
EXHIBIT E2

**CHAPTER 94 REPORT FOR 2015 -
SOUTH END WASTE WATER TREATMENT FACILITY**


**Chapter 94
Municipal Wasteload Management
Annual Report**

**2015 Annual Report
New Garden Township Sewer Authority
South End Waste Water Treatment Facility
Chester County**

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2015 MUNICIPAL WASTELOAD MANAGEMENT REPORT

SOUTH END WASTE WATER TREATMENT FACILITY NEW GARDEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA

MARCH 2016

1. INTRODUCTION

This Municipal Wasteload Management Report has been prepared for the South End Waste Water Treatment Facility, which is located in New Garden Township, Chester County, Pennsylvania. **The South End Waste Water Treatment Facility is also known as the Somerset Lake Waste Water Treatment Facility and the Shangri-La Waste Water Treatment Facility.** This report has been prepared for calendar year 2015, in accordance with the provisions of Chapter 94, Title 25 of the Pennsylvania Code and supplemental requirements issued by PADEP. The South End Waste Water Treatment Facility was placed in operation in 1989. The South End Waste Water Treatment Facility consists of a PVC lined treatment lagoon, a PVC lined storage lagoon and disposal via spray irrigation; see **Appendix 1**. The spray fields contain 20.97 wet acres of well-drained and moderately well drained soils.

The New Garden Township Sewer Authority took ownership of the South End Waste Water Treatment Facility on August 28, 2001.

The South End Waste Water Treatment Facility operates under Water Quality Management (WQM) Permit No. 1569432, which was issued to the New Garden Township Sewer Authority (Authority). The Water Quality Management Permit renewal application for the facility was submitted to the Department in 2007 and was determined to be administratively complete. A Water Quality Management Permit Amendment (#1) was issued on July 10, 2013. The current permit effluent parameters and discharge limits are shown below:

PERMIT EFFLUENT PARAMETERS

Parameter	Average Monthly	12-Month Rolling Average	Instantaneous Maximum
Flow (MGD)	0.1040		
CBOD ₅	25 mg/l		50 mg/l
TSS*	45 mg/l	30 mg/l	90 mg/l
Total Nitrogen** 5/1 to 11/30	22 mg/l		44 mg/l
Total Nitrogen** 12/1 to 4/30	Monitor/Report		Monitor/Report
Fecal Coliform	200/100 ml as geometric average		
pH	Within limits of 6.0 to 9.0 standard units at all times		

*The 12-month rolling average for the parameter Total Suspended Solids shall not exceed 30 mg/l. The calculated value shall be reported on the monthly Discharge Monitoring Reports. The calculations shall include the current monthly average value added to the previous eleven monthly averages then divided by twelve.

**Total Nitrogen = Total Kjeldahl Nitrogen + Nitrite (NO₂) = Nitrate (NO₃).

Historical Information

The South End Waste Water Treatment Facility has generally been able to meet its permitted discharge limits. However, problems have been experienced periodically during warm weather months as a result of algae blooms and during cold winter months when the low temperatures reduce nitrification efficiency.

During the early part of 2006, the South End Waste Water Treatment Facility had difficulty meeting the discharge limits for Total Suspended Solids (TSS), Total Nitrogen and CBOD₅. This was attributed to a major project at the South End Waste Water Treatment Facility involving: 1) all sludge being removed from both lagoons, 2) both lagoons being completely relined and 3) the aerators being replaced between the early fall of 2005 and winter of 2006.

According to the Facility Operator, and available records, during calendar year 2007 the South End Waste Water Treatment Facility generally operated well without any significant problems. There were no reported effluent parameter limits that were exceeded.

According to the Facility Operator, and available records, during calendar year 2008 the South End Waste Water Treatment Facility generally operated well without any significant problems. There were no reported effluent parameter limits that were exceeded.

According to the Facility Operator, and available records, during calendar year 2009 the South End Waste Water Treatment Facility generally operated well without any significant problems. There were two reported effluent parameter limits that were exceeded.

According to the Facility Operator, and available records, during calendar year 2010 the South End Waste Water Treatment Facility generally operated well without any significant problems. There were five reported effluent parameter limits that were exceeded in 2010. Three exceedances were related to nitrogen and two were related to total volume of effluent irrigated.

