	4			
Evans Creek Industrial (Jason								
Griggs)	6	1,380	PS #16	3				
Fruitville Road (Rest & Car								
Dealer)	35	8,050	PS #18					
Gambone, 40/44 High (limerick								
Airport Business Center)	11	2,530	PS #1					
Hirschorn Property	18	4,140	PS #18	10	10	8		
Limerick Deli Hardware	6	1,380	PS #18					
Manfredi / Possum Hollow								
Industrial Park	4	920	PS #17	2	2			
Moscariello - Springford	42	9,660	PS #18	14	21			
North Pointe Community								
Church	10	2,300	PS #18					
Oak Creek (Neiffer Woods) /								
ARC Investment	9	2,070	PS #18	9				
Ross Property	12	2,760	PS #18	6	6			
Sanatoga Springs	241	55,430	PS #17	56	56	85	44	
Venezia	3	690	PS #18					
Subtotal	430	98,900		115	113	93	44	0

Limerick Township Sewer Department 2015 Wasteload Management Report

## Table 2.2-A Possum Hollow Wasterwater Treatment Plant Projected Developments (as of 12/31/2015)

News	Remaining	Sewage	Pump Station		Projecte	d Buildout	Schedule	
Name	No. of EDUs	Flow (GPD)	Service Area	2016	2017	2018	2019	2020
Projected Developments								
Heritage Hills - Commercial	40	9200	PS #17		20	20		
Providence Properties	150	34500	PS #17	50	50	50		
Boyd	200	46000	PS #17	50	50	50	50	
SPFD (Spring-Ford School Disctrict)	65	14950	PS #18		30	35		
Miscellaneous Connections	2	460			1	1		
Subtotal	457	105110		100	151	156	50	0
EDU Totals	887			211	258	249	94	0
Current No. of EDUs	1,606							
Flow Totals		204,010		48530	59340	57270	21620	0
Cummulative EDU Totals (2015 = 1606 EDUs)				1,817	2,075	2,324	2,418	2,418
Cummulative Flow Totals (2015 = 235250 gpd)				283,780	343,120	400.390	422,010	422,01

#### B. Basis for Projected Hydraulic Loading

The projected hydraulic loadings were developed as follow:

- 1. First, by calculating new flow at the WWTP in each calendar year; the number of new EDUs that connected multiplied by the calculated unit flow in the calendar year. The unit flow is based on the total flow at the WWTP divided by the total number of connection to in the plant. New flows were calculated for each year as can be seen in Table 2.2-B1.
- 2. Second, a 5-Year adjusted annual average flow is derived by adjusting 2011 thru 2015 calendar years flow by adding new flow to the previous calendar years annual average flow as can be seen in Table 2.2-B2.
- 3. The adjusted annual average flow of 0.232 MGD in lieu of the 0.224 is used as the previous year's annual average flow (2015) in Table 2.2-B3 to begin hydraulic projections.
- 4. Third, the projected annual average flows for the Township are based on projected new connections flows that are added to the previous year annual average flow for the next 5 years. New connections are multiplied by 2015

unit flow of 127 gallons per day per EDU. The projected annual average flow at the end of the next five year period is estimated to be 0.335 MGD.

5. Last, the maximum 3-month average flow projections (2016 to 2020) to the plant on Table 2.2-B3 were calculated by multiplying the 5-Year Average Hydraulic Ratio of 1.26 times the projected annual average flow to the WWTP. The projected maximum 3-month average daily flow at the end of the next five year period is estimated to be 0.372 MGD.

As evident in Table 2.2-B3 and the hydraulic loading graph, projections for maximum 3-month average flow to the WWTP will not exceed the permitted hydraulic capacity of 0.70 MGD for the next five years. Therefore, the WWTP is not projected to be hydraulically overloaded within the next five years.

	Table	2.2-B1					
Possum Hollow Historical Added Flow							
Year	# EDUs Connected	gpd/EDU*	New Flow				
2011	56	110	0.006				
2012	28	110	0.003				
2013	27	110	0.003				
2014	27	154	0.004				
2015	33	191	0.006				

<sup>\*</sup>Planning Flow Rate:

230

127

	Table 2.2-B2									
Possum Hollow 5-Year Adjusted Flow Projections										
Year	AA Flow in MGD									
		2011	2012	2013	2014	2015				
2011	0.220	0.006	0.003	0.003	0.004	0.006	0.243			
2012	0.216		0.003	0.003	0.004	0.006	0.232			
2013	0.225			0.003	0.004	0.006	0.238			
2014	0.235				0.004	0.006	0.246			
2015	0.306					0.006	0.203			
Total	0.896						1.162			
5 Yr Avg	0.224						0.232			

			Table 2.2	!-B3						
Possum Hollow Adjusted Flow Projections										
Year	Previous Year's Annual Average Flow	New EDUs	Increased Flow (MGD)	Projected Annual Average Flow (MGD)	Hydraulic Ratio	Projected Max Month Flow (MGD)				
2016	0.232	211	0.027	0.259	1.11	0.288				
2017	0.259	258	0.033	0.292	1.11	0.324				
2018	0.292	249	0.032	0.323	1.11	0.359				
2019	0.323	94	0.012	0.335	1.11	0.372				
2020	0.335	0	0.000	0.335	1.11	0.372				

<sup>\*</sup>Calculated Flow Rate:

### C. Basis for Projected Organic Loading

The projected organic loadings were developed as follow:

- 1. First, the 2015 annual average organic load of 422 ppd is used as the previous annual average organic load in Table 2.2-C to begin organic projections.
- 2. Second, the projected annual average organic loadings for the Township are based on projected new connections organic load that are added to the previous calendar year organic loading for the next 5 years. New connections are multiplied by the 2015 calculated organic load of 0.26 ppd per EDU. The projected annual average organic load at the end of the next five year period is estimated to be 640 ppd.
- 3. Last, the maximum average daily organic loading projections (2016 to 2020) to the plant on Table 2.2-C were calculated by multiplying the 5-Year Average Daily Organic Ration of 1.35 times the projected annual average daily organic load. The projected maximum average daily organic loading at the end of the next five years period is estimated to be 864 ppd.

As evident in Table 2.2-C and the organic loading graph, projections for maximum average daily organic loading to the WWTP will not exceed the permitted organic rating of 1,700 ppd for the next five (5) years. Therefore, the WWTP is not projected to be organically overloaded within the next five years.

	Table 2.2-C  Loading Projections								
Year	Previous Year's Annual Average Loading	New EDUs	Load/EDU	Increased Load (ppd)	Projected Annual Average Loading (ppd)	Organic Ratio	Projected Max Month Loading (lbs/day)		
2015		33	0.26	8.67	421.87	-	584		
2016	421.87	222	0.26	58.32	480.19	1.35	648.25		
2017	480.19	264	0.26	69.35	549.54	1.35	741.87		
2018	549.54	249	0.26	65.41	614.94	1.35	830.17		
2019	614.94	94	0.26	24.69	639.64	1.35	863.51		
2020	639.64	0	0.26	0.00	639.64	1.35	863.51		

<sup>\*</sup>Calculated Loading:

### 3.0 SEWER EXTENSIONS [§ 94.12Sec. (a) (4)]

The following is a summary of new/proposed sewer extensions in 2015 for the Township.

### 3.1 Extensions Constructed °

There were no sewer extensions constructed in 2015.

### 3.2 Extensions Exempted

There were no exempted sewer extensions in 2015.

### 3.3 Proposed Project Extensions and Planned Build-out

There are multiple active and planned developments for the Possum Hollow Service Area. As discussed previously, a list summarizing the planned developments and anticipated EDU allotment are included in Table 2.2-A.

## 4.0 SEWER SYSTEM MONITORING, MAINTENANCE, REPAIR, & REHABILITATION[§ 94.12.Sec. (a) (5)]

The Township has the duty to monitor, maintain, repair and rehabilitate the WWTP and sanitary sewer collection and conveyance system on a regularly basis. The Township has a certified operator and staff in the Sewer Department that operates and maintains the sanitary sewer collection and conveyance system and the WWTP. Assistance with larger tasks is provided by additional staff from the Township Sewer Department or is contracted out to independent contractors.

The Township has an ongoing sewer televising and flow monitoring program to inspect the sewers in order to identify and locate sources of Infiltration and Inflow (I&I). The Township has a backhoe, dump trucks, and hand tools available for routine maintenance. Maintenance and repairs to the sewer system that cannot be performed by the Township staff are carried out by independent contractors hired on an "as needed" basis.

There were no problematic sewer sections found to be in need of substantial repair or rehabilitated in 2014.

### 4.1 Monitoring and Maintenance

The sanitary sewer collection and pumping systems are monitored daily. Township staff visits the pump stations weekly to check for operational problems, to perform periodic and routine maintenance, and to perform routine monitoring such as recording the total time each pumping unit is operated per day. Each pump station is continuously monitored 24 hours a day via alarm system/auto dialer which contacts the Township personnel currently on duty, then the WWTP Superintendent and then the King Road WWTP phone in case of an emergency. This cycle continues every 10 minutes until the alarm is acknowledged. The following conditions are electronically monitored:

- Wetwell high and low water levels
- Pump motor failure
- Loss of electrical service
- Emergency generator start at relative pump stations

There are no permanent flow meters on the influent sewers entering the pumping stations. The Township is currently working towards ascertaining a method to meet the DEPs request of influent flow monitoring at the pump stations to record actual flow data that will provide annual average and peak instantaneous flows within the sanitary sewer collection system.

### 4.2 Repair and Rehabilitation

Repair and/or rehabilitation efforts within the Limerick Township collection and conveyance system in 2015 include:

### January 2015

- Pump Station #5 (Trinley Rd.) new VFD project 100% complete
- Pump Station #6 (Royersford Rd.) and #7 (King Rd.) repair minor peroxide leaks, cold weather problem
- Pump Station #18 (Ravens Claw) new diesel generator engine battery
- Pump Station #17 (Possum Hollow Run) repair broken main sewer line, work done by outside contractor

### February 2015

- Pump Station #2 (North Limerick Rd.) new diesel engine water pump, belts and antifreeze
- Pump Station #6 (Royersford Rd.) and #7 (King Rd.) new Micro Pacer unit for peroxide pumps
- Pump Station #6 (Royersford Rd.) and #7 (King Rd.) repair minor peroxide leaks, cold weather problem

### March 2015

- Pump Station #6 (Royersford Rd.) new phase monitor on pump #2 and new wire on control relay.
- Pump Station #12 (Township Line Rd.) new diesel fuel lines and filters
- Pump Station #1 (Airport Rd.) new off float
- Pump Station #18 (Ravens Claw) new diesel generator engine battery
- Pump Station #17 (Possum Hollow Run) remove debris and rags from Exelon power plant monitoring manhole
- Pump Station #6 (Royersford Rd.) and #7 (King Rd.) repair minor peroxide leaks, cold weather problem

### April 2015

- Pump Station #6 (Royersford Rd.) new hydraulic hoses for muffin monster #2
- Pump Station #3 (South Limerick Rd.) new off float
- Pump Station #2 (North Limerick Rd.) new motor contacts on both pumps

### May 2015

- Pump Station #4 (Benner Rd.) and #5 (Trinley Rd.) power outage alarm, reset
- Pump Station #1 (Airport Rd.) new Verbatim alarm dialer, sent out for repairs.
- Pump Station #18 (Ravens Claw) reset pump controller
- Pump Station #1 (Airport Rd.) pump # 2 sent for repairs.

### June 2015

Pump Station #2 (North Limerick Rd.) replaced intrinsically safe relay & control relay.

- Pump Station #20 (Graterford Rd.) started up, with Pump Station #11 (Llewellyn Lane) shut off to bypass to Pump Station #20 (Graterford Rd.).
- Pump Station #19 (Springford Country Club) new generator engine battery
- Pump Station #1 (Airport Rd.) new generator engine batteries.
- Pump Station #1 (Airport Rd.) pump returned and installed

### July 2015

- Pump Station #11 (Llewellyn Lane) is completely out of service, with building and all equipment removed.
- Pump Station #10 (Ridge Pike) station reset and damage phone line repaired.
- Pump Station #3 (South Limerick Rd.) new off float, new locking unit for pump #2
- Pump Station #5 (Trinley Rd.) new air release valves for station force main
- Pump Station #5 (Trinley Rd.) power outage issues, outside contractors called
- Pump Station #6 (Royersford Rd.) new electric meter (done by PECO)
- Pump Station #1 (Airport Rd.) verbatim dialer repaired
- Pump Station #17 (Possum Hollow Run) calibrated Exelon flow mete
   August 2015
  - Pump Station #10 (Ridge Pike) pump #2 replaced, new one ordered
  - Pump Station #3 (South Limerick Rd.) new locking unit for pump #2
  - Pump Station #4 (Benner Rd.) replaced voltage regulator board
  - Pump Station #8 (West Cherry Lane) ordered rebuilt voltage regulator board
  - Pump Station #5 (Trinley Rd.) repair pump #2 check valve

### September 2015

- Pump Station #10 (Ridge Pike) new pump #2
- Pump Station #3 (South Limerick Rd.) new off float and ISR1 low float relays replaced in control panel
- Pump Station #1 (Airport Rd.) public water back flow device passed test.
- Pump Station #16 (Brook Evans) muffin monster was removed for repairs.

### October 2015

- Pump Station #14 (Bradford Dr.) pump #2 removed for repairs
- Pump Station #10 (Ridge Pike) new remote station monitoring system
- Pump Station #1 (Airport Rd.), #2 (North Limerick Rd.), #17 (Possum Hollow Run) & #18 (Ravens Claw) PECO installed new Electric Power Service Meter.
- Pump Station #20 (Graterford Rd.) placed into service. Pump Station #11 (Llewellyn Lane) abandoned.

### November 2015

- Pump Station #14 (Bradford Dr.) pump # 2 returned to service
- Pump Station #6 (Royersford Rd.) new diesel engine block heater
- Pump Station #5 (Trinley Rd.) new weighted arms on pump #2 check valve.

### December 2015

- Pump Stations #3 (South Limerick Rd) and #4 (Benner Rd.) had false alarms that were fixed with a new fuse and cleaning probe, respectively.
- Pump Station #6 (Royersford Rd.) new voltage regulator installed and replaced MP2 pump control

- Pump Station #20 (Graterford Rd.) coordinating with PECO regarding breaker issue on pump #2
- Pump Station #6 (Royersford Rd.) & Pump Station #7 (King Rd.) peroxide pumps repaired
- Pump Station #19 (Springford Country Club) volute flush valve repaired

Lateral inspections performed are as follows:

- Vent stack replacement in lateral at 927 Hickory Grove Dr. in September, 2015
- Vent stack replacement in lateral at 142 Jordan Ct. in October, 2015

As required by DEP operating permit Limerick Township flushed and televised sewer mains and lateral in the Township. Televised 8" sewer mains in Kings Road Plant area totaled 1.63 miles and 1.58 miles in Possum Hollow Plant area. In July 2015, 9600 feet of gravity sewer system was flushed and televised in the Pump Station #18 (Ravens Claw) area while 5765 feet were flushed and televised in the Orchard Terrace area

### 4.3 Infiltration and Inflow

The Possum Hollow service area has not shown signs of excessive I&I in the past. The Township addresses I&I through routine maintenance and monitoring at the pump stations and periodic flow metering within the collection system with portable flow meters. It is believed that the current I&I preventative measures are adequate as the hydraulic loadings are not projected to be exceeded in the next 5 years (please reference section 2.2 of the report). In an instance that I&I is found or believed to be an issue, the Township utilizes a portable flow monitor to isolate the problem area and determines the source via television inspection. Corrective action, based on the nature of the source, is then taken by the Township.

Limerick Township has implemented ordinances designed to deal with illegal sump pump connections and lateral installations. Township Ordinances 254 and 143 have been included in Appendix D. These ordinances include:

- Required written Authority approved permit prior to any and all actions regarding the sewerage system (reference Ordinance No. 254 §140-6A).
- General procedures for dealing with unsatisfactory wastewater systems (reference Ordinance No. 254 §140-5E).
- Required inspection and approval of building wastewater systems (reference Ordinance No. 254 §140-5B).
- Efforts to ensure proper sanitary sewer installation including multiple stipulations for the use of master plumbers included in the installation of house drainage systems, connection of house drainage system to a public sanitary sewer or lateral thereof, and supervision of all plumbing work within the township (reference Ordinance No.143 §129-8: P-123.1, P-123.6, P-123.7).

### 6.0 SEWERAGE PUMPING STATIONS [§ 94.12.Sec. (a) (7)]

There are seventeen (17) sewage pump stations currently operating within the two service areas in the Township. Pump Stations 1, 16, 17, and 18 operate within the Possum Hollow Service Area; while Pump Stations 2, 3, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15 and 19 operate within the King Road Service Area. A pump station flow schematic diagram of the Service Areas has been included in Appendix D. The pump stations in the Possum Hollow Service Area that are owned and maintained by the Township and are described below.

### 1. Pump Station #1 AKA Airport Road Pump Station

This pump station is located near Jones Boulevard in the Limerick Airport Business Center and is equipped with two (2) explosion proof, 142-gpm submersible pumps. Wastewater is discharged through a six (6) inch force main that ties into a manhole on Limerick Center Road where it flows by gravity to Pump Station #16 and then is conveyed to the WWTP.

Pump Station #1 also has an emergency generator and an auto-dialer that alerts Township personnel when the generator is engaged.

There is no flow meter or monitoring equipment currently at Pump Station #1. Estimated flows are derived from a pump run timer. An auto-dialer is installed on this pump station to alert Township personnel of high flow conditions. It is proposed to add flow monitoring capabilities to Pump Station #1 when it is in need of upgrading or overhauling or if it is believed that it is approaching its design capacity.

### 2. Pump Station #16 AKA Brook Evans Pump Station

Pump Station #16 is located within the confines of the WWTP on Longview Road near Brooke Evans Creek. It was constructed as part of the Possum Hollow Sewerage System and is equipped with three (3) explosion proof 652-gpm submersible pumps. Pump Station #16 can achieve a capacity of 1,213-gpm when two (2) of the pumps are running. Wastewater is discharged to the headworks of the WWTP.

Pump Station #16 also has an emergency generator and an auto-dialer that alerts Township personnel when the generator is engaged.

Pump Station #16 includes a pump controller that has the capability of calculating and recording the peak influent flow. The instantaneous peak influent values were analyzed and provided in table 6.1-A.2 where available. The required data was unavailable in 2015. An auto-dialer is installed on Pump Station #16 to alert Township personnel of high flow conditions.

### 3. Pump Station #17 AKA Possum Hollow Run Pump Station

Pump Station #17 is located off Longview Road near Possum Hollow Run. It was constructed as part of the Possum Hollow Sewerage System and is equipped with three (3) explosion proof 615-gpm submersible pumps. The pump station can achieve a capacity of 810 gpm when two (2) of the pumps are running. Wastewater is discharged through an 8" force main to the headworks of the WWTP.

Pump Station #17 has an emergency generator and an auto-dialer that alerts Township personnel when the generator is engaged.

Pump Station #17 includes a pump controller that has the capability of calculating and recording the peak influent flow. The instantaneous peak influent values were analyzed and provided in table 6.1-A.2 where available. The Instantaneous Peak Flow was taken on 4/20/2015 during a storm event of 1.29" (an average wet weather event in 2015). An auto-dialer is installed on Pump Station #17 to alert Township personnel of high flow conditions.

### 4. Pump Station #18 AKA Heritage Hills Golf Club / Ravens Claw Pump Station

Pump Station #18 is located along Masters Drive alongside Hartenstine Creek within the Raven's Claw Country Club Development and is equipped with two (2) explosion proof 510-gpm submersible pumps. Wastewater is discharged through an eight (8) inch force main to a manhole located near the intersection of Airport Road and Ridge Pike where it flows by gravity to Pump Station #17 and then on to the WWTP.

Pump Station #18 has an emergency generator and an auto-dialer that alerts Township personnel when the generator is engaged.

Pump Station #18 includes a pump controller that has the capability of calculating and recording the peak influent flow. Pump Station #18 includes a pump controller that has the capability of calculating and recording the peak influent flow. The instantaneous peak influent values were analyzed and provided in table 6.1-A.2 where available. The Instantaneous Peak Flow was taken on 4/20/2015 during a storm event of 1.29" (an average wet weather event in 2015). An autodialer is installed on Pump Station #18 to alert Township personnel of high flow conditions.

The pumping stations are running without any mechanical problems and are in good condition. Each pump station is inspected, at a minimum, once a week and, if the station is equipped with an effluent flow meter, the meter is calibrated annually. Meter calibration records can be found in Appendix D. All necessary maintenance is performed by the Township personnel or by

service contractors. The Township's extensive preventative maintenance program continues to maintain all facilities in good working condition.

The Township reports that the pump stations were capable of pumping peak instantaneous flows without problem.

Major Repairs and/or upgrades during 2015 are listed in the pump station descriptions. Presently, the Township is currently working towards ascertaining a method to meet the DEPs request of influent flow monitoring that is able to measure, indicate, and record the flow at the pump stations and to document peak hour or instantaneous readings during a major storm event(s).

### 6.1 Hydraulic Load Projection to the Pump Stations

Pump Stations #16, #17, and #18 have been identified as having controllers capable of calculating and recording peak influent flows. However, due to technical issues with the equipment and questions in accuracy, the Township has been working with equipment vendors in an effort to utilize this controller feature for the requested purpose. Data from the three controllers were included where appropriate.

There are no flow metering devices installed at Pump Station #1 to indicate present peak hourly or instantaneous flow recordings during major storm events in 2015; therefore, a peaking factor ratio of peak flow to annual average flow could not accurately be determined for each pump station. The peaking factor from the 2010 Wasteload Management Report was used to project the hydraulic loading at each pump station.

The annual flow data for each pump station is summarized in Table 6.1-A1 and 6.1-A2 of this Report. Table 6.1-A2 - "Possum Hollow Pump Station Capacity Projections" compares the present maximum and projected 2-year maximum flows to the available maximum pumping rate at each station. Please note that the peak instantaneous flow was not available and therefore, the peaking factor was taken from the previous year's report. Flow projections have been calculated using the Townships standard planning flow rate of 230 gpd/edu. The Township's growth projections have been taken from Table 2.2-A.

As can be seen in Table 6.1-A2 there is no projected overloads within the next 5-years. The 2-year projected maximum loading does not present an overload condition either.

There is no projected hydraulic overload at the Township's pump stations in the Possum Hollow Service Area.

Table 6 1-A1

Possum Hollow Pump Station Flow Data (MGD)

, total total and total and total																		
Month	PS#1	PS #2	PS #3	PS #4	PS #5	PS #6	PS #7	PS #10	PS #11	PS #12	PS #13	PS #14	PS #15	PS #16	PS #17	PS #18	PS #19	PS #20
January	0.0524	0.1082	0.2604	0.0170	0.5639	0.9520	0.0266	0.0577	0.0374	0.0308	0.0072	0.0190	0.0074	0.1101	0.1417	0.1025	0.0069	0.0000
February	0.0483	0.0808	0.2727	0.0165	0.5335	0.9062	0.0244	0.0432	0.0339	0.0273	0.0064	0.0177	0.0068	0.1025	0.1310	0.1029	0.0066	0.0000
March	0.0660	0.1067	0.3675	0.0310	0.6709	1.0784	0.0258	0.0653	0.0411	0.0363	0.0071	0.0209	0.0062	0.1224	0.1807	0.0841	0.0088	0.0000
April	0.0468	0.0865	0.2948	0.0157	0.5425	0.9288	0.0231	0.0584	0.0353	0.0271	0.0069	0.0229	0.0057	0.1028	0.1778	0.1075	0.0074	0.0000
May	0.0491	0.0825	0.2684	0.0224	0.5117	0.8251	0.0241	0.0531	0.0340	0.0226	0.0074	0.0245	0.0068	0.1041	0.1179	0.1086	0.0067	0.0000
June	0.0607	0.0723	0.2824	0.0193	0.5346	0.8812	0.0247	0.0477	0.0311	0.0264	0.0073	0.0331	0.0076	0.1047	0.1381	0.0870	0.0069	0.0452
July	0.0619	0.0394	0.2624	0.0172	0.5257	0.8772	0.0257	0.0532	0.0000	0.0267	0.0075	0.0465	0.0073	0.1022	0.1442	0.0990	0.0085	0.0473
August	0.0583	0.0382	0.2329	0.0158	0.4710	0.8387	0.0233	0.0724	0.0000	0.0218	0.0067	0.0433	0.0076	0.0980	0.1332	0.1020	0.0090	0.0372
September	0.0782	0.0337	0.2341	0.0166	0.4927	0.8058	0.0231	0.0611	0.0000	0.0240	0.0075	0.0423	0.0079	0.1154	0.1308	0.1554	0.0069	0.0412
October	0.0760	0.0390	0.2647	0.0134	0.5089	0.9055	0.0259	0.0399	0.0000	0.0274	0.0078	0.0210	0.0078	0.1265	0.1373	0.1125	0.0083	0.0461
November	0.0668	0.2335	0.2335	0.0129	0.4738	0.8568	0.7253	0.2900	0.0000	0.0250	0.0069	0.0187	0.0084	0.1135	0.1350	0.0970	0.0016	0.0480
December	0.0690	0.0430	0.2910	0.0170	0.5270	0.9060	0.0260	0.0380	0.0000	0.0310	0.0077	0.0260	0.0089	0.1290	0.1690	0.1150	0.0080	0.0870
Annual																		
Average	0.0611	0.0803	0.2721	0.0179	0.5297	0.8968	0.0832	0.0733	0.0177	0.0272	0.0072	0.0280	0.0074	0.1109	0.1447	0.1061	0.0071	0.0503
Max Month	0.0782	0.2335	0.3675	0.0310	0.6709	1.0784	0.7253	0.2900	0.0411	0.0363	0.0078	0.0465	0.0089	0.1290	0.1807	0.1554	0.0090	0.0870

Note: Pump Station Data for both the King Road and Possum Hollow Service Areas

Table 6.1-A2
Possum Hollow Pump Station Capacity Projections (MGD)

Pump Station ID	No. of Pumps	Hydraulic Design Capacity (gpm)	Annual Average Permitted Capacity (gpd)	Annual Average Flows (gpd)	Maximum Monthly Flows (gpd)	Peak Instantaneous Flow (gpm)	Peaking Factor	Projected 2-Year EDU Buildout	Projected 5-Year EDU Buildout	GPD/ EDU*	2-Year Projected Annual Average Flow	5-Year Projected Annual Average Flow	2-Year Projected Maximum Flow (gpd)	Projected Overload?
PS #1	2	142	204,480	61,125	78,200		1.53	0	0	230	61,130	61,125	93,376	No
PS 1/2	2	130	187,200	80,317	233,500	*	1.55	13	26	230	83,310	86,297	129,339	No
PS #3	2	1,150	1,656,000	272,067	367,500	*	1.51	113	209	230	298,060	320,137	451,263	No
PS #4	2	120	172,800	17,900	31,000	•	2.07	. 0	0	230	17,900	17,900	37,024	No
PS #5	2	1,900	2,736,000	529,683	670,900	+	1.20	159	288	230	566,250	595,923	676,669	No
PS #6	2	2,225	3,204,000	896,808	1,078,400	-	1.57	138	138	230	928,550	928,548	1,458,102	No
PS #7	2	260	374,400	83,167	725,300		1.24	0	0	230	83,170	83,167	103,197	No
PS #10	2	180	259,200	73,333	290,000	139	0.69	2	2	230	73,790	73,793	50,930	No
PS#11	2	90	129,600	17,733	41,100	*	1.57	N/A	N/A	N/A	NA/	N/A	N/A	N/A
PS #12	2	94	135,360	27,200	36,300	*	1.34	6	7	230	28,580	28,810	38,400	No
PS #13	2	28	39,600	7,200	7,800	-	1.13	0	0	230	7,200	7,200	8,100	No
PS #14	2	103	148,320	27,992	46,500	76	2.35	0	0	230	27,990	27,992	65,876	No
PS #15	2	33	47,520	7,367	8,900	-	1.24	0	0	230	7,370	7,367	9,157	No
PS #116	3	1,213	1,746,720	110,933	129,000	-	1.42	5	5	230	112,080	112,083	159,400	No
PS #17	3	810	1,166,400	144,725	180,700	203	1.62	336	635	230	222,010	290,775	359,148	No
PS #18	2	510	734,400	106,125	155,400	199	1.84	127	170	230	135,340	145,225	249,569	No
PS #19	2	96	138,240	7,133	9,000	21	1.47	12	12	230	9,890	9,893	14,533	No
PS #20	2	320	460,800	50,286	87,000	-	5.30	0	50	230	50,290	61,786	266,364	No

Planning

Flow Rate: 230
\*Calculated

Flow Rate: 12

Note:

Hydraulic Design Capacity does not include the capacity of backup pumps

Pump Station data for both King Road and Possum Hollow Service Areas

Peaking Factors from previous years report unless Instantaneous Value Present

Peak Instantaneous Value taken on 4/20/2015 during strom event of 1.29"

### 7.0 INDUSTRIAL WASTES [§ 94.12.Sec. (a) (8)]

The primary source of wastewater to the WWTP is residential. The Township is currently not required to implement a Municipal Industrial Pretreatment Program (MIPP); however, the Township must assure that the effluent discharged from the WWTP is in compliance with the limitations outlined in their NPDES Permit. Rules and Regulations Governing Use of the Sewer System was adopted in 1986 to facilitate maintaining compliance. Amendments made in 1994, 2001, and 2006, enable the Township, as successor to the Municipal Authority, to enforce compliance with the standards set in the Rules, to require all industrial facilities to be permitted and to complete on-site inspections of industrial facilities. A copy of the resolution as amended is provided in Appendix D in this report.

At present, there are no permitted industrial wastewater dischargers. Buckman's Inc. was disconnected from service in October 2014.

There are no significant problems caused at the WWTP due to industrial discharge.

### 8.0 PREVENTION OF OVERLOAD CONDITIONS [§ 94.12.Sec. (a) (9)]

### 8.1 Hydraulics

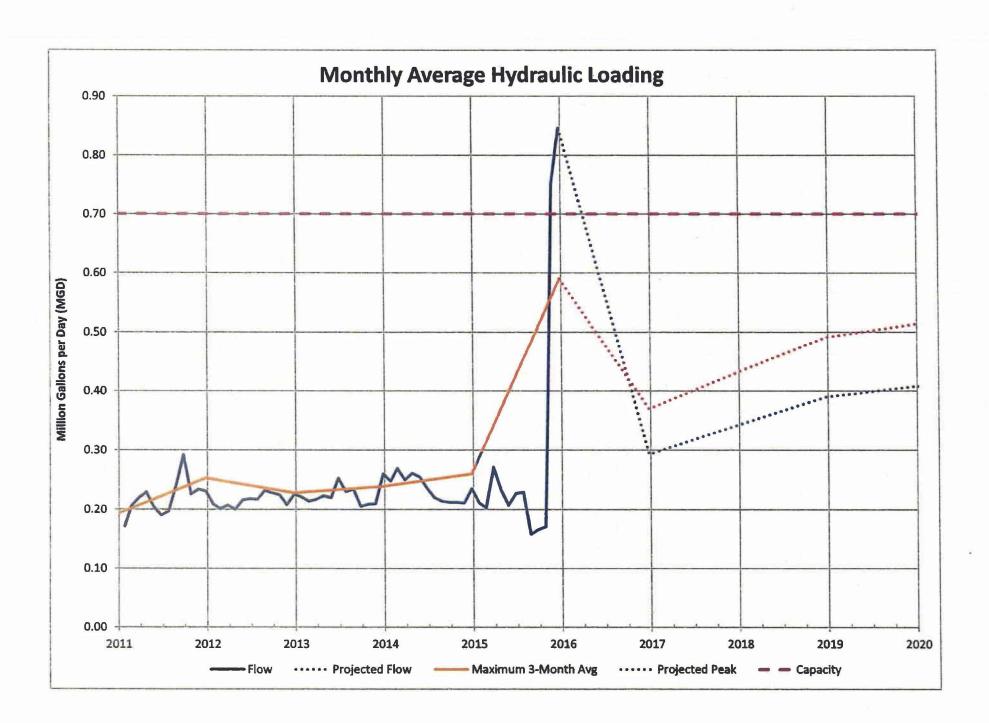
There are no current or projected hydraulic overloads of the Township's sewage facilities in the Possum Hollow Service Area; therefore, no action is required at this time.

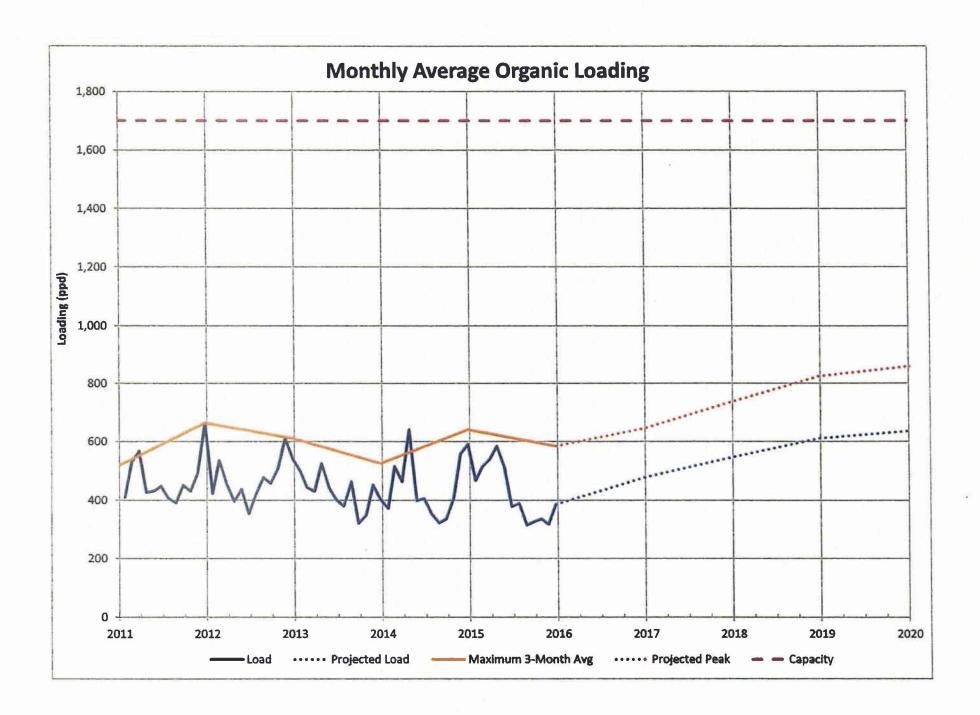
### 8.2 Organics

There is no current or projected organic overload conditions; therefore, no action is required at this time.

### APPENDIX A

Hydraulic and Organic Loading





Southeast Regional Office

September 3, 2013

RECEIVED

SEP 5 2013

### CERTIFIED MAIL NO. 7007 3020 0002 8265 2543

Mr. Daniel Kerr, Manager Limerick Township 646 West Ridge Pike Limerick, PA 19468

Re:

Final NPDES Permit - Sewage

Possum Hollow STP

NPDES Permit No. PA0058041 Authorization ID No. 956443

Limerick Township, Montgomery County

Dear Mr. Kerr:

Your NPDES permit is enclosed. Please read the permit carefully. The permit expires on the date identified on page 1 of the permit. A renewal application must be submitted to this office 180 days prior to the permit expiration date, if a discharge is expected to continue past the expiration date 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.

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 Laurel Ateyeh at 484.250.5198.

Sincerely,

Jenifer L. Fields, P.E.

Environmental Program Manager

Clean Water Program

### Enclosures

cc: Montgomery County Health Department (w/o enc.)

Operations Section

Mr. Salkowski – Plant Superintendent

Mr. Campbell, P.E. - Pennoni Associates Inc.

Central Office, Division of Operations, Monitoring and Data Systems

Ms. Lashley (w/o enc.)

File

Re

## COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT



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

NPDES PERMIT NO: PA0058041

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.,

Limerick Township 646 West Ridge Pike Limerick, PA 19468

is authorized to discharge from a facility known as Possum Hollow STP, located in Limerick Township, Montgomery County, to Schuylkill River in Watershed(s) 3-D 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	OCTOBER 1, 2013
THIS PERMIT SHALL EXPIRE AT MIDNIGHT ON	SEPTEMBER 30, 2018

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. (40 CFR 122.41(a))
- 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. (40 CFR 122.41(b), 122.21(d))

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. (25 Pa. Code 92a.7(b), (c))

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

September 3, 2013

ISSUED BY

Jenifer L. Fields, P.E. Clean Water Program Manager Southeast Regional Office

### PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A.	For Outfall 001	_, Latitude _40° 12′ 51" , Longitude _75° 35′ 14" , River Mile Index _47.55 , Stream Code _00833
	Receiving Waters:	Schuylkill River
	Type of Effluent:	Treated sewage effluent from Possum Hollow STP

- 1. The permittee is authorized to discharge during the period from October 1, 2013 through September 30, 2018.
- 2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

		Effluent Limitations								
Parameter	Mass Units	(lbs/day) (1)		Concentrat	Monitoring Red Minimum (2)	Required				
Parameter	Average Monthly	Weekly Average	Instant. Minimum	Average Monthly	Weekly Average	Instant. Maximum	Measurement Frequency	Sample Type		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	xxx	XXX	Continuous	Metered		
pH (S.U.)	XXX	xxx	6.0	XXX	XXX	9.0	1/day	Grab		
Dissolved Oxygen	xxx	XXX	5.0	XXX	xxx	XXX	1/day	Grab		
CBOD5	117	175	XXX	20	30	40	1/week	24-Hr Composite		
CBOD5 Raw Sewage Influent	Report	XXX	xxx	Report	xxx	xxx	1/week	24-Hr Composite		
BOD5 Raw Sewage Influent	Report	xxx	xxx	Report	xxx	xxx	1/week	24-Hr Composite		
Total Suspended Solids Raw Sewage Influent	Report	XXX	xxx	Report	xxx	xxx	1/week	24-Hr Composite		
Total Suspended Solids	175	263	XXX	30	45	60	1/week	24-Hr Composite		
Total Dissolved Solids	XXX	xxx	xxx	1,000	xxx	2,500	1/quarter	24-Hr Composite		

### Outfall 001, Continued (from October 1, 2013 through September 30, 2018)

		Monitoring Requirements							
Parameter	Mass Units	(lbs/day) (1)		Concentrat	Minimum (2)	Required			
ratametei	Average Monthly	Weekly Average	Instant. Minimum	Average Monthly	Weekly Average	Instant. Maximum	Measurement Frequency	Sample Type	
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	xxx	1,000*	1/week	Grab	
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	xxx	XXX	200 Geo Mean	xxx	1,000*	1/week	Grab	
Ammonia-Nitrogen	47	XXX	XXX	8.0	XXX	16.0	1/week	24-Hr Composite	
Total Phosphorus	Report	xxx	XXX	Report	XXX	Report	1/week	24-Hr Composite	
UV Intensity (µW/cm²)	xxx	xxx	Report Min	xxx	xxx	xxx	1/day	Metered	
PCBs (Dry Weather) (pg/L)	xxx	xxx	xxx	XXX	Report Daily Max	xxx	1/year	24-Hr Composite	
PCBs (Wet Weather) (pg/L)	XXX	XXX	XXX	xxx	Report Daily Max	XXX	1/year	24-Hr Composite	

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001 \*Not to exceed 1,000/100 ml as an instantaneous maximum from May 1<sup>st</sup> through September 30<sup>th</sup>. Not to exceed 1,000/100 ml in greater than 10 percent of the samples tested from October 1<sup>st</sup> through April 30<sup>th</sup>. See Part C.I. Other Requirement I.

## PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDICEPING AND REPORTING REQUIREMENTS (Continued)

### Additional Requirements

- 1. The permittee may not discharge:
  - a. Floating solids, scum, sheen or substances that result in observed deposits in the receiving water. (25 Pā Code 92a.41(c))
  - b. Oil and grease in amounts that cause a film or sheen upon or discoloration of the waters of this Commonwealth or adjoining shoreline, or that exceed 15 mg/l as a daily average or 30 mg/l at any time (or lesser amounts if specified in this permit). (25 Pa. Code 92a.47(a)(7) and 95.2(2))
  - c. Substances in concentration or amounts sufficient to be inimical or harmful to the water uses to be protected or to human, animal, plant or aquatic life. (25 Pa Code 93.6(a))
  - d. Foam or substances that produce an observed change in the color, taste, odor or turbidity of the receiving water, unless those conditions are otherwise controlled through effluent limitations or other requirements in this permit. (25 Pa Code 92a.41(c))
- 2. The monthly average percent removal of BOD<sub>5</sub> or CBOD<sub>5</sub> and TSS must be at least 85% for POTW facilities on a concentration basis except where 25 Pa. Code 92a.47(g) and (h) are applicable to facilities with combined sewer overflows (CSOs) or as otherwise specified in this permit. (25 Pa. Code 92a.47(a)(3))
- 3. If the permit requires the reporting of average weekly statistical results, the maximum weekly average concentration and maximum weekly average mass loading shall be reported, regardless of whether the results are obtained for the same or different weeks.
- 4. The permittee shall monitor the sewage effluent discharge(s) for the effluent parameters identified in the Part A limitations table(s) during all bypass events at the facility, using the sample types that are specified in the limitations table(s). Where the required sample type is "composite", the permittee must commence sample collection within one hour of the start of the bypass, wherever possible. The results shall be reported on the Daily Effluent Monitoring supplemental form (3800-FM-BPNPSM0435) and be incorporated into the calculations used to report self-monitoring data on Discharge Monitoring Reports (DMRs).

### **Footnotes**

- (1) When sampling to determine compliance with mass effluent limitations, the discharge flow at the time of sampling must be measured and recorded.
- (2) This is the minimum number of sampling events required. Permittees are encouraged, and it may be advantageous in demonstrating compliance, to perform more than the minimum number of sampling events.

### Supplemental Information

- (1) The hydraulic design capacity of 0.7 million gallons per day for the treatment facility is used to prepare the annual Municipal Wasteload Management Report to help determine whether a "hydraulic overload" situation exists, as defined in Title 25 Pa. Code Chapter 94.
- (2) The effluent limitations for Outfall 001 were determined using an effluent discharge rate of 0.7 MGD.
- (3) The organic design capacity of 1600 lbs BOD<sub>5</sub> per day for the treatment facility is used to prepare the annual Municipal Wasteload Management Report to determine whether an "organic overload" condition exists, as defined in 25 Pa. Code Chapter 94.