According to the Facility Operator, and available records, during calendar year 2011 the South End Waste Water Treatment Facility generally operated well without any significant problems. There was one reported effluent parameter limit that was exceeded. The one exceedance was related to overspray in December in order to maintain adequate available capacity in the storage lagoon.

According to the Facility Operator, and available records, during calendar year 2012 the South End Waste Water Treatment Facility generally operated well without any significant problems. There was one reported effluent parameter limit that was exceeded. The one effluent exceedance was related to overspray in January in order to maintain adequate available capacity in the storage lagoon. There were also two reported influent parameter limits (hydraulic) that were exceeded. Both influent exceedances were related to the meter calibration. The meter has been re-calibrated and is functioning well.

According to the Facility Operator, and available records, during calendar year 2013 the South End Waste Water Treatment Facility generally operated well without any significant problems. There were two reported influent parameter limits (hydraulic) that were exceeded. One influent exceedance occurred in June when a total of 8.7" of rain fell and one in July when a total of 13.1" of rain fell. There were four reported effluent parameter limits that were exceeded in 2013. Three exceedances were related to nitrogen and one was related to Total Suspended Solids (TSS).

According to the Facility Operator, and available records, during calendar year 2014 the South End Waste Water Treatment Facility generally operated well without any significant problems. There is, however, a need to replace the influent comminutor and possibly upgrade the pumps in the Parish Road pump station. Resolution of both issues continues to be considered. In 2014 there was one recorded fecal coliform exceedance and one total nitrogen exceedance, otherwise there were no exceedances during the calendar year.

In 2012 spray heads and spray risers were repaired, aerators were serviced and repaired, the effluent pumps were serviced and other routine maintenance was performed.

In August 2012 the spray fields were fertilized and treated following the recommendations in the Crop Management Plan.

In 2013, new aerators were installed in the storage lagoon. The spray fields were fertilized and treated following the recommendations in the Crop Management Plan.

In 2014, the spray fields were fertilized and treated following the recommendations in the Crop Management Plan. Also in 2014, both treated effluent spray pumps were examined and tested by an outside firm and were found to be in good operating condition.

The service area for the South End Waste Water Treatment Facility changed in 2005. Flow from two sections of a residential subdivision, Hartefeld Phase 1 and Phase 2 (including the golf course clubhouse and swim club restrooms), were redirected from the South End Waste Water Treatment Facility to the New Garden Township East End Waste Water Treatment Facility. The flow was redirected in order to “create” sufficient additional capacity to serve two new subdivisions, Harrogate North and Harrogate South, located near the South End Waste Water Treatment Facility. Flow from Hartefeld Phase 1 and Phase 2 was redirected from the South End Waste Water Treatment Facility to the East End Waste Water Treatment Facility in late September 2005.

Current Year

According to the Facility Operator, and available records, during calendar year 2015 the South End Waste Water Treatment Facility generally operated well with one major deficiency noted. There is, however, a need to replace the influent comminutor and possibly upgrade the pumps in the Parish Road pump station. Resolution of both issues continues to be considered.

A Notice of Violation dated July 7, 2015 was received by the New Garden Township Sewer Authority; a copy is included as **Appendix 14**. The main focus of the NOV was that Spray Zones 3 and 4 were not being maintained in compliance with the Water Quality Management Permit and Crop Management Plan for the facility. Immediate corrective action was taken and both Spray Zones 3 and 4 were completely tilled and replanted following the recommendations contained in Remediation Plan New Garden Township prepared by Larry Hepner CPSS; a copy is included as **Appendix 15**. The new grass cover was planted in the fall of 2015 and was well established by November. Spray Zones 3 and 4 will be placed back in service in the spring of 2016. Spray Zones 3 and 4 will be monitored to determine their performance.

A Notice of Violation dated November 9, 2015 was received by the New Garden Township Sewer Authority; a copy is included as **Appendix 16**. The main focus of the NOV was that the method of disposal of treated effluent from the South End WWTF, due to Spray Zones 3 and 4 being out of service, was not a permitted activity and should cease. Upon receipt of the NOV the land application approach noted in the NOV ceased. The current method of disposal of the treated effluent from the South End WWTF is hauling the effluent to a DEP permitted treated facility

There were no exceedances during the 2015 calendar year.