### II. DEFINITIONS

At Outfall (XXX) means a sampling location in outfall line XXX below the last point at which wastes are added to outfall line (XXX), or where otherwise specified,

Average refers to the use of an arithmetic mean, unless otherwise specified in this permit. (40 CFR 122.41(I)(4)(iii))

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce the pollution to surface waters of the Commonwealth. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. (25 Pa. Code 92a.2)

Bypass means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR 122.41(m)(1)(i))

Calendar Week is defined as the seven consecutive days from Sunday through Saturday, unless the permittee has been given permission by DEP to provide weekly data as Monday through Friday based on showing excellent performance of the facility and a history of compliance. In cases when the week falls in two separate months, the month with the most days in that week shall be the month for reporting.

Clean Water Act means the Federal Water Pollution Control Act, as amended (33 U.S.C.A. §§1251 to 1387).

Composite Sample (for all except GC/MS volatile organic analysis) means a combination of individual samples (at least eight for a 24-hour period or four for an 8-hour period) of at least 100 milliliters (mL) each obtained at spaced time intervals during the compositing period. The composite must be flow-proportional; either the volume of each individual sample is proportional to discharge flow rates, or the sampling interval is proportional to the flow rates over the time period used to produce the composite. (EPA Form 2C)

Composite Sample (for GC/MS volatile organic analysis) consists of at least four aliquots or grab samples collected during the sampling event (not necessarily flow proportioned). The samples must be combined in the laboratory immediately before analysis and then one analysis is performed. (EPA Form 2C)

Daily Average Temperature means the average of all temperature measurements made, or the mean value plot of the record of a continuous automated temperature recording instrument, either during a calendar day or during the operating day if flows are of a shorter duration.

Daily Discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day. (25 Pa. Code 92a.2, 40 CFR 122.2)

Daily Maximum Discharge Limitation means the highest allowable "daily discharge."

Discharge Monitoring Report (DMR) means the DEP or EPA supplied form(s) for the reporting of self-monitoring results by the permittee. (25 Pa. Code 92a.2 and 40 CFR 122.2)

Estimated Flow means any method of liquid volume measurement based on a technical evaluation of the sources contributing to the discharge including, but not limited to, pump capabilities, water meters and batch discharge volumes.

Geometric Mean means the average of a set of n sample results given by the nth root of their product.

Grab Sample means an individual sample of at least 100 mL collected at a randomly selected time over a period not to exceed 15 minutes. (EPA Form 2C)

Hauled-In Wastes means any waste that is introduced into a treatment facility through any method other than a direct connection to the sewage collection system. The term includes wastes transported to and disposed of within the treatment facility or other entry points within the collection system.

Hazardous Substance means any substance designated under 40 CFR Part 116 pursuant to Section 311 of the Clean Water Act. (40 CFR 122.2)

Immersion Stabilization (i-s) means a calibrated device is immersed in the wastewater until the reading is stabilized.

Indirect Discharger means a non-domestic discharger introducing pollutants to a Publicly Owned Treatment Works (POTW) or other treatment works. (25 Pa. Code 92a.2 and 40 CFR 122.2)

Industrial User means a source of Indirect Discharge. (40 CFR 403.3)

Instantaneous Maximum Effluent Limitation means the highest allowable discharge of a concentration or mass of a substance at any one time as measured by a grab sample. (25 Pa. Code 92a.2)

Measured Flow means any method of liquid volume measurement, the accuracy of which has been previously demonstrated in engineering practice, or for which a relationship to absolute volume has been obtained.

Monthly Average Discharge Limitation means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month. (25 Pa. Code 92a.2)

Municipality means a city, town, borough, county, township, school district, institution, authority or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes. (25 Pa. Code 92a.2)

Publicly Owned Treatment Works (POTW) means a treatment works as defined by §212 of the Clean Water Act, owned by a state or municipality. The term includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. The term also includes sewers, pipes or other conveyances if they convey wastewater to a POTW providing treatment. The term also means the municipality as defined in section 502(4) of the Clean Water Act, which has jurisdiction over the indirect discharges to and the discharges from such a treatment works. (25 Pa Code 92a.2 and 40 CFR 122.2)

Severe Property Damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR 122.41(m)(1)(ii))

Stormwater means the runoff from precipitation, snow melt runoff, and surface runoff and drainage. (25 Pa. Code 92a.2)

Stormwater Associated With Industrial Activity means the discharge from any conveyance that is used for collecting and conveying stormwater and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant, and as defined at 40 CFR  $\S122.26(b)(14)(i) - (ix)$  and (xi) and 25 Pa. Code 92a.2.

Toxic Pollutant means those pollutants, or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains may, on the basis of information available to DEP cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions, including malfunctions in reproduction, or physical deformations in these organisms or their offspring. (25 Pa. Code 92a.2)

Weekly Average Discharge Limitation means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week.

### III. SELF-MONITORING, REPORTING AND RECORDKEEPING

### A. Representative Sampling

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity (40 CFR 122.41(i)(1)). Representative sampling includes the collection of samples, where possible, during periods of adverse weather, changes in treatment plant performance and changes in treatment plant loading. If possible, effluent samples must be collected where the effluent is well mixed near the center of the discharge conveyance and at the approximate mid-depth point, where the turbulence is at a maximum and the settlement of solids is minimized. (40 CFR 122.48 and 25 Pa. Code § 92a.61)

### 2. Records Retention (40 CFR 122.41(i)(2))

Except for records of monitoring information required by this permit related to the permittee's sludge use and disposal activities which shall be retained for a period of at least 5 years, all records of monitoring activities and results (including all original strip chart recordings for continuous monitoring instrumentation and calibration and maintenance records), copies of all reports required by this permit, and records of all data used to complete the application for this permit shall be retained by the permittee for 3 years from the date of the sample measurement, report or application, unless a longer retention period is required by the permit. The 3-year period shall be extended as requested by DEP or the EPA Regional Administrator.

### 3. Recording of Results (40 CFR 122.41(j)(3))

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- a. The exact place, date and time of sampling or measurements.
- b. The person(s) who performed the sampling or measurements.
- c. The date(s) the analyses were performed.
- d. The person(s) who performed the analyses.
- e. The analytical techniques or methods used; and the associated detection level.
- The results of such analyses.

### 4. Test Procedures (40 CFR 122.41(i)(4))

Facilities that test or analyze environmental samples used to demonstrate compliance with this permit shall be in compliance with laboratory accreditation requirements of Act 90 of 2002 (27 Pa. C.S. §§4101-4113) and 25 Pa. Code Chapter 252, relating to environmental laboratory accreditation. Unless otherwise specified in this permit, the test procedures for the analysis of pollutants shall be those approved under 40 CFR Part 136 (or in the case of sludge use or disposal, approved under 40 CFR Part 136, unless otherwise specified in 40 CFR Part 503 or Subpart J of 25 Pa. Code Chapter 271), or alternate test procedures approved pursuant to those parts, unless other test procedures have been specified in this permit.

### 5. Quality/Assurance/Control

In an effort to assure accurate self-monitoring analyses results:

- a. The permittee, or its designated laboratory, shall participate in the periodic scheduled quality assurance inspections conducted by DEP and EPA. (40 CFR 122.41(e), 122.41(i)(3))
- b. The permittee, or its designated laboratory, shall develop and implement a program to assure the quality and accurateness of the analyses performed to satisfy the requirements of this permit, in accordance with 40 CFR Part 136. (40 CFR 122.41(i)(4))

### B. Reporting of Monitoring Results

- 1. The permittee shall effectively monitor the operation and efficiency of all wastewater treatment and control facilities, and the quantity and quality of the discharge(s) as specified in this permit. (40 CFR 122.41(e), 122.44(i)(1))
- Discharge Monitoring Reports (DMRs) must be completed in accordance with DEP's published DMR Instructions (3800-BPNPSM-0463). DMRs are based on calendar reporting periods. DMR(s) must be received by the agency(ies) specified in paragraph 3 below in accordance with the following schedule:
  - Monthly DMRs must be received within 28 days following the end of each calendar month.
  - Quarterly DMRs must be received within 28 days following the end of each calendar quarter, i.e.,
     January 28, April 28, July 28, and October 28.
  - Semiannual DMRs must be received within 28 days following the end of each calendar semiannual period, i.e., January 28 and July 28.
  - Annual DMRs must be received by January 28, unless Part C of this permit requires otherwise.
- 3. The permittee shall complete all Supplemental Reporting forms (Supplemental DMRs) provided by DEP in this permit (or an approved equivalent), and submit the signed, completed forms as an attachment to the DMR(s). If the permittee elects to use DEP's electronic DMR (eDMR) system, one electronic submission may be made for DMRs and Supplemental DMRs. If paper forms are used, the completed forms shall be mailed to:

Department of Environmental Protection Clean Water Program 2 East Main Street Norristown, PA 19401

- 4. If the permittee elects to begin using DEP's eDMR system to submit DMRs required by the permit, the permittee shall, to assure continuity of business operations, continue using the eDMR system to submit all DMRs and Supplemental Reports required by the permit, unless the following steps are completed to discontinue use of eDMR:
  - a. The permittee shall submit written notification to the regional office that issued the permit that it intends to discontinue use of eDMR. The notification shall be signed by a principal executive officer or authorized agent of the permittee.
  - b. The permittee shall continue using eDMR until the permittee receives written notification from DEP's Central Office that the facility has been removed from the eDMR system, and electronic report submissions are no longer expected.
- 5. The completed DMR Form shall be signed and certified by either of the following applicable persons, as defined in 25 Pa. Code 92a.22:
  - For a corporation by a principal executive officer of at least the level of vice president, or an authorized representative, if the representative is responsible for the overall operation of the facility from which the discharge described in the NPDES form originates.
  - For a partnership or sole proprietorship by a general partner or the proprietor, respectively.
  - For a municipality, state, federal or other public agency by a principal executive officer or ranking elected official.

If signed by a person other than the above, written notification of delegation of DMR signatory authority must be submitted to DEP in advance of or along with the relevant DMR form. (40 CFR 122.22(b))

6. If the permittee monitors any pollutant at monitoring points as designated by this permit, using analytical methods described in Part A III.A.4. herein, more frequently than the permit requires, the results of this monitoring shall be incorporated, as appropriate, into the calculations used to report self-monitoring data on the DMR. (40 CFR 122.41(I)(4)(ii))

### C. Reporting and Notification Requirements

 Planned Changes to Physical Facilities – The permittee shall give notice to DEP as soon as possible but no later than 30 days prior to planned physical alterations or additions to the permitted facility. A permit under 25 Pa. Code Chapter 91 may be required for these situations prior to implementing the planned changes. A permit application, or other written submission to DEP, can be used to satisfy the notification requirements of this section.

Notice is required when:

- a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b). (40 CFR 122.41(I)(1)(i))
- b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are not subject to effluent limitations in this permit. (40 CFR 122.41(I)(1)(ii))
- c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 CFR 122.41(I)(1)(iii))
- d. The planned change may result in noncompliance with permit requirements. (40 CFR 122.41(I)(2))
- e. The facility is proposing an expansion or modifications to its treatment processes.
- 2. Planned Changes to Waste Stream Under the authority of 25 Pa. Code 92a.24(a) and 40 CFR 122.42(b), the permittee shall provide notice to DEP and EPA as soon as possible but no later than 45 days prior to any changes in the volume or pollutant concentration of its influent waste stream as a result of indirect discharges or hauled-in wastes, as specified in paragraphs 2.a. and 2.b., below. Notice shall be provided on the "Planned Changes to Waste Stream" Supplemental Report (3800-FM-BPNPSM0482), available on DEP's website. The permittee shall provide information on the quality and quantity of waste introduced into the POTW, and any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW (40 CFR 122.42(b)(3)). The Report shall be sent via Certified Mail or other means to confirm DEP's receipt of the notification. DEP will determine if the submission of an application and receipt of an amended permit is required.
  - a. Introduction of New Pollutants (25 Pa. Code 92a.24(a), 40 CFR 122.42(b)(1))

New pollutants are defined as parameters that meet one or more of the following criteria:

- (i) Were not detected in the facilities' influent waste stream as reported in the permit application, or were otherwise not analyzed in the influent and reported to DEP prior to permit issuance;
- (ii) Have not been previously approved to be included in the permittee's influent waste stream by DEP and/or EPA in writing;
- (iii) Are previously unapproved pollutants introduced into the POTW from an indirect discharger which would be subject to Sections 301 and 306 of the Clean Water Act if it were directly discharging those pollutants (40 CFR 122.42(b)(1)).

The permittee shall provide notification of the introduction of new pollutants in accordance with paragraph 2 above. The permittee may not authorize the introduction of new pollutants until the permittee receives DEP's and/or EPA's written approval.

b. Increased Loading of Approved Pollutants (25 Pa. Code 92a.24(a), 40 CFR 122.42(b)(2))

Approved pollutants are defined as parameters that meet one or more of the following criteria:

- (i) Were detected in the facilities' influent waste stream as reported in the permittee's permit application or were otherwise analyzed and reported to DEP prior to permit issuance;
- (ii) Have an effluent limitation or monitoring requirement in this permit;
- (iii) Have been previously approved for the permittee's influent waste stream by DEP in writing.

The permittee shall provide notification of the introduction of increased influent loading (lbs/day) of approved pollutants in accordance with paragraph 2 above when (1) the cumulative increase in influent loading (lbs/day) exceeds 10% of the maximum loading reported in the permit application, or a loading previously approved by DEP, or (2) may cause an exceedance in the effluent of Effluent Limitation Guidelines (ELGs) or limitations in Part A of this permit, or (3) may cause interference or pass through at the POTW, or (4) may cause exceedances of the applicable water quality standards in the receiving stream. Unless specified otherwise in this permit, if DEP and/or EPA does not respond to the notification within 30 days of its receipt, the permittee may proceed with the increase in loading. The acceptance of increased loading of approved pollutants may not result in an exceedance of ELGs or effluent limitations, may not result in a hydraulic or organic overload condition as defined in 25 Pa. Code 94.1, and may not cause exceedances of the applicable water quality standards in the receiving stream.

c. New Information on Existing Discharges

The permittee shall notify DEP and EPA where it discovers new information, not reported previously, on the quality and quantity of the effluent introduced into the POTW by an industrial user or an indirect discharger and the anticipated impact of the change in the quality and quantity of effluent to be discharged from the POTW. (40 CFR 122.41(h) and 122.62)

- 3. Reporting Requirements for Hauled-In Wastes
  - a. Receipt of Residual Waste
    - (i) The permittee shall document the receipt of all hauled-in residual wastes (including but not limited to wastewater from oil and gas wells, food processing waste, and landfill leachate) received for processing at the treatment facility. The permittee shall report hauled-in residual wastes on a monthly basis to DEP on the "Hauled In Residual Wastes" Supplemental Report (3800-FM-BPNPSM0450) as an attachment to the DMR. If no residual wastes were received during a month, submission of the Supplemental Report is not required.

The following information is required by the Supplemental Report. The information used to develop the Report shall be retained by the permittee for five years from the date of receipt and must be made available to DEP or EPA upon request.

- The dates that residual wastes were received.
- (2) The volume (gallons) of wastes received.
- (3) The license plate number of the vehicle transporting the waste to the treatment facility.
- (4) The permit number(s) of the well(s) where residual wastes were generated, if applicable.

- (5) The name and address of the generator of the residual wastes.
- (6) The type of wastewater.
- (7) Documentation of whether or not a chemical analysis of the residual wastes were reported on a Residual Waste Form 26R, or a separate waste characterization using the parameters from Form 26R.

The transporter of residual waste must maintain these and other records as part of the daily operational record (25 Pa. Code 299.219). If the transporter is unable to provide this information, the residual wastes shall not be accepted by the permittee until such time as the transporter is able to provide the required information.

- (ii) The following conditions apply to the characterization of residual wastes received by the permitted treatment facility:
  - (1) The permitted facility must receive and maintain on file a characterization of the residual wastes it receives from the generator, as required by 25 Pa. Code 287.54. The characterization shall conform to the Bureau of Waste Management's Form 26R except as noted in paragraph (2), below. Each load of residual waste received must be characterized accordingly.
  - (2) For wastewater generated from hydraulic fracturing operations ("frac wastewater") within the first 30 production days of a well site, the characterization may be a general frac wastewater characterization approved by DEP. Thereafter, the characterization must be waste-specific and reported on the Form 26R.

### b. Receipt of Municipal Waste

(i) The permittee shall document the receipt of all hauled-in municipal wastes (including but not limited to septage and liquid sewage sludge) received for processing at the treatment facility. The permittee shall report hauled-in municipal wastes on a monthly basis to DEP on the "Hauled In Municipal Wastes" Supplemental Report (3800-FM-BPNPSM0437) as an attachment to the DMR. If no municipal wastes were received during a month, submission of the Supplemental Report is not required.

The following information is required by the Supplemental Report:

- (1) The dates that municipal wastes were received.
- (2) The volume (gallons) of wastes received.
- (3) The BOD<sub>5</sub> concentration (mg/l) and load (lbs) for the wastes received.
- (4) The location(s) where wastes were disposed of within the treatment facility.
- (ii) Sampling and analysis of hauled-in municipal wastes must be completed to characterize the organic strength of the wastes, unless composite sampling of influent wastewater is performed at a location downstream of the point of entry for the wastes. The influent BOD₅ characterization for the treatment facility, as reported in the annual Municipal Wasteload Management Report per 25 Pa. Code Chapter 94, must be representative of the hauled-in municipal wastes received.

- 4. Unanticipated Noncompliance or Potential Pollution Reporting
  - Immediate Reporting The permittee shall immediately report any incident causing or threatening pollution in accordance with the requirements of 25 Pa. Code Sections 91.33 and 92a.41(b).
    - (i) If, because of an accident, other activity or incident a toxic substance or another substance which would endanger users downstream from the discharge, or would otherwise result in pollution or create a danger of pollution or would damage property, the permittee shall immediately notify DEP by telephone of the location and nature of the danger. Oral notification to the Department is required as soon as possible, but no later than 4 hours after the permittee becomes aware of the incident causing or threatening pollution.
    - (ii) If reasonably possible to do so, the permittee shall immediately notify downstream users of the waters of the Commonwealth to which the substance was discharged. Such notice shall include the location and nature of the danger.
    - (iii) The permittee shall immediately take or cause to be taken steps necessary to prevent injury to property and downstream users of the waters from pollution or a danger of pollution and, in addition, within 15 days from the incident, shall remove the residual substances contained thereon or therein from the ground and from the affected waters of this Commonwealth to the extent required by applicable law.
  - b. The permittee shall report any noncompliance which may endanger health or the environment in accordance with the requirements of 40 CFR 122.41(I)(6). These requirements include the following obligations:
    - (i) 24 Hour Reporting The permittee shall orally report any noncompliance with this permit which may endanger health or the environment within 24 hours from the time the permittee becomes aware of the circumstances. The following shall be included as information which must be reported within 24 hours under this paragraph (40 CFR 122.41(l)(6)(ii)):
      - (1) Any unanticipated bypass which exceeds any effluent limitation in the permit;
      - (2) Any upset which exceeds any effluent limitation in the permit; and
      - (3) Violation of the maximum daily discharge limitation for any of the pollutants listed in the permit as being subject to the 24-hour reporting requirement.
    - (ii) Written Report A written submission shall also be provided within 5 days of the time the permittee becomes aware of any noncompliance which may endanger health or the environment. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
    - (iii) Waiver of Written Report DEP may waive the written report on a case-by-case basis if the associated oral report has been received within 24 hours from the time the permittee becomes aware of the circumstances which may endanger health or the environment. Unless such a waiver is expressly granted by DEP, the permittee shall submit a written report in accordance with this paragraph. (40 CFR 122.41(I)(6)(iii))

### 5. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under paragraph C.4 of this section or specific requirements of compliance schedules, at the time DMRs are submitted, on the Non-Compliance Reporting Form (3800-FM-BPNPSM0440). The reports shall contain the information listed in paragraph C.4.b.(ii) of this section. (40 CFR 122.41(I)(7))

### PART B

#### I. MANAGEMENT REQUIREMENTS

- A. Compliance Schedules (25 Pa. Code 92a.51, 40 CFR 122.47(a))
  - 1. The permittee shall achieve compliance with the terms and conditions of this permit within the time frames specified in this permit.
  - 2. The permittee shall submit reports of compliance or noncompliance, or progress reports as applicable, for any interim and final requirements contained in this permit. Such reports shall be submitted no later than 14 days following the applicable schedule date or compliance deadline. (40 CFR 122.47(a)(4))
- B. Permit Modification, Termination, or Revocation and Reissuance
  - 1. This permit may be modified, terminated, or revoked and reissued during its term in accordance with 25 Pa. Code 92a.72 and 40 CFR 122.41(f).
  - 2. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition. (40 CFR 122.41(f))
  - In the absence of DEP action to modify or revoke and reissue this permit, the permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time specified in the regulations that establish those standards or prohibitions. (40 CFR 122.41(a)(1))

### C. Duty to Provide Information

- 1. The permittee shall furnish to DEP, within a reasonable time, any information which DEP may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. (40 CFR 122.41(h))
- 2. The permittee shall furnish to DEP, upon request, copies of records required to be kept by this permit. (40 CFR 122.41(h))
- 3. Other Information Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to DEP, it shall promptly submit the correct and complete facts or information. (40 CFR 122.41(I)(8))
- 4. The permittee shall provide the following information in the annual Municipal Wasteload Management Report, required under the provisions of Title 25 Pa. Code Chapter 94:
  - a. The requirements identified in 25 Pa. Code 94.12.
  - b. The identity of any indirect discharger(s) served by the POTW which are subject to pretreatment standards adopted under Section 307(b) of the Clean Water Act; the POTW shall also specify the total volume of discharge and estimate concentration of each pollutant discharged into the POTW by the indirect discharger.
  - c. A "Solids Management Inventory" including the following information for the preceding year, at a minimum: average annual flow (MGD), average influent BOD₅ (mg/l), average effluent CBOD₅ (mg/l), total volume of sludge wasted (gallons), average solids concentration of return or waste sludge flow (mg/l), and total sludge or biosolids generated (wet or dry tons).
  - d. The total volume of hauled-in residual and municipal wastes received during the year, by source.

e. The Annual Report requirements for permittees required to implement an industrial pretreatment program listed in Part C, as applicable.

### D. General Pretreatment Requirements

- POTWs shall require indirect dischargers to the treatment works subject to pretreatment standards adopted under Section 307(b) of the Clean Water Act to comply with the reporting requirements of Sections 204(b), 307, and 308 of the Clean Water Act and regulations thereunder.
- 2. Any POTW (or combination of POTWs operated by the same authority) with a total design flow greater than 5 million gallons per day (MGD) and receiving from industrial users pollutants which pass through or interfere with the operation of the POTW or are otherwise subject to Pretreatment Standards will be required to establish a POTW Pretreatment Program unless specifically exempted by the Approval Authority. A POTW with a design flow of 5 MGD or less may be required to develop a POTW Pretreatment Program if the Approval Authority finds that the nature or volume of the industrial influent, treatment process upsets, violations of effluent limitations, contamination of sludge, or other circumstances warrant in order to prevent interference or pass through. (40 CFR 403.8)
- 3. Each POTW with an approved Pretreatment Program pursuant to 40 CFR 403.8 shall develop and enforce specific limits to implement the prohibitions listed in 40 CFR 403.5(a)(1) and (b), and shall continue to develop these limits as necessary and effectively enforce such limits. This condition applies, for example, when there are planned changes to the waste stream as identified in Part A III.C.2. If the permittee is required to develop or continue implementation of a Pretreatment Program, detailed requirements will be contained in Part C of this permit.
- 4. For all POTWs, where pollutants contributed by indirect dischargers result in interference or pass through, and a violation is likely to recur, the permittee shall develop and enforce specific limits for indirect dischargers and other users, as appropriate, that together with appropriate facility or operational changes, are necessary to ensure renewed or continued compliance with this permit or sludge use or disposal practices. Where POTWs do not have an approved Pretreatment Program, the permittee shall submit a copy of such limits to DEP when developed. (25 Pa. Code 92a.47(d))

### E. Proper Operation and Maintenance

- 1. The permittee shall employ operators certified in compliance with the Water and Wastewater Systems Operators Certification Act (63 P.S. §§1001-1015.1).
- 2. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes, but is not limited to, adequate laboratory controls including appropriate quality assurance procedures. This provision also includes the operation of backup or auxiliary facilities or similar systems that are installed by the permittee, only when necessary to achieve compliance with the terms and conditions of this permit. (40 CFR 122.41(e))

### F. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge, sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment. (40 CFR 122.41(d))

### G. Bypassing

 Bypassing Not Exceeding Permit Limitations - The permittee may allow a bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions in paragraphs two, three and four of this section. (40 CFR 122.41(m)(2))

- 2. Other Bypassing In all other situations, bypassing is prohibited and DEP may take enforcement action against the permittee for bypass unless:
  - a. A bypass is unavoidable to prevent loss of life, personal injury or "severe property damage."
     (40 CFR 122.41(m)(4)(i)(A))
  - b. There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance. (40 CFR 122.41(m)(4)(i)(B))
  - c. The permittee submitted the necessary notice required in paragraph G.4 below. (40 CFR 122.41(m) (4)(i)(C))
- 3. DEP may approve an anticipated bypass, after considering its adverse effects, if DEP determines that it will meet the conditions listed in paragraph G.2 above. (40 CFR 122.41(m)(4)(ii))

### 4. Notice

- a. Anticipated Bypass If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible, at least 10 days before the bypass. (40 CFR 122.41(m)(3)(i))
- b. Unanticipated Bypass
  - (i) The permittee shall submit immediate notice of an unanticipated bypass causing or threatening pollution. The notice shall be in accordance with Part A III.C.4.a.
  - (ii) The permittee shall submit oral notice of any other unanticipated bypass within 24 hours, regardless of whether the bypass may endanger health or the environment or whether the bypass exceeds effluent limitations. The notice shall be in accordance with Part A III.C.4.b.
- H. Sanitary Sewer Overflows (SSOs)

An SSO is an overflow of wastewater, or other untreated discharge from a separate sanitary sewer system (which is not a combined sewer system), which results from a flow in excess of the carrying capacity of the system or from some other cause prior to reaching the headworks of the sewage treatment facility. SSOs are not authorized under this permit. The permittee shall immediately report any SSO to DEP in accordance with Part A III.C.4 of this permit.

### II. PENALTIES AND LIABILITY

### A. Violations of Permit Conditions

Any person violating Sections 301, 302, 306, 307, 308, 318 or 405 of the Clean Water Act or any permit condition or limitation implementing such sections in a permit issued under Section 402 of the Act is subject to civil, administrative and/or criminal penalties as set forth in 40 CFR §122.4I(a)(2).

Any person or municipality, who violates any provision of this permit; any rule, regulation or order of DEP; or any condition or limitation of any permit issued pursuant to the Clean Streams Law, is subject to criminal and/or civil penalties as set forth in Sections 602, 603 and 605 of the Clean Streams Law.

### B. Falsifying Information

Any person who does any of the following:

 Falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit, or  Knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit (including monitoring reports or reports of compliance or noncompliance)

Shall, upon conviction, be punished by a fine and/or imprisonment as set forth in 18 Pa.C.S.A § 4904 and 40 CFR §122.41(j)(5) and (k)(2).

### C. Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance pursuant to Section 309 of the Clean Water Act or Sections 602, 603 or 605 of the Clean Streams Law.

Nothing in this permit shall be construed to preclude the institution of any legal action or to relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject to under the Clean Water Act and the Clean Streams Law.

### D. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. 40 CFR 122.41(c)

### III. OTHER RESPONSIBILITIES

### A. Right of Entry

Pursuant to Sections 5(b) and 305 of Pennsylvania's Clean Streams Law, and Title 25 Pa. Code Chapter 92a and 40 CFR §122.41(i), the permittee shall allow authorized representatives of DEP and EPA, upon the presentation of credentials and other documents as may be required by law:

- 1. To enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit; (40 CFR 122.41(i)(1))
- 2. To have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit; (40 CFR 122.41(i)(2))
- 3. To inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and (40 CFR 122.41(i)(3))
- 4. To sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act or the Clean Streams Law, any substances or parameters at any location. (40 CFR 122.41(i)(4))

### B. Transfer of Permits

- 1. Transfers by modification. Except as provided in paragraph 2 of this section, a permit may be transferred by the permittee to a new owner or operator only if this permit has been modified or revoked and reissued, or a minor modification made to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act. (40 CFR 122.61(a))
- 2. Automatic transfers. As an alternative to transfers under paragraph 1 of this section, any NPDES permit may be automatically transferred to a new permittee if:
  - a. The current permittee notifies DEP at least 30 days in advance of the proposed transfer date in paragraph 2.b. of this section; (40 CFR 122.61(b)(1))

- b. The notice includes the appropriate DEP transfer form signed by the existing and new permittees containing a specific date for transfer of permit responsibility, coverage and liability between them; and (40 CFR 122.61(b)(2))
- c. DEP does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue this permit, the transfer is effective on the date specified in the agreement mentioned in paragraph 2.b. of this section. (40 CFR 122.61(b)(3))
- d. The new permittee is in compliance with existing DEP issued permits, regulations, orders and schedules of compliance, or has demonstrated that any noncompliance with the existing permits has been resolved by an appropriate compliance action or by the terms and conditions of the permit (including compliance schedules set forth in the permit), consistent with 25 Pa. Code 92a.51 (relating to schedules of compliance) and other appropriate Department regulations. (25 Pa. Code 92a.71)
- 3. In the event DEP does not approve transfer of this permit, the new owner or controller must submit a new permit application.

### C. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege. ( $\underline{40}$  CFR 122.41(g))

### D. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for a new permit. (40 CFR 122.41(b))

### E. Other Laws

The issuance of this permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations.

### IV. ANNUAL FEE

Permittees shall pay an annual fee in accordance with 25 Pa. Code § 92a.62. Annual fee amounts are specified in the following schedule and are due on each anniversary of the effective date of the most recent new or reissued permit. All flows identified in the schedule are annual average design flows. (25 Pa. Code 92a.62)

Small Flow Treatment Facility (SRSTP and SFTF)	\$0
Minor Sewage Facility < 0.05 MGD (million gallons per day)	\$250
Minor Sewage Facility ≥ 0.05 and < 1 MGD	\$500
Minor Sewage Facility with CSO (Combined Sewer Overflow)	\$750
Major Sewage Facility ≥ 1 and < 5 MGD	\$1,250
Major Sewage Facility ≥ 5 MGD	\$2,500
Major Sewage Facility with CSO	\$5,000

As of the effective date of this permit, the facility covered by the permit is classified in the following fee category: Minor Sewage Facility >=0.05 and <1 MGD.

Invoices for annual fees will be mailed to permittees approximately three months prior to the due date. In the event that an invoice is not received, the permittee is nonetheless responsible for payment. Throughout a five year permit term, permittees will pay four annual fees followed by a permit renewal application fee in the last year of permit coverage. Permittees may contact the DEP at 717-787-6744 with questions related to annual fees. The fees identified above are subject to change in accordance with 25 Pa. Code 92a.62(e).

Payment for annual fees shall be remitted to DEP at the address below by the anniversary date. Checks should be made payable to the Commonwealth of Pennsylvania.

PA Department of Environmental Protection Bureau of Point and Non-Point Source Management Re: Chapter 92a Annual Fee P.O. Box 8466 Harrisburg, PA 17105-8466

#### PARTC

#### I. OTHER REQUIREMENTS

- A. No storm water from pavements, area ways, roofs, foundation drains or other sources shall be directly admitted to the sanitary sewers associated with the herein approved discharge.
- B. 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 or 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.
- C. 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 (related to permits and requirements for landfilling, land application, incineration, and storage of sewage sludge), Federal Regulation 40 CFR 257, Pennsylvania Clean Streams Law, Pennsylvania Solid Waste Management Act of 1980, and the Federal Clean Water Act and its amendments. The permittee is responsible to obtain or assure that contracted agents have all necessary permits and approvals for the handling, storage, transport, and disposal of solid waste materials generated as a result of wastewater treatment.
- D. Notification of the designation of the responsible operator must be submitted to the permitting agency by the permittee within 60 days after the effective date of the permit and from time to time thereafter as the operator is replaced.
- E. If, at any time, 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.
- F If there is a change in ownership of this facility or in the name of the permittee, an application for transfer of the permit must be submitted to the DEP.
- G. 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.
- H. 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 and fecal coliform. However, if grab samples are collected for parameters normally monitored through composite sampling, the results must be reported.
- I. The seasonal effluent limitations for fecal coliform are based on Chapter 92a (§ 92a.47(a)(4)) of DEP's regulations and Delaware River Basin Commission's (DRBC's) Water Quality Regulations at § 4.30.4.A. DEP's regulations govern the summer limits for fecal coliform while the winter limits are based on DRBC's regulations. The DRBC regulations state that during winter season from October through April, the instantaneous maximum concentration of fecal coliform organisms shall not be greater than 1,000 per 100 milliliters in more than 10 percent of the samples tested. For reporting purposes, a copy of the guidelines on the 10 percent rule is enclosed with the permit.
- J. The permittee shall develop a treatment facility operations and maintenance (O&M) plan addressing key wastewater processes. The plan shall be reviewed annually and updated when appropriate. The plan shall be submitted to DEP for review upon request. For the purpose of this paragraph, a key wastewater process includes any equipment or process that, if it fails, may cause the discharge of raw wastewater or wastewater that fails to meet NPDES permit discharge requirements, or a failure that may threaten human or environmental health. The O&M plan shall include the following, at a minimum:

- A process control strategy that includes a schedule for process control sampling, monitoring, testing, and recordkeeping.
- 2. A plan that identifies how key wastewater processes shall be monitored and adjusted while the facility is staffed.
- 3. A plan that identifies how key wastewater processes will be monitored while the treatment facility is not staffed
- 4. For treatment plants that are impacted by wet weather flows, the permittee 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.
- 5. An emergency plan that identifies how the facility will be operated during times of emergency. For example, the plan shall detail how key wastewater processes will be repaired or replaced in the event of a failure while minimizing loss of life and property damage to the facility. This plan shall also include emergency contact numbers for local emergency response agencies, plant personnel, critical suppliers and vendors, and DEP contacts, at a minimum.
- 6. 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 part of this plan.
- A solids management plan that identifies how solids produced by the facility will be wasted, treated, and ultimately disposed of.

#### II. PCB MINIMIZATION PLAN AND MONITORING

- A. On April 7, 2007, the U.S. Environmental Protection Agency (EPA), Region 3, adopted a Total Maximum Daily Load (TMDL) for Polychlorinated Biphenyls (PCBs) for the Schuylkill River. Implementation of the TMDL requires that permitted facilities that discharge directly to the Schuylkill River conduct sampling for PCBs and, based upon review of the results, develop and implement a PCB Pollutant Minimization Plan (PMP). Based on the sampling results submitted by the facility, this facility is required to develop and implement a PCB PMP.
- B. The permittee shall collect one 24-hour composite sample annually during a wet weather flow and one 24-hour composite sample annually during a dry weather flow. The samples shall be collected from Outfall 001.
- C. All sample analyses shall be performed using EPA Method 1668A, Revision A: Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by HRGC/HRMS. EPA-821-R-00-002, December 1999 as supplemented or amended, and results for all 209 PCB congeners shall be reported. Project-specific, sample collection protocols, analytical procedures, and reporting requirements at http://www.state.nj.us/drbc/ quality/toxics/pcbs/monitoring.html shall be followed. Monitoring information, sample data, and reports associated with PCB monitoring shall be submitted to the DEP and the Delaware River Basin Commission (DRBC) in the form of two compact discs in the format referenced at http://www.state.nj.us/drbc/library/documents/PCB-EDD011309.pdf.
- D. In accordance with the U.S. EPA, Region 3, TMDL for PCBs for the Schuylkill River, the permittee shall submit a PMP for PCBs within 12 months from the effective date of the permit. The permittee shall comply with the requirements of Section 4.30.9 of DRBC's Water Quality Regulations. Additional information regarding PMP development may be found at http://www.state.nj.us/drbc/programs/ quality/pmp.html. In addition, the permittee shall:
  - 1. Commence implementation of its PMP as submitted within 60 days of receipt of a PMP completeness determination issued by DEP.

 Submit an Annual Report beginning one year from the date of commencement of the PMP to the DRBC and DEP consistent with the guidance specified at http://www.state.nj.us/ drbc/programs/quality/pmp.html.

The PMP, PMP Annual Report, and PCB data shall be submitted to DEP and DRBC at the following addresses:

PA Department of Environmental Protection Southeast Regional Office Clean Water Program 2 East Main Street Norristown, PA 19401

Delaware River Basin Commission Modeling, Monitoring & Assessment Branch P.O. Box 7360 West Trenton, NJ 08628

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#### PERMITTEE NAME/ADDRESS

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

NAME	Possum Hollow STP
CLIENT	Limerick Township
ADDRESS	646 West Ridge Pike
	Limerick, PA 19468
LOCATION	Limerick Township
	Montgomery County
WATERSHED	3-D

PA0058041	001
PERMIT NUMBER	OUTFALL NUMBER

PERI	VIII INUIV	IDEK	J	COTE	ALL NO	MIDEK	DMR Effective From:	October 1, 2013					
							DMR Effective To:	September 30, 2018					
		MONITO	RING F	PERIOD			Permit Expires:	September 30, 2018					
YEAR	МО	DAY		YEAR	МО	DAY	Permit Application Due:	April 3, 2018					
			то				Check Here if No Dis	scharge					

Reporting Frequency:

Monthly

NOTE: Read Instructions before completing this form QUANTITY OR LOADING QUALITY OR CONCENTRATION NO. FREQUENCY SAMPLE PARAMETER OF ANALYSIS VALUE VALUE UNITS VALUE VALUE VALUE UNITS EX TYPE SAMPLE \*\*\*\* \*\*\* \*\*\*\* MEASUREMENT Report PERMIT Report MGD \*\*\*\* \*\*\*\* \*\*\*\* \*\*\*\* Flow REQUIREMENT Avg Mo Daily Max Continuous Metered SAMPLE \*\*\*\* \*\*\*\* \*\*\*\* MEASUREMENT PERMIT 6.0 9.0 REQUIREMENT \*\*\*\* \*\*\*\* \*\*\*\* \*\*\*\* pH Inst Min **IMAX** S.U. 1/day Grab SAMPLE \*\*\*\* MEASUREMENT 5.0 PERMIT \*\*\*\* \*\*\* \*\*\* \*\*\*\* \*\*\*\* Dissolved Oxygen REQUIREMENT Inst Min mg/L 1/day Grab SAMPLE \*\*\*\* MEASUREMENT PERMIT 117 175 20 30 24-Hr CBOD5 REQUIREMENT \*\*\*\* Avg Mo Wkly Avg lbs/day Avg Mo Wkly Avg mg/L 1/week Composite SAMPLE \*\*\*\* \*\*\*\* \*\*\*\* **MEASUREMENT** CBOD5 PERMIT Report Report 24-Hr Raw Sewage Influent REQUIREMENT Avg Mo \*\*\*\* lbs/day \*\*\*\* Avg Mo \*\*\*\* mg/L 1/week Composite SAMPLE \*\*\*\* \*\*\*\* \*\*\*\* **MEASUREMENT** BOD5 Report PERMIT Report 24-Hr \*\*\*\* \*\*\*\* Raw Sewage Influent REQUIREMENT Avg Mo lbs/day Avg Mo mg/L 1/week Composite SAMPLE \*\*\* \*\*\*\* \*\*\*\* **MEASUREMENT** Total Suspended Solids PERMIT 24-Hr Report Report REQUIREMENT Raw Sewage Influent Ava Mo lbs/day Avg Mo mg/L 1/week Composite I certily under penalty of law that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel gather and evaluate the Information submitted. Based on my inquiry of the person or persons who manage the system or those persons already supervision or those persons already supervision for although the information submitted is, to the best of my knowledge and beller, true, NAME/TITLE PRINCIPAL EXECUTIVE OFFICER **TELEPHONE** DATE accurate and complete. I am aware that there are significant penalties SIGNATURE OF PRINCIPAL EXECUTIVE for submitting false information, including the possibility of fine and imprisonment for knowing violations. See 18 Pa. C.S. § 4904 (relating AREA TYPED OR PRINTED NUMBER YEAR MO DAY OFFICER OR AUTHORIZED AGENT CODE to unsworn (alsification).

COMMENTS (Report all violations on the "Non-Compliance Reporting Form")

PAGE 1 OF 2

### 3800-FM-BPNPSM0462 3/2012 pennsylvania DEPARTICITOR ENVIRONMENTAL PROTECTION

#### COMMONWEALTH OF PENNSYLVANIA **DEPARTMENT OF ENVIRONMENTAL PROTECTION** BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) DISCHARGE MONITORING REPORT (DMR)

DAY

#### PERMITTEE NAME/ADDRESS

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NAME	Possum Hollow STP		n								
CLIENT	Limerick Township	P	A005804	11		001					
ADDRESS	646 West Ridge Pike	PERI	MIT NUM		OUTFALL NUMBER						
	Limerick, PA 19468										
LOCATION	Limerick Township			MONITO	RING F	PERIOD					
Montgomery County		YEAR	МО	DAY		YEAR	МО	DAY			
WATERSHED 3-D					то						

Reporting Frequency:	Молthly
DMR Effective From:	October 1, 2013
DMR Effective To:	September 30, 2018
Permit Expires:	September 30, 2018
Permit Application Due:	April 3, 2018

\_\_\_ Check Here if No Discharge

NOTE: Read Instructions before completing this form

PARAMETER			TITY OR LOADII	NG		UALITY OR CON	CENTRATION		NO.	FREQUENCY	SAN	MPLE
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	SAMPLE MEASUREMENT				****					e		
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	SAMPLE MEASUREMENT	*******	****		stratestrate							
Fecal Coliform	PERMIT REQUIREMENT	****	****	****	****	200 Geo Mean	1,000 IMAX	No./100 ml		1/week	G	Grab
	SAMPLE MEASUREMENT	****	****			****	****					
UV Intensity	PERMIT REQUIREMENT	****	****	*****	Report Min	****	****	μw/cm²		1/day	Me	tered
	SAMPLE MEASUREMENT		****		****		****					
Ammonia-Nitrogen	PERMIT REQUIREMENT	47 Avg Mo	****	lbs/day	***	8.0 Avg Mo	****	mg/L		1/week		4-Hr aposite
	SAMPLE MEASUREMENT		****		****		****					
Total Phosphorus	PERMIT REQUIREMENT	Report Ava Mo	****	lbs/day	****	Report Avg Mo	****	] mg/L		1/week		4-Hr posite
	SAMPLE MEASUREMENT											-
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NAME/TITLE PRINCIPAL E.	XECUTIVE OFFICER	direction or supervision in that qualified personnel in Based on my inquiry of those persons directive	law that this document was n accordance with a system gether and evaluate the in the person or persons who y responsible for gathering	n designed to assure formation submitted, manage the system the information, the	To.			TEL	EPHONE		DATE	
TYPED OR PI	TYPED OR PRINTED		, to the best of my knowle I am aware that there are armation, including the po og violations. See 18 Pa. 0	dge and belief, true, significant penalties ssibility of fine and	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT CODE				NUME	BER YEAR	мо	DA

COMMENTS (Report all violations on the "Non-Compliance Reporting Form")

PAGE 2 OF 2

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#### PERMITTEE NAME/ADDRESS

# COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) DISCHARGE MONITORING REPORT (DMR)

NAME	Possum Hollow STP	
NAME	FUSSUIT HUILOW 3 IF	_
CLIENT	Limerick Township	
ADDRESS	646 West Ridge Pike	_
	Limerick, PA 19468	
LOCATION	Limerick Township	
	Montgomery County	
WATERSHED	3-D	

P.	A005804	<b>\$1</b>			001		Reporting Frequency:	Quarterly		
PERI	MIT NUN	MBER		OUTF	ALL NU	MBER	DMR Effective From:	October 1, 2013		
							DMR Effective To:	September 30, 2018		
		MONITO	RINGF	ERIOD			Permit Expires:	September 30, 2018		
YEAR	МО	DAY		YEAR	МО	DAY	Permit Application Due:	April 3, 2018		
Т		то				Check Here if No Dis	charge			

PAGE 1 OF 1

NOTE: Read Instructions before completing this form QUANTITY OR LOADING QUALITY OR CONCENTRATION NO. FREQUENCY SAMPLE PARAMETER VALUE VALUE UNITS VALUE OF ANALYSIS VALUE VALUE UNITS EX TYPE SAMPLE \*\*\*\* \*\*\*\* \*\*\*\* \*\*\*\* MEASUREMENT 1,000 PERMIT 24-Hr Total Dissolved Solids REQUIREMENT Avg Mo mg/L 1/quarter Composite SAMPLE **MEASUREMENT** PERMIT REQUIREMENT SAMPLE MEASUREMENT PERMIT REQUIREMENT SAMPLE MEASUREMENT PERMIT REQUIREMENT SAMPLE MEASUREMENT **PERMIT** REQUIREMENT SAMPLE MEASUREMENT PERMIT REQUIREMENT SAMPLE MEASUREMENT PERMIT REQUIREMENT I certify under penalty of law that this document was prepared under my NAME/TITLE PRINCIPAL EXECUTIVE OFFICER direction or supervision in accordance with a system designed to assure TELEPHONE DATE that qualified personnel gether and evaluate the information submitted Based on my inquity of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. See 18 Pa. C.S. § 4904 (relating SIGNATURE OF PRINCIPAL EXECUTIVE AREA TYPED OR PRINTED NUMBER OFFICER OR AUTHORIZED AGENT YEAR MO DAY CODE to unsworn falsification). COMMENTS (Report all violations on the "Non-Compliance Reporting Form")

# 3800-FM-BPNPSM0462 3/2012 pennsylvania DEPARTMENT OF ENVIRONMENTAL PROTECTION

NAME

# COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) DISCHARGE MONITORING REPORT (DMR)

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Possum Hollow STP

CLIENT	Limerick 1	Township				001		Repo	rting Frequ	ency:	Annually								
ADDRESS	646 West	Ridge Pike		PERI	MUM TIN	MBER		OUTF	ALL NU	MBER	DMR	Effective F	rom:	October	October 1, 2013				
	Limerick,	PA 19468									 DMR	Effective T	0:	Septemb	er 30	. 2018		8	
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		REQUIREWENT	I certify under penalty o	I law that this doc	ument was p	repared under my												-	
NAME/TITLE P	RINCIPAL EX	ECUTIVE OFFICER	direction or supervision that qualified personnel Based on my inquiry of or those persons direct	gather and evaluate person or person	uste the infon rsons who mi gathering th	mution Submitted. anage the system e information, the						TELI	EPHONI		丁	DATE			
Т	YPED OR PR	information submitted is, to the best of my knowledge and belief, true, accurate and comptete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. See 18 Ps. C.S. § 4904 (relating to unsworn fastification).					SNATURE ( OFFICER C			EXECUTIVE D AGENT	AREA CODE	NUME	BER YEA	R	мо	DAY			
COMMENTS (F	Report all viol	ations on the "Non-Co	mpliance Report	oliance Reporting Form")										PAGE 1 OF 1					



## COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

# INSTRUCTIONS FOR COMPLETING DISCHARGE MONITORING REPORTS (DMRs)

#### **General**

One or more Discharge Monitoring Reports (DMRs) are attached to your permit for reporting the results of self-monitoring activities as required by your permit. You should make copies of the DMRs for your ongoing use, unless you elect to participate in the Department of Environmental Protection's (DEP's) electronic DMR (eDMR) program (see <a href="https://www.dep.state.pa.us/edmr">www.dep.state.pa.us/edmr</a>).

- Reporting frequencies will vary depending on the monitoring frequencies listed in your permit, and are generally monthly, quarterly semi-annually and annually.
- Your reports must be <u>received</u> by DEP on the 28<sup>th</sup> day of the month following the end of the reporting period.
- Your permit may require submission of DMRs to other agencies, including the U.S. Environmental Protection Agency (EPA).
- If you receive DMRs in the mail from EPA, please discontinue use of DMR Form No. 3800-FM-BPNPSM0462 and begin using EPA's DMRs.
- DMRs will generally include pre-populated information for permittee name and address, facility location, permit number, outfall number, permit expiration date, parameter names, and permit requirements. If you identify any errors on a DMR issued by DEP, please contact the DEP regional office that issued your permit. If you identify any errors on a DMR issued by EPA, please contact DEP's Central Office at 717-787-6744.
   DO NOT make changes to DMRs issued to you.
- You may use computer-generated replicas of Form No. 3800-FM-BPNPSM0462 or of EPA's DMR if you
  receive prior approval from DEP and EPA. DEP reserves the right to instruct you to discontinue the
  submission of computer-generated DMRs if the permit requirements you entered on the form are
  inaccurate.

#### Instructions

- 1. Enter statistical results into each blank field below the "VALUE" column headers. Results must be reported in the same units shown on the DMR.
- 2. Sum the total number of excursions or exceedances of permit limits across the row for each parameter and enter the value into the "NO. EX" field. For example, if the permit contains limits of 6.0 S.U. (Minimum) and 9.0 S.U. (Maximum) for pH, and the Minimum and Maximum results are 5.9 S.U. and 9.1 S.U., respectively, enter "2" into the "NO. EX" field.
- 3. Report the actual sampling frequency and sample type utilized during the reporting period in the fields corresponding to "Frequency of Analysis" and "Sample Type", respectively.
- 4. Type the name of the principal executive officer (or an authorized agent designated by a principal executive officer) who is taking responsibility for the report, sign the report (should be in ink), enter the telephone number of the responsible individual, and record the date that the report was signed. Mail only original, signed copies of DMRs.
- 5. In the Comments section at the bottom of the DMR, you may write a brief summary of violations in this section; however, DEP requests that <u>all</u> violations during the monitoring period be reported in more detail on DEP's **Non-Compliance Reporting Form** (3800-FM-BPNPSM0440) and be submitted as an attachment to the DMR. Other uses of the Comments Section include explanations of attachments to the DMR, explanations for the unavailability of data, and brief summaries of issues that have affected operations or effluent quality during the monitoring period. Always consider attaching a letter or separate document to explain your situation in more detail.

### COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION



#### Guidance for Reporting Fecal Coliform Based on the 10% Rule in the Permit

#### FECAL COLIFORM 10% RULE DETERMINATION

1. Determine the number of samples that constitute 10% of the Fecal Coliform sampling analysis performed during the reporting period.

#### Examples:

30 samples collected, 10% = 3

23 samples collected, 10% = 2

10 samples collected, 10% = 1

less than 10 samples collected, 10% = 0

2. Determine the number of sample results that exceeded 1,000 during the reporting period. If the number of sample results exceeding 1,000 is greater than the number determined for the 10% rule, a violation has occurred.

#### REPORTING VALUE FOR THE FECAL COLIFORM 10% RULE

- 1. When all sample results during the reporting period are 1,000 or less, report the highest result as the "maximum" on the DMR.
- 2. When 10% or less of the sample results during the reporting period exceed 1,000, report the highest sample result not exceeding 1,000.
- 3. When greater than 10% of the sample results during the reporting period exceed 1,000, report the highest sample result.

#### DETERMINING THE NUMBER OF EXCEEDANCES FOR FECAL COLIFORM

1. To determine the number of exceedances for the reporting period, count the total number of samples exceeding the 10% rule and add one if the geometric mean exceeds 200.

#### Example 1:

The following Fecal Coliform results have been reported:

100; 15; 51; 1,000; 520; **1,200**; **3,500**; **6,871**; **1,540**; 1,000; 1,000; 850; **1,580**; 59; 26; 47; **1,980**; 15; 58; 24; 19; 175; 99; 149; 152; 142; 157; 100; 158; and 157

A total of 30 sample results, 10% = 3; 6 results exceed 1,000 (**bolded**); therefore, a violation of the 10% rule has occurred; the highest result is 6,871; this result will be reported on the DMR as the "instantaneous maximum" for the 10% rule; the geometric mean is 207; this will be reported on the DMR as the "geometric mean."

The number exceedances for the reporting period is 4; 3 values exceed the 10% rule (6 greater than 1,000-3 (10% of the results exceeding 1,000)=3) plus the exceedance of the geometric mean. Therefore, 4 exceedances will be reported on the DMR for Fecal Coliform.

#### Example 2:

The following Fecal Coliform results have been reported:

```
100; 15; 51; 1,000; 520; 1,200; 3,500; 68; 54; 1,000; 1,000; 850; 15; 59; 26; 47; 1,980; 15; 58; 24; 19; 175; 99; 149; 152; 142; 157; 100; 158; and 157
```

A total of 30 sample results, 10% = 3; 3 results exceed 1,000 (**bolded**); therefore, you are in compliance with the 10% rule and no violation of the 10% rules has occurred; the highest result (not including those that fall in the 10%) is 1,000; this result will be reported on the DMR as the "instantaneous maximum" for the 10% rule; the geometric mean is 136; this will be reported on the DMR as the "geometric mean."

The number of exceedances for the reporting period is 0.

#### Example 3:

The following Fecal Coliform results have been reported:

```
100; 1,109; 120; and 98
```

A total of 4 sample results, 10% = 0; 1 result exceeds 1,000 (**bolded**), therefore, in violation of the 10% rule has occurred; the highest result is 1,109; this result will be reported on the DMR as the "instantaneous maximum" for the 10% rule; the geometric mean is 136; this will be reported on the DMR as the "geometric mean."

The number of exceedances for the reporting period is 1.

#### Supplemental Form Inventory

The following supplemental forms (indicated in the check box column) are attached to this permit and must be completed and submitted to DEP in accordance with the permit and the supplemental form instructions. If the eDMR system is used to submit DMR reports, the spreadsheet versions of these supplemental forms, where applicable, should be used and attached to the eDMR submissions. A link to DEP's supplemental form website is available when logging into the eDMR system.

Check Box	Supplemental Form Name and No.
$\boxtimes$	Daily Effluent Monitoring (3800-FM-BPNPSM0435)
$\boxtimes$	Influent & Process Control (3800-FM-BPNPSM0436)
$\boxtimes$	Hauled in Municipal Wastes (3800-FM-BPNPSM0437)
$\boxtimes$	Sewage Sludge/Biosolids Production and Disposal (3800-FM-BPNPSM0438)
	Chemical Additives Usage (3800-FM-BPNPSM0439)
$\boxtimes$	Non-Compliance Reporting Form (3800-FM-BPNPSM0440)
	CSO Monthly Summary Report (3800-FM-BPNPSM0441)
	CSO Detailed Report (3800-FM-BPNPSM0442)
	Groundwater Monitoring Data Report (3800-FM-BPNPSM0443)
	Nutrient Monitoring (3800-FM-BPNPSM0444)
	Nitrogen Budget (3800-FM-BPNPSM0445)
	Phosphorus Budget (3800-FM-BPNPSM0446)
	Annual Nutrient Summary (3800-FM-BPNPSM0447)
	TMDL Annual Load Summary (3800-FM-BPNPSM0448)
	Land Application Systems (3800-FM-BPNPSM0449)
	Hauled in Residual Wastes (3800-FM-BPNPSM0450)
	Surface Water Monitoring Data Report (3800-FM-BPNPSM0461)
$\boxtimes$	Lab Accreditation Form (3800-FM-BPNPSM0189)
	Whole Effluent Toxicity Test Summary Report (3800-FM-BPNPSM0485)
	Storm Water Annual Inspection Form (3800-FM-WSFR0083v)
	Storm Water Additional Information (3800-FM-WSFR0083t)
	Other:



## DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

### SUPPLEMENTAL REPORT DAILY EFFLUENT MONITORING

Facility I Municip Watersh Laborati	atories:									Month: Year:  NPDES Permit No.: PA0058041 Outfall No.: 001  Renewal application due 180 days prior to expiration  This permit will expire on September 30, 2018							01	
									Effluer	t Paramete	rs		_				-	
		Flow		Нq		DO		CBOD5	D5 TSS		Tota	l Dissolved Solids	Fed	al Coliform	А	ттопіа	Ph	Total osphorus
Day	Q	MGD	Q	S.U.	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	No./100 ml	Q	mg/L	Q	mg/L
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I certify under penalty of law that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Prepared By:	Signature:	
Title:	Date:	

Page 1 of 2

3800-FM-BPNPSM0435 3/2012



# COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

## SUPPLEMENTAL REPORT DAILY EFFLUENT MONITORING

Municipa Watersh	acility Name: Possum Hollow STP unicipality: Limerick Township /atershed: 3-D aboratories:						County: Montgomery				Month:  NPDES Permit No.: PA0058041  Renewal application due 180 days prior to expi This permit will expire on September 30, 201					Year:Outfall No.: 001		
Laborato	ries:	-							_	ITIIS	perm	iit wiii expire o	ns	september 30,	2010			
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		Pre	pared	Ву:						Signatu	ге:	-			-			
		Title	e:							Date:	-1		_					Page 2 of 2



# INSTRUCTIONS FOR COMPLETING DAILY EFFLUENT MONITORING SUPPLEMENTAL REPORT

Use this form to report daily monitoring results for the parameters that must be monitored in effluent for compliance with the permit. Results for influent parameters are normally reported on Form 3800-FM-BPNPSM0436.

- 1. Enter Facility Name, Municipality, County, Watershed No., Laboratories, Month, Year, NPDES Permit No., Outfall No., and Permit Expiration Date (it is noted that this information may be pre-populated if you have received this form with your permit). For Laboratories, list the names of all laboratories where samples were analyzed during the month, including on-site analysis.
- 2. In the column headers, below "Effluent Parameters," enter the names of parameters in the permit. Since limited space is provided, abbreviation may be necessary. If there are more parameters for an outfall than columns provided on the form, attach an additional sheet.
- Below parameter names, and to the right of "Q" (Qualifier) column headers, enter the units associated each
  parameter (it is noted that this information may be pre-populated if you have received this form with your
  permit).
- 4. Enter monitoring results for parameters in the rows corresponding to the day of the month in which samples were collected. Enter results exactly as reported by the laboratory, or if measured with on-site equipment, to the level of precision recommended by the equipment manufacturer. Enter data qualifiers such as "<," ">," "J," and others in the "Q" column.
- Calculate and report average values at the bottom of the table in accordance with the DMR Instructions (3800-FM-BPNPSM0463) and DEP guidance (3800-BK-DEP3047). Note – for bacteria, calculate and report the geometric mean value.
- Type the name of the person who prepared the form, the person's job title, and sign and date the form after reading the certification statement.



## COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

#### SUPPLEMENTAL REPORT - INFLUENT & PROCESS CONTROL

Facility N Municipa Watersh	ality: <u>Lime</u> i	um Hollow Sī ick Township	ГР О	Co	unty: <u>Montgom</u>	ery	Month: Year:						
T			Influent					Process Control					
Day	Flow (MGD)	BOD5 (mg/l)	BOD5 (lbs)	TSS (mg/l)	TSS (lbs)	Aeration MLSS (mg/l)	Aeration DO (mg/l)	Sludge Wasted (gallons)	Y.				
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	Prepared By	<i>/</i> :		· · · · · · · · · · · · · · · · · · ·		Signature:				-			
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3800-FM-BPNPSM0436 3/2012 Instructions

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT



#### INSTRUCTIONS FOR COMPLETING INFLUENT & PROCESS CONTROL SUPPLEMENTAL REPORT

- 1. Enter Facility Name, Municipality, County, Watershed No., Month, Year, NPDES Permit No., and Permit Expiration Date.
- 2. For Influent, enter daily average Influent Flow (MGD) (if an influent flow meter is in use), daily influent BOD<sub>5</sub> or BOD<sub>5</sub> concentrations (mg/l) and loads (lbs), and daily influent TSS concentrations (mg/l) and loads (lbs). Calculate loads by multiplying daily average flow (MGD) by daily average concentration (mg/l) and a conversion factor of 8.34. If an influent flow meter is not in use, you may use results from an effluent flow meter.
- 3. For Process Control, enter daily average Mixed Liquor Suspended Solids (MLSS) (mg/l) and daily average Aeration Dissolved Oxygen (DO) for aerobic biological treatment systems, and total daily Sludge Wasted (removed from biological treatment), in gallons, for all treatment system types. If a parameter does not apply to your facility, leave the column blank. Information for other parameters such as Return Activated Sludge (RAS) Rate, Recirculation Rate (for fixed media treatment systems), Sludge Blanket Thickness, Sludge Volume Index, and others may be requested by the DEP office that issued the permit.
- 4. Type the name of the person who prepared the form, the person's job title, and sign and date the form after reading the certification statement.

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# COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

#### SUPPLEMENTAL REPORT - HAULED IN MUNICIPAL WASTES

Facility Municip Waters	Name: Popality: Lindhed: 3-l	nerick To	wnship			Montgome	ery	Renewa	Permit No.: <u>P/</u> Il application d mit will expire	ue <u>180 day</u>	s prior to omber 30,	expiration		
	711-1111		SEPTAGE			S	LUDGE		OTHER (spe	cifv):			DAILY TO	OTALS
Day	Gallons	BOD₅ (mg/l)	BOD <sub>5</sub> (lbs)	Disposal Location	Gallons	BODs (mg/l)	BOD <sub>5</sub> (lbs)	Disposal Location	Gallons	BOD <sub>5</sub> (mg/l)	BOD <sub>5</sub> (lbs)	Disposal Location	Gallons	BOD <sub>5</sub> (lbs)
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3800-FM-BPNPSM0437 3/2012 Instructions

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DEPARTMENT OF ENVIRONMENTAL PAOTECTION

## COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

#### INSTRUCTIONS FOR COMPLETING HAULED IN MUNICIPAL WASTES SUPPLEMENTAL REPORT

This form is intended for documenting the receipt of municipal wastes including sewage sludge, septage and other municipal wastewaters hauled in from other facilities for processing and/or disposal at your facility. This form should not be used for reporting receipt of residual wastes (e.g., food processing wastes, oil and gas wastewater, landfill leachate, etc.) - please use Form 3800-FM-BPNPSM0450 for reporting this information.

- 1. Enter Facility Name, Municipality, County, Watershed No., Month, Year, NPDES Permit No., and Permit Expiration Date.
- For septage, sludge and other wastewaters (specify type in the space provided), record the daily volume received in gallons, the daily BOD₅ concentration (average), the daily BOD₅ load in lbs (average), and the disposal location. For disposal location, specify the plant location or tank receiving hauled in wastes (e.g., headworks, primarily clarifier, digester, etc.).
- 3. Determine daily BOD<sub>5</sub> concentrations in mg/l by sampling loads in accordance with the permit or otherwise as determined by the facility. Periodic sampling of loads is encouraged to improve confidence in reported results.
- 4. Calculate the average, daily total and monthly total values and report the values in the spaces provided.
- 5. Type the name of the person who prepared the form, the person's job title, and sign and date the form after reading the certification statement.

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

## COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

## SUPPLEMENTAL REPORT SEWAGE SLUDGE / BIOSOLIDS PRODUCTION AND DISPOSAL

		Township		County: Montgomery		Month:	ion		
Check			GE/BIOSOLIDS emoval events d		ATION (Identify o	each off-site remo	oval event and incineration eve	ent)	
Date	Liquid Se	ewage Sludge/ Hauled Off-site	Biosolids	Dewatered Sev Hau	wage Sludge/Bio iled Off-site	solids	Sewage Sludge Dewatered and Incir	/Biosolids nerated On-si	te
	Gallons	% Solids	Dry Tons	Tons Dewatered	% Solids	Dry Tons	Tons Dewatered	% Solids	Dry Tons
		TOTAL:			TOTAL:			TOTAL:	
			SI UDGE/BIO	SOLIDS AND INCINERA		SAL AND BENEF	FICIAL USE INFORMATION	101712.	
				tes where sewage sludg					
	Site Name Junicipality			<del></del>					
	County								
	P Permit No. be of Material								
	Applied/Disp								
	of Disposal/U	se*				38. 1			
THE RESERVE THE PERSON NAMED IN	lauler Name uctions for exp	Janatian							
I certify un information of my know	der penalty of I submitted. Bas vledge and belie	aw that this doct sed on my inquiry of, true, accurate	of the person or p	persons who manage the sys am aware that there are sign	stem or those perso	ns directly responsib	n designed to assure that qualified ble for gathering the information, the formation, including the possibility of	information sub	mitted is, to the best
Pre	epared By: _					Signature:			-
Tit	e:			2-2-2-11	<del>-</del> 2	Date:			

3800-FM-BPNPSM0438 3/2012 Instructions COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT



### INSTRUCTIONS FOR COMPLETING SEWAGE SLUDGE / BIOSOLIDS SUPPLEMENTAL REPORT

1. Enter Facility Name, Municipality, County, Watershed No., Month, Year, NPDES Permit No., and Permit Expiration Date.

#### **Biosolids Production Information**

2. For each off-site removal event for liquid sewage sludge or biosolids and for dewatered sewage sludge or biosolids, and for each event where dewatered sewage sludge or biosolids are incinerated on-site, list the date of the event, identify the gallons (liquid) or tons (dewatered) removed or incinerated and the percent solids (e.g., 10%, 20%, etc.) Report only sewage sludge or biosolids that have been removed from the plant digesters and other solids which have been permanently removed from the treatment process. Do not include sewage sludge or biosolids from other facilities that are processed at your facility. (If there were no off-site removal events during the month, check the box above the table).

Calculate dry tons for liquid sewage sludge or biosolids by multiplying the volume (gallons) by the percent solids and by a conversion factor of 0.0000417. For example, if 2,500 gallons of liquid biosolids is removed, and the percent solids is 3.0%, dry tons is calculated as:

 $2,500 \text{ gallons } \times 3.0\% \times 0.0000417 = 0.31 \text{ dry tons}$ 

Calculate dry tons for dewatered sewage sludge or biosolids by multiplying the tons dewatered by the percent solids and by a conversion factor of 0.01. For example, if 5 tons of dewatered biosolids is removed, and the percent solids is 50%, dry tons is calculated as:

 $5 \text{ tons } \times 50\% \times 0.01 = 2.5 \text{ dry tons}$ 

The % **Solids** of liquid or dewatered sewage sludge or biosolids must be determined periodically through laboratory testing. Do not estimate or guess this value. An acceptable test method is method 2540B in *Standard Methods for the Examination of Water and Wastewater*, 18th edition, where samples are dried at 103-105°C. Other references such as ASTM may have equivalent tests which are also acceptable.

#### Biosolids and Incinerator Ash Disposal and Beneficial Use Information

- 3. Report sewage sludge, biosolids, and ash disposal and beneficial use information by disposal/application site. There are columns for four possible sites per month if more sites are needed, attach additional pages. For each Site Name, listed at the top of the column, enter the Municipality and County of the site, the DEP Permit No. (i.e., Biosolids permit number for land application, landfill waste management permit number, etc.), Type of Material (sewage sludge, biosolids, or incinerator ash), Dry Tons Applied/Disposed at the site for the month, Type of Disposal/Use (e.g., reed beds, agricultural utilization, composting, landfill, other treatment plant, etc.) and the name of the hauler (company or individual name).
- 4. Type the name of the person who prepared the form, the person's job title, and sign and date the form after reading the certification statement.



Permittee Name: Limerick Township

analysis.

# COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

### SUPPLEMENTAL LABORATORY ACCREDITATION FORM<sup>1</sup>

<u>Limerick,</u>	PA 19468			-			
PERMI	TNUMBER	-			ING PERIO	D	
PAG	0058041				то		
PARAMETER	ANAL	YSIS METHOD	LAB	B NAME	LA	B ID NUMBE	R <sup>2</sup>
H-70-1							
		F		0.5399.675			
3	-						
ertify under penalty of law that igned to assure that qualified penage the system, or those persent, true, accurate, and completer risonment for knowing violations	ersonnel properly ons directly resp e. I am aware ti	y gather and evaluate onsible for gathering t	the Information sub the information, the	omitted. Based on m information submitte	y inquiry of the	e person or per est of my knowl	sons w edge a
ame/Title Principal Execu	tive Officer	Phone:		Signature of Prin	ncipal Exec horized Age	utive Officer ent	or
		Data					

purposes. You do not need to send this form to the Department again UNLESS there has been a change to the lab(s), parameter(s) or method(s) of

<sup>&</sup>lt;sup>2</sup> For parameter(s) covered under accreditation-by-rule, submit the lab's registration number in lieu of an accreditation number.



## COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

#### NON-COMPLIANCE REPORTING FORM

Use this supplemental form to report all permit violations and any other non-compliance that may endanger health or the environment, in accordance with your permit. Complete all sections that apply. If you are reporting violations of permit limits, monitoring requirements or schedules that do not pose an immediate threat to health or the environment, you may attach this form to the Discharge Monitoring Report (DMR). Title 25, Pa. Code §§ 91.33 and 91.34 (regarding incidents causing or threatening pollution and activities utilizing pollutants, respectively), in part requires immediate notification by telephone to the Department of pollution incidents, remediation, and may require an additional report on the incident or plan of pollution prevention measures. If you are reporting other non-compliance events, and the reporting deadline does not coincide with your submission of the DMR, it should be submitted separately to the Department by the reporting deadline set forth in the permit. See instructions for more information.

Facility	Name:	Pos	sum Hollow STP					Мо	nth:		Year:	:	
Munici	pality:	Lime	erick Township		County:	Montgome	ry	Per	rmit No.	: PA0058041			
	Violation	ıs of	Permit Effluent	Limitations*				*					
	Date		Parameter	Permit Limit	Units	Statistical Code	Result	Units		Cause of Violation	on	Corrective A	ction Taken
	Sanitary	Sew	er Overflows an	d Other Unaut	horized	Discharges*							
	Event D	ate	Substance Discharged	Locatio	n	Volume (gals)	Duration (hrs)	Receivi Waters	-	Impact on Waters	Cause of	Discharge	Date DEP Notified
		Samp	Violations* ble collection less ble type not in col	5	•	Expl	lain						
			tion of permit sch		0.,,,,,	Expi	lain			14			
		Other Other				Exp	lain						
* If th	e space	prov	vided is not s	ufficient to re	ecord a	all informat	tion, pleas	e attach ac	dition	al sheets.			
I certify under penalty of law that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel gather and evaluinformation submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowledge. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).											ed is, to the best of		
			Prepared By:					Signatu	ге:				
	Title:												

### 3800-FM-BPNPSM0440 3/2012 Instructions

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT



### INSTRUCTIONS FOR COMPLETING NON-COMPLIANCE REPORTING FORM

Use this supplemental form to report <u>all</u> permit violations and any other non-compliance that may endanger health or the environment, in accordance with your permit. Complete all sections that apply. If you are reporting violations of permit limits, monitoring requirements or schedules that do not pose an immediate threat to health or the environment, you may attach this form to the Discharge Monitoring Report (DMR). If you are reporting other non-compliance events, and the deadline for a written report (e.g., 5 days) does not coincide with your submission of the DMR, this form should be submitted separately to the Department by the reporting deadline set forth in the permit.

If you are unsure of whether an incident constitutes non-compliance that may endanger health or the environment, it is recommended that you notify the Department verbally as soon as possible after you become aware of the incident. Title 25, Pa. Code §§ 91.33 and 91.34 (regarding incidents causing or threatening pollution and activities utilizing pollutants, respectively), in part requires immediate notification by telephone to the Department of pollution incidents, remediation, and may require an additional report on the incident or plan of pollution prevention measures.

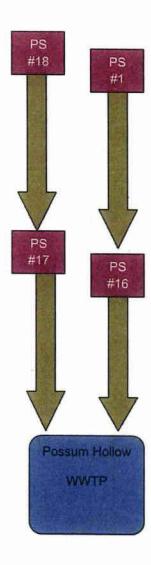
#### Instructions:

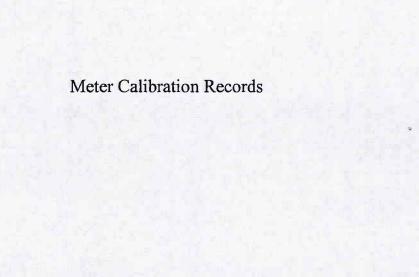
- 1. Enter the name of the facility, the municipality and county where it is located, the month and year when violations occurred, and the NPDES or WQM permit number for the facility.
- 2. If there were violations of permit effluent limitations during the month, check the box next to "Violations of Permit Effluent Limitations." (Note if using the electronic version of this form, check the boxes first, and then select Tools Unprotect Document to enter additional information). Enter the date of the violation (if a violation of a minimum or maximum limit, the date of sample collection, or if a violation of an average limit, the end of the monitoring period), the parameter name, the permit limit and units, the statistical code (e.g., "MIN", "MAX", "MO AVG", etc.), the measured result and units, the cause of the violation and the corrective action taken. If there are more than two violations during the monitoring period and/or if the space provided is insufficient to explain the cause or corrective action, please attach additional pages.
- 3. If there are Sanitary Sewer Overflow (SSO) discharges or other unauthorized discharges from the facility (e.g., spills, leaks, etc.) that enter or have the potential to enter waters of the Commonwealth, including groundwater, notify DEP by phone as soon as possible, and document the discharge on this form by checking the box next to "Sanitary Sewer Overflows and Other Unauthorized Discharges." Record the event (discharge) date, the substance discharged (e.g., sewage, on-site chemicals, etc.), the location where the discharge occurred (e.g., manhole number, pump station name, equipment description, etc.), the volume discharged (gallons), the approximate duration of the discharge (hours), the receiving waters (name of stream or groundwater), the impact on the receiving waters, if observed (e.g., solids deposition, foam, fish kill, etc.), the cause of the discharge, and the date on which the Department was verbally notified. If there are more than two discharge events during the monitoring period and/or if the space provided is insufficient to explain the discharge, please attach additional pages.
- 4. If there are other violations of the permit, check the box next to "Other Permit Violations," and check the appropriate box that describes the violation type. If not identified on the form, check the box next to "Other" and provide a written explanation. If the space provided is insufficient to explain the violation, please attach additional pages.
- Type your name and title and sign and date the form after reading the certification statement.

If you have questions about completing this form, contact the Clean Water Program Operations Section of the Department in your region:

Southeast Region – (484) 250-5970 Northeast Region – (570) 826-2553 Southcentral Region – (717) 705-4707 Northcentral Region – (570) 327-0532 Southwest Region – (412) 442-4060 Northwest Region – (814) 332-6942

# Possum Hollow WWTP Pump Station Flow Chart





### ALLIED CONTROL SERVICES, INC.

1 Garfield Avenue • P.O. Box 234, West Point, PA 19486 24 Hour Emergency Service 800-441-4844 Fax 215-699-9030

### **CERTIFICATE OF CALIBRATION**

CUSTO	MER: Limerick	- Two				
LOCAT	ION: Scalge.	TREATMENT PI	AAT		-	.75
LOOP	OR SYSTEM ID: Finn	LEFF WENT			· ·	a 4
CALIBE	RATED RANGE:	5 MGi)	TOTALIZER MULTIP	LIER _/	747	
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ITEM	MANUFACTURER	MODEL #	SERIAL #	DESCRIPTION	st.	
SOFERING WORK						
	Seimens	(100)				
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٠,			01-01-506			5
-						
		· · · · · · · · · · · · · · · · · · ·	. 1	***************************************	-	
	-		. :			
			*		36	
					200.00000000000000000000000000000000000	19
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	ed Ench Amaky OUT				,	
18.516	EL ENEM HAMING OUT	ALL Y ECHAT C	0	Δ		
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MANUE	ACTURER	DESCRIPT	ION		MODEL	SERIAL#
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						10 nak
	20		0 Book			
1=1	m Dine	Caliber	Treal Rule		503	

### ALLIED CONTROL SERVICES, INC.

611 Garfield Avenue • P.O. Box 234, West Point, PA 19486 24 Hour Emergency Service 800-441-4844 Fax 215-699-9030

### **CERTIFICATE OF CALIBRATION**

CUSTO	MER: Limeride	Townshi	· ^			
LOCATION	ON: Passum	Hollow T	RealmenTpl	ANT		
LOOP C	OR SYSTEM ID: EFF	luent Flow				
CALIBR	ATED RANGE:	med	_ TOTALIZER MULTIF	PLIER		
	owing equipment has been dance with the manufactur				erature of <u>火の</u>	deg. F
ITEM	MANUFACTURER	MODEL #	SERIAL#	DESCRIPTION		
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REMAR	s: Tested Flo	w AT Zeus F	flow condition		*	
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CALIBR/	ATION DATE:/	12015	TECHNICIAN:	are Presher		
				J		
TEST E	QUIPMENT USED:			×		
MANUFA	ACTURER	DESCR	IPTION	MODEL	SERIAL#	
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J50	40	HA	200 Book		1 NIA	i
1	m. Dine	Cal	Charter Role.	40	s wa	



### ALLIED CONTROL SERVICES, INC.

enen Strenbukturen "String String Strikker (menegrafikter), (m. 1920) en oppera

11 Garfield Avenue • P.O. Box 234, West Point, PA 19486 24 Hour Emergency Service 800-441-4844 Fax 215-699-9030

### **CERTIFICATE OF CALIBRATION**

CUSTO	MER: Limetick	Township				
LOCATI	ON: Excelan	Flow				
LOOP	OR SYSTEM ID: Pump	STATION EFF	lueur			all a
CALIBR	ATED RANGE:	GAM	TOTALIZER MULTIP	LIER X1000		
The follo	owing equipment has been a dance with the manufacture	ccurately calibrated ur s documented proced	nder ambient condition ures and specification	ons at an ambient tem ns.	perature of	deg. F,
ITEM	MANUFACTURER	MODEL#	SERIAL #	DESCRIPTION		4
	Milliagnics	Hydro Ranger Z	क ०तार० ३१३१	UITRA SONIC		2
2	Endress Hauser	395	EH230067	Flow Record	<u>cr</u>	
	-					
			-			
	,					
REMARI	KS:		2	2 8		
TIENIA II			±			
CALIBRA	ATION DATE:	/3012 TE	CHNICIAN: Liece	ge Reelin		
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	ske		1 E	78		<u>a.</u> ;
	5 <u>~</u> 0		Book		N/A	
F	misire	CAlibin	Ted Role	٥٠٠	P3 N/A	

#### 7.0 INDUSTRIAL WASTES [§ 94.12.Sec. (a) (8)]

The primary source of wastewater to the WWTP is residential. The Township is currently not required to implement a Municipal Industrial Pretreatment Program (MIPP); however, the Township must assure that the effluent discharged from the WWTP is in compliance with the limitations outlined in their NPDES Permit. Rules and Regulations Governing Use of the Sewer System was adopted in 1986 to facilitate maintaining compliance. Amendments made in 1994, 2001, and 2006, enable the Township, as successor to the Municipal Authority, to enforce compliance with the standards set in the Rules, to require all industrial facilities to be permitted and to complete on-site inspections of industrial facilities. A copy of the resolution as amended is provided in Appendix D in this report.

At present time there is only one permitted industrial wastewater discharger. Buckman's Inc. is located within the Possum Hollow WWTP service area and manufactures pool chemicals. The discharge from Buckman's, Inc. is high in TDS. Buckman's has a pretreatment system implemented which continuously monitors the effluent discharged to the public sewer system. When high TDS is detected, an automatic valve closes and the effluent is stored on-site for discharge/removal under separate permit. A copy of Buckman's Industrial Discharge Permit and discharge limits have been included in Appendix D.

There are no significant problems caused at the WWTP due to industrial discharge.

#### 8.0 PREVENTION OF OVERLOAD CONDITIONS [§ 94.12.Sec. (a) (9)]

#### 8.1 Hydraulics

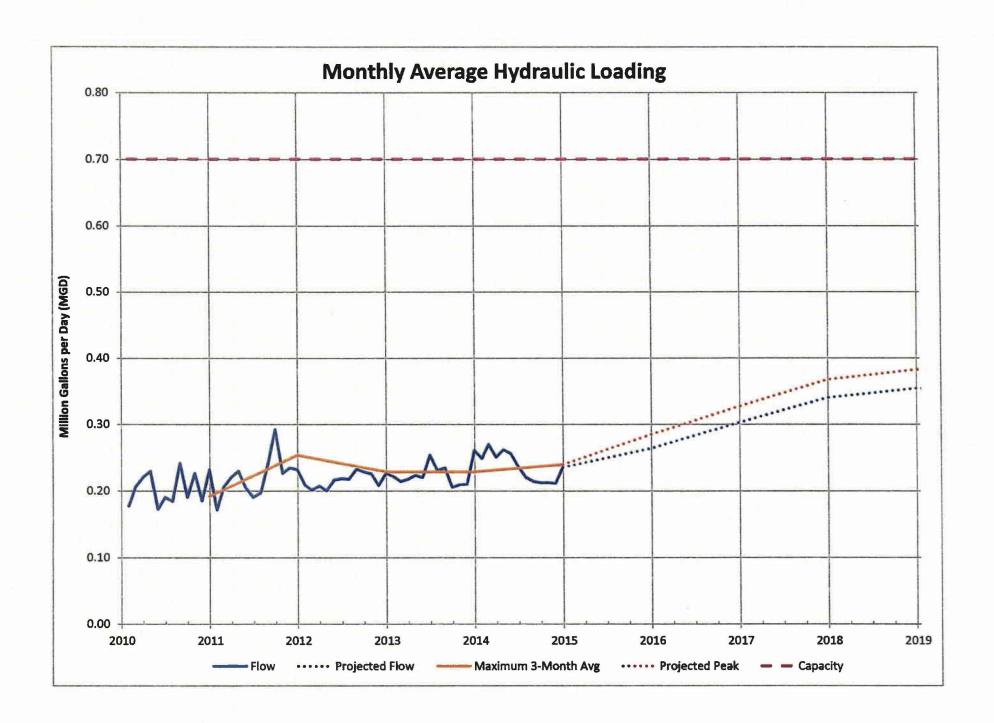
There are no current or projected hydraulic overloads of the Township's sewage facilities in the Possum Hollow Service Area; therefore, no action is required at this time.

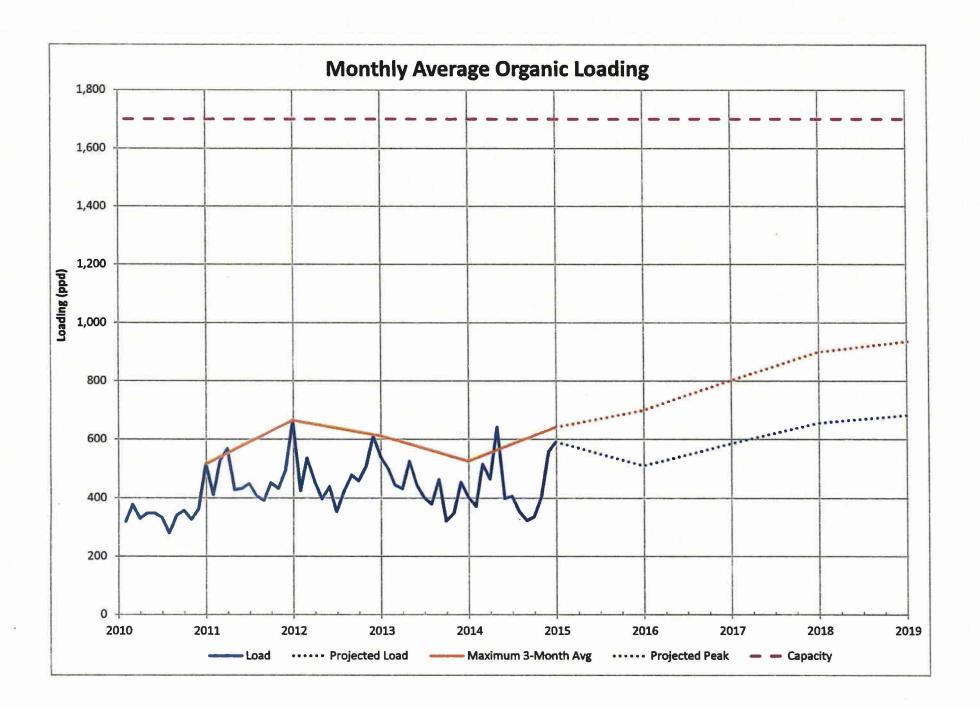
#### 8.2 Organics

There is no current or projected organic overload conditions; therefore, no action is required at this time.