In 2015, the spray fields were fertilized and treated following the recommendations in the Crop Management Plan. Also in 2015, both treated effluent spray pumps were examined and tested by an outside firm and were found to be in good operating condition.

The spray fields are maintained regularly. The grass is harvested and removed regularly throughout the growing season and weeds are controlled using broad leaf herbicides. Occasionally, there are minor problems with soil erosion.

Sampling and monitoring of four groundwater wells [MW-7, MW-8, MW-9 and MW-10] that are part of the South End Waste Water Treatment Facility is a requirement included in the Water Quality Management Permit. In order to effectively monitor the impact, if any, on groundwater in the immediate area of the South End Waste Water Treatment Facility, the four wells are sampled quarterly. The parameters that are sampled and monitored are: Ammonia-nitrogen, Nitrate-nitrogen, Nitrite-nitrogen, Chloride, Total Phosphorus, Total Dissolved Solids, Fecal Coliform, Turbidity, pH and Alkalinity. Field measurements include: Static Water Level and Sampling Depth. Monitoring Wells MW-11 and M-12 are not required to be sampled. *No significant deviations from prior readings were noted.*

In August of 2015 the annual Groundwater Report was submitted.

The South End WWTF currently serves the area generally south of Route 41, west of Route 7, east of Sunny Dell Road and Newark Road and north of Broad Run Road in New Garden Township; see the sewer service area map at **Appendix 2**.

The total present customer base is comprised of 605 residential and 2 commercial customers. This equates to 607 EDUs or 1,942 persons as explained in **Appendix 3**.

New Garden Township does not accept sewage from other municipalities for treatment at the South End WWTF.

No hauled-in septage is processed at the South End WWTF.

2. HYDRAULIC AND ORGANIC LOADINGS

Current Influent Hydraulic Load (Flow)

The South End WWTF is currently equipped with an influent flow meter that continuously measures and records influent flow. The flows used in this Chapter 94 Report are taken from the influent flow meter, except as noted for effluent flow, which is calibrated at least annually. A copy of the calibration report is included as **Appendix 4**.

The Annual Average Influent Hydraulic Load (Flow) for 2015 was 0.0819 MGD as shown in **Table 1**. The Average Monthly Influent Hydraulic Load for the highest three consecutive months (3-Month Maximum Influent Hydraulic Load (Flow) for 2015 was 0.0903 MGD which is also shown in **Table 1**. The Annual Average Influent Hydraulic Load (Flow) and the 3-Month Maximum Influent Hydraulic Load (Flow) did not exceed the Annual Average Influent Hydraulic Load (Flow) permitted capacity of 0.1040 MGD. The flow projection factor (average of the ratio of the 3-Month Maximum Influent Hydraulic Load (Flow) to the Annual Average Influent Hydraulic Load (Flow)) for the last five years is 1.13 and for 2015 is 1.10 as shown in **Table 1**. The monthly and the yearly Average Annual Influent Hydraulic Load (Flow) to the treatment plant for the years 2011 through 2015 are shown in **Table 1** and graphically in **Figure 1** along with the projected Average Annual Influent Hydraulic Load (Flow) for the next five years. The 3-Month Maximum Influent Hydraulic Load (Flow) for the period 2011 through 2015 is also shown in **Table 1**.

Table 1 - South End WWTF						
2011 – 2015 Hydraulic Loading (Flow)						Rainfall
(MGD)						(inches)
Month	2011	2012	2013	2014	2015	2015
January	0.0708	0.0983	0.0588	0.0764	0.0753	4.61
February	0.0678	0.0886	0.0680	0.0836	0.0669	1.52
March	0.0817	0.0975	0.0859	0.0830	0.0773	5.52
April	0.0846	0.1038	0.0899	0.0899	0.0806	3.15
May	0.0857	0.1074	0.0974	0.0963	0.0849	1.88
June	0.0830	0.1069	0.1145	0.0871	0.0927	10.50
July	0.0842	0.0767	0.1090	0.0881	0.0895	5.18
August	0.0961	0.0805	0.0951	0.0902	0.0887	2.68
September	0.0938	0.0780	0.0929	0.0910	0.0910	3.75
October	0.0827	0.0784	0.0862	0.0897	0.0826	5.76
November	0.0799	0.0670	0.0794	0.0830	0.0758	2.18
December	0.0940	0.0669	0.0833	0.0796	0.0775	7.20
Annual Average (AA)	0.0837	0.0875	0.0884	0.0865	0.0819	4.49
3-Month Max. Average	0.0914	0.1060	0.1070	0.0911	0.0903	
Ratio (3-Month Max to AA ratio)	1.09	1.21	1.21	1.05	1.10	
5-Year Average Hydraulic Ratio =	1.07	1.10	1.14	1.12	1.13	

The annual average permitted capacity is 0.1040 MGD.