### APPENDIX A

Hydraulic and Organic Loading





# SCHEDULE E WORKPAPERS

#### 2017 Adopted Budget Period: 02/17

2014 2015 2016 2017 Actual Actual Projected Budget Account Title Account Number **Sewer Operating Fund** Interest Income 08-341-100 Int - Sewer Revenue Savings 361 495 400 400 08-341-120 Int - Revenue Fund 6,372 4,302 4,700 4,700 Total Interest Income: 6.733 4,797 5,100 5.100 **Sewer Rental Fees** 08-364-121 Sewer Rental - King Road 2,880,253 2,974,776 2,980,000 2.990,000 08-364-122 Penalty & Interest - King Road 68,822 41,413 41,000 41,000 08-364-123 Sewer Rental - Possum Hollow 720,677 770.821 775.000 780,000 08-364-124 Penalty & Int - Possum Hossum 10,951 14,446 15,000 15,000 08-364-125 Royersford Treatment Charges 40,570-51,140-45,000-45,000-08-364-127 Lien Fees 14,248 14,926 .00 .00 Total Sewer Rental Fees: 3.654.382 3,765,242 3.766.000 3,781,000 Other Operating Revenue 08-380-110 Certification Fees 8,685 9.235 10,500 10,500 08-380-120 Inspection Fees 8,690 7,810 7,000 7.500 08-380-140 Miscellaneous Revenue .00 :00 21 .00 08-380-150 EnerNoc Demand Response Pymt 21,406 12,055 13,500 13,500 Total Other Operating Revenue: 38,781 29,100 31,021 31,500 **General & Admin Costs** 92,853 08-401-120 Wages - Staff 95,886 97,000 101,100 08-401-154 Life/Disability Insurance 756 701 800 870 08-401-156 Health Insurance 24,665 27,642 29,700 31,200 08-401-160 LTMA Retirement .00 11,547 .00 .00 08-401-161 Employer's Liab (FICA/SUTA) 8,200 8,419 7.900 8,112 08-401-210 Office Supplies 463 4,116 5,000 3,000 08-401-211 Bank Fees 131-270-100 100 08-401-310 Trustee 245 245 750 750 08-401-316 One Call 641 761 1.000 1,000 08-401-325 Postage 9.929 10,238 12,000 13,000 08-401-352 Public Officials & Gen Liab. 13,666 12,004 14,109 14,391 08-401-354 Workers' Comp. Insurance 240 236 252 125 08-401-384 Rental of Machinery/Equipment 2,848 2,837 3,000 3,000 08-401-460 **Education & Training** 135 18 .00 200 08-401-750 Non-depreciable Equipment 3,373 189 341 500 Total General & Admin Costs: 157,827 174,625 171,952 177,348 Legal 08-404-110 Legal 50,738 37,103 610,000 50,000 Total Legal: 50,738 37,103 610,000 50,000 Engineer 08-408-313 Engineering 24,328 45,039 70,000 65,000 24,328 45.039 Total Engineer: 65.000 70,000

		2014 Actual	2015 Actual	2016 Projected	2017 Budget
Account Number	Account Title				
General Gov't Bu					
08-409-250	Repairs/Maintenance	2,606	3,020	3,000	3,000
08-409-316	Janitorial Services	2,145	2,110	2,600	2,652
Total Gene	ral Gov't Buildings/Plant:	4,751	5,130	5,600	5,652
Operating Expen	SAS				
08-427-120	Wages - Superintendent	79,796	82,190	.00	.00
08-427-130	Wages - Operators	345,027	396,996	495,000	441,300
08-427-154	Life/Disability Insurance	2,670	3,533	3,900	3,600
08-427-156	Health Insurance	149,325	170,215	160,000	165,000
08-427-161	Employer's Liab (FICA/SUTA)	38,417	41,115	38,000	38,300
08-427-183	Overtime	30,655	26,691	28,000	30,000
08-427-184	On Call Pay	10,681	10,521	11,000	11,000
08-427-191	Uniform Rental	2,795	2,829	3,000	3,000
08-427-192	Personal Safety Equipment	.00	.00	4,000	4,000
08-427-192	Gas & Oil	.00	.00.	8,000	8,000
08-427-244	Water Reads	4,113			
			3,345	3,700	3,700
08-427-331	Mileage Costs	.00	.00	.00	.00.
08-427-351	Vehicle Insurance	6,732	6,707	8,916	9,000
08-427-354	Workers' Comp. Insurance	22,492	23,338	28,700	23,000
08-427-374	Vehicle Maintenance	6,575	7,604	7,000	6,000
08-427-420	Dues/Subscriptions/Memberships	300	501	500	500
08-427-460	Training	990	794	2,000	6,000
Total Opera	ating Expenses:	700,623	776,379	801,716	752,400
King Road Expe	nditures				
08-428-221	Water	10,378	9,508	9,000	10,000
08-428-222	Sludge Removal	69,375	63,181	70,000	70,000
08-428-223	Refuse/Trash	1,456	1,027	1,200	1,200
08-428-224	Grit Removal	5,199	9,487	10,000	10,000
08-428-225	Lab Supplies	2,540	1,505	3,000	4,000
08-428-226	Outside Lab Analysis	11,713	13,125	32,000	30,000
08-428-227	1&1	5,786	2,229	9,000	9,000
08-428-228	Odor Control	23,881	34,598	30,000	10,000
08-428-229	Other Chemicals	6,448	8,282	10,000	10,000
08-428-321	Telephone Services - Monthly	14,694	16,253	15,000	13,000
08-428-351	Bldg & Plant Insurance	8,352	12,455	13,478	14,000
08-428-361	Electric - Plant	243,877	246,877	225,000	170,000
08-428-362	Electric - PS #2, N. Limerick	2,756	2,498	3,000	3,000
08-428-363	Electric - PS #3, S. Limerick	6,649	6,883	8,000	8,000
08-428-364	Electric - PS #4, Benner Rd	2,468	2,387	2,500	2,500
08-428-365	Electric - PS #4, Berliner Rd Electric - PS #5, Trinley Rd	20,275	21,242	21,000	21,000
			938		
08-428-366	Electric - PS # 8, Merion	1,058		1,000	1,000
08-428-367	ELECTRIC - PS #7, King Rd	2,602	2,316	2,500	2,500
08-428-368	Electric - PS #6, SE	21,030	20,006	23,000	23,000
08-428-369	Electric - PS #10, Ridge Pike	2,742	2,699	3,000	3,000
08-428-370	Electric - PS #11, Wayside	3,528	2,459	.00	.00
08-428-371	Electric - PS #9, Neiffer Rd	555	574	700	700
08-428-372	Electric - PS #12, Bradford Wo	5,896	4,811	5,500	5,500
08-428-373	Electric -PS # 13, Bradford Wo	1,569	1,599	2,000	2,000
	Electric - PS # 14, Bradford W	3,711	3,722	4,000	4,000
08-428-374					
08-428-374 08-428-375 08-428-376	Electric PS#15, Landis Brooke Electric - Country Club Estate	1,187 3,315	1,114 3,565	1,200 3,200	1,200 3,200

3

#### 2017 Adopted Budget Period: 02/17

2014 2015 2016 2017 Actual Actual Projected **Budget** Account Title Account Number 08-428-377 Electric - PS #20, Graterford .00 1,299 4,000 4.000 11,700 08-428-451 Lawn Maintenance .00 .00 15.000 08-428-452 Permits 1.071 2.305 3,500 3,500 08-428-480 Plant/Bldg Maintenance 25,000 37,624 16,381 31,550 08-428-481 Collection System Maintenance 36,416 62,732 80,000 90,000 08-428-482 Equipment Maintenance 1.027 5.000 50,000 .00 08-428-483 Materials & Small Tools 1,813 3.136 5.000 6.000 1,000 **Equipment Rental** 617 436 1,000 08-428-484 10,273 20,379 08-428-485 Major Maintenance 25,000 .00 08-428-486 Other Contractor Services 7,122 9,046 12,000 20,000 12.000 08-428-487 Well Meters, Install & Repair 3.253 3,589 10,000 08-428-488 **Private Meter Supplies** 1,022 1,297 .00 .00 08-428-489 Deduct Meters 171 1,138 .00 .00 Total King Road Expenditures: 582,422 618,108 697,028 658,300 **Possum Hollow Expenditures** 08-429-221 Water 463 436 600 600 08-429-222 Sludge Removal 18,425 15,075 20,000 20,000 Refuse/Trash 08-429-223 .00 .00 .00 .00 08-429-224 Grit Removal 3.582 4.089 3.000 3.000 08-429-225 Lab Supplies 930 2,314 1,500 1,500 08-429-226 Outside Lab Analysis 11,571 17,368 17,300 17,300 08-429-227 | & | .00 .00 .00 .00 08-429-228 Odor Control .00 .00 5.000 5.000 08-429-229 Other Chemicals 105 52 500 500 08-429-321 Telephone Services - Monthly 3,203 3,326 5,000 5,000 08-429-351 Bldg & Plant Insurance 5,803 .00 .00 .00 08-429-361 Electric - Plant 70,177 74,434 75,000 75,000 5,000 08-429-363 Electric - PS #17, Poss Holl 4,496 4,265 5,000 3,665 5,000 5,000 08-429-364 ELECTRIC - PS #1, Airport Rd 3,319 6,001 6,700 08-429-365 Electric - PS # Heritage Hills 5,832 6,700 08-429-451 Lawn Maintenance .00 .00 .00 .00 2,154 1,554 3,500 6,000 08-429-480 Plant/Bldg Maintenance 149 3,163 5,000 6,000 08-429-481 Collection System Maintenance 1,344 **Equipment Maintenance** 2,019 3,000 6,000 08-429-482 Materials & Small Tools 1,044 200 2,000 4,000 08-429-483 08-429-484 Equipment Rental .00 .00 .00 .00 7,683 5.000 08-429-485 Major Maintenance 7,194 12,000 3,675 .00 6,000 6,000 08-429-486 Other Contractor Services .00 .00 .00 08-429-487 Well Meters, Install & Repair .00 08-429-488 Private Meter Supplies .00 .00 .00 .00 08-429-489 Deduct Meters 1,523 .00 .00 .00 Total Possum Hollow Expenditures: 145,479 145,155 176,100 177,600 **Debt Service** 460,000 08-471-400 Principal - Del Val 2001 80,000 .00 .00 440,000 .00 08-471-600 2010 Bond - Principal .00 .00 08-471-700 2015 Bond - Principal .00 445,000 495,000 525,000 Total Debt Service: 900,000 525,000 495,000 525,000 **Debt Service - Interest** 08-472-400 Interest - Del Val 2001 49,049 36,587 45,000 75,000

Limerick Township	2017 Adopted Budget	
	Period: 02/17	

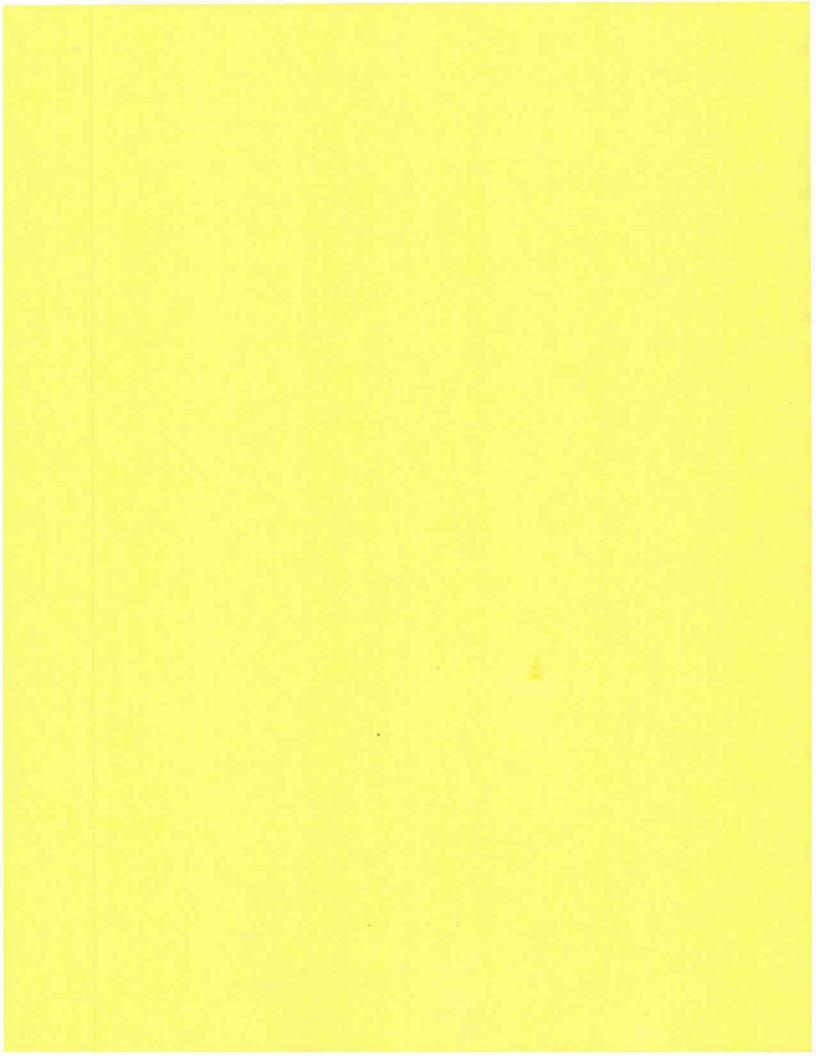
		2014 Actual	2015 Actual	2016 Projected	2017 Budget
Account Number	Account Title				
08-472-600	2010 Bond - Interest	144,749	.00	.00	.00
08-472-700	2015 Bond - Interest	.00	128,421	128,625	110,700
Total Debt	Service - Interest:	193,797	165,008	173,625	185,700
Interfund Transfe	ers				
08-492-001	Transfer to General Fund	600,000	625,000	625,000	625,000
08-492-031	Transfer to Sewer Capital Fd	250,000	450,000	400,000	400,000
Total Interfe	und Transfers:	850,000	1,075,000	1,025,000	1,025,000
Sewer Ope	rating Fund Revenue Total:	3,699,895	3,799,139	3,802,121	3,817,600
Sewer Ope	rating Fund Expenditure Total:	3,609,965	3,566,546	4,221,021	3,627,000
Net Total S	ewer Operating Fund:	89,930	232,593	418,900-	190,600

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Limerick Township		2017 Adopted Budget Period: 02/17			Page:
Account Number	Account Title	2014 Actual	2015 Actual	2016 Projected	2017 Budget
SEWER CAPITAL	- FUND				·
nterest Income					
31-341-140	Interest - Sewer Capital Fund	10,578	15,878	12,000	12,000
Total Intere	st Income:	10,578	15,878	12,000	12,000
Federal Grants 31-351-010	Federal Grants	.00	.00	.00	.00
Total Feder		.00	.00	.00	.00
	ai Granis.		.00		
Tapping Fees 31-364-111 31-364-112	Tapping Fees - King Road Tapping Fees - Possum Hollow	1,107,561 w 189,259	132,613 1,500-	652,775 .00	1,370,584 .00
Total Tappi	ng Fees:	1,296,820	131,113	652,775	1,370,584
nterfund Transfe					
31-392-008	Transfer from Sewer Fund		450,000	400,000	400,000
Total Interfu	und Transfers:		450,000	400,000	400,000
Cash Balance Fo	orward Budgetary Reserve	.00	.00	.00	.00
	Balance Forward:	.00	.00	.00	.00
King Road - Cap 31-428-620	Sewer System Construction	92,278	52,332	16,798	30,000
	Pump Station Upgrades	277,123	157,790	907,158	1,412,000
31-428-640	I/I Program Equipment	12,097	9,401	.00	.00
31-428-680		.00	18,426	.00	25,000
31-428-740	Vehicles	.00	3,499	74,635	55,000
31-428-750	Equipment		52,518	49,512	.00
Total King I	Road - Capital Projects:	381,497	293,966	1,048,103	1,522,000
	Capital Projects		12.2	210	
31-429-620		.00	.00	.00	.00
	Pump Station Upgrades	.00.	.00	4,900	40,000
31-429-680		12,097 .00	.00 7,152	.00	20,000 80,000
31-429-750	_	· · · · · · · · · · · · · · · · · · ·		.00	
Total Possu	um Hollow Capital Projects:	12,097	7,152	4,900	140,000
Reserved Funds 31-493-100		.00	.00	11,772	120,584
	ved Funds:	.00	.00	11,772	120,584
	APITAL FUND Revenue Total:	1,557,397	596,990	1,064,775	1,782,584
SEWER CA	APITAL FUND Expenditure Tota	d: 393,594 ————————————————————————————————————	301,118	1,064,775	1,782,584

Limerick Township		Adopted Budget eriod: 02/17			Page:	6
Account Number	Account Title	2014 Actual	2015 Actual	2016 Projected	2017 Budget	
Net Total SEWER	CAPITAL FUND:	1,163,803	295,872	.00	.00	

.



Account Numbe Account Title Admin:	2014	2015	2016
8401120 Wages - Staff	92,853	95,886	99,172
8401154 Life/Disability Insurance	701	756	802
8401156 Health Insurance	24,665	27,642	29,102
8401160 LTMA Retirement		11,547	-
8401161 Employer's Liab (FICA/SUTA)	8,200	8,419	8,315
8401210 Office Supplies	463	4,116	5,559
8401211 Bank Fees	(131)	(270)	(310)
8401310 Trustee	245	245	750
8401316 One Call	641	761	1,166
8401325 Postage	9,929	10,238	9,660
8401352 Public Officials & Gen Liab.	13,666	12,004	14,109
8401354 Workers' Comp. Insurance	240	236	226
8401384 Rental of Machinery/Equipment	2,848	2,837	2,832
8401460 Education & Training	135	18	-
8401750 Non-depreciable Equipment	3,373	<u> 189</u> _	341
Legal:	157,827	174,625	171,723
8404110 Legal	50,738	37,103	641,212
Engineering:			
8408313 Engineering	24,328	45,039	78,973
Building Maint:			
8409250 Repairs/Maintenance	2,606	3,020	2,086
8409316 Janitorial Services	2,145	2,110	2,220
	4,751	5,130	4,306
Operating Expenses:			
8427120 Wages - Superintendent	79,796	82,190	-
8427130 Wages - Operators	345,027	396,996	488,015
8427154 Life/Disability Insurance	2,670	3,533	3,545
8427156 Health Insurance	149,325	170,215	167,654
8427161 Employer's Liab (FICA/SUTA)	38,417	41,115	42,171
8427183 Overtime	30,655	26,691	26,521
8427184 On Call Pay	10,681	10,521	10,177
8427191 Uniform Rental	2,795	2,829	3,291
8427192 Personal Safety Equipment	-	-	3,313
8427231 Gas & Oil	56	-	2,646
8427244 Water Reads	4,113	3,345	3,537
8427331 Mileage Costs	- 700	0.707	0.040
8427351 Vehicle Insurance	6,732	6,707	8,916
8427354 Workers' Comp. Insurance	22,492	23,338	25,846
8427374 Vehicle Maintenance	6,575	7,604	5,181
8427420 Dues/Subscriptions/Memberships	300	501 704	453
8427460 Training	990	794	1,416
King Road:	700,623	776,379	792,682
8428221 Water	10,378	9,508	9,018
8428222 Sludge Removal	69,375	63,181	67,588

	8428223 Refuse/Trash	1,456	1,027	1,102
	8428224 Grit Removal	5,199	9,487	8,070
	8428225 Lab Supplies	2,540	1,505	3,108
	8428226 Outside Lab Analysis	11,713	13,125	27,206
	8428227   &	5,786	2,229	8,969
	8428228 Odor Control	23,881	34,598	18,468
	8428229 Other Chemicals	6,448	8,282	10,476
	8428321 Telephone Services - Monthly	14,694	16,253	15,725
·	8428351 Bldg & Plant Insurance	8,352	12,455	13,478
	8428361 Electric - Plant	243,877	246,877	217,970
	8428362 Electric - PS #2, N. Limerick	2,756	2,498	2,500
	8428363 Electric - PS #3, S. Limerick	6,649	6,883	6,493
	8428364 Electric - PS #4, Benner Rd	2,468	2,387	2,616
	8428365 Electric - PS #5, Trinley Rd	20,275	21,242	20,230
	8428366 Electric - PS # 8, Merion	1,058	938	686
	8428367 ELECTRIC - PS #7, King Rd	2,602	2,316	2,341
	8428368 Electric - PS #6, SE	21,030	20,006	21,795
	8428369 Electric - PS #10, Ridge Pike	2,742	2,699	2,455
	8428370 Electric - PS #11, Wayside	3,528	2,459	_,
	8428371 Electric - PS #9, Neiffer Rd	555	574	696
	8428372 Electric - PS #12, Bradford Wo	5,896	4,811	4,527
	8428373 Electric -PS # 13, Bradford Wo	1,569	1,599	1,540
	8428374 Electric - PS # 14, Bradford W	3,711	3,722	3,568
	8428375 Electric PS#15, Landis Brooke	1,187	1,114	1,036
	8428376 Electric - Country Club Estate	3,315	3,565	3,003
	8428377 Electric - PS #20, Graterford	-	1,299	2,973
	8428451 Lawn Maintenance	_	-	-
	8428452 Permits	1,071	2,305	2,361
	8428480 Plant/Bldg Maintenance	37,624	16,381	29,697
	8428481 Collection System Maintenance	36,416	62,732	82,689
	8428482 Equipment Maintenance	-	1,027	1,358
	8428483 Materials & Small Tools	1,813	3,136	3,884
	8428484 Equipment Rental	617	436	117
	8428485 Major Maintenance	10,273	20,379	14,687
	8428486 Other Contractor Services	7,122	9,046	7,692
	8428487 Well Meters, Install & Repair	3,253	3,589	7,868
	8428488 Private Meter Supplies	1,022	1,297	7,000
	8428489 Deduct Meters	171	1,138	(2,558)
	0420400 Bedder Meters			
Possi	ım Hollow:	582,422	618,108	625,432
1 0331	8429221 Water	463	436	470
	8429222 Sludge Removal	18,425	15,075	479 16 404
	8429223 Refuse/Trash	10,425	125	16,404
	8429224 Grit Removal	3,582	4.000	4.540
		930	4,089	4,519
	8429225 Lab Supplies		2,314	772
	8429226 Outside Lab Analysis	11,571	17,368	14,712
	8429227   &   8429228 Odor Control	-	#	4 E06
		105	- F0	4,506
	8429229 Other Chemicals	105	52 3 336	310
	8429321 Telephone Services - Monthly	3,203	3,326	4,605

8429351 Bldg & Plant Insurance	5,803	-	-
8429361 Electric - Plant	70,177	74,434	74,320
8429363 Electric - PS #17, Poss Holl	4,496	4,265	4,787
8429364 ELECTRIC - PS #1, Airport Rd	3,319	3,665	4,397
8429365 Electric - PS # Heritage Hills	5,832	6,001	6,339
8429451 Lawn Maintenance	-	-	, (1 <del></del>
8429480 Plant/Bldg Maintenance	2,154	1,554	6,227
8429481 Collection System Maintenance	149	3,163	4,188
8429482 Equipment Maintenance	1,344	2,019	2,242
8429483 Materials & Small Tools	1,044	200	1,682
8429484 Equipment Rental	-	-	=
8429485 Major Maintenance	7,683	7,194	7,491
8429486 Other Contractor Services	3,675	-	5,833
8429487 Well Meters, Install & Repair	-	-	=
8429488 Private Meter Supplies	-	-	( <u>=</u>
8429489 Deduct Meters	1,523	-	-
	145,479	145,155	163,814
Transfers:			
8492001 Transfer to General Fund			
8492031 Transfer to Sewer Capital Fd			
Total Operating Expenses	1,666,168	1,801,538	2,478,142

# SCHEDULE F WORKPAPERS

#### **Billing & Payments**

Limerick Township Sewer Department bills for sewer on a quarterly basis. The bill is made up of 2 components; a base charge and a consumption charge based on actual usage data received from Pennsylvania American Water Company. Payments are due in 30 days. A 10% penalty will be assessed thereafter and interested is charged at 0.5% per month. Non-payment will result in a lien plus legal fees or water termination plus PAWC fees.

#### **Contact Us**

Limerick Township 646 West Ridge Pike Limerick, PA 19468 Phone: 610-495-6432 Fax: 610-495-0353

#### Rates

The rates are as follows:

- Base Usage Charge: \$84.30
- Consumption Usage Charge:
  - 1,000-cubic-feet included in base charge
  - o Over 1,000-cubic-feet: \$4.84 per 100-cubic-feet
- · Gallon Readings:
  - o 7,481 gallons included in base charge
  - o Over 7,481 gallons: \$6.46 per 1,000 gallons
- Well customers will be billed quarterly a flat rate of \$85.00, subject to change.

#### **Payments**

Payments may be made:

- Between 8:00AM and 4:00PM Monday through Friday at the Township Building
- By mail with check or credit card (convenience fee applies). Simply detach the bottom portion of your bill
  and follow the instructions to mail your payment
- · At Penn Liberty Bank on Lewis Road
- Online with MuniciPay (convenience fee applies). For online banking, please make sure the due date for payment is at least 10 days prior to our due date. Limerick Township offers the convenience of accepting credit cards for payments. A 3rd-party convenience fee will apply cardholders who wish to pay via credit card. This fee is required in order to allow Limerick Township the option to accept payments via credit card. Such fee will be disclosed to the cardholder at time of transaction with the option to decline the fee and make payment via cash or check. Nationwide Payment Solutions is an authorized Level 1 PCI-DSS 3rd-party processor of these regulated convenience fees. This fee will be 2.65% (\$1.50 minimum).

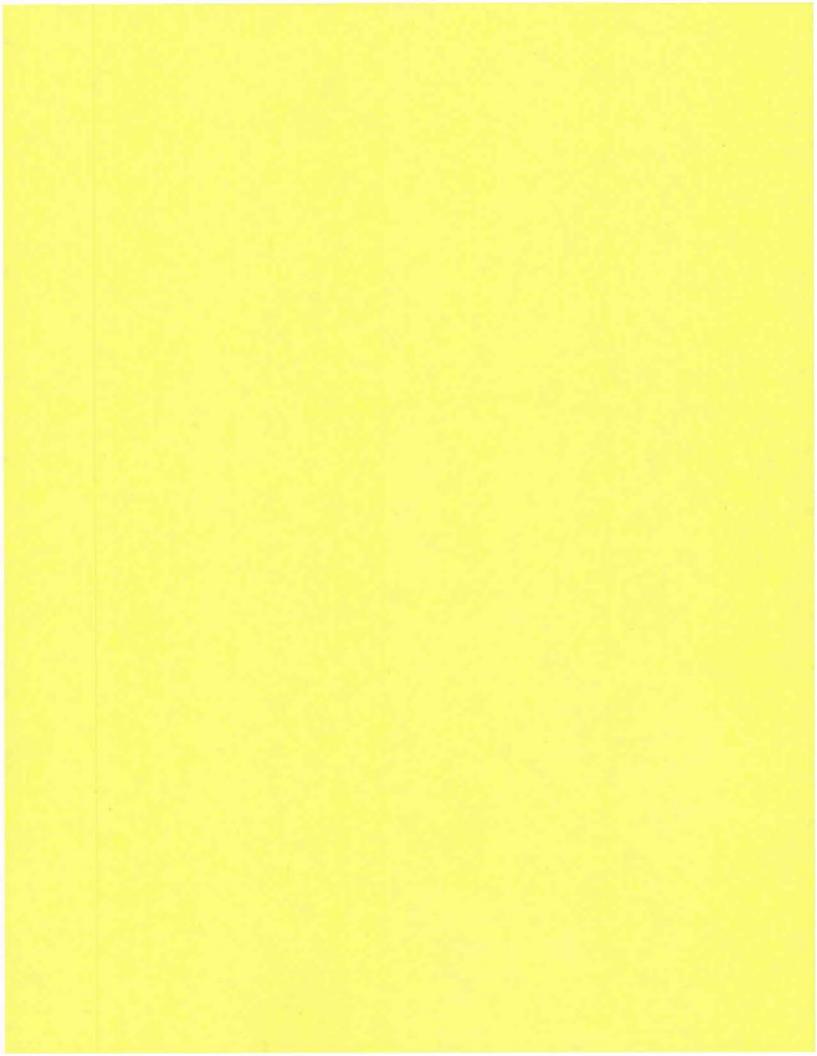
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#### Contact Us

#### Frank Rodden

Superintendent

frodden@limerickpa.org



	AQUA PA	
	# Customers:	19,784
	2015	Cost per
O&M Expenses	<u>Actual</u>	Customer
<b>Total Salaries and Wages</b>	939,514	\$47.49
<b>Employee Pensions and Benefits</b>	556,003	\$28.10
Purchased WW Treatment	565,253	\$28.57
Sludge Removal Expense	939,890	\$47.51
Purchased Power	1,010,357	\$51.07
Fuel for Power Production	5,140	\$0.26
Chemicals	475,538	\$24.04
Materials and Supplies	92,553	\$4.68
<b>Total Contractual Services</b>	2,206,463	\$111.53
Rental of Building/Real Property	94,980	\$4.80
Rental of Equipment	0	\$0.00
Transportation Expenses	51,710	\$2.61
Total Insurance	26,172	\$1.32
Advertising Expense	1,300	\$0.07
Bad Debt Expense	143,136	\$7.23
<b>Total Miscellaneous Expenses:</b>	<u>208,598</u>	\$10.54
Total O&M Expenses:	7,316,607	\$369.82

Limerick Twp.		
# Customers:	5,415	
2015	Cost per	
<u>Actual</u>	Customer	
583,400	\$107.74	
247,082	\$45.63	
101,600	\$18.76	
90,000	\$16.62	
346,300	\$63.95	
8,000	\$1.48	
10,500	\$1.94	
17,700	\$3.27	
355,000	\$65.56	
11,652	\$2.15	
4,500	\$0.83	
6,000	\$1.11	
60,516	\$11.18	
0	\$0.00	
0	\$0.00	
49,050	\$9.06	
1,891,300	\$349.27	

At Aqua's	At Aqua's
Cost	Unchanged
\$257,151	\$0
\$152,181	\$0
	\$101,600
	\$90,000
	\$346,300
	\$8,000
	\$10,500
\$25,332	\$0
\$603,922	\$0
\$25,997	\$0
\$0	\$0
\$14,153	\$0
\$7,163	\$0
\$356	\$0
\$39,177	\$0
\$57,09 <u>5</u>	\$0
100	
\$1,182,527	\$556,400

Total: \$1,738,927

Difference: -\$152,373

-8.76%

**General & Admin Expenses** 

Wages - Staff	101,100
Life/Disability Insurance	870
Health Insurance	31,200
LTMA Retirement	
Employer's Liab (FICA/SUTA)	8,112
Office Supplies	3,000
Bank Fees	100
Trustee	750
One Call	1,000
Postage	13,000
Public Officials & Gen Liab.	14,391
Workers' Comp. Insurance	125
Rental of Machinery/Equipment	3,000
Education & Training	200
Non-depreciable Equipment	500
Total General & Admin Expenses:	177,348

## **Other Expenses**

Legal	50,000
Engineering	70,000
Building - Repairs/Maint.	3,000
Building - Janitorial Services	2,652
Total Other Expenses:	125,652

**General Operating Expenses** 

Wages - Superintendent	4
Wages - Operators	441,300
Life/Disability Insurance	3,600
Health Insurance	165,000
Employer's Liability (FICA/SUTA)	38,300
Overtime	30,000
On Call Pay	11,000
Uniform Rental	3,000
Personal Safety Equipment	4,000
Gas & Oil	8,000
Water Reads	3,700
Vehicle Insurance	9,000
Workers' Comp. Insurance	23,000
Vehicle Maintenance	6,000
Dues/Subscriptions/Membership	500
Training	6,000
Total Operating Expenses:	752,400

King Road Treatment Plant:

Sludge Removal         70,000           Refuse/Trash         1,200           Grit Removal         10,000           Lab Supplies         4,000           Outside Lab Analysis         30,000           I&I         9,000           Odor Control         10,000           Other Chemicals         10,000           Telephone Services - Monthly         13,000           Building & Plant Insurance         14,000           Electric - Plant         170,000           Electric - PS #3, S. Limerick         3,000           Electric - PS #4, Benner Rd         2,500           Electric - PS #5, Trinley Rd         21,000           Electric - PS #5, Trinley Rd         21,000           Electric - PS #6, SE         23,000           Electric - PS #6, SE         23,000           Electric - PS #10, Ridge Pike         3,000           Electric - PS #10, Ridge Pike         3,000           Electric - PS #12, Bradford Wo         2,000           Electric - PS #13, Bradford Wo         4,000           Electric - PS #15, Landis Brooke         1,200           Electric - Country Club Estate         3,200           Electric - PS #20, Graterford         4,000           Lawn Maintenance         25,00	Water	10,000
Grit Removal         10,000           Lab Supplies         4,000           Outside Lab Analysis         30,000           I&I         9,000           Odor Control         10,000           Other Chemicals         10,000           Telephone Services - Monthly         13,000           Building & Plant Insurance         14,000           Electric - Plant         170,000           Electric - PS #2 N. Limerick         3,000           Electric - PS #3, S. Limerick         8,000           Electric - PS #4, Benner Rd         2,500           Electric - PS #5, Trinley Rd         21,000           Electric - PS #7, King Rd         2,500           Electric - PS #6, SE         23,000           Electric - PS #10, Ridge Pike         3,000           Electric - PS #12, Bradford Wo         5,500           Electric - PS #13, Bradford Wo         2,000           Electric - PS #14, Bradford Wo         4,000           Electric - PS #15, Landis Brooke         1,200           Electric - PS #20, Graterford         4,000           Lawn Maintenance         25,000           Permits         3,500           Plant/Building Maintenance         25,000           Collection System Maintenance	Sludge Removal	70,000
Lab Supplies         4,000           Outside Lab Analysis         30,000           I&I         9,000           Odor Control         10,000           Other Chemicals         10,000           Telephone Services - Monthly         13,000           Building & Plant Insurance         14,000           Electric - Plant         170,000           Electric - PS #2 N. Limerick         3,000           Electric - PS #3, S. Limerick         8,000           Electric - PS #4, Benner Rd         2,500           Electric - PS #5, Trinley Rd         21,000           Electric - PS #8, Merion         1,000           Electric - PS #6, SE         23,000           Electric - PS #10, Ridge Pike         3,000           Electric - PS #12, Bradford Wo         5,500           Electric - PS #12, Bradford Wo         2,000           Electric - PS #14, Bradford Wo         4,000           Electric - PS #15, Landis Brooke         1,200           Electric - PS #20, Graterford         4,000           Lawn Maintenance         25,000           Permits         3,500           Plant/Building Maintenance         25,000           Collection System Maintenance         90,000           Equipment Maintenance <td>Refuse/Trash</td> <td>1,200</td>	Refuse/Trash	1,200
Outside Lab Analysis         30,000           I&I         9,000           Odor Control         10,000           Other Chemicals         10,000           Telephone Services - Monthly         13,000           Building & Plant Insurance         14,000           Electric - Plant         170,000           Electric - PS #2 N. Limerick         3,000           Electric - PS #3, S. Limerick         8,000           Electric - PS #4, Benner Rd         2,500           Electric - PS #5, Trinley Rd         21,000           Electric - PS #8, Merion         1,000           Electric - PS #6, SE         23,000           Electric - PS #10, Ridge Pike         3,000           Electric - PS #12, Bradford Wo         5,500           Electric - PS #12, Bradford Wo         2,000           Electric - PS #14, Bradford Wo         4,000           Electric - PS #15, Landis Brooke         1,200           Electric - PS #20, Graterford         4,000           Lawn Maintenance         15,000           Permits         3,500           Plant/Building Maintenance         25,000           Collection System Maintenance         90,000           Equipment Maintenance         50,000           Materials & Sma	Grit Removal	10,000
I&I         9,000           Odor Control         10,000           Other Chemicals         10,000           Telephone Services - Monthly         13,000           Building & Plant Insurance         14,000           Electric - Plant         170,000           Electric - PS #2 N. Limerick         3,000           Electric - PS #3, S. Limerick         8,000           Electric - PS #4, Benner Rd         2,500           Electric - PS #5, Trinley Rd         21,000           Electric - PS #8, Merion         1,000           Electric - PS #8, Merion         1,000           Electric - PS #6, SE         23,000           Electric - PS #6, SE         23,000           Electric - PS #10, Ridge Pike         3,000           Electric - PS #12, Bradford Wo         5,500           Electric - PS #13, Bradford Wo         2,000           Electric - PS #14, Bradford Wo         4,000           Electric - PS #15, Landis Brooke         1,200           Electric - PS #20, Graterford         4,000           Lawn Maintenance         15,000           Permits         3,500           Plant/Building Maintenance         25,000           Collection System Maintenance         90,000           Equipment Ren	Lab Supplies	4,000
Odor Control         10,000           Other Chemicals         10,000           Telephone Services - Monthly         13,000           Building & Plant Insurance         14,000           Electric - Plant         170,000           Electric - PS #2 N. Limerick         3,000           Electric - PS #3, S. Limerick         8,000           Electric - PS #4, Benner Rd         2,500           Electric - PS #4, Benner Rd         21,000           Electric - PS #5, Trinley Rd         21,000           Electric - PS #8, Merion         1,000           Electric - PS #7, King Rd         2,500           Electric - PS #6, SE         23,000           Electric - PS #10, Ridge Pike         3,000           Electric - PS #10, Ridge Pike         700           Electric - PS #12, Bradford Wo         5,500           Electric - PS #13, Bradford Wo         2,000           Electric - PS #14, Bradford Wo         4,000           Electric - PS #15, Landis Brooke         1,200           Electric - PS #20, Graterford         4,000           Lawn Maintenance         15,000           Permits         3,500           Plant/Building Maintenance         25,000           Collection System Maintenance         50,000	Outside Lab Analysis	30,000
Other Chemicals         10,000           Telephone Services - Monthly         13,000           Building & Plant Insurance         14,000           Electric - Plant         170,000           Electric - PS #2 N. Limerick         3,000           Electric - PS #3, S. Limerick         8,000           Electric - PS #4, Benner Rd         2,500           Electric - PS #5, Trinley Rd         21,000           Electric - PS #3, Merion         1,000           Electric - PS #7, King Rd         25,000           Electric - PS #6, SE         23,000           Electric - PS #10, Ridge Pike         3,000           Electric - PS #11, Bradford Wo         5,500           Electric - PS #12, Bradford Wo         2,000           Electric - PS #13, Bradford Wo         4,000           Electric - PS #14, Bradford Wo         4,000           Electric - PS #15, Landis Brooke         1,200           Electric - PS #20, Graterford         4,000           Lawn Maintenance         15,000           Permits         3,500           Plant/Building Maintenance         50,000           Collection System Maintenance         50,000           Materials & Small Tools         6,000           Equipment Rental         1,000	1&1	9,000
Telephone Services - Monthly       13,000         Building & Plant Insurance       14,000         Electric - Plant       170,000         Electric - PS #2 N. Limerick       3,000         Electric - PS #3, S. Limerick       8,000         Electric - PS #4, Benner Rd       2,500         Electric - PS #5, Trinley Rd       21,000         Electric - PS #8, Merion       1,000         Electric - PS #6, SE       23,000         Electric - PS #6, SE       23,000         Electric - PS #10, Ridge Pike       3,000         Electric - PS #12, Bradford Wo       5,500         Electric - PS #13, Bradford Wo       2,000         Electric - PS #14, Bradford Wo       4,000         Electric - PS #15, Landis Brooke       1,200         Electric - PS #20, Graterford       4,000         Lawn Maintenance       15,000         Permits       3,500         Plant/Building Maintenance       25,000         Collection System Maintenance       50,000         Materials & Small Tools       6,000         Equipment Rental       1,000         Other Contractor Services       20,000         Well Meters, Install & Repair       12,000	Odor Control	10,000
Building & Plant Insurance       14,000         Electric - Plant       170,000         Electric - PS #2 N. Limerick       3,000         Electric - PS #3, S. Limerick       8,000         Electric - PS #4, Benner Rd       2,500         Electric - PS #5, Trinley Rd       21,000         Electric - PS #8, Merion       1,000         Electric - PS #7, King Rd       2,500         Electric - PS #6, SE       23,000         Electric - PS #10, Ridge Pike       3,000         Electric - PS #12, Bradford Wo       5,500         Electric - PS #13, Bradford Wo       2,000         Electric - PS #14, Bradford Wo       4,000         Electric - PS #15, Landis Brooke       1,200         Electric - PS #20, Graterford       4,000         Lawn Maintenance       15,000         Permits       3,500         Plant/Building Maintenance       25,000         Collection System Maintenance       50,000         Materials & Small Tools       6,000         Equipment Rental       1,000         Other Contractor Services       20,000         Well Meters, Install & Repair       12,000	Other Chemicals	10,000
Electric - Plant         170,000           Electric - PS #2 N. Limerick         3,000           Electric - PS #3, S. Limerick         8,000           Electric - PS #4, Benner Rd         2,500           Electric - PS #5, Trinley Rd         21,000           Electric - PS #8, Merion         1,000           Electric - PS #7, King Rd         2,500           Electric - PS #6, SE         23,000           Electric - PS #10, Ridge Pike         3,000           Electric - PS #12, Bradford Wo         5,500           Electric - PS #12, Bradford Wo         2,000           Electric - PS #14, Bradford Wo         4,000           Electric - PS #15, Landis Brooke         1,200           Electric - PS #20, Graterford         4,000           Lawn Maintenance         15,000           Permits         3,500           Plant/Building Maintenance         25,000           Collection System Maintenance         90,000           Equipment Maintenance         50,000           Materials & Small Tools         6,000           Equipment Rental         1,000           Other Contractor Services         20,000           Well Meters, Install & Repair         12,000	Telephone Services - Monthly	13,000
Electric - PS #2 N. Limerick       3,000         Electric - PS #3, S. Limerick       8,000         Electric - PS #4, Benner Rd       2,500         Electric - PS #5, Trinley Rd       21,000         Electric - PS #8, Merion       1,000         Electric - PS #7, King Rd       2,500         Electric - PS #6, SE       23,000         Electric - PS #10, Ridge Pike       3,000         Electric - PS #12, Bradford Wo       5,500         Electric - PS #12, Bradford Wo       2,000         Electric - PS #14, Bradford Wo       4,000         Electric - PS #15, Landis Brooke       1,200         Electric - PS #20, Graterford       4,000         Lawn Maintenance       15,000         Permits       3,500         Plant/Building Maintenance       25,000         Collection System Maintenance       50,000         Materials & Small Tools       6,000         Equipment Rental       1,000         Other Contractor Services       20,000         Well Meters, Install & Repair       12,000	Building & Plant Insurance	14,000
Electric - PS #3, S. Limerick       8,000         Electric - PS #4, Benner Rd       2,500         Electric - PS #5, Trinley Rd       21,000         Electric - PS #8, Merion       1,000         Electric - PS #7, King Rd       2,500         Electric - PS #6, SE       23,000         Electric - PS #10, Ridge Pike       3,000         Electric - PS #9, Neiffer Rd       700         Electric - PS #12, Bradford Wo       5,500         Electric - PS #13, Bradford Wo       2,000         Electric - PS #14, Bradford Wo       4,000         Electric - PS #15, Landis Brooke       1,200         Electric - PS #20, Graterford       4,000         Lawn Maintenance       15,000         Permits       3,500         Plant/Building Maintenance       25,000         Collection System Maintenance       90,000         Equipment Maintenance       50,000         Materials & Small Tools       6,000         Equipment Rental       1,000         Other Contractor Services       20,000         Well Meters, Install & Repair       12,000	Electric - Plant	170,000
Electric - PS #4, Benner Rd       2,500         Electric - PS #5, Trinley Rd       21,000         Electric - PS #8, Merion       1,000         Electric - PS #7, King Rd       2,500         Electric - PS #6, SE       23,000         Electric - PS #10, Ridge Pike       3,000         Electric - PS #9, Neiffer Rd       700         Electric - PS #12, Bradford Wo       5,500         Electric - PS #13, Bradford Wo       2,000         Electric - PS #14, Bradford Wo       4,000         Electric - PS #15, Landis Brooke       1,200         Electric - PS #20, Graterford       4,000         Lawn Maintenance       15,000         Permits       3,500         Plant/Building Maintenance       25,000         Collection System Maintenance       90,000         Equipment Maintenance       50,000         Materials & Small Tools       6,000         Equipment Rental       1,000         Other Contractor Services       20,000         Well Meters, Install & Repair       12,000	Electric - PS #2 N. Limerick	3,000
Electric - PS #5, Trinley Rd       21,000         Electric - PS #8, Merion       1,000         Electric - PS #7, King Rd       2,500         Electric - PS #6, SE       23,000         Electric - PS #10, Ridge Pike       3,000         Electric - PS #9, Neiffer Rd       700         Electric - PS #12, Bradford Wo       2,000         Electric - PS #13, Bradford Wo       4,000         Electric - PS #14, Bradford Wo       4,000         Electric - PS #15, Landis Brooke       1,200         Electric - Country Club Estate       3,200         Electric - PS #20, Graterford       4,000         Lawn Maintenance       15,000         Permits       3,500         Plant/Building Maintenance       25,000         Collection System Maintenance       90,000         Equipment Maintenance       50,000         Materials & Small Tools       6,000         Equipment Rental       1,000         Other Contractor Services       20,000         Well Meters, Install & Repair       12,000	Electric - PS #3, S. Limerick	8,000
Electric - PS #8, Merion       1,000         Electric - PS #7, King Rd       2,500         Electric - PS #6, SE       23,000         Electric - PS #10, Ridge Pike       3,000         Electric - PS #9, Neiffer Rd       700         Electric - PS #12, Bradford Wo       2,000         Electric - PS #13, Bradford Wo       4,000         Electric - PS #14, Bradford Wo       4,000         Electric - PS #15, Landis Brooke       1,200         Electric - PS #20, Graterford       4,000         Lawn Maintenance       15,000         Permits       3,500         Plant/Building Maintenance       25,000         Collection System Maintenance       90,000         Equipment Maintenance       50,000         Materials & Small Tools       6,000         Equipment Rental       1,000         Other Contractor Services       20,000         Well Meters, Install & Repair       12,000	Electric - PS #4, Benner Rd	2,500
Electric - PS #7, King Rd       2,500         Electric - PS #6, SE       23,000         Electric - PS #10, Ridge Pike       3,000         Electric - PS #9, Neiffer Rd       700         Electric - PS #12, Bradford Wo       5,500         Electric - PS #13, Bradford Wo       2,000         Electric - PS #14, Bradford Wo       4,000         Electric - PS #15, Landis Brooke       1,200         Electric - Country Club Estate       3,200         Electric - PS #20, Graterford       4,000         Lawn Maintenance       15,000         Permits       3,500         Plant/Building Maintenance       25,000         Collection System Maintenance       90,000         Equipment Maintenance       50,000         Materials & Small Tools       6,000         Equipment Rental       1,000         Other Contractor Services       20,000         Well Meters, Install & Repair       12,000	Electric - PS #5, Trinley Rd	21,000
Electric - PS #6, SE       23,000         Electric - PS #10, Ridge Pike       3,000         Electric - PS #9, Neiffer Rd       700         Electric - PS #12, Bradford Wo       5,500         Electric - PS #13, Bradford Wo       2,000         Electric - PS #14, Bradford Wo       4,000         Electric - PS #15, Landis Brooke       1,200         Electric - Country Club Estate       3,200         Electric - PS #20, Graterford       4,000         Lawn Maintenance       15,000         Permits       3,500         Plant/Building Maintenance       25,000         Collection System Maintenance       90,000         Equipment Maintenance       50,000         Materials & Small Tools       6,000         Equipment Rental       1,000         Other Contractor Services       20,000         Well Meters, Install & Repair       12,000	Electric - PS #8, Merion	1,000
Electric - PS #10, Ridge Pike       3,000         Electric - PS #9, Neiffer Rd       700         Electric - PS #12, Bradford Wo       5,500         Electric - PS #13, Bradford Wo       2,000         Electric - PS #14, Bradford Wo       4,000         Electric - PS #15, Landis Brooke       1,200         Electric - Country Club Estate       3,200         Electric - PS #20, Graterford       4,000         Lawn Maintenance       15,000         Permits       3,500         Plant/Building Maintenance       25,000         Collection System Maintenance       90,000         Equipment Maintenance       50,000         Materials & Small Tools       6,000         Equipment Rental       1,000         Other Contractor Services       20,000         Well Meters, Install & Repair       12,000	Electric - PS #7, King Rd	2,500
Electric - PS #9, Neiffer Rd       700         Electric - PS #12, Bradford Wo       5,500         Electric - PS #13, Bradford Wo       2,000         Electric - PS #14, Bradford Wo       4,000         Electric - PS #15, Landis Brooke       1,200         Electric - Country Club Estate       3,200         Electric - PS #20, Graterford       4,000         Lawn Maintenance       15,000         Permits       3,500         Plant/Building Maintenance       25,000         Collection System Maintenance       90,000         Equipment Maintenance       50,000         Materials & Small Tools       6,000         Equipment Rental       1,000         Other Contractor Services       20,000         Well Meters, Install & Repair       12,000	Electric - PS #6, SE	23,000
Electric - PS #12, Bradford Wo       5,500         Electric - PS #13, Bradford Wo       2,000         Electric - PS #14, Bradford Wo       4,000         Electric - PS #15, Landis Brooke       1,200         Electric - Country Club Estate       3,200         Electric - PS #20, Graterford       4,000         Lawn Maintenance       15,000         Permits       3,500         Plant/Building Maintenance       25,000         Collection System Maintenance       90,000         Equipment Maintenance       50,000         Materials & Small Tools       6,000         Equipment Rental       1,000         Other Contractor Services       20,000         Well Meters, Install & Repair       12,000	Electric - PS #10, Ridge Pike	3,000
Electric - PS #13, Bradford Wo       2,000         Electric - PS #14, Bradford Wo       4,000         Electric - PS #15, Landis Brooke       1,200         Electric - Country Club Estate       3,200         Electric - PS #20, Graterford       4,000         Lawn Maintenance       15,000         Permits       3,500         Plant/Building Maintenance       25,000         Collection System Maintenance       90,000         Equipment Maintenance       50,000         Materials & Small Tools       6,000         Equipment Rental       1,000         Other Contractor Services       20,000         Well Meters, Install & Repair       12,000	Electric - PS #9, Neiffer Rd	700
Electric - PS #14, Bradford Wo       4,000         Electric - PS #15, Landis Brooke       1,200         Electric - Country Club Estate       3,200         Electric - PS #20, Graterford       4,000         Lawn Maintenance       15,000         Permits       3,500         Plant/Building Maintenance       25,000         Collection System Maintenance       90,000         Equipment Maintenance       50,000         Materials & Small Tools       6,000         Equipment Rental       1,000         Other Contractor Services       20,000         Well Meters, Install & Repair       12,000	Electric - PS #12, Bradford Wo	5,500
Electric - PS #15, Landis Brooke       1,200         Electric - Country Club Estate       3,200         Electric - PS #20, Graterford       4,000         Lawn Maintenance       15,000         Permits       3,500         Plant/Building Maintenance       25,000         Collection System Maintenance       90,000         Equipment Maintenance       50,000         Materials & Small Tools       6,000         Equipment Rental       1,000         Other Contractor Services       20,000         Well Meters, Install & Repair       12,000	Electric - PS #13, Bradford Wo	2,000
Electric - Country Club Estate       3,200         Electric - PS #20, Graterford       4,000         Lawn Maintenance       15,000         Permits       3,500         Plant/Building Maintenance       25,000         Collection System Maintenance       90,000         Equipment Maintenance       50,000         Materials & Small Tools       6,000         Equipment Rental       1,000         Other Contractor Services       20,000         Well Meters, Install & Repair       12,000	Electric - PS #14, Bradford Wo	4,000
Electric - PS #20, Graterford       4,000         Lawn Maintenance       15,000         Permits       3,500         Plant/Building Maintenance       25,000         Collection System Maintenance       90,000         Equipment Maintenance       50,000         Materials & Small Tools       6,000         Equipment Rental       1,000         Other Contractor Services       20,000         Well Meters, Install & Repair       12,000	Electric - PS #15, Landis Brooke	1,200
Lawn Maintenance       15,000         Permits       3,500         Plant/Building Maintenance       25,000         Collection System Maintenance       90,000         Equipment Maintenance       50,000         Materials & Small Tools       6,000         Equipment Rental       1,000         Other Contractor Services       20,000         Well Meters, Install & Repair       12,000	Electric - Country Club Estate	3,200
Permits         3,500           Plant/Building Maintenance         25,000           Collection System Maintenance         90,000           Equipment Maintenance         50,000           Materials & Small Tools         6,000           Equipment Rental         1,000           Other Contractor Services         20,000           Well Meters, Install & Repair         12,000	Electric - PS #20, Graterford	4,000
Plant/Building Maintenance       25,000         Collection System Maintenance       90,000         Equipment Maintenance       50,000         Materials & Small Tools       6,000         Equipment Rental       1,000         Other Contractor Services       20,000         Well Meters, Install & Repair       12,000	Lawn Maintenance	15,000
Collection System Maintenance90,000Equipment Maintenance50,000Materials & Small Tools6,000Equipment Rental1,000Other Contractor Services20,000Well Meters, Install & Repair12,000	Permits	3,500
Equipment Maintenance50,000Materials & Small Tools6,000Equipment Rental1,000Other Contractor Services20,000Well Meters, Install & Repair12,000	Plant/Building Maintenance	25,000
Materials & Small Tools6,000Equipment Rental1,000Other Contractor Services20,000Well Meters, Install & Repair12,000	Collection System Maintenance	90,000
Equipment Rental1,000Other Contractor Services20,000Well Meters, Install & Repair12,000	Equipment Maintenance	50,000
Other Contractor Services 20,000 Well Meters, Install & Repair 12,000	Materials & Small Tools	6,000
Well Meters, Install & Repair 12,000	Equipment Rental	1,000
As a second control of the second control of	Other Contractor Services	20,000
Total King Road TP Expenses: 658,300	Well Meters, Install & Repair	12,000
	Total King Road TP Expenses:	658,300