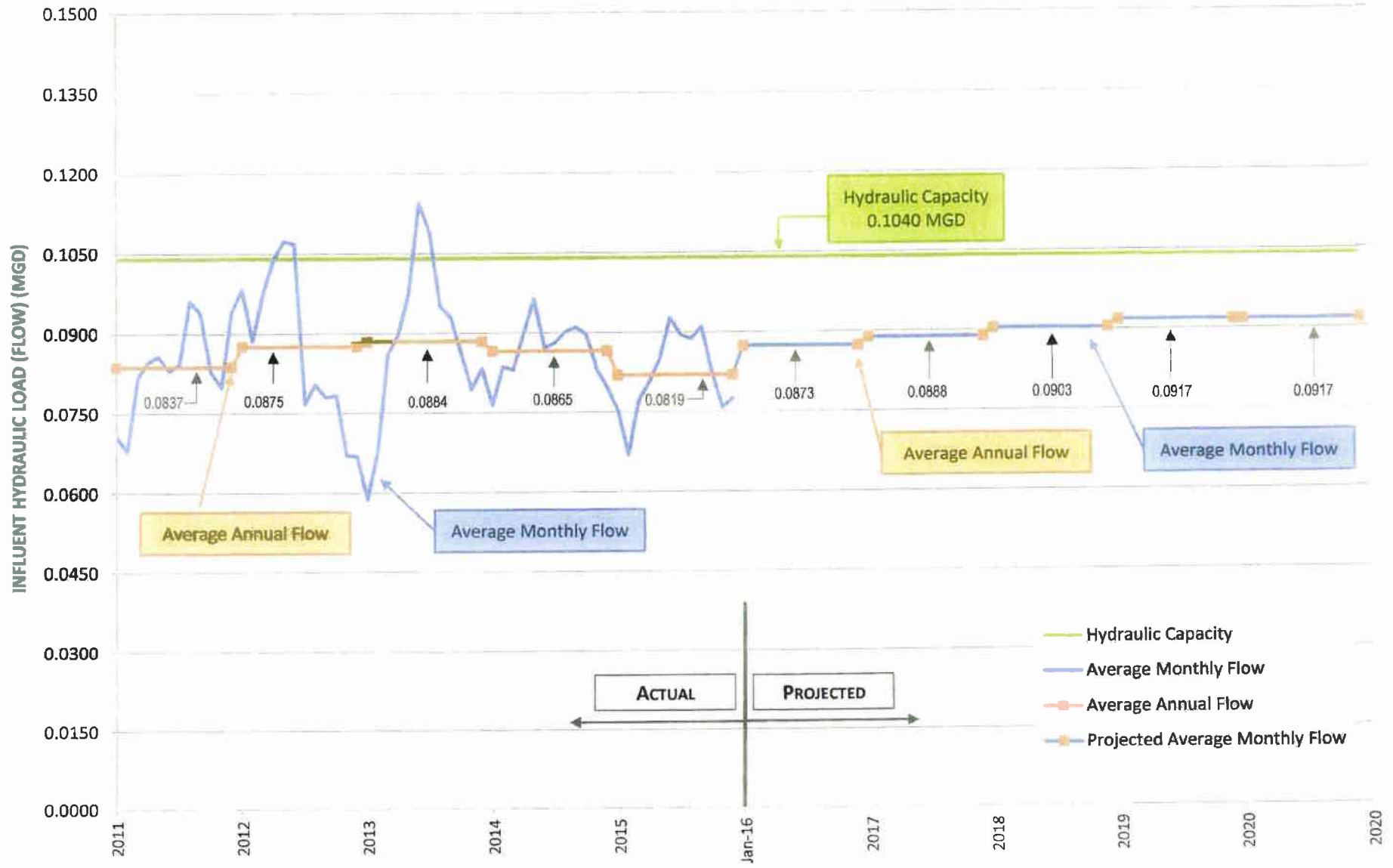
Since this is a lagoon treatment system there is no “max month” or “peak daily” hydraulic capacity limit contained in the permit. The Hydraulic Design Capacity is 0.1040 MGD.