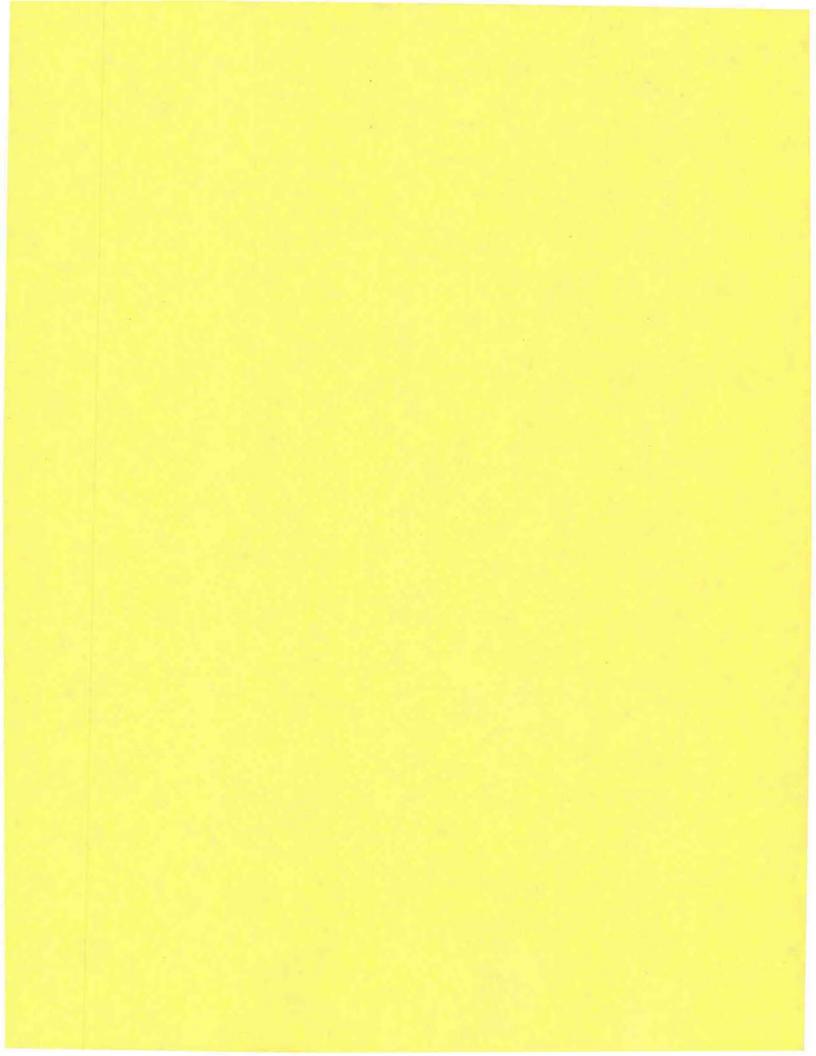
**Possum Hollow Treatment Plant:** 

Water	600
Sludge Removal	20,000
Grit Removal	3,000
Lab Supplies	1,500
Outside Lab Analysis	17,300
Odor Control	5,000
Other Chemicals	500

Telephone Services - Monthly	5,000
Building & Plant Insurance	
Electric - Plant	75,000
Electric - PS #17, Possum Hollow	5,000
Electric - PS #1, Airport Road	5,000
Electric - PS #, Heritage Hills	6,700
Plant/Building Maintenance	6,000
Collection System Maintenance	6,000
Equipment Maintenance	6,000
Materials & Small Tools	4,000
Major Maintenance	5,000
Other Contractor Services	6,000
Total Possum Hollow TP Expenses:	177,600
TOTAL SEWER EXPENSE	\$ 1,891,300

Total Salaries and Wages	583,400	\$ 107.74
Employee Pensions and Benefits	247,082	\$ 45.63
Purchased WW Treatment	101,600	\$ 18.76
Sludge Removal Expense	90,000	\$ 16.62
Purchased Power	346,300	\$ 63.95
Fuel for Power Production	8,000	\$ 1.48
Chemicals	10,500	\$ 1.94
Materials and Supplies	17,700	\$ 3.27
Total Contractual Services	355,000	\$ 65.56
Rental of Building/Real Property	11,652	\$ 2.15
Rental of Equipment	4,500	\$ 0.83
Transportation Expenses	6,000	\$ 1.11
Total Insurance	60,516	\$ 11.18
Advertising Expense		\$ 
Bad Debt Expense		\$ -
Total Miscellaneous Expenses:	49,050	\$ 9.06

1,891,300





Aqua Pennsylvania, Inc. 762 W. Lancaster Avenue Bryn Mawr, PA 19010 www.aquaamerica.com

April 29, 2016

## RECEIVED

Rosemary Chiavetta, Secretary Pennsylvania Public Utility Commission Commonwealth Keystone Bldg. Room-N201 400 North Street Harrisburg, PA 17120

APR 29 2016

PA PUBLIC UTILITY COMMISSION SECRETARY'S BUREAU

RE: 2015 Annual Public Utility Commission

Annual Report for Aqua Pennsylvania Wastewater, Inc.

Dear Madam:

Aqua Pennsylvania Wastewater, Inc. is submitting one (1) copy of our 2015 report on April 30, 2016. This submission is within the April 30, 2016 deadline.

Thank you for your help in this matter.

Sincerely,

William C Packer Regional Controller

Willia Cfa

Aqua Pennsylvania, Inc.

For Aqua Pennsylvania Wastewater, Inc.

# CLASS A, B and C WASTEWATER COMPANY PUC ANNUAL REPORT OF

Utility Code
230240

Company:

Aqua Pennsylvania Wastewater, Inc.

Address:

762 W. Lancaster Ave. Bryn Mawr, PA 19010

# TO THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

RECEIVED

APR 2 9 2016

PA PUBLIC UTILITY COMMISSION SECRETARY'S BUREAU

For the Year Ended December 31, 2015

Telephone Number 610-527-8000

Fax Number 610-445-1141

E-Mail fmmancini@aquaamerica.com

Officer to whom correspondence concerning this report should be addressed:

William C. Packer

First Name

Last Name

Regional Controller

762 W. Lancaster Ave. Bryn Mawr, PA 19010

Address City State Zig

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#### **GENERAL INSTRUCTIONS**

- 1. Two copies of this report shall be prepared by each wastewater utility. One copy should be mailed to the Pennsylvania Public Utility Commission, P.O. Box 3265, Harrisburg, PA 17105-3265 by April 30 of the year following the calendar year. The other copy should be retained by the Company for reference. Companies should also file an electronic version of the report be emailing it to: ra-PUCFinancial@pa.gov. All water utilities are required by statute to complete and file this annual report.
- 2. Pencil entries will not be permitted on hard copy.
- 3. All accounting terms and phrases used in this report are to be interpreted in accordance with the effective applicable Uniform System of Accounts prescribed by National Association of Regulatory Utility Commission (NARUC). The NARUC Uniform System of Accounts defines Class A companies as those with annual revenues of \$1,000,000 or more; Class B companies with annual revenues in the range of \$200,000 to \$999,999 and Class C companies with annual revenues under \$200,000.
- 4. Standard accounting procedures shall apply in determining the nature of any entry (e.g. entries of a reverse or contrary character shall be indicated by a parentheses around the number).
- 5. The report shall be filed consisting of data relative to a calendar year basis.
- 6. If this report is made for a period less than the calendar year, the period covered must be clearly stated on the front cover and elsewhere throughout the report where the period covered is shown. When operations cease during the year because of the disposition of property, the balance sheet and supporting schedules should consist of balances and items immediately prior to transfer (for accounting purposes).
- 7. All instructions shall be followed and each question shall be answered fully and accurately. Sufficient answers shall appear to show that no question or schedule has been overlooked. The expression "none" or "not applicable" shall be given as the answer to any particular inquiry or schedule where it truly and completely states the fact. Unless otherwise indicated, no information will be accepted which incorporates by reference information from another document or report. Where information called for herein is not given, state fully the reason for its omission.
- 8. Dates, when called for, should include the day, month and year. Customary abbreviations may be used in stating dates.

#### GENERAL INSTRUCTIONS

(Continued)

- Whenever schedules call for comparison of figures of a previous year, the figures reported must be based upon those shown by the annual report of the previous year or an appropriate explanation given why different figures were used.
- 10. One copy of the respondent's latest annual report, if issued, should be submitted with this report.

  If respondent is a member of a group, both parent and subsidiary's annual report should be submitted.
- 11. Throughout this report money items will be rounded off to the nearest dollar.
- 12. In the space provided at the top of each page insert the name of the utility and the year to which this report relates.

#### EXCERPT FROM TITLE 66, THE PUBLIC UTILITY CODE, APPROVED JULY 1, 1978

#### SECTION 504. Reports by Public Utilities

The Commission may require any public utility to file periodical reports at such times, and in such form, and of such content, as the Commission may prescribe; and special reports concerning any matter whatsoever about which the Commission is authorized to inquire, or to keep itself informed, or which it is required to enforce. The Commission may require any public utility to file with it a copy of any report filed by such public utility with any Federal department or regulatory body. All reports shall be completed under oath or affirmation when required by the Commission.

#### SECTION 3301. Civil Penalties for Violations

- (a) General rule. -- If any public utility,...shall fail, omit, neglect, or refuse to perform any duty enjoined upon it by this part; or shall fail, omit, neglect or refuse to obey, observe, and comply with any regulation or final direction, requirement, determination or order made by the Commission,...such public utility, person or corporation for such violation, omission, failure, neglect, or refusal, shall forfeit and pay to the Commonwealth a sum not exceeding \$1,000, to be recovered by an action of assumpsit instituted in the name of the of Commonwealth. In construing and enforcing the provisions of this section, the violation, omission, failure, neglect, or refusal of any officer, agent, or employee acting for, or employed by, any such public utility, person or corporation shall, in every case be deemed to be in violation, omission, failure, neglect, or refusal of such public utility, person or corporation.
- (b) Continuing offenses. -- Each and every day's continuance in the violation of any regulation or final direction, requirement, determination, or order of the Commission,...shall be a separate and distinct offense. ...

#### **GENERAL INFORMATION**

1. Name and title of officer having custody of the general books of account and address of the office where such books are kept.

David P. Smeltzer
Executive Vice President, Chief Financial Officer
762 West Lancaster Avenue
Bryn Mawr, PA 19010-3402

2. Name of State under the laws of which respondent is incorporated and the date of incorporation. If incorporated under a special law, give reference to such law. If not incorporated, state that fact and give the type of organization and date organized.

Pennsylvania February 1, 1973

3. If at any time during the year the property of respondent was held by a receiver or trustee, give: (a) name of receiver or trustee, (b) date such receiver or trustee took possession, (c) the authority by which the receivership or trusteeship was created and, (d) date when possession by receiver or trustee ceased.

N/A

4. State the classes of utility and other services furnished by respondent during the year in each state that the respondent operated.

Sewer Service

#### IMPORTANT CHANGES DURING THE YEAR

Provide on the following page written responses for each of the items listed below. Make the written statements explicit and precise, and number each statement in accordance with the inquiries. Each inquiry must be answered. However, if the word "none" states the fact, it may be used in answering any inquiry, or if information is given elsewhere in the report which answers any inquiry, reference to such other schedule will be sufficient.

- 1. Changes in, and additions to franchise rights; describing (a) the actual consideration given therefore, and (b) from whom acquired. If acquired without payment of any consideration, state that fact.
- Acquisition of other companies, reorganization, merger or consolidation with other companies; give names of companies involved, particulars concerning the transactions, and reference to Commission authorization, including docket numbers.
- 3. Purchase or sale of operating units, such as collection, treatment and disposal facilities, etc., specify item, parties, effective dates and also reference to Commission authorization, including docket numbers.
- 4. Important leaseholds acquired, given, assigned, or surrendered, effective dates, lengths of terms, names of parties, rents, Commission authorization, (docket numbers), if any, and other conditions.
- 5. Important extensions of service territories, including Commission authorization (docket numbers), giving location of the new service territory covered by the collection system, and dates of beginning operations. Give the number of customers by class, and for each class of customers the estimated annual revenues relating to the new territories.
- Estimated increase or decrease in annual revenues due to important rate changes, (docket numbers), and the approximate extent to which such increase or decrease is reflected in revenues for the reporting year.
- 7. Important wage scale changes, showing dates of changes, effect on operating expenses for the year, and estimated annual effect of such wage scale changes on operating expenses.
- 8. Obligations incurred or assumed by respondent as guarantor for the performance by another of any agreement or obligation, excluding ordinary commercial paper maturing on demand or not later than one year after date of issue, and giving Commission authorization, (docket number), if any.
- 9. Changes in articles of incorporation or amendments to charters; explain the nature and purpose of such changes or amendments. Note any filing with the Commission.
- 10. Other important changes not provided for elsewhere.

## WRITTEN RESPONSES FOR IMPORTANT CHANGES DURING THE YEAR

Provide written responses for each of the items listed on the previous page.

.1	Refer to the response to question 3.
2.	Refer to the response to question 3.
3.	The Factoryville Bunker Hill Wastewater System was acquired from the Factoryville Bunker Hill Water Company on 8/11/2015, PUC Order No. A-2014-2439909 & A-2014-2439910; Purchase Price: \$100,000; Customers: 68; Annual Revenue: \$27,000
4.	None
5.	Refer to the response to question 3.
6.	None
7.	None
8.	None
9.	None
10,	None

#### **DEFINITIONS**

- "Accounts" means the accounts prescribed in the NARUC System of Accounts.
- "Amortization" means the gradual extinguishment of an amount in an account by distributing such amore over a fixed period, which may be over the life of the asset or liability to which it applies, or over the perioduring which it is anticipated the benefit will be realized.
- "Associated Companies" means companies or persons that, directly or indirectly, through one or more intermediaries, control, or are controlled by, or are under common control with, the accounting company.
- "Book Cost" means the amount at which property is recorded in the applicable account without deductio of related provisions for accrued depreciation, amortization, or for other purposes.
- "Control" (including the terms; "controlling," "controlled by," and "under common control with") mean possession, directly or indirectly, of the power to direct or cause the direction of the management and pol of a company, whether such power is exercised through one or more intermediary companies, or alone, o conjunction with, or pursuant to an agreement, and whether such power is established through a majority minority ownership or voting of securities, common directors, officers, or stockholders, voting trusts, hol trusts, affiliated companies, contract or any other direct or indirect means.
- "Cost" means the amount of money actually paid for property or service. When the consideration given other than cash, the value of such consideration shall be determined on a cash basis.
- "Cost of Removal" means the cost of demolishing, dismantling, tearing down or otherwise removing utiplant, including the cost of transportation and handling incidental thereto.
- "Debt Expense" means all expenses in connection with the issuance and initial sale of evidences of debt such as fees for drafting mortgages and trust deeds; fees and taxes for issuing or recording evidences of d cost of engraving and printing bonds and certificates of indebtedness; fees paid trustees; specific costs of obtaining governmental authority; fees for legal services; fees and commissions paid underwriters, broker salesmen or marketing such evidences of debt; fees and expenses of listing on exchanges; and other like a
- "Depreciation", as applied to depreciable utility plant, means the loss in service value not restored by cu maintenance, incurred in connection with the consumption or prospective retirement of the utility plant in course of providing service. This includes causes which are known to be in current operation and against which the utility is not protected by insurance. Among the causes to be given consideration are wear and decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand, and requirements of regulatory bodies.
- "Discount", a applied to the securities or assumed by the utility, means the excess of the par (stated valu no-par stocks) or face value of the securities plus interest or dividends accrued at the date of the sale over cash value of the consideration received from their sale.

# DEFINITIONS (Continued)

- "Investment Advances" means advances, represented by notes or by book accounts only, with respet to which it is mutually agreed or intended between the creditor and debtor that they shall be settled be issuance of securities or shall not be subject to current settlement.
- "Multiple Family Dwelling" means a residential structure or group of structures which is capable o separately housing more than on family unit.
- "Original Cost", as applied to utility plant, means the cost of such property to the person first devot to public service.
- "Premium", as applied to the securities issued or assumed by the utility, means the excess of the carvalue of the consideration received from their sale over the sum of their par (stated value of no-par st or face value and interest or dividends accrued at the date of sale.
- "Property Retired", as applied to utility plant, means property which has been removed, sold, abandoned, destroyed, or which for any cause has been permanently withdrawn from service.
- "Reclaimed Water" means water that has received at least secondary treatment and basic disinfection and is reused after flowing out of a wastewater treatment plant.
- "Regulatory Assets and Liabilities" are assets and liabilities that result from rate actions of the Commission. Regulatory assets and liabilities arise from specific revenues, expenses, gains or losses would have been included in determination of net income in one period under the general requirement the Uniform System of Accounts but for it being probable that; 1) such items will be included in a di period(s) for purposes of developing the rates the utility is authorized to charge for its utility services 2) in the case of regulatory liabilities, that refunds to Regulatory assets and liabilities can also be created accounting differences between the requirements of generally accepted accounting principles, regula practice and tax laws.
- "Replacing or Replacement", when not otherwise indicated in the context, means the construction or installation of utility plant in place of property retired, together with the removal of the property re
- "Retained Earnings" means the accumulated net income of the utility less distributions to stockholders and transfers to other capital accounts, and other adjustments.
- "Reuse" means the deliberate application of reclaimed water, in Compliance with Federal and State environmental rules and regulations, for a beneficial purpose.
- "Utility", as used herein and when not otherwise indicated in the context, means any public utility to which the uniform system of accounts is applicable.

### 100. VOTING POWERS and ELECTIONS

This schedule is to be completed only by publicly held Corporations. Subsidiaries who are 100% owned by others should not complete this schedule. N/A

- 1. Has each share of stock the right to one vote? Yes/No
- 2. Are voting rights attached only to stock? Yes/No (If the answer to either query 1 or 2 is "No," give particulars.)
- 3. Give date of the latest closing of the stock book prior to end of year and state the purpose of such closing.
- 4. Is cumulative voting permitted? Yes/No
- 5. State the total number of Board or Directors meetings held during year.
- 6. State the date and place of the latest general meeting held prior to the end of the year for the election of directors.
- 7. State the total number of votes cast at the latest general meeting and the total number cast by proxy.
- 8. State the total number of voting security holders and the total of all voting securities as of December 31.
- 9. If any security has preferences, special privileges, or restrictions in the election of directors, trustees or managers, or in the determination of any corporate action, give details.
- 10. State the number of votes controlled by management, other than officers of the Corporation.

17 Total number of security holders
18 Total votes of security holders listed above

3,000

(Company Name)

### 101. SECURITY HOLDER INFORMATION AND VOTING POWERS

- 1. Report the requested information for each holder of one percent or more of the voting securities or, if there are fewer than ten such holders, the ten who hold the highest voting powers. Data should be the latest available at the end of the year. When the holder of record is a trustee, or other intermediate agency (except a corporation), the data should be reported opposite the names of the beneficial owners, designated as such, under a general heading identifying the trustee or other agency. Securities with contingent voting rights may be disregarded.
- 2. Attach hereto a certified copy of every effective voting trust established and a certified copy of every other agreement (trustee or otherwise) under which voting securities are held for beneficial owners. If any such agreement has been filed with a previous report, reference to the earlier report will be sufficient, provided that changes or modification since previous filing are shown.

Line No.	90,000		Street Address				Number o	Voting S	Nonvoting Securities (See Instruction #2) Principal, Par Value,		
				City	State	10 10 10 10 10 10 10 10 10 10 10 10 10 1	Total Votes	Common Stock	Preferred Stock	Other	or Stated Value (Specify issue - omit cents)
	(a) Aqua Pennsylvania, Inc.	(b)	762 W. Lancaster Ave.	(d)	(e) PA	(f) 19010	(g) 3,000	(h) 3,000	(i)	(i)_	(k)
- 1	Aqua remissivama, me.		702 W. Lancaster Ave.	Bryn Mawr	FA	19010	3,000	3,000			
3			<del></del>		-						**
4					_						
5					-	-1-1-					
6	* * * * * * * * * * * * * * * * * * * *			1	_	_					-,
7					-				-		
8	***************************************							***			
9	in the second se										
10		*									
11											7.7
12					3504 - 0						
13											
14											
15	Total votes of all voting securities										

#### 102. COMPANIES CONTROLLED BY RESPONDENT

Show below the names of all corporations, business trusts, and similar organizations, controlled directly or indirectly by respondent at any time during the year.

- 1. If control ceased prior to end of the year, give particulars in a footnote.
- 2. If control was by other means than a direct holding of voting rights, state in a footnote the manner in which control was held, naming any intermediates involved.
- 3. If control was held jointly with one or more other interests, state the fact in a footnote and name the other interests.

Line No.	Name of Company Controlled (a)	Kind of Business (b)	Street Address	City (d)	State (e)		Voting % of Stock (g)	Footnote Ref. (h)
1	N/A				37			
2								
3								
4								
5								
6						*		
7					1022-3			
8								
9	= :11C XL = 3							
10								
11								
12				7				
13								
14								
15								
16								

#### **FOOTNOTES:**

- 1. Direct control is that which is exercised without interposition of an intermediary.
- 2. Indirect control is that which is exercised without interposition of an intermediary which exercises direct control. Control may exist by mutual agreement or understanding between two or more parties who together have control within the meaning of the definition of control in the NARUC System of Accounts, regardless of the relative voting rights of each party.
- 3. Joint control is that in which neither interest can effectively control or direct action without the consent of the other, as where the voting control is equally divided between two holders, or each party holds a veto power over the other. Joint control may exist by mutual agreement or understanding between two or more parties who together have control within the meaning of the definition of control, regardless of the relative voting rights of each party.

## 103. DIRECTORS

- 1. Provide the following information on each director of the respondent who held office at any time during the year. Include in column (a) abbreviated titles of the directors who are officers of respondent.
- 2. Designate by an asterisk names of members of Executive Committee, and by double asterisk the Chairman of the Executive Committee.

			Principal Business	Addre	SS		Term	Term	Meetings	Fees
Line	Directors Name and Title	Street Address	City	State	Zip	Telephone	Began	Expires	Attended	Paid
No.	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
1	Christopher H. Franklin, Chief		7							
	Executive Officer	762 W. Lancaster Ave.	Bryn Mawr	PA	19010	610-525-1400	7/16/2015	7/16/2016		none
2	David P. Smeltzer, Executive			ĺ						
	VP, Chief Financial Officer	762 W. Lancaster Ave.	Bryn Mawr	PA	19010	610-525-1400	7/16/2015	7/16/2016		none
3	Christopher P. Luning, Senior	)								
	VP, General Counsel, Secretary	762 W. Lancaster Ave.	Bryn Mawr	PA	19010	610-525-1400	7/16/2015	7/16/2016		none
	Richard S. Fox, Executive VP,		3							
	C00	762 W. Lancaster Ave.	Bryn Mawr	PA	19010	610-525-1400	7/16/2015	7/16/2016		none
	Daniel J. Schuller, Executive VP,									
	Strategy and Corporate									
	Development	762 W. Lancaster Ave.	Bryn Mawr	PA	19010	610-525-1400	7/16/2015	7/16/2016		none
6	Steve E. Tagert, President	762 W. Lancaster Ave.	Bryn Mawr	PA	19010	610-525-1400	7/16/2015	7/16/2016		none
7			*							
8										
9										
10										
11										
12										
13										
14			1							
15										

<sup>\*</sup> Executive Committee

<sup>\*\*</sup> Chairman of Executive Committee

## 104. OFFICERS

		Principal Business Address						
Line	Official Title & Name	Street Address	City		Zip	Telephone	Fax	Email
No.	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1	Christopher H. Franklin, Chief Executive							
	Officer	762 W. Lancaster Ave.	Bryn Mawr	PA	19010	610-525-1400	610-645-1061	
2	David P. Smeltzer, Executive VP, Chief							
	Financial Officer	762 W. Lancaster Ave.	Bryn Mawr	PA	19010	610-525-1400	610-645-1061	
3	Christopher P. Luning, Senior VP,							
	General Counsel and Secretary	762 W. Lancaster Ave.	Bryn Mawr	PA		610-525-1400		
4	Richard S. Fox, Executive VP, COO	762 W. Lancaster Ave.	Bryn Mawr	PA	19010	610-525-1400	610-645-1061	
5	Daniel J. Schuller, Executive VP,							
	Strategy and Corporate Development	762 W. Lancaster Ave.	Bryn Mawr	PA	19010	610-525-1400	610-645-1061	
6	William C. Ross, Senior VP,							
	Engineering and Environmental	762 W. Lancaster Ave.	Bryn Mawr	PA	19010	610-525-1400	610-645-1061	
7	Robin A. Rubin, Senior VP, CAO,							
	Controller	762 W. Lancaster Ave.	Bryn Mawr	PA	19010	610-525-1400	610-645-1061	
8	Steve E. Tagert, President	762 W. Lancaster Ave.	Bryn Mawr	PA	19010	610-525-1400	610-645-1061	
9	William C. Packer, Controller	762 W. Lancaster Ave.	Bryn Mawr	PA	19010	610-525-1400	610-645-1061	
10	Diana Moy Kelly, Treasurer	762 W. Lancaster Ave.	Bryn Mawr	PA	19010	610-525-1400	610-645-1061	
11	Stan Szczgiel, Asst. Treasurer	762 W. Lancaster Ave.	Bryn Mawr	PA	19010	610-525-1400	610-645-1061	
12	Elizabeth Taylor, Asst. Secretary	762 W. Lancaster Ave.	Bryn Mawr	PA	19010	610-525-1400	610-645-1061	
13	Lisa Piotrowski, Asst. Secretary	762 W. Lancaster Ave.	Bryn Mawr	PA	19010	610-525-1400	610-645-1061	

# 200. COMPARATIVE BALANCE SHEET ASSETS AND OTHER DEBITS

Balances at Beginning of Year must be consistent with balances at end of previous year

	Datances at Deginning of Year man be consistent to	Schedule	Balance	Balance	
		No.	Beginning	End of	Increase/
Line	Account Number and Title		of Year	Year	Decrease
No.	(3)	(b)	(c)	(d)	(e)
1	UTILITY PLANT		XXX	XXX	XXX
2	101.0 Utility Plant in Service	201	83,707,285	101,860,179	18,152,894
3	102.0 Utility Plant Leased To Others	202			
4	103.0 Property Held for Future Use	203	3,213,292	3,213,292	
5	104.0 Utility Plant Purchased or Sold		3,896,213	168,930	(3,727,283)
6	105.0 Construction Work in Progress	204	5,474,575	2,559,967	(2,914,608)
7	106.0 Completed Construction Not Classified				
8	Total Utility Plant		96,291,365	107,802,368	11,511,003
9	ACCUMULATED DEPRECIATION		XXX	XXX	XXX
10	108.1 Utility Plant in Service	205	23,507,841	27,886,000	4,378,159
Ш	108.2 Utility Plant Leased to Others	205			
12	108.3 Property Held for Future Use	205	2 - 13 - 10 II		
13	Total Accumulated Depreciation		23,507,841	27,886,000	4,378,159
14	ACCUMULATED AMORTIZATION		XXX	XXX	XXX
15	110.1 Utility Plant In Service	201			
16	110.2 Utility Plant Leased to Others	202			
17	Total Accumulated Amortization				
18	UTILITY PLANT ADJUSTMENTS		XXX	XXX	XXX
19	114.0 Utility Plant Acquisition Adjustments	206	(3,947,590)	(8,152,896)	(4.205,306)
20	115.0 Accumulated Amortization of Utility Plant Acquisition Adjustments		1,388,294	1,714.452	326,158
21	116.0 Other Utility Plant Adjustments				
22	Total Utility Plant Adjustments		(2,559,296)	(6,438,444)	(3,879,148)
23	117.0 Pending Reclass of Utility Plant	205			
24	TOTAL NET UTILITY PLANT		70,224,228	73,477,924	3,253,696

25	OTHER PROPERTY AND INVESTMENTS		XXX	XXX	XXX
26	OTHER PROPERTY	-	XXX	XXX	XXX
27	121.0 Non-Utility Property				
28	122.0 Accumulated Depreciation & Amortization of Non-Utility Property				
29	Total Other Property				
30	INVESTMENTS		XXX	XXX	XXX
31	123.0 Investments in Affiliated Companies	210			V
32	124.0 Utility Investments	210			
33	125.0 Other Investments	210			
34	126.0 Sinking Funds	210			
35	127.0 Other Special Funds	210			
36	Total Investments				
37	TOTAL OTHER PROPERTY AND INVESTMENTS				

# 200. COMPARATIVE BALANCE SHEET CURRENT ASSETS AND OTHER DEBITS

Balances at Beginning of Year must be consistent with balances at end of previous year

	Datatives at Degraning of Fed Mask the economy	Schedule	Balance	Balance	
		No.	Beginning	End of	Increase/
Line	Account Number and Title		of Year	Year	Decrease
No.	(a)	(b)	(c)	(d)	(c)
1	CURRENT AND ACCRUED ASSETS		XXX	XXX	XXX
2	131.1 Cash on Hand				
3	131.2 Cash in Bank				
4	132.0 Special Deposits - Interest and Dividends				
5	133.0 Other Special Deposits				
6	134.0 Working Funds		500	500	
7	135.0 Temporary Cash Investments	210			
8	141.0 Customers Accounts Receivable		1,379,573	989,461	(390,112)
9	142.0 Other Accounts Receivable	211	399,016	425,761	26,745
10	143.0 Accumulated Provision for Uncollectible Accounts-Credit		(426,295)	(119,572)	306,723
11	144.0 Notes Receivable	211			
12	145.0 Accounts Receivable from Associated Company	213			
13	146.0 Notes Receivable from Associated Company	212			
14	151.0 Plant Materials and Supplies	214			
15	152.0 Merchandise				
16	153.0 Other Materials and Supplies				
17	161.0 Stores Expense				
18	162.0 Prepayments	215-418	29,003	32,452	3,449
19	171.0 Accrued Interest & Dividends Receivable				
20	172.0 Rents Receivable				
21	173.0 Accrued Utility Revenues		419,091	480,044	60,953
22	174.0 Miscellaneous Current & Accrued Assets	216			
23	TOTAL CURRENT & ACCRUED ASSETS		1,800,888	1,808,646	7,758

24	DEFERRED DEBITS		XXX	XXX	XXX
25	181.0 Unamortized Debt Discount and Expense	217	7.		
26	182.0 Extraordinary Property Losses	218			le a
27	183.0 Preliminary Survey and Investigation Charges	219			
28	184.0 Clearing Accounts	220		94	94
29	185.0 Temporary Facilities				
30	186.1 Deferred Rate Case Expense	221			
31	186.2 Other Deferred Debits	222			
32	186.3 Regulatory Assets		4.051,398	3,912,780	(138,618)
33	187.0 Research & Development Expenditures				
34	190.1 Accumulated Deferred Federal Income Taxes	419-420	210,593	-	(210.593)
35	190.2 Accumulated Deferred State Income Taxes	419-420	66,781		(66,781)
36	190.3 Accumulated Deferred Local Income Taxes				
37	TOTAL DEFERRED DEBITS		4,328,772	3,912,874	(415,898)
38	TOTAL ASSETS & OTHER DEBITS		76,353,888	79,199,444	2,845,556

# 200. COMPARATIVE BALANCE SHEET LIABILITIES AND OTHER CREDITS

Balances at Beginning of Year must be consistent with balances at end of previous year

	Datalices at Degrining Of 1 car must b	Schedule No.	Balance Beginning	Balance End of	Increase/
Line	Account Number and Title	'``	of Year	Year	(Decrease)
No.	(a)	(b)	(c)	(d)	(e)
I	EQUITY CAPITAL & LIABILITIES	1 2/	XXX	XXX	XXX
2	EQUITY CAPITAL		XXX	XXX	XXX
3	201.0 Common Stock Issued		1,000	1,000	
4	202.0 Common Stock Subscribed				
5	203.0 Common Stock Liability for Conversion				
6	204.0 Preferred Stock Issued				
7	205.0 Preferred Stock Subscribed				
8	206.0 Preferred Stock Liability for Conversion				
9	207.0 Premium on Capital Stock				
10	209.0 Reduction in Par or Stated Value of Capital Stock				
11	210.0 Gain or Resale or Cancellation of Reacquired Capital Stock				
12	211.0 Other Paid-In Capital		1,359,756	1,359,756	-
13	212.0 Discount on Capital Stock				
14	213.0 Capital Stock Expense				
15	214.0 Appropriated Retained Earnings	223			
16	215.0 Unappropriated Retained Earnings	223	9,102,225	11,059,281	1,957,056
17	216.0 Reacquired Capital Stock				
18	218.0 Proprietary Capital				
	(For proprietorships & partnerships only)				
19	TOTAL EQUITY CAPITAL		10,462,981	12,420,037	1,957,056

20	LONG-TERM DEBT		XXX	XXX	XXX
21	221.0 Bonds	224			
22	222.0 Reacquired Bonds	224			
23	223.0 Advances from Associated Companies				
24	224.0 Other Long-term Debt	224	3,097,953	2,732,972	(364,981)
25	TOTAL LONG-TERM DEBT		3,097,953	2,732,972	(364,981)

## 200. COMPARATIVE BALANCE SHEET LIABILITIES AND OTHER CREDITS

Balances at Beginning of Year must be consistent with balances at end of previous year

	Balances at Beginning of Year must be consiste	Schedule No.	Balance Beginning	Balance End of	Increase/
Line	Account Number and Title	4.	of Year	Year	Decrease
No.	(a)	(b)	(c)	(d) XXX	(e)
1	CURRENT AND ACCRUED LIABILITIES	+	XXX	XXX	XXX
2	231.00 Accounts Payable	225			
3	232.00 Notes Payable	225	42 045 257	45 120 052	1 174 405
4	233.00 Accounts Payable to Associated Companies	227	43,945,357	45,120,052	1,174,695
5	234 00 Notes Payable to Associated Companies 235.00 Customers' Deposits-Billing	- 221	-	THOUSAND TO SERVICE STATE OF THE SERVICE STATE OF T	
7	236.11 Accrued Taxes, Taxes Other Than Income	418	62,247	60,875	(1,372
8	236.12 Accrued Taxes, Taxes Office Than Income  236.12 Accrued Taxes, Income Taxes	419-420	(864,485)	424,340	1,288,825
9	236.20 Accrued Taxes, Other Income & Deductions	419-420	(804,463)	424,340	1,200,023
10	237.10 Accrued Interest on Long-term Debt	419-420	3,136	2,770	(366)
	237.20 Accrued Interest on Other Liabilities	-	3,130	2,170	(300)
12	238.00 Accrued Dividends				
13	239.00 Matured Long-term Debt			-	
14	240.00 Matured Interest	+			
15	241.00 Miscellaneous Current and Accrued Liabilities	228	261,820	264,950	2 120
16	TOTAL CURRENT AND ACCRUED LIABILITIES	220	43,408,075	45,872,987	3,130 2,464,912
10 ]	TOTAL CURRENT AND ACCRUED LIABILITIES		43,408,073	43,672,987	2,404,912
17	DEFERRED CREDITS		xxx	xxx	xxx
18	251.00 Unamortized Premium on Debt	217			
19	252.00 Advances for Construction	229	147,000	131,000	(16,000)
20	252.10 Accumulated Amortization of Advances for Construction	229			
21	253.10 Other Deferred Credits-Regulatory Liabilitities	230	1,447,341	1,264,772	(182,569)
22	253.20 Other Deferred Credits-Other Deferred Liabilities				
23	255.10 Accumulated Deferred Investment Tax Credit (Utility Operations)		22,061	9,655	(12,406)
24	255.20 Accumulated Deferred Investment Tax Credit (Non-Utility Operations	3)			
25	TOTAL DEFERRED CREDITS		1,616,402	1,405,427	(210,975)
26	OPERATING PERFENSES		VVV	NVV.	MANA
26	OPERATING RESERVES	-	XXX	XXX	XXX
27	261.00 Property Insurance Reserve	<del>                                     </del>	25,000		(25,000)
28	262.00 Injuries & Damages Reserve	-			
29	263.00 Pensions & Benefits Reserve	+			
30	265.00 Miscellaneous Operating Reserve TOTAL OPERATING RESERVES		25,000		(25,000)
-	TOTAL OF MATTER RESIRED BY		25,000		(25,000)
32	CONTRIBUTIONS IN AID OF CONSTRUCTION (CIAC)		xxx	XXX	xxx
33	271.10 Customer Contributions				
34	271.20 Developer Contributions		12,133,527	12,275,932	142,405
35	271.30 Grant(s) in Aid				
36	271.40 Other				
37	272.00 Accumulated Amortization of CIAC		(2,865,648)	(3,134,435)	(268.787)
38	TOTAL NET (CIAC)		9,267,879	9.141,497	(126,382)
39	ACCUMULATED DEFERRED INCOME TAXES		xxx	xxx	XXX
40	281.00 Accelerated Amortization		AAA	AAA	ллл
41	282 00 Liberalized Depreciation				
42	283.00 Other		8,475,598	7,626,524	(849,074)
43	TOTAL ACCUMULATED DEFERRED INCOME TAXES		8,475,598	7,626,524	(849,074)
7.5	TOTAL ACCUMULATION DEFINICION INCOME, TAXES		0,475,076	7,020,324	(017,074)
43	TOTAL LIABILITIES & OTHER CREDITS		76,353,888	79,199,444	2,845,556

(Сотрылу Name)

### 201. UTILITY PLANT IN SERVICE - Account No. 101.0

- 1. Report by prescribed accounts the original cost of utility plant in service and the additions and retirements of such plant during the year,
- 2. Do not include as adjustments, corrections to additions and retirements for the current or preceding year. Such items should be included in appropriate Column (e) or (d).
- 3. Credit adjustments in Column (e) should be shown in red, or in black enclosed in parenthesis. State in a footnote the general character of any adjustments in Column (e)
- 4. Submit, in a footnote, an explanation of amounts included in Columns (e) and/or (f), Line 34, for lowering or changing the location of mains.

		Balance Previous			Adjustments	Balance End of
Line	Account Number and Title	Year	Additions	Retirements	+/-	Year
No.	(a)	(b)	(c)	(d)	(e)	(I)
1	,I INTANGIBLE PLANT	XXX	XXX	XXX	XXX	XXX
2	351.10 Organization	985,922	85,646		11,193	1,082,761
3	352.10 Franchises					
4	.2 COLLECTION SYSTEM					
5	353.20 Land and Right-of-Ways	98,495	506.552			605,046
6	354.20 Pump Station Structures and Improvements	8,456,369		26,848		8,429,521
7	355.20 Pump Station Power Generation Equipment	140,967	11,242			152,209
8	356.20 Pump Station Power Protection and Control Devises					
9	359.20 Collection Sewers - Pressure					
10	360.20 Pump Station Force Mains	17,263,401	1,876,852	6,408		19,133,846
11	361.20 Collection Sewers - Gravity	12,606,764	7,066,065	209,733		19,463,096
12	362.20 Special Collection Structures	11,400				11,400
13	363.20 Services to Customers	7,711,049	681,083			8,392,131
14	364.20 Customer's Flow Measuring Devices	135,277	12,671	326		147,622
15	365.20 Customer's Flow Measuring Installations	100,071				
16	366.20 Customer's Grinder Pump Units					
17	367.20 Customer's Grinder Pump Unit Installations					
18	370.20 Receiving Wells	70,360				70,360
19	371.20 Pump Station Pumping Equipment	70,500	1,662,253	62,133		1,600,119
20	389.20 Other Plant and Misc. Equipment	766,554	1,002,233	02,133		766.554
21		100,001				700.334
_	396.20 Pump Station Communication Equipment					
22	398.20 Other Tangible Plant					
23	.4 TREATMENT and DISPOSAL FACILITIES	(22.000				455.060
24	353.40 Land and Right-of-Ways	655,866	2 274 004	20.070		655,868
25	354.40 Structures and Improvements	15,383,544	1,374,804	30,038		16,728,311
26	355.40 Power Generation Equipment	499,726	213,240	5,083		707,883
27	356.40 Power Protection and Control Devises & Appurtenances					
28	371.40 Pumping Equipment	6,110,539				6,110,539
29	380.40 Treatment and Disposal Equipment	10,899,516	5,031,604	269,608		15,661,512
30	381.40 Yard Piping	128,640				128,640
31	382.40 Outfall Line and Headwall	58,208				58,208
32	385.40 Instrumentation and Computer Equipment					
33	389.40 Other Plant and Miscellaneous Equipment	32,049		2,624		29,425
34	.7 GENERAL PLANT					
35	385.70 Instrumentation and Computer Equipment					
36	390.70 Office Furniture and Equipment	760,150	153,167	85,380		827,937
37	391.70 Transportation Equipment	75,405	26,364			101,770
38	392.70 Stores Equipment	10,955				10,955
39	393.70 Tools, Shop and Garage Equipment	174,456	11,506	45,688		140,274
40	394,70 Laboratory Equipment	263,481	152,864			416,345
41	395.70 Power Operated Equipment	181.858				181,858
42	396.70 Communication Equipment	195,285	19.657			214,942
43	397.70 Miscellaneous Equipment	30,928				30,928
44	398.70 Other Tangible Plant	119				119
45	399.70 Safety Equipment					
46						
47						
48	TOTAL WASTEWATER UTILITY PLANT ACCOUNTS	83,707,285	18,885,571	743,869	11,193	101,860,179
49						
50						
51						
52						
53						
54						
24						

### 202. UTILITY PLANT LEASED TO OTHERS SUPPORTING SCHEDULE Account No. 102.0

This schedule should include a breakdown of the accounts that constitute the ending balance in Account No. 102.0 - Utility Plant Leased to Others.

Line	Name of Lessee	Balance Previous Year	Additions	Retirements	Adjustments	Balance at End of Year
No.	(a)	(b)	(c)	(d)	(e)	(f)
1	N/A					
2						
3						
4				2-30-32-		
5						
6						
7	TOTALS					

### 203. PROPERTY HELD FOR FUTURE USE SUPPORTING SCHEDULE Account No. 103.0

Insert in Column (a) the titles of the applicable primary accounts for Plant in Service and the details regarding Account No. 103.0 - Property Held For Future Use.

		Anticipated	Balance at	Additions	Transfers	Balance
ł	Item	in Service	Beginning	During	to Plant in	at
Line		Date	of Year	Year	Service	End of Year
No.	(a)	(b)	(c)	(d)	(e)	(f)
1	Eagle Rock		2,427,787			2,427,787
2	Links @ Gettysburg		785,504			785,504
3						
4		TOTALS	3,213,292			3,213,292

### 204. CONSTRUCTION WORK IN PROGRESS - Account No. 105.0

- 1. Describe the particulars concerning utility plant in process of construction but not ready for service at end of Calendar Year.
- 2. Describe separately each work order that exceeds an estimated expenditure of \$250,000 or 1%, whichever is lesser, of the book cost of utility plant at the beginning of the year. All other work orders may be grouped by nature of project.

				Estimate	Projected
		Description of Work	Balance	Total Cost of	In-Service
Line			End of Year	Construction	Date
No.		(a)	(b)	(c)	(d)
1	15075044323	Worrall Gravity Sewer Repair	425,616	425,616	9/30/2016
2	15089328129	Repairs to Bimini PS	62,545	262,545	12/31/2016
3	15089399927	Replace Samana Cay Stream Cros	206,630	506,630	12/31/2016
4	15089415859	Penn Twp Plant Refurbishment	705,557	705,557	12/31/2016
5	15089429221	Repl Filter & Add new EQ Tank	326,433	326,433	12/31/2016
6	15090029222	Manage Capital Projects	161,300	836,300	12/31/2015
7		Other Capital Improvements	671,885	917,039	Various
8					
9					
10					
11					
12					
13					
14	*******				
15					
16					
17					
18	Cinita may are no				
19					
20	1. 1				
21					
22					
23		Secretary and the secretary an			
24					
25		TOTALS	\$2,559,967	\$3,980,121	

## 205. ACCUMULATED DEPRECIATION OF UTILITY PLANT - Account Nos. 108.1, 108.2, 108.3 and 117.0

- 1. Report below an analysis of the changes in accumulated depreciation during the year and the amounts applicable to prescribed functional classifications.
- 2. Explain and give particulars of important adjustments during the year.

			108.1	108.2	108.3	117.0
-74			Utility	Utility Plant	Property Held	Operating Plan
			Plant In	Leased to	for	Pending
Line	Item	Total	Service	Others	Future Use	Reclassification
No.	(a)	(b)	(c)	(d)	(c)	(f)
1	Balance Beginning of Year	23,507,841	23,507,841			
2	Credits During Year	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
3	Depreciation Provisions charged to:	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
4	403.0 Depreciation	2,626,498	2,626,498			
5	413.0 Income from Utility Plant Leased to Others					
6						
7						
8						
9						
10	Total Depreciation Provisions	2,626,498	2,626,498			
11	Recoveries from Insurance					
12	Salvage Realized from Retirements					
13	Other Credits (Describe)					
14	Acquisition: Penn Twp	2,496,594	2,496,594			
15						
16						
17						
18	Total Credits During Year	2,496,594	2,496,594			
19	Total Credits	5,123,092	5,123,092			
20	Debits During Year	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
21	Retirement of Utility Plant	743,869	743,869			
22	Cost of Removal					20.0
23	Other Debits (Describe)	1.063	1.063	17.02		
24						
25	THE ALL STREET					
26						
27						
28	Total Debits During Year	744,932	744,932			
29	Balance at End of Year	27,886,000	27,886,000			

Describe the basis upon which depreciation provisions for the year were determined and attach worksheets showing the computations made in arriving at the annual provisions.

### 206. UTILITY PLANT ACQUISITIONS ADJUSTMENTS - Account No. 114.0

Line No.	ltem (a)	Project No. 1 Amount (h)	Project No. 2 Amount (c)	Project No. 3 Amount (d)	Project No. 4 Amount (e)	Totals (f)
1	Book Plant - Net			2		
2	PUC Difference (Ratemaking)					
3	Less Contributions (Net)					
4	Net Utility Plant Acquired					
5	Purchase Price					
6	Acquisition Adjustment	6,438,444				6,438,444
7						
8				. 6		

## 207. ACCUMULATED AMORTIZATION OF UTILITY PLANT ACCOUNTS 110.1 AND 110.2

- 1. Report below an analysis of the changes in accumulated amortization during the year.
- 2. Explain and give particulars of important adjustments during the year.

	Start	Plant		Amortization	Beg. Year	Annual	Ending Year
Line	Date	Account	Amount	Period	Balance	Amortization Amt.	Balance
No.	(a)	(b)	(c)	(d)	(e)	(g)	(h)
1	N/A						
2							
3				unka su			
4							
5							•
6							
7			72 40				
8							
9							
10							
11							
12							· e
13							
14							*
15							
16							
17							
18							
19							
20							
21						7	
22							
23							
24				2			

Describe the basis upon which amortization provisions for the year were determined and attach worksheets showing the computations made in arriving at the annual provisions.

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### 210. INVESTMENTS - Account Nos. 123.0, 124.0, 125.0, 126.0, 127.0 and 135.0

- L. Report below investments in Account No. 123.0, Investments in Affiliated Companies; Account No. 124.0, Utility Investments; Account No. 125.0, Other Investments; Account No. 126.0, Sinking Funds; Account No. 127.0, Other Special Funds; and Account No. 135.0, Temporary Cash Investments.
- 2. Provide a subheading for each account and list hereunder the information called for, observing the instructions below.
- 3. Investments in Securities List and describe each security owned, giving name of issuer. For bonds give also principal amount, date of issue, maturity, and interest rate. For capital stock state number of shares, class and series of stock. Minor investments may be grouped by classes.
- 4. Investment Advances Report separately for each person or company the amounts of loans or investment advances which are subject to repayment but which are not subject to current settlement. With respect to each advance show whether the advance is a note or open account. Each note should be listed giving date of issuance, maturity date, and specifying whether note is a renewal. Designate any advances due from officers, directors, stockholders, or employees.
- 5. For any securities, notes, or accounts that were pledged, designate such securities, notes, or accounts and in a footnote state the name of pledges and purpose of the pledge.
- If Commission approval was required for any advance made or security acquired, designate such fact and in a footnote give date of authorization and case or docket number.
- 7. Interest and dividend revenues from investments should be reported in Column (g), including such revenues from securities disposed of during the year.
- 8. In Column (h) report for each investment disposed of during the year, the gain or loss represented by the difference between cost of the investment (or the other amount at which carried in the books of account if different from cost) and the selling price therefore, not including any dividend or interest adjustment included in Column (g).

Line No.	Description of Investment (a)	Date Acquired (b)	Date of Maturity (c)	Book Costs*  Beginning  of Year  (d)	Principal Amount or No. of Shares (e)	Book Cost End of Year (f)	Revenues For Year (g)	Gain or (Loss) From Invest. Disposed of (h)
1	N/A							
2		<b></b>						
3								
4	1			-	-	THE TOTAL PROPERTY.		<del>                                     </del>
5								
6								
7								
8								
9								
10				-				
11								
12								
13								103
14								
15								
16								
17								
18								
19								
20								
21								
22	2007							
23								
24								
25								
26	TOTALS					Na - del el como		

<sup>\*</sup> If book cost is different from cost to Utility, give cost to Utility in a footnote and explain difference.

### 211. NOTES AND OTHER ACCOUNTS RECEIVABLE - Account Nos. 142.0 and 144.0

If interest was derived during year from notes liquidated before the end of the year, include such interest revenue in Column (d).

		TO A CONTRACT OF THE CONTRACT	Notes Receivab	ole	Accounts Receivables		
		Beginning	Ending	Interest	Beginning	Ending	
Line	Item	1/1/2015	12/31/2015	Revenue	1/1/2015	12/31/2015	
No.	(a)	(b)	(c)	(d)	(e)	<b>(f)</b>	
1	Dennison	10			8,874	9,777	
2	Eastside Borough				18,932	18,928	
3	Penn Lake				6,992	6,717	
4	Upper Providence				126,573	128,883	
5	Elwyn			1	22,973	46,784	
6	Foster Township				39,672	39,672	
7	Kidder Township				175,000	175,000	
8	TOTALS	-	- 1	_	399,016	425,761	

### 212. NOTES RECEIVABLE FROM AFFILIATED COMPANIES - Account No. 146.0

- 1. Furnish below the particulars indicated concerning notes receivable from affiliated companies at end of year.
- 2. If any note was received in satisfaction of an open account indebtedness, state the period covered by such open account.
- 3. Include in Column (f) the amount of any interest revenue during the year on notes that were paid off before the end of the year.
- 4. Give particulars of any notes pledged or discounted.

Line No.	Name of Affiliated Company (a)	Date of Issue (b)	Date of Maturity (c)	Amount at End of Year (d)	Interest Rate (e)	Amount (f)
I	N/A					
2		1				
3						
4						
5						

### 213. ACCOUNTS RECEIVABLE FROM AFFILIATED COMPANIES - Account No. 145.0

- 1. Furnish below the particulars called for concerning each Account Receivable from Affiliated Companies.
- 2. The term "Services Received" set forth on Line 22 of this schedule means the Management, Construction, Engineering, Purchasing, Legal, Accounting or other similar service which has been rendered to Utility under written, oral or implied contract.
- 3. The term "Joint Expenses Transferred" set forth on Line 23 means Central office and/or other expenses continuously assessed against respondent covering all locations of common operating costs.
- 4. This schedule shall include all transactions during the year with each affiliated interest affecting Account No. 145.0 and Account No. 234.0. If the latter is offset against Account No. 145.0, even though there were no outstanding balances at the beginning and end of year, and regardless of whether or not the transactions were recorded in Account Nos. 145.0 or 234.0.

	ltem (a)			Name Of Affiliate					
Line No.		Total (b)	(c)	(d)	(e)	(f)			
1	Balance at Beginning of Year								
2	Debits During Year	XXX	XXX	XXX	XXX				
3	Cash Dispensed				-4-				
4	Materials and Supplies Sold								
5	Services Rendered								
6	Joint Expense Transferred								
7	Interest and Dividends Receivable								
8	Rents Receivable								
9	Securities Sold								
10	Other Debits (Specify)								
11	Travel and Entertainment Costs								
12			1						
13									
14	Total Debits During Year								
15	Total Debits								
16									
17	Credits During Year	XXX	XXX	XXX	XXX				
18	Cash Received								
19	Water Purchased								
20	Fuel Purchased								
21	Materials and Supplies Purchased								
22	Services Received								
23	Joint Expense Transferred								
24	Interest and Dividends Payable								
25	Rents Payable								
26	Securities Purchased								
27	Transferred to Account 145								
28	Other Credits (Specify) Transferred to	Payables	Credit Balance -	reclassed to A/P	Affiliates - Tab 220	6			
29									
30									
31									
32	Total Credits During Year								
33	Balance at End of Year								

### 214. PLANT MATERIALS AND SUPPLIES - Account No. 151.0

- 1. Summarize below by character (such as chemicals, fuel oil, valves, pipe, etc.) of materials and supplies, the balances in Account No. 151.0 at the beginning and end of the year.
- 2. Important inventory adjustments during the year of materials and supplies account shall be explained, showing the class of materials affected and the various classes of accounts (operating expenses, clearing accounts, plant accounts) debited or credited.

Line No.	Classification of Materials And Supplies (a)	Balance Beginning of Year (b)	Balance End of Year (c)	Increase (Decrease) (d)
I	N/A			
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15	<u> </u>		15	
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28			11251 (8 - 5	
29				
30	Total .			

### 215. PREPAYMENTS SUPPORTING SCHEDULE - Account No. 162.0

This schedule should include a breakdown of the accounts that constitute the ending balance in Account No. 162.0 - Prepayments.

		Balance		Reductions or		Balance
Line	Account No.	Beg. of Year	Additions	Deletions	Adjustments	End of Year
No.	(a)	(b)	(c)	(d)	(e)	(f)
1	162000	-	100,065	(80,065)	(20,000)	-
2	162140	23,063	56,801	(51,463)		28,400
3	162150	562	764	(944)		382
4	162160	5,378	7,340	(9,048)	-	3,670
5	162180	-	-	-	-	-
6						
7						
8	TOTALS	29,003	164,970	(141,520)	(20,000)	32,452

## 216. MISCELLANEOUS CURRENT AND ACCRUED ASSETS SUPPORTING SCHEDULE - Account No. 174.0

This Account should include a breakdown of the accounts that constitute the ending balance in Account No. 174.0 - Miscellaneous Current and Accrued Assets.

Line No.	Account No. (a)	Balance Beg. of Year (b)	Additions (c)	Reductions or Deletions (d)	Adjustments (e)	Balance End of Year (f)
1	N/A					
2		il.				
3						
4						
5						
6	7 100-					
7						
8	TOTALS					

## 217. UNAMORTIZED DISCOUNT AND EXPENSE - Account No. 181.0 and UNAMORTIZED PREMIUM ON DEBT - Account No. 251.0

- 1. Report under separate subheadings for unamortized Debt Discount and Unamortized Premium on Debt, particulars of discount and expense or premium applicable to each class and series of long-term debt.
- 2. Show premium amounts in red or by enclosure in parenthesis.
- 3. In Column (b) show the principal amount of bonds or other long-term debt originally issued.
- 4. In Column (c) show the discount and expense or premium with respect to the amount of bonds or other long-term debt originally issued.
- 5. Furnish particulars regarding the treatment of unamortized debt discount and expense or premium, redemption premium, and redemption expenses with the debt issued and redeemed during the year, also, date of the Commission's authorization of treatment other than by debit or credit to Surplus.
- 6. Set out separately and identify amounts applicable to issues which have been redeemed, although those amounts, prior to the effective date of the uniform system of Accounts may have been combined with the discount and expense on the refunding issue.
- 7. Explain any debits and credits other than amortization debited to Account No. 428.0, Amortization of Debt Discount and Expense, or credited to Account No. 429.0. Amortization of Premium on Debt.

Line	Designation of Long-Term Debt	Principal Amount of Securities to Which	Total Discount and Expense	Amortization Period		Balance Beginning	Debits During	Credits During	Balance at
		or Premium Relates	or Net Premium	From	То	of Year	Year	Year	of Year
No.	(a)	(b)	(c)	(d)	(e)	(0)	(g)	(h)	(i)
1	N/A								
2		_ 1						1.5	
3									
4									
5									
6									
7									
8									
9	900-00					legge c			
10									
11									
12				(+) *(					
13									
14									
15	TOTALS								

### 218. EXTRAORDINARY PROPERTY LOSSES - Account No. 182.0

- 1. Report below the information indicated concerning this account.
- 2. Include in the description the date property was abandoned or other extraordinary loss incurred.

		Comm.	Amortization Period				Written off During Year		
	Description of Property	Docket		ears Only)	Total Amount	Previously	Account		Balances At
Line No.	Loss Or Damage	ımáge No.	From To	of Loss	Written off	Charged	Amount	End of Year	
	(a)		(c)	(d)	(e)	(f)	(g)	(h)	(i)
1	N/A								
2									
3									
4				_					
5	70.00								
6									
7									
8									
9		•							
10									
11	TOTALS								

## 219. PRELIMINARY SURVEY AND INVESTIGATION CHARGES SUPPORTING SCHEDULE - Account No. 183.0

Please provide particulars regarding activity associated with the ending balance in Account No. 183.0 - Preliminary Survey and Investigation Charges.

	Project/	Balance at		Reductions		Balance at
Line	Account No.	Beg. of Year	Additions	or Deletions	Adjustments	End of Year
No.	(a)	(b)	(c)	(d)	(e)	<b>(f)</b>
1	N/A					
2						
3						
4						
5						
6						
7						
8	TOTALS					à

### 220. CLEARING ACCOUNTS SUPPORTING SCHEDULE - Account No. 184.0

This Schedule should include a breakdown of the accounts that constitute the ending balance in Account No. 184.0 - Clearing Accounts.

		Balance at		Reductions		Balance at
Line	Account No.	Beg. of Year	Additions	or Deletions	Adjustments	End of Year
No.	(a)	(b)	(c)	(d)	(e)	(f)
1	184010		94			94
2	184020	135,206				135,206
3	184050	5,075				5,075
4	184070	(20,981)				(20,981)
5	184099	(119,300)				(119,300)
6						
7						
8	TOTALS	-	94			94

### 221. DEFERRED RATE CASE EXPENSE SUPPORTING SCHEDULE Account No. 186.1

Please provide particulars regarding activity associated with the ending balance in Account No. 186.1 - Deferred Rate Case Expense.

Line No.	Rate Case Docket No. (a)	Total Amount Claimed (b)	Total Amount Allowed (c)	Normalize. Period (d)	Annual Expense (e)	Unamortized Ending Balance (f)
1	N/A					
2						
3						
4						
5						
6						
7						
8	TOTALS					V

### 222. OTHER DEFERRED DEBITS SUPPORTING SCHEDULE Account No. 186.2

This Account should include a breakdown of the accounts that constitute the ending balance in Account No. 186.2 - Other Deferred Debits.

Line No.	Account No. (a)	Balance at Beg. of Year (b)	Additions (c)	Reductions (d)	Adjustments (e)	Balance at End of Year (f)
1	N/A					
2						
3						
4						
5						
6						
7						
8	TOTALS					

## 223. STATEMENT OF RETAINED EARNINGS SUPPORTING SCHEDULE Account Nos. 214.0 and 215.0

- 1. Dividends should be shown for each class and series of capital stock. Show amounts of dividends per share.
- 2. Show separately the state and federal income tax effect of items shown in Account No. 409.0.

Line	Item	Amounts	
No.	(a)	(b)	
1	Unappropriated Retained Earnings Account No. 215.0:	XXXXX	
2	Balance Beginning of Year		9,102,225
_3	Changes to Account:	XXXXX	
4	Adjustments to Retained Earnings *		
5	Credits		
6	Debits		
7_	Balance Transferred From Income		1,957,056
8	Total Unappropriated Retained Earnings		11,059,281
9			
10	Appropriated Retained Earnings Account No. 214.0:	xxxxx	
11	Total Appropriations of Retained Earnings		
12	Dividends Declared:	XXXXX	
13	Preferred Stock Dividends Declared		
14	Common Stock Dividend Declared		
15	Total Dividends Declared		
16	Total Appropriated Retained Earnings		
17	Total Retained Earnings		11,059,281

<sup>\*</sup> Requires Commission approval prior to use.

Notes to Retained Earnings:

### 224. LONG-TERM DEBT - Account Nos. 221.0, 222.0, and 224.0

#### **Excluding Advances from Associated Companies**

- 1. Give below the particulars indicated of the long-term debt at end of year represented by unmatured obligations issued or assumed by the respondent, exclusive of advances from associated companies
- 2. Group entries according to accounts and show the total for each account.
- 3. For obligations assumed by the respondent show in Column (a) the name of the issuing company and the class and series of such obligations.
- 4. For Receivers' Certificates show the name of the court and date of court order under which such certificates were issued.
- 5. If respondent has pledged any of its long-term debt securities give particulars in a footnote, including name of the pledge and purpose of pledge.
- 6 If interest expense was incurred during the year on any obligations retired or reacquired before end of year, include such interest expense in Column (g).

7. If interest has matured but is unpaid on any obligation, state in a footnote the class, series and principal amount of such obligation and the amount of interest matured thereon.

	Nominal	Date	Principal	Outstanding	Intere	est For Year	Held By R	
Class and Series of	Date of	of	Amount	Per Balance			As Reacquired.	In Sinking &
ne Obligations	Issue	Maturity	Authorized	Sheet*	Rate	Amount	LgTerm Debt	Other Funds
o. (a)	(b)	(c)	(d)	(e)	(0)	(g)	(h)	(i)
Obligations Other Than PENNVEST	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
- 8: 11			477					
3.4								
		***						
		ARREST TO THE REST OF THE REST						- H H H H H H H H
	2 30 4							
)								
3					-			
4								
5			<del></del>					-
5								
7								
8 Total Obligations Other Than PENNVEST								
9 PENNVEST Obligations	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
PENNVEST Whitehaven	8/8/2000	12/1/2020	3,251,000	638,085	1.000%	7,375		
PENNVEST Rivercrest	12/15/2004	12/12024	419,630	224,756	2.774%	6,539		
PENNVEST Masthope	8/1/2006	4/1/2016	48,627	1,871	3.334%	170		
3 PENNVEST Washington Park	9/22/2010	1/1/2032	975,645	663,818	1.000%	6,805		
PENNVEST Treasure Lake	3/1/2013	2/1/2023	1,635,581	1,204,442	1.156%	14,917		
5 7								
							1	
		1 - 10 - 10 - 10						
4 5								
6								
7 Total PENNVEST Obligations			6,330,483	2,732,972		35,806		-
TOTAL OBLIGATIONS			6,330,483	2,732,972		35,806		

<sup>\*</sup> Total amount outstanding without reduction for amount held by respondent.

### 225. NOTES PAYABLE SUPPORTING SCHEDULE - Account No. 232.0

This schedule should include a breakdown of the accounts that constitute the ending balance in Account No. 232.0 - Notes Payable.

Line No.	Name of Creditor (a)	Description of Transaction (b)	Date of Issue (c)	Date of Maturity (d)	Amount at End of Year (e)	Interest Rate Per Annum (f)
1	N/A			. 0		
2					, , , , , , , , , , , , , , , , , , ,	
3						
4						
5						6
6						
7						
8	•			TOTAL		

## 226. ACCOUNTS PAYABLE TO ASSOCIATED COMPANIES SUPPORTING SCHEDULE - Account No. 233.0

This schedule should include a breakdown of the accounts that constitute the ending balance in Account No. 233.0 - Accounts Payable to Associated Companies.

	Name of	Description	Date	Date	Amount at	Interest Rate
Line	Affiliated Company	of Transaction	of Issue	of Maturity	End of Year	Per Annum
No.	(a)	(b)	(c)	(d)	(e)	(f)
1	Aqua PA, Inc	Various AP, AR & PR Items			45,120,052	
2						
3						
4		ē.				
5	50 MOL 100 TO ACC					
6						
7						3782
8				TOTAL	45,120,052	

## 227. NOTES PAYABLE TO ASSOCIATED COMPANIES SUPPORTING SCHEDULE - Account No. 234.0

This schedule should include a breakdown of the accounts that constitute the ending balance in Account No. 234.0 - Notes Payable to Associated Companies.

Line	Name of Affiliated Company	Description of Transaction	Date of Issue	Date of Maturity	Amount at End of Year	Interest Rate Per Annum
No.	(a)	(b)	(c)	(d)	(e)	(f)
1	N/A					
2						
3						
4						
5		2.73, 2				
6						
7						
8				TOTAL		

## 228. MISCELLANEOUS CURRENT AND ACCRUED LIABILITIES SUPPORTING SCHEDULE - Account No. 241.0

This schedule should include a breakdown of the accounts that constitute the ending balance in Account No. 241.0 - Miscellaneous and Accrued Liabilities.

Line No.	Account (a)	Balance at Beginning of Year (b)	Additions (c)	Reductions or Deletions (d)	Adjustments (e)	Balance at End of Yr. (f)
1	241001 - Accrued Other	246,292	(2,369,238)	2,372,055	9	249,109
2	241006 - Accrued Audit Fees	15,528	(15,205)	15,518		15,841
3						
4						
5						
6			378 - 378			
7						
8	TOTALS	261,820	(2,384,442)	2,387,573		264,950

### 229. ADVANCES FOR CONSTRUCTION SUPPORTING SCHEDULE - Account No. 252.0 and Account No. 252.10

This schedule should include a breakdown of the accounts that constitute the ending balance in Account No. 252.0 - Advances for Construction and Account No. 252.10 Accumulated Amortization for Advances for Construction.

Line No.	Account (a)	Balance at Beg of Year (b)	Additions (c)	Reductions or Deletions (d)	Adjustments (e)	Balance at End of Year (f)
	252051-Adv Cust-NON CASH BUILDER OR DEVELOPER DEPOSITS	147,000		16,000		131,000
2	· · · · · · · · · · · · · · · · · · ·					
3						
4						
5						
6						
7						
8	TOTALS	147,000		16,000		131,000

### 230. OTHER DEFERRED CREDITS SUPPORTING SCHEDULE - Account No. 253.0

This schedule should include a breakdown of the accounts that constitute the ending balance in Account No. 253.0 - Other Deferred Credits.

Line No.	Account (a)	Balance at Beg of Year (b)	Additions (c)	Reductions or Deletions (d)	Adjustments (e)	Balance at End of Year (f)
1	FAS 109-PA Tax Repair	1,447,341		182,569		1,264,772
2						
3						
8	TOTALS	1,447,341		182,569		1,264,772

## 400. COMPARATIVE INCOME STATEMENT REVENUES AND EXPENSES

			Balance	Balance	
		Schedule	End of	Previous	Increase/
Line	Account Number and Title	No.	of Year	Year	Decrease
No.	(a)	(c)	(d)	(e)	(D)
1	400 0 OPERATING REVENUES	401	12,065,672	11,557,040	508,632
2	TO O DIGITAL OF THE PARTY OF TH				
3	UTILITY OPERATING EXPENSES		XXX	XXX	XXX
4	401.0 Operating Expenses		7.316.607	7.635.874	(319,267
5	403.0 Depreciation Expense		2,357,710	2,156,246	201,464
6	406.0 Amortization of Utility Plant Acquisition Adjustment	417	(326,158)	(189,570)	(136,588
7	407 I Amortization of Limited Term Plant	417			
8	407.2 Amortization of Property Losses	417			
9	407.3 Amortization of Other Utility Plant	417			
10	407.4 Amortization of Regulatory Assets			9,773	(9,773
11	407.5 Amortization of Regulatory Liabilities				
12	408 0 Taxes Other Than Income	418-419	158,184	127,619	30,565
13	409.10 Federal Income Taxes, Utility Operating Income	418-419	1,174,519	(539,138)	1,713,657
14	409.11 State Income Taxes, Utility Operating Income	418-419	104,583	(124,112)	228,695
15	409.12 Local Income Taxes, Utility Operating Income	418-419			
16	410.0 Deferred Income Tax	418-419			
17	410.10 Federal	419	(554,241)	185,638	(739,879
18	410.11 State	419	53,837	887,434	(833,597
19	Total Deferred Income Tax	419	(500,404)	1,073,072	(1,573,476
20	411.10 Provision for Deferred Income Taxes-Credit Utility Opr. Income	419			
21	412.10 Investment Tax Credits Deferred to Future Periods, Utility Operations	419	(12,406)	(7,505)	(4,901
22	412.11 Investment Tax Credits Restored to Opr., Income, Utility Opr. Income	419			
23	Total Tax Credits		(12,406)	(7,505)	(4,901
24	413.0 Income from Utility Plant Leased to Others				
25	414.0 Gains (Losses) from Disposition of Utility Property			(470)	470
26	TOTAL UTILITY OPERATING EXPENSES		10,272,635	10,141,789	130,846
27	NET UTILITY OPERATING INCOME (LOSS)		1,793,037	1,415,251	377,786
28					
29	OTHER INCOME AND DEDUCTIONS		XXX	XXX	XXX
30	415.0 Revenues from Merchandising, Jobbing and Contract Work		7.691	21,614	(13,923
31	416.0 Costs & Expenses of Merchandising, Jobbing and Contract Work		(10,095)	22,450	(32,545
32	419.0 Interest & Dividend Income				
33	420.0 Allowance for Funds Used During Construction (AFUDC)		(282,304)	(178,006)	(104,298
34	426.0 Miscellaneous Non-Utility Expenses		100,630	143	100,487
35	TOTAL OTHER UTILITY INCOME AND DEDUCTIONS		199,460	177,027	22,433
36	TAXES APPLICABLE TO OTHER INCOME AND DEDUCTIONS		XXX	XXX	XXX
37	408.2 Taxes Other Than Income, Other Income and Deductions	418			
38	409.2 Income Taxes, Other Income and Deductions	418			
39	410.2 Provision for Deferred Income Taxes-Other Income & Deductions	419			
40	411.2 Provision for Deferred Income Taxes-Credit, Other Income & Deductions	419			
41	412.2 Investment Tax Credit-Net, Nonutility Operations	419			
42	412.3 Investment Tax Credits Restored to Nonoperating Income, Utility Opr.	419			
43	TOTAL TAXES APPLICABLE TO OTR. INCOME & DEDUCTIONS				
44	INTEREST EXPENSE		XXX	XXX	XXX
45	427.0 Interest Expense				
46	427.1 Interest on Debt to Associated Companies				
47	427 2 Interest on Short-Term Debt				
48	427.3 Interest on Long-Term Debt		35,441	39,552	(4,111
49	427.4 Interest on Customer Deposits				
50	427.5 Interest-Other	14	-	62,040	(62,040
51	428.0 Amortization of Debt Discount & Expenses				
52	429.0 Amortization of Premium on Debt		125		
53	TOTAL INTEREST EXPENSE		35,441	101,592	(66,151
54	EXTRAORDINARY ITEMS		XXX	XXX	XXX
55	433.0 Income				
56	434.0 Deductions				
57	409.3 Income Taxes				
58	TOTAL EXTRAORDINARY ITEMS				
	NET INCOME (LOSS)		1,957,056	1,490,686	466,370
-					

### 401. OPERATING REVENUES SUPPORTING SCHEDULE - Account No. 400.0

This schedule should include a breakdown of the accounts that constitute the ending balance in Account No. 400.0 - Operating Revenues.

		Schedule	Balance	Balance	Increase/
Line	Account Number and Title	No.	End of Year	Previous Year	Decrease
No.	(a)	(b)	(c)	(d)	(c)
	WASTEWATER SALES REVENUE		XXX	XXX	XXX
2	521.0 Flat Rate Revenues - General Customers	402	XXX	XXX	XXX
3	521.1 Residential		2,296,224	2,294,078	2,146
4	521.2 Commercial		756,366	752,850	3,516
5	521.3 Industrial				
6	521.4 Public Authorities				
7	521.5 Multiple Family Dwelling Revenues				
8	521.6 Other Revenues (Availability)		163,387	166,574	(3,187)
9					
10	Total Unmetered Wastewater Revenue		3,215,977	3,213,502	2,475
11					
12	522.0 Measured Revenues - General Customers	402	XXX	XXX	XXX
13	522.1 Residential		5,556,681	5,406,964	149,717
14	522.2 Commercial		1,625,957	1,461,106	164,851
15	522.3 Industrial		448	420	28
16	522.4 Public Authorities		1,145,730	1,156,582	(10,852)
17	522.5 Multiple Family Dwellings Revenues				
18	523.0 Revenues from Public Authorities	404			
19	524.0 Revenues from Other Systems	404			
20	525.0 Interdepartmental Revenues	404			
21					
22	Total Measured Wastewater Revenue		8,328,816	8,025,072	303,744
23					
24	OTHER WASTEWATER REVENUES		XXX	XXX	XXX
25	530.0 Guaranteed Revenues	406			
26	531.0 Sale of Biosolids	100			
27	532.0 Forfeited Discounts		30,607	37,838	(7,231)
28	534.0 Rents from Wastewater Property	406		21,000	(1,150.1)
29	535.0 Interdepartmental Rents	100			
30	536.0 Other Wastewater Revenues	406	490,272	280,628	209,644
31	536.1 Reserve Capacity Fees	1	,	3,0,020	203,011
32	536.2 Sludge Processing Fees				
33	536.3 Wastewater Processing Surcharges		-		
34					
35	TOTAL WASTEWATER SALES		11 544 703	11 229 574	204 210
36	TOTAL WASTEWATER SALES	-	11,544,793	11,238,574	306,219
37	RECLAIMED WATER SALES		xxx	xxx	XXX
38	540.0 Flat Rate Reuse Revenues		^^^		^^^
39	540.1 Residential Reuse Revenues			<del></del>	
40	540.1 Residential Reuse Revenues				
41	540.3 Industrial Reuse Revenues	-			
_	540.4 Reuse Revenues from Public Authorities	<del>                                     </del>			
42	541.0 Measured Reuse Revenue	+ +			
39	541.1 Residential Reuse Revenues	-			
		<del></del>			
40	541.2 Commercial Reuse Revenues	<del>                                     </del>			
41	541.3 Industrial Reuse Revenues	-			
42	541.4 Reuse Revenues from Public Authorities	<b>—</b> —			
43	544.0 Reuse Revenues from Other Systems				
44	T. ID diana				
45	Total Reclaimed Water Sales	-			
46	TOTAL IN ORDINA MONTA A SECONDA		10.042.455		
47	TOTAL WASTEWATER SALES&OTHER REVENUES		12,065,672	11,557,040	508,632

'This line - Total Water Sales - is to be entered in, and should match up with, Section 2 of the Revised Annual Assessment Report (Form GAO-15).

### 402. OPERATING REVENUES SUPPORTING SCHEDULE - CUSTOMER DATA

Customers should be reported on the basis of number of meters, (except where multiple customers have one meter) plus number of flat rate accounts. Where separate meter readings are added for billing purposes, one customer shall be counted for each group of meters so added.

		Customers	Customers	
Į.	_	End of	End of	
	Customer Classes	Current	Previous	Increase/
Line		Year	Year	(Decrease)
No.	(a)	(b)	(c)	(d)
1	Unmetered Charges	XXX	XXX	XXX
2	Residential	5,312	5,509	(197
3	Commercial	474	471	3
4	Industrial			
5	Public Authorities			
6	Multiple Family Dwellings*			
7	Availability			
8	Other			
9				
10	Total Unmetered Charges	5,786	5,980	(194)
11				
12	Measured Sales	XXX	XXX	XXX
13	Residential	12,935	12,845	90
14	Commercial	1,024	806	218
15	Industrial	1	1	F*
16	Public Authority	38	37	1
17	Multiple Family Dwellings*			
18	Other			
19	Other Systems			
20	Interdepartmental			
21	Other Systems-Interdepartmental			
22				
23	Total Measured Sales	13,998	13,689	309

<sup>\*</sup> Use number of Individual Dwelling Units

### 404. OTHER CHARGES TO PUBLIC WASTEWATER UTILITIES SUPPORTING SCHEDULE - Accounts Nos. 523.0 and 524.0

1. Designate by asterisk in Column (a) charges which are affiliated with respondent.

2. The entries on Lines 1 to 8 under Columns (h) to (s) must correspond to the entries on the same lines under Columns (a) to (g). The totals of Columns (h) to (s), inclusive, must agree with respective quantities reported in Column (e).

Line No.	Name of Public Wastewater Utility Or Other System (a)	Point of Collection (b)	Quantity of WW Discharged (M-gal)	Revenues (d)	Revenue Per (M-gal.) (c)
L	N/A				
2					
3					
4					
5					
6					
7					
8					
		TOTALS			

#### MONTHLY DISCHARGES IN M-GAL by UTILITY

Line	January	February	March	April	May	June	July	August	September	October	November	December
No.	(f)	(g)	(h)	(i)	(i)	(k)	(l)	(m)	(n)	(0)	(p)	(q)
	N/A											
2												
3												
4												
5												
6												
7												
8			3-21									
TOTALS					***							

### 406. OTHER WASTEWATER REVENUES SUPPORTING SCHEDULE ACCOUNTS 530.0, 534.0 AND 536.0

Provide a breakdown of Other Wastewater Revenues - Account Nos. 530.0, 534.0 and 536.0 not shown in any other revenue account.

Line	Date	Name of Purchaser	Amount
No.	(a)	(b)	(c)
1		DSIC Charges	317,421
2		Grinder Pump Charges	(4,457)
3		Miscellaneous Income	440
4		Pennvest	176,848
5		Return Item Fees	20
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17		TOTALS	490,272

### 407. WASTEWATER OPERATION AND MAINTENANCE EXPENSE ACCOUNTS

			Amount of Operating Expenses			
		Schedule				
Line	Account Number and Title	No.	Current Year	Previous Year	Increase (Decrease	
No.	(a)	(b)	(c)	(d)	(c)	
	Salaries and Wages		XXX	XXX	XXX	
2	701.0 Employees	409	897,185	1,016,446	(119,261	
3	703.0 Officers, Directors and Majority Stockholders	409	42,329	42,250	79	
4	Total Salaries and Wages		939,514	1,058,696	(119,182	
5	704.0 Employee Pensions and Benefits	409-A	556,003	632,632	(76,629	
6	710.0 Purchased Wastewater Treatment		565,253	564,509	744	
7	711.0 Sludge Removal Expense		939,890	1,076,148	(136,258	
8	715.0 Purchased Power		1,010,357	1,018,466	(8,109	
9	716.0 Fuel for Power Production		5,140	12,685	(7,545	
10	718.0 Chemicals		475,538	406,301	69,237	
11	720.0 Materials and Supplies		92,553	83,496	9,057	
12	Contractual Services		XXX	XXX	XXX	
13	731.0 Engineering	411-A				
14	732.0 Accounting	411-A	15,921	16,451	(530	
15	733.0 Legal	411-A		473	(473	
16	734.0 Management Fees	411-B	628,900	731,678	(102,777	
17	735.0 Testing	411-B	168,448	160,532	7,916	
18	736.0 Other - Maintenance	411-B	1,393,193	1,342,330	50,862	
19	Total Contractual Services		2,206,463	2,251,464	(45,002	
20	741.0 Rental of Building/Real Property		94,980	96,545	(1,566	
21	742.0 Rental of Equipment					
22	750.0 Transportation Expenses		51,710	74,099	(22,388	
23	Insurance		XXX	XXX	xxx	
24	756.0 Vehicle					
25	757.0 General Liability		48,518	36,036	12,482	
26	758.0 Workman's Compensation		956	852	104	
27	759,0 Other		(23,302)	26,620	(49,922)	
28	Total Insurance		26,172	63,508	(37,336)	
29	760.0 Advertising Expense - Other than Conservation	412	1,300	1,932	(632)	
30	766.0 Regulatory Commission Expenses-Amort, of Rate Case Expense					
31	767.0 Regulatory Commission Expenses-Other					
32	770.0 Bad Debt Expense		143,136	125,271	17,865	
33	Misrellaneous Expenses		XXX	XXX	XXX	
34	775.0 Miscellaneous Other	413				
35	775.1 Membership Dues		1,300	4,540	(3,240)	
36	775.2 Registration Fees for Conventions & Meetings of Industry	413-A				
37	775.3 Communication Services	413-B	106,512	93,750	12,762	
38	775.4 Trustee Fees and Bank Charges					
39	775.5 Stockholders Expenses	413-C			**	
40	775.6 Office Expenses and Utilities	413-D	74,224	37,943	36,281	
41	775.7 Uniforms		4,304	8,783	(4,480)	
42	775.8 Director's Fees and Expenses	413-E			A	
43	775.9 Mailing		815	1,027	(211)	
44	775.10 Subscriptions	413-F	13,726	17,694	(3,968)	
45	775.11 Write off of expenditures for preliminary surveys, plans,				(2)	
46 i	nvestigations etc., included in Account 183.0 - Preliminary Survey					
	and Investigation Charges, relative to abandoned projects.					
48	775.12 Travel	416	7,718	6,385	1,333	
	775.13 Education			Vijaria.	1,000	
	775.14 Charitable Contributions	413-G				
51	Total Miscellaneous Expenses		208,598	170,122	38,477	
52	Total Wastewater Operation and Maintenance Expense Accounts		7,316,607	7,635,874	(319,266)	
-	The state of the s		1,510,007	,,055,014	(317,200)	

### 409. WASTEWATER OPERATION AND MAINTENANCE EXPENSE ACCOUNTS (ALLOCATION)

Line No.	Account Number and Title (a)	Totals from Schedule 407 (b)	Expenses - Operations (c)	Expenses - Maintenance (d)	Customer Accounts Expenses (e)	Administrative And General Expenses
1	Salaries and Wages	XXX	XXX	XXX	XXX	XXX
2	701.0 Employees	897,185				897,185
3	703.0 Officers, Directors, and Majority Stockholders	42,329				42,329
4	Total Salaries and Wages *	939,514				939,514
5	Contractual Service	XXX	XXX	xxx	XXX	XXX
6	731.0 Engineering **					
7	732.0 Accounting **	15,921				15,921
8	733.0 Legal **					1
9	734.0 Management Fees **	628,900			187,039	441,861
10	735.0 Contract Services Testing	168,448		168,448		
11	736.0 Other - Maintenance **	1,393,193	898,400	367,424		127,369
12	Total Contractual Service	2,206,463	898,400	535,872	187,039	585,151
13	Miscellaneous Expense	xxx	XXX	XXX	XXX	XXX
14	775.3 Communications Service	106,512				106,512
15	775.12 Travel***	5,504	-			5,504
16						
17						
18	Total Miscellaneous Expenses	112,016				112,016
19	TOTALS	3,257,993	898,400	535,872	187,039	1,636,681

<sup>\*</sup> For breakdown see Schedule 410

<sup>\*\*</sup> For breakdowns see Schedules 411-A and 411-B

<sup>\*\*\*</sup> For breakdown see Schedule 416

## 409-A. EMPLOYEE PENSIONS AND BENEFITS SUPPORTING SCHEDULE Account No. 704.0

This schedule should include a breakdown of the accounts that constitute the ending balance in Account No. 704.0 - Employee Pensions and Benefits.

			Total Expenses for		
Line	Control Contro	Employees	Current Year	Prior Year	
No.	(a)	(c)	(d)	(e)	
1	Pension				
2	Life Insurance				
3	Health Insurance				
4	Dental				
5	Eye Care				
6	Prescriptions				
7	Employee Recognition				
8	Physicals				
9	Tuition Assistance				
10	Death Benefits	factory direct			
11	Other Post Employee Benefits				
12	401K				
13	Employee Stock Option Program				
14	Others: IC Benefit Allocation from Parent		556,003	632,632	
15	TOTALS		556,003	632,632	

### 410. EMPLOYEE AND PAYROLL STATISTICS

- 1. Show hereunder the details called for concerning the number of officers and employees at the beginning and end of the year, and the aggregate salaries and wages for the year.
- 2. The data shall be itemized according to the department payroll classification maintained by Respondent at the end of the year (such as, for example, executive, accounting, treasury, engineering, etc).

Line	Payroll Classification	Number Beginning of Year	Number End of Year	Aggregate Salaries and Wages for the Year
No.	(a)	(b)	(c)	(d)
2	Contract Employees- No Direct Full Time Staff	-		<del> </del>
3				4
4				
5				
6				<del> </del>
7				<del> </del>
8				<del> </del>
9		+	-	+
10				
11				
12		10 10 10 10 10 10 10 10 10 10 10 10 10 1		
13				1
14				1
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38	- Co			
39				
40				

# 411-A. CONTRACTUAL SERVICES SUPPORTING SCHEDULE Account Nos. 731.0, 732.0 and 733.0

Provide a breakdown of Engineering Expense - Account No. 731.0.

Line		Description of Project	Expense
No.		(a)	(b)
1	N/A		
2			
3			
4			
5	\$ 10-247E-1		
6			
7		TOTAL	

Provide a breakdown of Accounting Expense - Account No. 732.0.

Line	, , , , , , , , , , , , , , , , , , , ,		Expense
No.	(a)		(b)
1	Auditing Fees		15,921
2			
3		22	
4			
5			
6			
7		TOTAL	15,921

Provide a breakdown of Legal Expense - Account No. 733.0.

Line		Description of Service	Expense
No.		(a)	(b)
1	N/A		
2			
3			
4			
5			
6			
7	<u> </u>	TOTAL	

# 411-B. CONTRACTUAL SERVICES SUPPORTING SCHEDULE Account Nos. 734.0, 735.0 and 736.0

Provide a breakdown of Management Fees - Account No. 734.0.

Line	Description of Management Fee	Expense
No.	(a)	(b)
1	Management Fees - A&G	441,861
2	Customer Operations Fees	187,039
3		
4		
5		
6		
7	TOTAL	628,900

Provide a breakdown of Testing Expense - Account No. 735.0.

Line	Type of Testing Services	Expense	
No.	(a)	(b)	
1	Testing - Pump Maintenance	168,448	
2		li li	
3			
4	n.		
5			
6			
7	TOTAL	168,448	

Provide a breakdown of Other - Maintenance Expense - Account No. 736.0.

Line	Description of Maintenance	Expense
No.	(a)	(b)
1	Pump Operations	132,864
2	T&D Operations	765,535
3	Collection Maintenance	164,385
4	Pump Maintenance	66,151
5	T&D Maintenance	136,889
6	A&G	127,369
7	TOTAL	1,393,193

### 412. ADVERTISING EXPENSES SUPPORTING SCHEDULE - Account No. 760.0

Provide a breakdown of Advertising Expense - Account No. 760.0, by type, i.e., Radio, TV, Newspaper, Bill Insert, etc.

Line	Type of Advertising Expense	Purpose of Expense	Expenses
No.	(a)	(b)	(c)
1	Company Signs		800
2	American Cancer Society		500
3			
4			
5			
6			
7			
8			
9			
10			
11		TOTAL	1,300

## 413. MISCELLANEOUS OTHER EXPENSES SUPPORTING SCHEDULE Account No. 775.0

Provide a breakdown of Miscellaneous Other Expense - Account No. 775.0.

Line		Description	Expenses
No.		(a)	(b)
1	N/A		
2			
3			
4			
5			
6			
7			
8			
9			
10			1
11		TOTAL	

### 413-A. REGISTRATION FEES SUPPORTING SCHEDULE - Account No. 775.2

Provide a breakdown of Registration Fees for Conventions and Industry Meetings- Account No. 775.2

Line	Description of Expense	Payee	Expense
No.	(a)	(b)	(c)
1	N/A		
2			
3			
4			
5			
6			
7			
.8			
9			
10			
11		TOTAL	

### 413-B. COMMUNICATION SERVICES - Account No. 775.3

Provide a breakdown of Communication Services not chargeable to other accounts- Account No. 775.3

Line	Description of Expense	Payœ	Expense		
No.	(a)	(b)	(c)		
1	Phone & Data Lines	Verizon	64,550		
2	Phone & Data Lines	AT&T	3,531		
3	Phone & Data Lines	Frontier 2 Sprint			
4	Phone & Data Lines				
5	Phone & Data Lines	Century Link	1,261		
6	Phone & Data Lines	Lackawaxen	5,506		
7	Phone & Data Lines	Comcast	5,404		
8	Phone & Data Lines	Bulls Eye Telecom	802		
9	Phone & Data Lines	Various & Misc	3,217		
10		TOTAL	106,512		

### 413-C. STOCKHOLDERS EXPENSES SUPPORTING SCHEDULE - Account No. 775.5

Provide a breakdown of all Stockholders Expenses- Account No. 775.5

Line	Description of Expense	Payce	Expense
No.	(a)	(b)	(c)
1	N/A		
2			
3			
4			
5			
6			
7			
8			
9			
10			
11		TOTAL	-

### 413-D. OFFICE EXPENSES AND UTILITIES - Account No. 775.6

Provide a breakdown of Expenses relating to Office Expense and Utilities- Account No. 775.6

Line	Description of Expense	Payce	Expense	
No.	(a)	(b)	(c)	
1	Office Supplies	Various & Misc	678	
2	Misc Admin & General	Various & Misc	2,792	
3	Misc Admin & General-Fines & Penalties	Commonwealth of PA	40,874	
4	Misc Admin & General Licenses & Permits	Commonwealth of PA		
5	Misc Admin & General Licenses & Permits	Various & Misc	14,464	
6				
7				
8				
9				
10				
11				
12		TOTAL	74,222	

### 413-E DIRECTOR'S FEES AND EXPENSES SUPPORTING SCHEDULE - Account No. 775.8

Provide a breakdown of all Director's Fees and Expenses- Account No. 775.8

Line	Description of Expense	Payce	Expense		
No.	(a)	(b)	(c)		
_1	N/A				
2					
3					
4					
5					
6					
7		***************************************			
8					
9					
10					
11		TOTAL			

### 413-F. SUBSCRIPTIONS - Account No. 775.10

Provide a breakdown of Expenses relating to public notice of financial, operating and other data required by regulat statutes, not including notices required in connection with security issues or acquisition of property.

Line	Description of Expense	Payce	Expense
No.	(a)	(b)	(c)
1	Subscription	Enviro.Sci Corporation	10,000
2	Subscription	Pinecrest Lake Community Trust	3,600
3	Subscription	Various and Miscellancous	126
4			
5			
6			
7			
8			
9			
10			
11		TOTAL	13,726

### 413-G CHARITABLE CONTRIBUTIONS SUPPORTING SCHEDULE - Account No. 775.14

Provide a breakdown of all Charitable Contributions paid by respondent- Account No. 775.14

Line	Description of Expense	Payee	Expense
No.	(a)	(b)	(c)
1	N/A		
2			
3			
4			
5			
6			
7			
8			
9			
10		G 100 ±6	
11		TOTAL	

### 416. TRAVEL EXPENSE SUPPORTING SCHEDULE - Account No. 775.12

Provide a breakdown of Travel Expense - Account No. 775.12

Line No.	Event (a)	Travel Expenses (b)	Lodging Expenses (c)	Meal Expenses (d)	Entertainment Expenses (e)	Total Expense (f)
1	Various	6,095	503	1,121		7,718
2		_				
3			885 88 5 8			
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16	TOTALS	6,095	503	1.121		7,718

#### 417. AMORTIZATION EXPENSES SUPPORTING SCHEDULE - Account Nos. 406.0, 407.1, 407.2 and 407.3

#### Amortization of Utility Plant Acquisition Adjustment - Account No. 406.0

Line No.	Year Incurred Date (0)	Name of Company Acquired (b)	Total Acquisition Adjustment (c)	Yearly Amortization (d)
1		See Attachment	(8,152,896)	(126,158)
2				
3				
4				124
5				
6				
7		TOTALS	(8,152,896)	(326,158)

#### Amortization of Property Losses - Account No. 407.2

Line No.	Year Incurred Date (a)	Identify Each Item (b)	Total Adjustment (c)	Yearly Amortization (d)
1		N/A		
2				
3				
4				
5				
6				
7		TOTALS	11 12	

#### Amortization of Limited Term Plant - Account No. 407.1

Line No.	Year Incurred Date (a)	Description of Plant (b)	Total Adjustment (c)	Yearly Amortization (d)
L		N/A		
2				
3				
4				
5				
6				
7		TOTALS		

#### Amortization of Other Utility Plant - Account No. 407.3

Line No.	Year Incurred Date (a)	Plant Item Amortized (b)	Total Adjustment (c)	Yearly Amortization (d)
_1_		N/A		
2				
3				
4				
5				
6				
7		TOTALS		

#### 417. AMORTIZATION EXPENSES SUPPORTING SCHEDULE - Account Nov. 496.0, 407.1, 407.2 and 407.3

#### Amortization of Utility Plant Acquisition Adjustment - Account No. 406.0

		Year Incurred	Name of	Acquisition	Yearly
Line	L	Date	Company Acquired	Adjustment	Amortization
No		(a)	(b)	(c)	(d)
	114000	VARIOUS	WHITEHAVEN	267,972	13,399
2	114112	Dec-94	EAGLE ROCK	(2,107,303)	(51,945)
3	114121	Dec-94	PINECREST	(324,397)	(16,220)
4	114124	Dec-92	THORNHURST	(268,158)	(13,408)
5	114125	Jun-02	LINKS @ GETTYSBURGH	(932,899)	(16,559)
6	114127	Dec-93	RIVERCREST	41,118	2,056
7	114128	Oct-96	DEERFIELD KNOLL	(169,898)	(8,495)
	114130	Dec-92	CS WW (MASTHOPE)	435,263	15,470
9	114136	Nov-02	GREENS @ PENN OAKS	(75,879)	(3,794)
10	114137	May-02	BRIDLEWOOD	(312,458)	(15.623)
11	114141	Aug-02	NEWLIN GREEN	(129,985)	(6,499)
12	114145	May-09	WASHINGTON PARK	(21,719)	(1,086)
13	114149	Apr-09	COVE VILLAGE	(148,671)	(7,434)
14	114000	Jun-13	VILLAGE AT VALLEY FORGI	(1,181,238)	(59,061)
15	114000	Jun-13	BEECH MOUNTAIN WW	(17,653)	(883)
16	114000	Oct-13	TREASURE LAKE WW	1,298,027	
17	114000	Oct-13	KIDDER TOWNSHIP	(314,710)	(15,815)
18	114000	Mar-14	PENN TOWNSHIP SEWER	(4,190,308)	(140,261)
19				(8,152,896)	(326,158)

### 418. TAXES ACCRUED AND PREPAID DURING YEAR Account Nos. 236 and 162

- Give particulars (details) of the combined prepaid and accrued tax accounts and show the total taxes charged to operations
  and other accounts during the year. Do not include gasoline and other sales taxes which have been charged to the accounts
  to which the taxed material was charged. If the actual or estimated amounts of such taxes are known, show the amounts in
  a footnote and designate whether estimated or actual amounts.
- 2. Include on this page, taxes paid during the year and charged directly to final accounts, (not charged to prepaid or accrued taxes).
- 3. Include in column (c) taxes charged during the year, taxes charged to operations and other accounts through (a) accruals credited to taxes accrued, (b) amounts credited to proportions of prepaid taxes chargeable to the current year, and (c) taxes paid and charged directly to operations or accounts other than accrued and prepaid tax accounts.
- 4. List the aggregate of each kind of tax in such a manner that the total tax can be readily ascertained.

		ACCRUED	AND PREPAID	TAXES	DURING YEA	.R		
-		BALANCE AT	BY DEBIT OR	BY DEB	T OR CREDI	T TO OTHE	RACCOUNTS	TOTAL ACCRUALS
Line	Kind of Tax	BEGINNING OF	CREDIT TO	ACCT.	AMOUNT	ACCT.	AMOUNT	AND
No.	(See Instruction 5)	YEAR	ACCOUNT	NO.	DEBIT	NO.	CREDIT	AMORTIZATIONS
	(a)	(b)	(c)	(d)	(e)	(0)	(g)	(h)
1	TAXES ACCRUED (Account 236)	(0)	107	(-/	(0)	+	(6)	(.,,
2	Federal Surtax On Income							
)	Federal Excess Profits Tax					+	*******	
1	Federal Capital Stock Tax			1				
5	Federal Tax on Revenue	708,642	(1,184,242)					(1,184,24
6	Federal Pensions Tax		**************************************			1		(1,10-,2-
7	Federal Unemployment Relief				7	+ +		
1	State Unemployment Relief				-			
9	State Capital Stock Tax	(62,247)	1,372	-		+		1,37
10	State Gross Receipts Tax	(-,-,-,				-		
11	Gen Assessment - Pub Util Comm.					+		
12	Local Gross Receipts Tax			1		1 -		
13	Pole Taxes	-		-				
14	State Corporate Loans Tax			1		1 -		
15	Foreign State Taxes On Interest			1		+	THE STATE OF THE S	-
16	Mercantile Taxes			$\vdash$		+		
17	Local Real Estate Tax					+	*	
)#	PA Realty Tax			$\vdash$		+-+	-	
19	Consumer Advocate Assessment					1		
20	Other Taxes (specify)					+ +		
21	State CNI	155,843	(104,584)			+ +	*****	(104,584
22	Federal Deferred Income Tax (2532xx)	(6,480,651)	772,146	<del>     </del>		-	44 097	816,24
23	State Deferred Income Tax (2532xx)	(1,717,573)	(244,543)				43,021	(244,54)
24	ITC (25510xx)	(22,061)	12,406			+ +		12,400
25	(4.7.5.3.7)					1 1		
26						1 1	~	
27								
28						1		
29	TOTAL • TAXES ACCRUED	(7,418,047)	(747,445)			1		(747.44)
10				-		1		(111,511
31						+		
32								
33	PREPAYMENTS (Acct 162)					1 1		
34	Small Business Administration (162150)	562	(180)			1		1180
35	Gen Assessment - Pub Util Comm (162140)	23,063	5,338			+		5,118
36	Consumer Advocate Assessment (162160)	5,178	(1,708)			1		(1,708
37				+				11,700
38								
39					=======================================	1 -		
40								
41	TOTAL - PREPAYMENTS	29,003	3,450					3,450
42	*					-		2,000

#### 418. TAXES ACCRUED AND PREPAID DURING YEAR

(cont)

- 5. Report in column (k) through (l) only the amounts charged to Accounts 408.1 and 409.1 pertaining to wastewater operations.
- 6. Report in column (m) the amounts charged to Accounts 408.1 and 409.1 pertaining to other utility departments and amounts charged to Accounts 408.2 and 409.2. Also show in column (n) the taxes charged to utility plant or other balance sheet accounts.
- 7. For any tax apportioned to more than one utility department or account, state in a footnote the basis (necessity) of apportioning such tax.

	Balance at En	d of Year	Distribution of Taxes Charged					
Line No.	6)	Ø	WASTEWATER ACCT 408.1	WASTEWATER 409.1	OTHER UTILITIES ACCTS 408.1 - 409.1	OTHER BAL. SHEET ACCOUNTS (n)		
1								
2								
3								
4			Y					
5	(475,600)			(475,600)				
6								
7								
8								
9		(60,875)	(60,875)		( )			
10								
11								
12								
13								
14								
16								
17								
18								
19								
20								
21	51,259			51,259				
22		(5,664,408)		(5,664,408)				
23		(1,962,116)		(1,962,116)				
24		(9,655)		(9,655)				
25								
26								
27								
28								
29	(424,341)	(7,697,054)	(60,875)	(8,060,520)				
30								
31								
32								
33								
34	382		362			1000		
35	28,400		28,400					
36	3,670		3,670					
37								
39								
40								
41	32,452		32,452					
42	32,432		32,432		<del></del>			

# 419. TAXES OTHER THAN INCOME, INCOME TAXES AND DEFERRED TAXES DURING YEAR Accounts Nos. 408, 409, 410, 411 and 412

- Taxes Other Than Income shall include the amount of gross revenue or gross receipts taxes, regulatory agency general assessment for
  purposes of public utility regulation, state unemployment insurance, franchise taxes, federal excise taxes, social security taxes and all
  other taxes assessed by federal, state, county, municipal, or other local government authorities except income taxes. These accounts
  shall be charged in each accounting period with the amount of taxes which are applicable thereto, with concurrent credits to
  Account 236 Accrued Taxes or Account 162 Prepayments, as appropriate.
- 2. Income Taxes shall include the amounts of local, state, and federal income taxes on income properly accruable during the period covered by the income statement to meet the actual liability for such taxes. Concurrent credits for the tax accruals shall be made to Account 236 Accrued Taxes, and as the exact amount of taxes become known, the current amount shall be adjusted by charges or credits to these accounts unless such adjustments are properly included in Account 439 Adjustments to Retained Earnings
- 3. The charges to these accounts shall be made or supported so as to show the amount of each tax and the basis upon which each charge is made. In the case of a utility rendering more than one utility service, taxes of the kind includible in these accounts shall be assigned directly to the utility department the operation of which gave rise in so far as practicable. Where the tax is not attributable to a specific utility department, it shall be distributed among the utility departments or nonutility operations on an equitable basis.

			INCOME AND I	Marie Arter Herrick o				
		BALANCE AT	BY DEBIT OR				HER ACCOUNTS	TOTAL ACCRUALS,
Line	Kind of Tax	BEGINNING OF	CREDIT TO	ACCT.	1'NUOMA	ACCT.	AMOUNT	AMORTIZATIONS
No.	(See Instruction 5)	YEAR	ACCOUNT	NO.	DEBIT	NO.	CREDIT	AND DEFERRALS
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
,	Taxes Other Than Income (Account 408)		4,464			T- 1		4,46
2	Utility Reg Assessment Fees (Acct 408 10)		61,455					61,45
3	Property Taxes (Account 408 11)		92,265				200 000	92,26
4	Payroll Taxes (Account 408 12)							
5	Other Taxes and Licenses (Account 408 13)							
6	Other Than Inc., Other Inc. and Ded. (Acct 408.2)		er B e r	0.00.02				
7								
9	Total - Taxes Other Than Income		158,184		1879			15R.18
10			CONTRACTOR OF THE PERSON NAMED IN			20		_
11	Income Tisses (Account 409)							
12	Fed Inc Taxes, Util. Open Inc. (Account 409.10)		1,174,520					1,174,52
13	State Inc. Taxes, Util. Oper. Inc. (Acct 409.11)		104,583					104,58
14	Local Inc Taxes, Util Oper, Inc. (Acct 409.12)							
15	Inc. Taxes, Other Inc. and Ded. (Acct 409 20)							
16	inc Tiores, Extraordinary Itams (Acct 409 30)							
17	Other Income Taxes (specify)							
12								
19	Total - Income Taxes		1,279,103					1,279,10
20								
21	Deferred Income Taxes (Acct 410)							
22	Def. Fed. Inc. Taxes (Account 410.10)		(554,241)					(554,24
23	Def. State Inc. Taxes (Account 410.11)		53,837					53,83
24	Def. Local Inc. Taxes (Account 410 12)							
25	Other Deferred Taxes (Account 410 20)							
26								
27	Total - Deferred Income Taxes		(500,404)					(500,40
28								
29	Deferred Inc Taxes Credit (Acct 411)							· ·
30								
31								
32								
33								
34	Investment Tax Credits (Account 412)		(12,406)					(12,400
35		1						
36								
37								

### 419. TAXES OTHER THAN INCOME, INCOME TAXES AND DEFERRED TAXES DURING YEAR

Accounts Nos. 408, 409, 410, 411 and 412

(cont.)

- 4. If any tax (exclude Federal and State Income Taxes) covers more than one year, show the required information separately for each tax year, identifying the year in column (b).
- Enter all adjustments of the Other Than Income, Income and Deferred tax accounts in column (c) and explain each adjustment in a footnote: Designate debit adjustments by parentheses.
- 6. Do not include on this page entries with respect to or taxes collected through payroll deductions or otherwise pending transmittal of such taxes to the taxing authority.
- 7. Report in column (k) through (l) only the amounts charged to Accounts 408.1 and 409.1 pertaining to wastewater operations. Report in Report in column (m) the amounts charged to Accounts 408.1 and 409.1 pertaining to other utility departments and amounts charged to Account 408.2 and 409.2. Also show in column (n) the taxes charged to utility plant or other balance sheet accounts.
- 8. For any tax apportioned to more than one utility department or account, state in a footnote the basis (necessity) of apportioning such tax.

	Balance at End of Year	Distribution of Taxes Charged						
Line No.		WASTEWATER ACCOUNT 408.1	WASTEWATER ACCOUNT 409.1	OTHER UTILITIES ACCTS 408.1 - 409.1	UTILITY PLANT AND OTHER BAL SHEET ACCOUNTS			
1	(i) 4,464	(j) 4,464	(k)	(1)	(m)			
2	61,455	61,455	***					
3	92,265	92,265						
4								
5								
6								
7								
8								
9	158,184	158,184	950 (1950)					
10								
11								
12	1,174,520		1,174,520					
13	104,583		104,583					
14								
15								
16								
17								
18								
19	1,279,103		1,279,103					
20								
21								
22	(554,241)		(554,241)					
23	53,837		53,837					
24								
25								
26	(500,404)		(500,404)					
27								
28								
29								
30								
31								
32								
3.3								
34	(12,406)		(12,406)		10-2			
35								

# 422. RECONCILIATION OF NET INCOME SHOWN ON SCHEDULE 400 WITH FEDERAL NORMAL TAX NET INCOME INSTRUCTIONS

- 1. Report in the form provided a reconciliation of (a) net income for the year as shown by the Income Statement (Schedule 400) with (b) Federal normal tax net income as shown in return filed with the Federal government for the calendar or other fiscal year covered by Respondent's PUC Annual Report. The reconciliation is to be furnished even if there is no net income on which Federal taxed on income are payable for the year.
- 2. If the Respondent is a member of a group which files a consolidated tax return, the net income reported to the Commission in Schedule 400 should be reconciled with the net income which would be subject to Federal normal income tax if a separate tax return were filed by the Respondent. In a supplementary schedule there should be shown (a) names of the companies in the consolidated group, (b) the taxes for the consolidated group, determined from the consolidated tax return, according to the kinds of taxes, (c) the taxes of the Respondent if a separate return were filed, and (d) the amount allocated and method of allocation to Respondent or a portion of the consolidated taxes.
- 3. If the tax situation of the Respondent with respect to the year's income is such as to permit of the filing of a claim for refund of taxes of a prior year, or the carrying forward of a credit against taxable income of a future year, explain the circumstances and state the amount of tax refund which may be claimed or the credit available against future taxable income.
- 4. Furnish particulars of any additional taxed paid or refunds received during the year with respect to Federal taxes on income of a previous year, and adjustments of Accrued Taxes for under or over accrual of taxes of previous years.
- 5. State below the latest year with respect to which the tax returns have been received by the Federal government and the year's income closed as to assessment of additional Federal taxed on income or recovery of a tax refund.
- 6. State below the date Respondent's tax returns for the year were filed and the Collector's office to which sent.

  If a consolidated tax return was filed state that fact also and name of the parent company which filed the return.
- 7. State below the Federal taxes on income for the year as shown by returns filed with the Federal government of the calendar or other established fiscal year covered by Respondent's PUC Annual Report and the taxes shown in Respondent's annual report to the Commission.

	Per	Per PUC
	Tax Returns	Annual Report
Normal Tax Surtax	710,075	710,075
Total	710,075	710,075

8. If the taxes per tax returns differ from amounts shown by the PUC Annual Report, furnish a statement showing allocation of the taxes per tax return to the departmental tax expense accounts and other accounts to which applicable, and an explanation of the basis of allocation.

## 422. RECONCILIATION OF NET INCOME SHOWN ON SCHEDULE 400 WITH FEDERAL NORMAL TAX NET INCOME (Continued)

Line	Particulars	Amount
No.	(a)	(b)
1	Net Income for the year per Schedule 400	1,957,056
2	Adjustments made to determine taxable income*	
3	Accrued Miscellaneous	
4	Antenna Leases	
5	CAC	
6	Capital Stock	
7	Deferred State Income Tax	53,837
8	Federal Taxes	607,873
9	Fines and Penalties	40,874
10	Lobbying Expense	, , , , , , , , , , , , , , , , , , , ,
11	Meals and Entertainment	560
12	Minority Interest	
13	Repairs	75,361
14	PURTA	
15	Restricted Stock Amortization	
16	Salvage	
17	Accrued Bonus	
18	Accrued FAS 106	
19	Amortization Other	
20	Charitable Contribution	540
21	Depreciation and Depletion	(118,387)
22	Dividend Equivalents	
23	Gain/Loss on Sale	
24	SERP	
25	Main Breaks, Main Cleaning and Lining	
26	Rate Case Expense	
27	Interest	
28	Reserve for Bad Debts	(306,723)
29	State Tax	
30	Stock Options	
31	Tank Painting	
32	UNICAP	(282,204)
33	Net additions to or deductions from amount shown on Line 1	71,731
34		
35	Federal surtax net income (surtax \$ at applicable rate of tax of 35 %)	2,028,787

<sup>\*</sup> List additional income items first, followed by additional deductions.

#### 501. IMPORTANT PHYSICAL CHANGES DURING THE YEAR

Submit information separately for each of the four functional groups listed below with respect to major physical changes to plant-in-service costing more than (Class A \$250,000, Class B \$25,000 and Class C \$2,500) during the year involving either, additions to or improvements of, or retirements or replacements of plant. Information provided shall include Work Order Number, a Description of the Project, and the District Served. Attach additional sheets as necessary.

1. Collection, 2. Treatment and Disposal, 3. General, and 4. Other Tangible

SEE ATTACHMENT

Aqua Pennsylvania Wastew Section 501.	ater, Inc.			or the Year Engled December 31, 201
		Made Cartes A Characteristics	District	Amount
Class/Functional Group	(\$250,000 and up)	Work Order # Description	District	Amount
A	1 Collection	15089439972 Penn Twp WW Acquisition	Penn Township	1,363,145
	Conscion	15089439972 Penn Twp WW Acquisition	Penn Township	4,469,287
		15089439972 Penn Twp WW Acquisition	Penn Township	1,000,000
		15073067261 Ext Agreement Willistown - CWI	Chesterdale	287,889
		15075030363 Media Gravity Sewer Repairs	Media	515,130
		15084027881 Thomburst Main Replacement	Thomhurst	647,785
		15089328122 Gravity Sewer I&I Investigatio	Tressure Lake	383,293
	2 Treatment & Dispos	al 15089439972 Penn Twp WW Acquisition	Penn Township	702,026
		15089439972 Penn Twp WW Acquisition	Penn Township	2,450,000
		15075015267 Lincoln PS Site Improvements	Media	293,272
	3 General	15089439972 Penn Twp WW Acquisition	Penn Township	310,151
		15071039285 Purchase Pursell Property	Peddler's Village	506,557
	4 Other Tangible	None		
	45,4945 VIII.		G 1/9	62.62
В	Q	99 15063043368 Refurbish Lift Stations	Cove Village	52,534
	1 Collection	15072039494 Refurbish Lift Stations	E Bradford	25,537
		15075004507 EMERGENCY REPAIR TO PLANT EFF		50,811
		15078042929 Gravity Main Replacement	Whitehaven	154,500 53,930
		15083028145 ER Sewer Replacement Project	Eaglerock	35,770
		15083043367 Improvements to lift stations	Englerock	67,630
		15083051407 Refurbish Pumping Stations	Eaglerock Eaglerock	125,740
		15083095785 Double Diamond Collection Sys 15088027882 Mast Hope 2014 Sewer Rehab Pro	Masthope	147.98
		15088028121 Mast Hope Influent PS Improvem	Masthope	115,151
		15088043338 Repairs to Sewer Mains	Masthope	43,23
		15089129195 Repair Low Pressure Mains (P)	Beech Mountain	57,07
		15089130370 Replace LP Main Curb Boxes	Beech Mountain	48,76
		15089155765 Repair of Low Pressure Sewer M	Booch Mountain	33,85
		15089229199 Kidder Grinder Pump Repairs (P	Kıdder Township	64,17
		15089315271 Gravity Sewer I&I Investigatio	Treasure Lake	72,469
		15089329211 T Lake Grinder Pump Repairs (P	Treasure Lake	43,49
		15089329642 Treasure Lake Sewer Rehab Proj	Treasure Lake	105,234
		15089350424 Main Line and Manhole Rehabili	Treasure Lake	49,414
		15085052574 Dedications- WW Links@Gettysbu	Links @ Gettysburg	99,143
		Retirement	Simo & Conference	(161,399
	2 Treatment & Dispos	al 15089439972 Penn Twp WW Acquisition	Penn Township	172,11
		15025013326 Process equipment repairs	Woodloch Springs	42,763
		15025052071 Process equipment repairs	Woodloch Springs	30,45
		15060013319 Process equipment repairs	Newlin Greene	28,81
		15063042961 Cove Process Equipment Repairs	Cove Village	40,05
		15070013314 Process equipment repairs	Little Washington	38,64
		15071012150 Process System Repairs	Peddler's Village	52,62
		15071051329 Process equipment repairs	Peddler's Village	33,477
		15073011769 Chesterdale-Process System Rep	Chesterdale	108,89
		15073013762 Replaced failed UV Sterilizer	Chesterdale	43,389
		15073015850 Chesterdale Process Improvemen	Chesterdale	B4,004
		15073016031 Chesterdale - insulate ceiling	Chestordale	28,04:
		15073042912 Process equipment repairs	Chesterdale	135,049
		15074013953 Repairs to process equipment	Twin Hills	36,10
		15075012486 Repairs to Process System	Media	72,034
		15075013218 Fall Protection Ridley WWTP	Media	46,430
		15075042864 Media Emergency Blowers	Media	48,081
		15075042963 Process equipment repairs	Media	130,017
		15076013427 Process equipment repairs	Piumsock	32,02
		15078054881 Purchase New Centrifuge	Whitehaven	53,618
		15080012123 Process System Repairs	Bridlewood	51,321
		15080042910 Repair of process equipment	Bridlewood	69,286
	0.	15081013351 Process equipment repairs	Pinecrest	70,53
		15081043003 Process equipment repair	Pinecrest	45,700
		15083013328 Repairs to process equipment	Faglerock	27,540
		15086012145 Process System Repairs	Deerfield Knoll	25,924
		15087039545 Refurbish Chiorine Contact Tan	Laurel Lakes	31,296
		15087043045 Process equipment repairs	Laurei Lakes	39,518
		15088013867 New WWTF standby generator	Musthope	30,741
		15088042949 Process equipment repairs	Masthope	81,691
		15089214184 Kidder Plant Improvements	Kidder Township	25,155
		15089327146 East WWTP Safety Upgrades	Treasure Lake	47,941
			LW Admin	131,615
		15090013945 Manage Capital Projects	LW Admin	134,516
		15090042924 SEPA Cap Field Mgmt & Inspecti	LW Admin	134,910 34,911
		15090042925 NEPA Cap Mgmt & Inspections	C 44 VARIABLE	
		Retirements		(62,732

riqua i	 the Real Property lies, the Re	

Section 501.					
Class/Functional Group		Work Order #	Description	District	Amount
	3 General	15089439972 Penn T		Penn Township	85,646
		15083012286 Eagle F	the second control of	Eagleroek Masthope	143,273 27,055
			ope New Services to Cust Mountain - New Services	Beech Mountain	76,289
		15089212845 New St		Kidder Township	27,586
		15089242926 New Se		Kidder Township	44,749
		15090029049 Replace	: Pickup Small #151	LW Admin	26,364
		15090044907 New Po Retiren		LW Admîn	39,133 (45,688)
	4 Other Tangable	None			
c	(\$2,500 to \$24,999)				
	1 Collection	15025052079 Sewer	and the second s	Woodloch Springs	4,259
		15062028132 Gravity	Salari Salari Alanda	Washington Park	15,116
			itate Lift Stations_Cov	Cove Village	4,614
		15063039922 Gravity 15063056752 Raise N		Cove Village Cove Village	5,638 23,332
			Repairs and Improvements	Village at Valley Forge	3,314
			to Pumping Equipment	Village at Valley Forge	5,575
			2 failed WAS Pumps- WW	Little Washington	7,303
			Autodialer Withers Way	E. Bradford	7,834
			s Way PS Pump Replaceme	E. Bradford	10,764
			ion System GIS Mapping	Chesterdale Twin Hills	15,671 8,692
		The second of the second secon	ld Pump Station Chem Fee Gravity Sewer Repairs Ph	Media	8,668
		15075027483 Chicag		Media	20,166
		15075042970 Lemon		Media	18,652
		15075053884 Repairs	to Pumping Equipment	Modia	22,224
		15075058163 Media	and the same of th	Media	8,454
			laven Lift Station Repai	Whitehaven	14,268
			laven Gravity Main Repai	Whitehaven Whitehaven	11,257 5,709
		And the second control of the second control	ements to sewer at Libra cring assessment sewer	Pinecrest	9,120
			st Gravity Sewer Repair	Pinecrest	4,945
			sh Springbrook Pump Sta	Woodloch Pines	6,408
		15082056749 Spring!	prook Pump #2 Replacemen	Woodloch Pines	18,141
			lock I&I Metering Study	Englerock	3,027
			tock Pump Station Repair	Englerock	15,322
			ements to Pump Stations ock Sanitary Sewer Repai	Eaglerock Eaglerock	5,666 12,303
		15083056802 Refurb		Eaglerock	12,369
		15083089201 Eagle F		Eaglerock	18,785
		15084026549 Gravity	Main Repl Engineering	Thomhurst	10,247
			urst Gravity Main Point	Thomhurst	5,401
			urst Gravity Main Repair to Pumping Equipment	Thornhurst Links @ Gettysburg	2,554 5,828
			ion System Rehabilitati	Laurel Lakes	6,397
		15087056755 Gravity		Laurel Lakes	3,272
		15088028101 Mast H	ope Sewer Rehab Engineer	Masthope	8,96B
			ope - Refurbish Gravity	Masthope	4,555
		15088053883 Refurb	and extra management of the state of the sta	Masshope	21,686
			to Low Pressure Sewer	Masthope Beech Mountain	7,900 3,757
		mm-continue of the continue of	& Manhole Rehab (P)	Kidder Township	3,110
			Grinder Pump Repairs	Kidder Township	3,696
		15089230424 Lake H	armony Sewer Point Repai	Kidder Township	5,020
			sh Low Pressure Sewer	Kidder Township	2,537
		A CONTRACTOR OF THE PARTY OF TH	itation Rehab Engineering	Treasure Lake	10,141
		CONTROL CONTRO	to Bimini Pump Station	Treasure Lake	4,581 3,337
			Cay PS Replace Valves Cay PS Valve Replacemen	Treasure Lake Treasure Lake	23,189
		Retiren	•		(101,153)
	2 Treatment & Disposal	15025026583 Refurb		Woodloch Springs	15,446
			uilding, new door & roo	Woodloch Springs	7,871
		15060043006 Process		Newlin Greene	21,069
			process mixing system to Headworks Equipment	New Daleville New Daleville	2,796 3,886
		15061013315 Process		New Daleville	16,816
		15061039923 Buildin		New Daleville	3,830
		15061043005 Process		New Daleville	11,464
			g Improvements	Washington Park	5,990

Section 501,				
Class/Functional Group	Work Order #	Description	District	Amount
Westminder prestricting basis to at 2.0		Repair Driveway	Washington Park	13,102
		Repair of process equipment	Cove Village	10,820
		Building repairs and replaceme	Stoney Creek	13,209
		Repairs to process equipment Stoney Creek Plant Improvement	Stoney Creek Stoney Creek	3,579 9,992
		Stoney Creek Repairs to Genera	Stoney Creek	4,155
		Process equipment repairs	Stoney Creek	14,944
		Disposal System Repairs	Sage Hill	3,967
	15066013429	Process equipment repairs	Sage Hill	2,689
		Building Repairs	Sage Hill	4,300
		Process equipment repairs	Sage Hill	5,357
		New Perimeter Fence @ WWTP EQ tank cover for odor control	Sage Hill Little Washington	23,056 10,935
		Repairs to Ozone Odor Control	Little Washington	4,069
		Process equipment repairs	Little Washington	15,936
	15071009083	install new bird netting at ef	Peddler's Village	6,085
		Reconfigure spray zone A2 pipe	Peddler's Village	8,055
		Improvements to plant	Peddler's Village	3,466
		Repairs to spray field New Lagoon Decant System	Peddler's Village Peddler's Village	7,751 21,357
		Process equipment repairs	E. Bradford	7,945
		Twin Hills Improvements	Twin Hills	12,626
	15074026606	Improvements to plant	Twin Hills	15,387
		Repair effluent disposal syste	Twin Hills	17,270
		Twin Hills - Security Fence	Twin Hills	23,661
		Refurbish Building	Twin Hills Twin Hills	11,194
		Refurbish effluent disposal sy Process equipment repairs	Twin Hills	4,236 21,576
		Repair of Tank Divider Wall	Twin Hills	16,651
		Media Clarifier Repairs	Media	15,075
	15075014182	Media Plant Improvements	Media	22,476
		Lincoln PS Generator Repairs	Media	4,117
		Media Emergency Blowers	Media	14,507
		Repairs to Clarifiers	Media Media	15,489
		Repairs to Belt Filter Press Media Copper WER Study	Media	8,608 23,116
		Process equipment repairs	Plumsock	5,023
		Process equipment repairs	Whitehaven	20,598
	15078026622	Lab Building Replace Roof	Whitehaven	9,926
		Refurbish Lab Building	Whitehaven	15,712
		Process equipment repairs	Whitehaven	12,042
		Repairs to process equipment Bridlewood - New Eq Tank Cover	River Crest Bridlewood	5,483 16,161
		Bridlewood Improvements	Bridlewood	16,031
		Pinecrest Plant Improvements	Pinecrest	14,860
		Repair Building Siding, etc &	Pinecrest	11,445
		Rehab Process Tanks & Aeration	Pinecrest	4,229
		WWTP Freeze Protection Eagle Rock Improvements to Pla	Pinecrest Eaglerock	3,949
		Eagle Rock - Paint Buildings	Eaglerock	14,301 8,793
		Plant Improvements - Eagle Roc	Eaglerock	6,972
		Process equipment repairs	Eaglerock	21,038
		Process equipment repairs	Thornhurst	4,759
		Repairs to Building and Drivew	Thomburst	16,865
		Improvements to CCT Process System Repairs @ Links	Thornhurst Links @ Gettysburg	3,131 2,708
		UV System Repair	Links @ Genysburg	4,424
		Install stone drive at pump st	Links @ Gettysburg	2,812
	15086012149	Repairs to Headworks	Deerfield Knoll	19,299
		Process equipment repairs	Deerfield Knoll	7,594
		Process equipment repairs	Laurel Lakes	23,336
		Improvements and repairs to WW Refurbish Aeration System	Laurel Lakes Laurel Lakes	2,605 20,547
		Repairs to process equipment	Masthope	8,346
		Replace culvert at plant and P	Masthope	7,387
	15088037640	Chemical Feed Improvements	Masthope	4,102
		Mast Hope Well Drilling	Masthope	14,131
		Process equipment repairs	The Greens at Penn Oaks	16,305
		Process equipment repairs Process equipment repairs	The Greens at Penn Oaks Kidder Township	5,711 24,956
		Process equipment repairs	Kidder Township	19,144
		Freeze Protection	Kidder Township	20,276
	15089302783	Replace failed process blower	Treasure Lake	6,777
		Red Sail LS Generator Installa	Treasure Lake	11,242
		TLW: Refurbish UV Disinfection	Treasure Lake	10,445
		East WWTP Repairs to Equipment East WWTP Process Equipment Re	Treasure Lake Treasure Lake	9,485 13,720
		West WWTP Process Equip Repair	Treasure Lake	17,250
		, ,		

Class/Functional Group		Work Order #	Description	Olstrict	Amount
		15089352534 Treasur	re Lake Security Improve	Treasure Lake	4,455
		15089444243 Abando	on MW6 and drill new well	Penn Township	5,598
		15090030514 SEPA	Cap Field Mgmt & Inspecti	LW Admin	19,053
		15090030670 NEPA	Cap Mgmt & Inspections	LW Admin	20,492
		15090087741 Manag	ement of Capital Projects	LW Admin	16,193
		Retiren	nents		(233,443)
	3 General	15063029600 F&) no	w autodialers at Cove LS	Cove Village	13,301
	0 00.00	15063039903 New Se		Cove Village	3,775
		15066011744 Sage H		Sage Hill	18,268
		15066044114 Replac	and the second of the second o	Sage Hill	2,873
		and the second of the second o	Vashington Lab Equipmen	Little Washington	4,124
		15073039488 Chesto		Chesterdale	8,861
		15074039486 Twin H		Twin Hills	3,914
			otection Ridley WWTP	Media	11,506
		15075029628 Repairs	to SCADA System	Media	6,356
		15078039491 New Se	· ·	Whitehaven	7,116
		15080043004 Lab Eq	wigment	Bridlewood	9,787
		TO STATE OF THE PARTY OF THE PA	ements BVS Effluent Samp	Pinecrest	3,332
		15084051523 New In	fluent Composite Sampler	Thomburst	9,631
		15088043062 New Se	ervices to Customers	Masthope	14,158
		15089213844 Lab Eq	uipment	Kidder Township	4,439
		15089229206 Lab Eq	uipment	Kidder Township	3,425
		15089328089 Replac	e Influent Flow Meter	Treasure Lake	12,671
		15089415782 Penn T	wp Lab Equipment	Penn Township	11,894
		15089556724 Furnish	Lab Equipment	Hunker Hill	23,559
		15090012689 FS Dis	tribution-Continued Roll	LW Admin	4,663
		15090013778 Acquis	itions-Support	LW Admin	2,674
		15090028357 ACO N	Acter Operations Assessmen	LW Admin	3,333
		15090030182 INF W	indows 7 Phase 2	LW Admin	2.671
			nner Enhancements - 2015	LW Admin	16,039
			siness Needs Support 201	LW Admin	10,295
			perational Stability Prog	LW Admin	9,344
			mote Offices MPLS Upgrad	LW Admin	3,599
		15090043361 Laptop	properties the properties of the	LW Admin	7,926
		15090043544 INF V7		LW Admin	6,062
			anization Optimization	LW Admin	3,086
			p Acquisition Management	LW Admin	13,285
		15090054024 INF Da		LW Admin	2,931
		15090057313 aquaan	construction and the second	LW Admin	5,411
		15090073362 Corp N		LW Admin	6,527
		15090073382 Corp Is	* ** ** ** ** ** ** ** ** ** ** ** ** *	LW Admin	5,373
		15090083042 Согр П		LW Admin	4,889
		15065097261 PA Ge		Village at Valley Forge	4,226
		15900582933 PA Ga		Links @ Gettysburg	10,965
			tions- WW Links@Gottysbu	Links @ Gettysburg	24,679
		Retiren	nents		(66,266)

4 Other Tangible

#### 502. IMPORTANT PHYSICAL PLANT DETAILS

For each NPDES permitted facility covered by this PUC Annual Report, provide written responses for each of the items listed below on pages to be attached, following this schedule. Number each attached page as (# of #).

- 1. Collection System. Provide a written description of the collection system with the description ending at the headworks of the wastewater treatment plant. This description should depict the sizes and types of all piping materials used in the construction of the collection system, and if applicable, note the percentage of gravity vs. pressurized collection piping used. Provide descriptive details on any and all pumping and/or lift stations used. Annually, provide an update to the collection system information requested above by including details on all extension constructed and details on any portion of the system that has been retired, replaced or abandoned. Identify all known extension projects in the preliminary planning stages. Describe in detail the means used to finance each newly constructed extension. Provide a discussion on past calendar year collection system monitoring, maintenance, repair and rehabilitation work, including routine and special activities, and infiltration / inflow monitoring. Describe the condition of the collection system by identifying if any portion of the conveyance capacity is being exceeded or will be exceeded in the next five years, and identify portions where rehabilitation or cleaning is needed or is underway to maintain the integrity of the system, and prevent or eliminate bypassing, overflow, excessive infiltration and other system problems. Describe the present condition of each collection system pump/lift station, and include a comparison of the maximum pumping rate with present maximum flows and the projected 2-year flow for each station.
- 2. Treatment Plant. Provide a written description of the wastewater treatment facilities, starting at the headworks and ending at the outfall structure, including descriptive details of any at-plant pump/lift facilities, in addition to all auxiliary structures and/or buildings and their uses. If helpful in preparing this description, attach a copy of the plant's flow schematic which shall be no larger than letter size. When advanced treatment is provided, the description should describe how the unit treatment processes are used to meet the final effluent discharge requirements listed on the NPDES permit. Where applicable, provide brief descriptive details of the equipment used in aerating and pumping of activated sludges. Provide details on wasted sludge processing, current ultimate disposal practices and locations. Identify generically all chemicals added to each of unit processes and their purposes. Indicate the designed hydraulic and organic loading capacities of the treatment plant. Provide an annual update on the present condition of all facilities located at the wastewater treatment site, including identifying any portions of the plant where conveyance or treatment capacity is being exceeded, or will be exceeded in the next five years and identifying any portions where rehabilitation or updating is needed or is underway to maintain the integrity of these facilities. Include a discussion of specific problems with the wastewater treatment plant and action taken to eliminate or prevent potential or recurring problems. Describe in detail any portion of the treatment system at the plant site that has been retired, replaced or abandoned. Provide the Certification Number of the current treatment plant operator and the date the effluent flowmeter was last calibrated.

4 Pages attached to this schedule

General Comments:

Each system as identified below is relatively small in size and number of customers.

Each operating division is "self-sustained" and no substantial growth or expansion or extensions are projected in the next 2 to 5 years in any of the divisions.

**East Bradford** 

WQM#PA1596404-T1

East Bradford Twp, Chester Co.

0.018 MGD

Collection System

Series of 8" plastic gravity and 3 remote lift stations. Force main directly to plant.

Treatment Plant

Lagoon Treatment plant and spray irrigation disposal.

Little Washington

NPDES#PA0050458

East Brandywine Twp, Chester Co

0.155 MGD

Collection System

Series of 8" plastic gravity and 1 remote lift station. Force main directly to plant.

Treatment Plant

Comminuter, BNR Treatment Process, Tertiary Filter, UV Disinfection, Subsurface Bed

disposal w/stream discharge.

Peddler's View

WQM#PA0993408

Solebury Twp, Chester Co.

0.06 MGD

Collection System

Series of 8" plastic gravity to treatment plant.

Treatment Plant

Comminuter, SBR Treatment Plant, Chlorine Disinfection, Spray Irrigation Disposal

Willistown Woods

NPDES#PA0050075

Willistown Twp, Chester Co

0.0175 MGD

Collection System

Series of 8" plastic gravity and 3 remote lift stations. Force main directly to plant.

Treatment Plant

Comminuter, BNR Treatment Process, Tertiary Filter, UV Disinfection, stream discharge disposal.

**Twin Hills** 

WQM#PA1598409

West Pikeland Twp, Chester Co

0.059 MGD

Collection System

Series of 8" plastic gravity and 2 remote lift stations. Force main directly to plant.

Treatment Plant

Comminuter, SBR Treatment Plant, Tertiary Filter, Chlorine Disinfection, Subsurface Bed Disposal

**Plumsock** 

WQM#PA1592402

Willistown Twp, Chester Co

0.0099 MGD

Collection System

Series of 8" plastic gravity and 1 remote lift station. Force main directly to plant.

Treatment Plant

SBR Treatment Plant, Tertiary Filter, Chlorine Disinfection, Subsurface Bed Disposal

Media Borough

NPDES#PA0024121

Media Borough, Delaware Co.

1.8 MGD

Collection System

Series of 8" to 12" terra cotta/plastic gravity main, 2 remote lift stations, force mains to plant

Treatment Plant

Mechanical Screen, Primary Settling, Extended Aeration Treatment, Chlorine

Disinfection, Stream Discharge

White Haven

NPDES#PA0020435-A1 White Haven Borough, Luzerne Co

0.6 MGD

Collection System

Series of 8" to 12" terra cotta/plastic gravity mains to plant

Treatment Plant

Comminuter, Primary Settling, Extended Aeration Treatment, Chlorine Disinfection, Stream Discharge

**Bridlewood** 

NPDES#PA0057011-A1

Thornbury Twp, Chester Co

0.103 MGD

Collection System

Series of 8" plastic gravity and 1 remote lift station. Force main directly to plant.

#### **General Comments:**

Each system as identified below is relatively small in size and number of customers.

Each operating division is "self-sustained" and no substantial growth or expansion or extensions are projected in the next 2 to 5 years in any of the divisions.

Treatment Plant

Comminuter, SBR Treatment Plant, Tertiary Filter, Chlorine Disinfection, Subsurface Bed

Disposal w/Stream Discharge

Rivercrest

NPDES#PA0060551

Tunkhannock Twp, Wyoming Co

0.07 MGD

**Collection System** Treatment Plant Series of 8" plastic gravity mains to plant

Comminuter, Primary Settling, Extended Aeration Treatment, Chlorine Disinfection, Stream Discharge

**Newlin Green** 

Collection System

SEW1503410

Newlin Twp, Chester Co

0.045 MGD

Series of 4" plastic low pressure force main to plant.

Treatment Plant BNR Treatment Process, Tertiary Filter, Chlorine Disinfection, Subsurface Bed Disposal

**Pinecrest** 

NPDES#PA0061719

Tobyhanna Twp, Monroe Co.

0.1 MGD

Collection System

Series of 8" plastic gravity and 2 remote lift stations. Force main directly to plant.

Treatment Plant Comminuter, SBR Treatment Plant, Chlorine Disinfection, Stream Discharge

**Eagle Rock** 

NPDES#PA0061590

North Union Twp, Schuylkill Co.

0.35 MGD

Collection System

Series of 8", 10" terra cotta and plastic gravity, 4" plastic low pressure force main, 29

remote lift stations to gravity collection

Treatment Plant

Mechanical Screen,. Extended Aeration Treatment, Chlorine Disinfection, Stream Discharge

Links of Gettysburg

NPDES#PA0246484

Mount Joy Twp, Adams Co

0.06 MGD

**Collection System** 

Series of 8" plastic gravity and 1 remote lift station. Force main directly to plant.

Treatment Plant Comminuter, Extended Aeration Treatment Plant, UV Disinfection, Stream Discharge

**Thornhurst** 

NPDES#PA0060411

Lehigh Twp, Lackawanna Co.

0.07 MGD

Collection System Treatment Plant

Series of 8" plastic gravity mains to plant

**Deerfield Knoll** 

Comminuter, Extended Aeration Treatment, Tertiary Filter, Chlorine Disinfection, Stream Discharge

Willistown Twp, Chester Co

0.025 MGD

Collection System

WQM #1586408

Treatment Plant

Series of 8" plastic gravity and 1 remote lift station. Force main directly to plant.

Comminuter, BNR Treatment Plant, Chlorine, Subsurface Bed Disposal

Laurel Lakes

NPDES#PA0060593

Nuangola Twp, Luzerne Co

Collection System

0.07 MGD

Treatment Plant

Series of 8" terra cotta and plastic gravity, 4" plastic low pressure force main directly to plant

Comminuter,. Extended Aeration Treatment, Chlorine Disinfection, Stream Discharge

**Mast Hope** 

NPDES#PA0060496

Lackawaxen Twp, Pike Co

0.15 MGD

#### General Comments:

Each system as identified below is relatively small in size and number of customers.

Each operating division is "self-sustained" and no substantial growth or expansion or extensions are projected in the next 2 to 5 years in any of the divisions.

Collection System

Series of 8" terra cotta and plastic gravity, 5 remote pump stations directly to plant

Treatment Plant

Comminuter,. Extended Aeration Treatment, Chlorine Disinfection, Stream Discharge

Penn Oaks

WQM#1596403

Thornbury Twp, Chester Co

0.02 MGD

Collection System

Series of 8" plastic gravity and 1 remote lift station. Force main directly to plant.

Treatment Plant

Comminuter, SBR Treatment Plant, Tertiary Filter, Chlorine Disinfection, Subsurface Bed Disposal

**New Daleville** 

WQM#1505402

Londonderry Twp, Chester Co

0.04 MGD

Collection System

Series of 8" plastic gravity to directly to plant.

Treatment Plant

Influent Pump Station, Comminuter, BNR Treatment Plant, Tertiary Filter, UV

Disinfection, Subsurface Drip Disposal

Cove Village

NPDES#PA0070009

North Union Twp, Schuylkill Co.

0.07 MGD

Collection System

Series of 8" terra cotta and plastic gravity, 5 remote pump stations directly to plant Comminuter,. Extended Aeration Treatment, Chlorine Disinfection, Stream Discharge

Treatment Plant

Washington Park

NPDES#PA0060658 Washington Twp, Wyoming Co. 0.07 MGD

Collection System

Series of 8" plastic gravity to treatment plant.

Treatment Plant Comminuter, Extended Aeration Treatment, Chlorine Disinfection, Stream Discharge

Stoney Creek

NPDES#PA0244074

Worcester Township, Montgomery County

0.04 MGD

Collection System

Series of 8" plastic gravity main, one remote pump station to plant.

Treatment Plant

BNR Treatment Process, Tertiary Filter, Ultraviolet Disinfection, Stream Discharge

Valley Forge

WQM#4607408

Upper Marion Twp, Montgomery County

0.247 MGD

Collection System

Plastic gravity collection system and pumping station.

Treatment Plant

N/A

**Beech Mountain** 

WQM#4081406-T2

Butler Township, Luzerne County

N/A MGD

Collection System

Plastic Low pressure collection system and individual customer grinder pumps

Treatment Plant

N/A

Lake Harmony

NPDES#PA0061204

Kidder Township, Carbon County

0.4 MGD

Collection System

Plastic gravity and low pressure collection system and residential grinder pumps

Treatment Plant

Comminuter.. Extended Aeration Treatment, Chlorine Disinfection, Stream Discharge

Sage Hill

WQM#1506409

Thornbury Township, Chester County

0.007 MGD

#### **General Comments:**

Each system as identified below is relatively small in size and number of customers.

Each operating division is "self-sustained" and no substantial growth or expansion or extensions are projected in the next 2 to 5 years in any of the divisions.

Collection System

Series of 8" plastic gravity mains to influent pump station at plant

Treatment Plant

Influent Pump Station, Comminuter, BNR Treatment Plant, Subsurface Drip Disposal

Woodloch Springs

NPDES#PA0062341

Lackawaxen Twp, Pike County

0.12 MGD

Collection System

Series of 8" plastic gravity and 2 remote lift stations. Force main directly to plant.

Treatment Plant

Comminuter, SBR Treatment Plant, Chlorine Disinfection, Stream Discharge

**Penn Township** 

NPDES#PA0058572

Penn Township, Chester County

0.429 MGD

Collection System

Series of 8" plastic gravity mains, 7 remote pump stations,

Treatment Plant

Treatment Plant, lakeside screen, 4 train BNR, UV Disinfection, Stream Discharge and RIB

disposal.

**Bunker Hill** 

NPDES#PA0061433

Clinton Township, Wyoming County

0.022 MGD

Collection System

Series of 8" gravity mains to comminutor and splitter box,

Treatment Plant

Two (2) train activated sludge process, clarifier chlorine contact tank and pumped outfall to stream

Treasure Lake East

NPDES#PA0033251

Sandy Township, Clearfield County

0.74 MGD

Collection System

Series of plastic gravity mains and various diameter low pressure sewer with 158 owned

residential grinder pumping stations and one intermediate lift station.

Treatment Plant

Influent pumping station with communitor to Davco and Arco activated sludge trains, clarifiers,

chlorine contact tank with chlorine disinfection, gravity outfall to stream.

**Treasure Lake West** 

NPDES#PA0228061

Sandy Township, Clearfield County

1.0 MGD

Collection System

Series of plastic gravity mains and various diameter low pressure sewer mains with 219 owned

residential grinder pumping stations and five (5) intermediate lift stations.

Treatment Plant

Influent screen and pumping station to two (2) train activated sludge treatment plant with two

clarifiers, UV disinfection and effluent pumping station and force main to stream outfall.

## 503. CHEMICALS USED IN WASTEWATER TREATMENT AND DISPOSAL DURING YEAR ACCOUNT No. 718

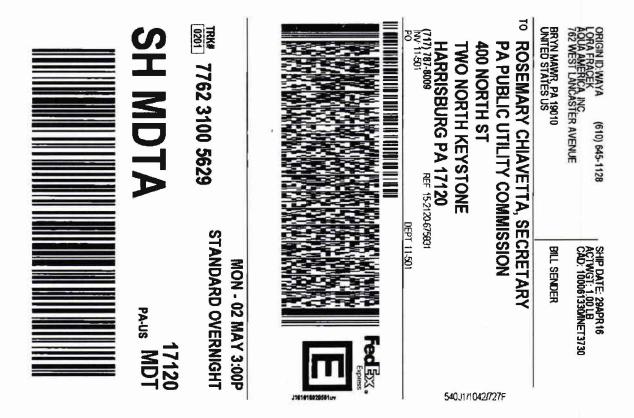
Linc	Identify Treatment Chemical Used (a)	Bal at Beginnin of year \$	Total Annu	al Purchased Quantity	Total Ans	nual Used Quantity	Balance \$	at Year End Quantity
ī.	<u> </u>	406,301		Quantity		Quantity	475,538	Quality
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29		406,301					475,538	1.0

610. Territory Served

Report below the number of customers at the end of the year in respondence distribution system in which service is furnished, setting forth by counties the number of customers and average number of customers during the year.

County Code	Name of Pennsylvania County	Number Of Customers At End Of Year	Average Number Of Customers During Yes
	(a)	(b)	(c)
01	Adams	164	
02	Amstrong		
04	Beaver		
05	Bedford		
06	Berks		
07	Blair		
08	Bradford		
09	Bucks	214	
10	Butler		
11	Cambria		
12	Cameron	074	
13	Carbon	976	
15	Chester	2,874	
16	Clarion	2,874	
17	Clearfield	2,105	_
18	Clinton	2,103	
19	Columbia		
20	Crawford		
21	Cumberland		
22	Dauphin		
23	Delaware	7,108	
24	CIK	1,100	
25	Erie		
26	Fayette		
27	Forest		
28	Frankler		
29	Fulton		
30	Greene		
31	Huntingdon		
32	Indiana		
33	Jefferson		
34	Junieta		
35	Lackawanna		
36	Lancaster		
38	Lawrence		
39	Lehigh		
40	Luzerno	2,655	
41	Lycoming	- 6,973	
42	McKean		
43	Mercer		
44	Millin	-	
45	Monroe	335	
46	Montgomery	206	
47	Montour		
48	Northampton		
49_	Northumberland		
50	Perry		
51	Philadelphia		
52	Pike	2,292	
53	Potter		
54	Schuylkali	152	
55	Snyder		
56	Somersel		1011
57	Subjects		
58	Susquelianna Company		
60	Tioga Utuon		
61	Venango		
62	Warren		
63	Washington		
64	Wayne	289	
65	Westmoreland	489	-
66	Westing	414	
100		114	
67	York		

(Сотрыу Мате)	3/2	VERIFICATION	T		
		OATH	<u>'</u>		y and
	(To be made by the	he officer having control of the accoun	ting of the respondent)		
tate of <u>Pennsylvania</u>	as;				
County of Montgomery	1964				
Villiam C, Packer	mal	kes oath and says that he/she is Region	al Controller		
(Name of affiant)	1	(Official titl			
	vania Wastewater, Inc. or name of the respondent)		<u></u>	9	
The signed officer has reviewed the rep	port.				
Based on the officer's knowledge, the range of the range	ake the statements made, in light of t				
Based on such officer's knowledge, the present in all material respects the final presented in the report.					
le/she believes that all other statement above-named respondent during the pe		the state of the s	N 100 D 101 B 1000	t of the business and affairs of th	ie.
Subscribed and sworn to and before me, a	this 89 day of APRIL	2206	//	III. Clas	
My commission expires /2/	8/2019 Maur	w & Mariae		(Signature of affiaut)	ureu & Ma
		SUPPLEMENTAL OAT	н	NOTABLE	PROMETURANA
	(By the	e president or other chief officer of the		MAUREEN E. MARRO	
tate of Pennsylvania	as:			Lower Merion Twp., N	
County of Montgomery	<b>as</b> ,			My Commission Explines	Declinate 16, 2017
Steve E, Tagert	makes oath and says that he/sh	e is President			
(Name of affiant)		(Official title of a	ffiant)		
(Exact legal title or nan	nsylvania Wastewater, Inc. ne of the respondent)		-		
hat he/she has carefully examined the foregoing	ng report; that he/she believes that all sune			t is a correct and complete	
tatement of the business and affairs of the about and including December 31, 2015.	ove named respondent during the period of	And the second s	-1200		
	NOTARY F		PENNSYLVANIA		2
Subscribed and sworn to before me, a	29 . 1111	HOTARIAL S	Netary Public	1	ମ
n and for the State and County above-named,	this day of	Lemer Merion Twp., Mon	tgemery County	Star E. la	Χ
My commission expires (Signature of officer	authorized to purpinister oaths)	My Commission Expires Di	1//bush	(Signature of affiant)	<del>-</del>
	110	Page 63	,		Cán



#### After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.

2. Fold the printed page along the horizontal line.

3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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# SCHEDULE G WORKPAPERS

#### **Cost of Future Capital Projects**

#### King Road Plant

#### Useful Annual **Next 5 Years** Lives Depreciation \$4,102,000 Sewer System Construction \$20,000 50 \$400 Lewis Road Sewer Main Rehab Manhole Rehab \$40,000 50 \$800 \$15,000 50 \$300 Ridge Pike Manhole Riser Replacement Manhole Paving Riser for Public Works Paving Projects \$30,000 50 \$600 Slip Lining - Orchard Terrance Area \$200,000 50 \$4,000 Total: \$305,000 **Pump Station Upgrades** \$950,000 25 \$38,000 Upgrade to Pump Station #3 (1984) Upgrade to Pump Station #7 (1984) \$45,000 25 \$1,800 Upgrade to Pump Station #6 (1984) \$1,500,000 25 \$60,000 Pump Station #10 Lighting & Surge Protection \$25,000 25 \$1,000 Muffin Monster Rebuilding \$30,000 10 \$3,000 \$40,000 25 **Pump Station Remove Monitoring System** \$1,600 \$2,590,000 Total: I/I Program Equipment \$32,000 \$3,200 Flo-Dar Portable Meters 10 \$52,000 10 \$5,200 MP2 & Monitor Pro Meters Portable Samplers \$24,000 10 \$2,400 Sewer Main Repairs for I/I \$50,000 10 \$5,000 Total: \$158,000 Miscellaneous 10 \$12,500 Miscellaneous \$125,000 Total: \$125,000 Vehicles Replace F-250 (1999) Truck \$50,000 5 \$10,000 Replace F-350 (2006) Truck \$60,000 \$12,000 5 Sewer Line Flush Truck \$300,000 5 \$60,000 Sewer Line Telvising Truck \$200,000 5 \$40,000 Total: \$610,000 **Equipment** Headworks Man Doors (3) Replacement \$5,000 25 \$200 Ultra-Violet Bulbs, Sleeves, Gaskets & Misc. Parts \$50,000 5 \$10,000 \$42,000 10 \$4,200 Repair Aeration Tank Air Headers Thickner Sludge Discharge Pump Replacement (Netzsch) \$20,000 10 \$2,000 Thickner Sludge Inlet Pump Replacement (Seepex) \$20,000 10 \$2,000 10 \$2,000 Dissolved Oxygen Sensor & Controller \$20,000 Repair Concrete Walls in Headworks \$60,000 25 \$2,400 Replace ATS Power Transfer Switch on MCC"A" \$12,000 10 \$1,200 \$25,000 10 Upgrade King Road Plant Scada System \$2,500 Rebuild Headwork Exhaust System \$60,000 10 \$6,000 Total: \$314,000

#### **Possum Hollow Plant**

	Next 5 Years \$451,000	Useful <u>Lives</u>	Annual <u>Depreciation</u>
Pump Station Upgrades			
Upgrade Pump Station #1 (1990)	\$45,000	25	\$1,800
MP2 & MP3, Control Panels & Monitor Pro Units	\$26,000	10	\$2,600
Muffin Monster Rebuilding	<u>\$30,000</u>	10	\$3,000
Total:	\$101,000		
Miscellaneous			
Miscellaneous	\$120,000	10	\$12,000
Total:	\$120,000	,	
Equipment			
Headworks Exhaust System Rebuild	\$75,000	10	\$7,500
Upgrade Ultra-Violet System	\$80,000	5	\$16,000
Upgrade Waste Pumps & Flow Metering	\$50,000	10	\$5,000
Install Scada Plant Monitoring System	\$25,000	10	\$2,500
Total:	\$230,000		

#### **Cost of Future Capital Projects**

	Comies	Budget				
	Service	Budget	2017	2010	2010	2020
ewer System Construction	Lives	2016	2017	2018	2019	2020
Lewis Road Sewer Main Rehab	50			20,000		
Manhole Rehab	50	20,000		20,000	20,000	
Ridge Pike Manhole Riser Replacement	50	20,000	15,000		20,000	
Manhole Paving Riser for Public Works Paving	50	10,000	15,000	10,000		10,000
and with the control of the control	50	10,000		10,000		200,000
Slip Lining - Orchard Terrance Area Total:	30	30,000	15,000	30,000	20,000	210,000
Annual Depreciation		600	300	600	400	4,200
Aimai Depreciation		000	300	000	400	4,200
Pump Station Upgrades						
Upgrade to Pump Station #3 (1984)	25	950,000				
Upgrade to Pump Station #7 (1984)	25	45,000				
Upgrade to Pump Station #6 (1984)	25	1,500,000				
Pump Station #10 Lighting & Surge Protection	25	2,500,500		25,000		
Muffin Monster Rebuilding	10	10,000		10,000		10,000
Pump Station Remove Monitoring System	25	10,000	10,000	10,000	10,000	10,000
Total:		2,505,000	10,000	45,000	10,000	20,000
Annual Depreciation		100,800	400	2,400	400	1,400
/I Program Equipment						
Flo-Dar Portable Meters	10		16,000		16,000	
MP2 & Monitor Pro Meters	10		13,000	13,000	13,000	13,000
Portable Samplers	10		12,000		12,000	
Sewer Main Repairs for I/I	10			25,000		25,000
Total:		0	41,000	38,000	41,000	38,000
Annual Depreciation		0	4,100	3,800	4,100	3,800
Miscellaneous						
Miscellaneous	10	25,000	25,000	25,000	25,000	25,000
Total:		25,000	25,000	25,000	25,000	25,000
Annual Depreciation		2,500	2,500	2,500	2,500	2,500
/ehicles						
Replace F-250 (1999) Truck	5	50,000				
Replace F-350 (2006) Truck	5			60,000		
Sewer Line Flush Truck	5					300,000
Sewer Line Flush Truck Sewer Line Telvising Truck	5 5					200,00
Sewer Line Flush Truck Sewer Line Telvising Truck Total:		50,000	0	60,000	0	200,000 <b>500,00</b>
Sewer Line Flush Truck Sewer Line Telvising Truck		50,000 10,000	0	60,000 12,000	0	300,000 200,000 <b>500,00</b> 0
Sewer Line Flush Truck Sewer Line Telvising Truck Total: Annual Depreciation		Mary and Section Section 1	-			200,00 <b>500,00</b>
Sewer Line Flush Truck Sewer Line Telvising Truck Total: Annual Depreciation	5	10,000	-			200,00 <b>500,00</b>
Sewer Line Flush Truck Sewer Line Telvising Truck Total: Annual Depreciation  Equipment Headworks Man Doors (3) Replacement	25	5,000	0	12,000	0	200,000 500,000 100,000
Sewer Line Flush Truck Sewer Line Telvising Truck Total: Annual Depreciation  Equipment Headworks Man Doors (3) Replacement Ultra-Violet Bulbs, Sleeves, Gaskets & Misc. Pa	5 25 5	5,000 10,000	10,000	12,000		200,000 500,000 100,000
Sewer Line Flush Truck  Sewer Line Telvising Truck  Total:  Annual Depreciation  Equipment  Headworks Man Doors (3) Replacement  Ultra-Violet Bulbs, Sleeves, Gaskets & Misc. Pa	25 5 10	5,000	10,000 22,000	12,000	0	200,000 500,000 100,000
Sewer Line Flush Truck Sewer Line Telvising Truck Total: Annual Depreciation  Equipment Headworks Man Doors (3) Replacement Ultra-Violet Bulbs, Sleeves, Gaskets & Misc. P. Repair Aeration Tank Air Headers Thickner Sludge Discharge Pump Replacemen	25 5 10 10	5,000 10,000	10,000	12,000	0	200,00 500,00 100,00
Sewer Line Flush Truck Sewer Line Telvising Truck Total: Annual Depreciation  Equipment Headworks Man Doors (3) Replacement Ultra-Violet Bulbs, Sleeves, Gaskets & Misc. Pa Repair Aeration Tank Air Headers Thickner Sludge Discharge Pump Replacemen Thickner Sludge Inlet Pump Replacement (See	25 5 10 10	5,000 10,000	0 10,000 22,000 20,000	12,000	10,000	200,00 500,00 100,00
Sewer Line Flush Truck Sewer Line Telvising Truck Total: Annual Depreciation  Equipment Headworks Man Doors (3) Replacement Ultra-Violet Bulbs, Sleeves, Gaskets & Misc. P. Repair Aeration Tank Air Headers Thickner Sludge Discharge Pump Replacemen	25 5 10 10 10	5,000 10,000 20,000	10,000 22,000	12,000 10,000 20,000	0	200,000 500,000 100,000
Sewer Line Flush Truck Sewer Line Telvising Truck Total: Annual Depreciation  Equipment Headworks Man Doors (3) Replacement Ultra-Violet Bulbs, Sleeves, Gaskets & Misc. Pa Repair Aeration Tank Air Headers Thickner Sludge Discharge Pump Replacemen Thickner Sludge Inlet Pump Replacement (See	25 5 10 10	5,000 10,000	0 10,000 22,000 20,000	12,000	10,000	200,00 500,00 100,00
Sewer Line Flush Truck Sewer Line Telvising Truck  Total: Annual Depreciation  Equipment Headworks Man Doors (3) Replacement Ultra-Violet Bulbs, Sleeves, Gaskets & Misc. Pa Repair Aeration Tank Air Headers Thickner Sludge Discharge Pump Replacemen Thickner Sludge Inlet Pump Replacement (See Dissolved Oxygen Sensor & Controller	25 5 10 10 10	5,000 10,000 20,000	0 10,000 22,000 20,000	12,000 10,000 20,000	10,000	200,000 500,000 100,000
Sewer Line Flush Truck Sewer Line Telvising Truck Total: Annual Depreciation  Equipment Headworks Man Doors (3) Replacement Ultra-Violet Bulbs, Sleeves, Gaskets & Misc. Pa Repair Aeration Tank Air Headers Thickner Sludge Discharge Pump Replacement Thickner Sludge Inlet Pump Replacement (See Dissolved Oxygen Sensor & Controller Repair Concrete Walls in Headworks	25 5 10 10 10 10 25	5,000 10,000 20,000	0 10,000 22,000 20,000	12,000 10,000 20,000	10,000	200,000 500,000 100,000
Sewer Line Flush Truck Sewer Line Telvising Truck Total: Annual Depreciation  Equipment Headworks Man Doors (3) Replacement Ultra-Violet Bulbs, Sleeves, Gaskets & Misc. Pr Repair Aeration Tank Air Headers Thickner Sludge Discharge Pump Replacemen Thickner Sludge Inlet Pump Replacement (See Dissolved Oxygen Sensor & Controller Repair Concrete Walls in Headworks Replace ATS Power Transfer Switch on MCC"A Upgrade King Road Plant Scada System	25 5 10 10 10 25 10	5,000 10,000 20,000	10,000 22,000 20,000 10,000	10,000 10,000 20,000 20,000	10,000	200,000 500,000 100,000
Sewer Line Flush Truck Sewer Line Telvising Truck Total: Annual Depreciation  Equipment Headworks Man Doors (3) Replacement Ultra-Violet Bulbs, Sleeves, Gaskets & Misc. Pi Repair Aeration Tank Air Headers Thickner Sludge Discharge Pump Replacemen Thickner Sludge Discharge Pump Replacemen (See Dissolved Oxygen Sensor & Controller Repair Concrete Walls in Headworks Replace ATS Power Transfer Switch on MCC"A Upgrade King Road Plant Scada System Rebuild Headwork Exhaust System	25 5 10 10 10 25 10	5,000 10,000 20,000 20,000 12,000	10,000 22,000 20,000 10,000	12,000 10,000 20,000 20,000 25,000	10,000	200,000 500,000 100,000 10,000 20,000
Sewer Line Flush Truck Sewer Line Telvising Truck Total: Annual Depreciation  Equipment Headworks Man Doors (3) Replacement Ultra-Violet Bulbs, Sleeves, Gaskets & Misc. Pi Repair Aeration Tank Air Headers Thickner Sludge Discharge Pump Replacemen Thickner Sludge Discharge Pump Replacement (See Dissolved Oxygen Sensor & Controller Repair Concrete Walls in Headworks Replace ATS Power Transfer Switch on MCC"A Upgrade King Road Plant Scada System	25 5 10 10 10 25 10	5,000 10,000 20,000	10,000 22,000 20,000 10,000	10,000 10,000 20,000 20,000	10,000	200,000 <b>500,00</b> <b>100,00</b> 10,000

ossum Hollow Plant	The same of			DESCRIPTION OF THE PERSON OF T		- N 10 10
	Service	Budget				
	Lives	2016	2017	2018	2019	2020
ımp Station Upgrades						
Upgrade Pump Station #1 (1990)	25	45,000				
MP2 & MP3, Control Panels & Monitor Pro Units	10		13,000			13,000
Muffin Monster Rebuilding	10	10,000		10,000		10,000
Total:		55,000	13,000	10,000	0	23,000
Annual Depreciation		2,800	1,300	1,000	0	2,300
liscellaneous					50000	
Miscellaneous	10	20,000	20,000	20,000	20,000	20,000
Total:		20,000	20,000	20,000	20,000	20,000
Annual Depreciation		2,000	2,000	2,000	2,000	2,000
quipment						
Headworks Exhaust System Rebuild	10		75,000			
Upgrade Ultra-Violet System	5				80,000	
Upgrade Waste Pumps & Flow Metering	10		50,000			
Install Scada Plant Monitoring System	10			25,000		
Total:		0	125,000	25,000	80,000	0
Annual Depreciation		0	12,500	2,500	16,000	0
12%		75 000	355 000	000		42 PAR
TOTAL:		75,000	158,000	55,000	100,000	43,000
Annual Depreciation		4,800	15,800	5,500	18,000	4,300 48,400
Total Annual Depreciation:		4,800	20,600	26,100	44,100	40,400
KING ROAD PLANT			2017	2018	2019	2020
Total Annual Depreciation:			140,600	28,600	10,400	114,700
Total Accumulated Depreciation:			140,600	169,200	179,600	294,300
POSSUM HOLLOW PLANT			2017	2018	2019	2020
Total Annual Depreciation:				200000	13-30-30	50000
Total Accumulated Depreciation:			20,600	26,100	44,100	48,400
			2017	2018	2019	2020
King Road Plant - Annual Depreciation			140,600	28,600	10,400	114,700
King Road Plant - Total Accumulated Depreciation:			140,600	169,200	179,600	294,300
Possum Hollow Plant - Annual Depreciation			20,600	5,500	18,000	4,300
Possum Hollow - Total Accumulated Depreciation:			20,600	26,100	44,100	48,400
			2017	2018	2019	2020
TOTAL ANNUAL DEPRECIATION:			161,200	34,100	28,400	119,000
TOTAL ANNUAL DEPRECIATION: TOTAL ACCUMULATED DEPRECIATION:			_			
■ 53.550v	* p	1,552,122	161,200	34,100	28,400	119,000

#### VERIFICATION

I. Adrienne M. Vicari, P.E., Practice Area Leader of Financial Services of Herbert, Rowland & Grubic, Inc. ("HRG"), a Utility Valuation Expert in the Commonwealth of Pennsylvania, hereby state that HRG was selected by Limerick Township, Montgomery County, to perform a fair market value appraisal of the Sanitary Wastewater Collection and Treatment System ("System"); that, as Practice Area Leader of Financial Services of HRG, I prepared the foregoing Fair Market Value Appraisal of the System, dated April 6, 2017; that the facts set forth in the Fair Market Value Appraisal are true and correct to the best of my knowledge, information, and belief; that, as Practice Area Leader of Financial Services of HRG, I determined the fair market value of the System in compliance with the Uniform Standards of Professional Appraisal Practices, employing the cost, market and income approaches; that neither HRG nor I have derived any material benefit from the sale of the selling utility other than fees for services rendered; that I am not an immediate family member of a director, officer or employee of either Aqua Pennsylvania Wastewater, Inc. or Limerick Township, Montgomery County within a 12month period of the date HRG was engaged to perform the appraisal; and that I make this verification subject to the penalties of 18 Pa. Cons. Stat. § 4904 (relating to unsworn falsification to authorities).

Dated: May 9, 2017

Adrienne M. Vicari, P.E.

Herbert, Rowland & Grubic, Inc.