The Organic Design Capacity stated in the permit is 250 pounds per day.

The current year average daily hydraulic loading (flow) is 0.0819 MGD compared to the permitted capacity of 0.1040 MGD. The current year average flow is 79% of the permitted flow.

Since the South End WWTF is a lagoon system there is significant buffering/flow equalization capacity in the first lagoon. Consequently, when an occasional high flow event is experienced the capacity of the first lagoon mitigates any potential adverse impact. Similarly, the treatment process and quality of the effluent are not adversely impacted.

FIGURE 1
SOUTH END WWTF WATER QUALITY MANAGEMENT PERMIT NO. 1569432
HYDRAULIC LOAD (FLOW)



Current Influent Organic Load (Pounds)

The Annual Average Daily Influent Organic Load (Pounds) for 2015 was 226 lbs/day and the Peak Month Average Daily Influent Organic Load (Pounds) was 434 lbs/day based on data shown in **Table 2**. The Annual Average Daily Influent Organic Load (Pounds) was less than the design Annual Average Daily Influent Organic Load (Pounds) of 250 lbs/day.

Table 2 - South End WWTF				
2015 Organic Loading Sampling Data				
	A	B	C = A x B x 8.34	
Date of Sample	BOD ₅ (mg/l)	Flow (MGD)	Daily BOD ₅ (lbs/day)	Monthly Average (lbs/day)
01/06/15	307	0.0652	167	
01/13/15	395	0.0703	232	
01/20/15	398	0.0783	260	
01/27/15	344	0.0659	189	212
02/03/15	221	0.0696	128	
02/10/15	301	0.0593	149	
02/19/15	310	0.0566	146	
02/27/15	262	0.0565	123	137
03/05/15	207	0.0769	133	
03/13/15	174	0.1006	146	
03/19/15	150	0.0709	89	
03/25/15	265	0.0718	159	132
04/08/15	306	0.0801	204	
04/16/15	488	0.0714	291	
04/22/15	192	0.0956	153	216
05/07/15	309	0.0593	153	
05/15/15	254	0.0873	185	
05/21/15	251	0.0776	162	
05/28/15	215	0.0959	172	168
06/11/15	215	0.0796	143	
06/18/15	180	0.0891	134	
06/25/15	798	0.0642	427	235
07/01/15	232	0.0912	176	
07/17/15	202	0.0966	163	
07/23/15	259	0.0770	166	
07/30/15	323	0.1069	288	198

Date of Sample	BOD ₅ (mg/l)	Flow (MGD)	Daily BOD ₅ (lbs/day)	Monthly Average (lbs/day)
08/06/15	215	0.0709	127	
08/12/15	393	0.1033	339	
08/21/15	258	0.1002	216	
08/28/15	498	0.1083	450	283
09/03/15	570	0.0815	387	
09/10/15	480	0.1140	456	
09/25/15	518	0.1064	460	434
10/02/15	431	0.0898	323	
10/09/15	358	0.1109	331	
10/15/15	336	0.0880	247	
10/23/15	367	0.0705	216	279
11/05/15	483	0.0729	294	
11/13/15	483	0.0473	191	242
12/03/15	258	0.0564	121	
12/08/15	334	0.0591	165	
12/17/15	246	0.0812	167	
12/21/15	426	0.0607	216	
12/30/15	318	0.0793	210	176

The Average Monthly Influent Organic Load (Pounds) for each month during the last five years along with the 5-Year Average Annual Influent Organic Load (Pounds) and Peak Month Average Daily Organic Load (Pounds) are presented in **Table 3**. **Figure 2** presents the 5-Year Average Annual Influent Organic Load (Pounds) for the past five years and projected for the next five years graphically.

Influent BOD₅ is not required to be analyzed and reported as part of the WQM Permit for the facility. However, Chapter 94 of Title 25 of the Pennsylvania Code requires the Annual Wasteload Management Report include a discussion of and projections for the organic load using BOD₅ influent data.

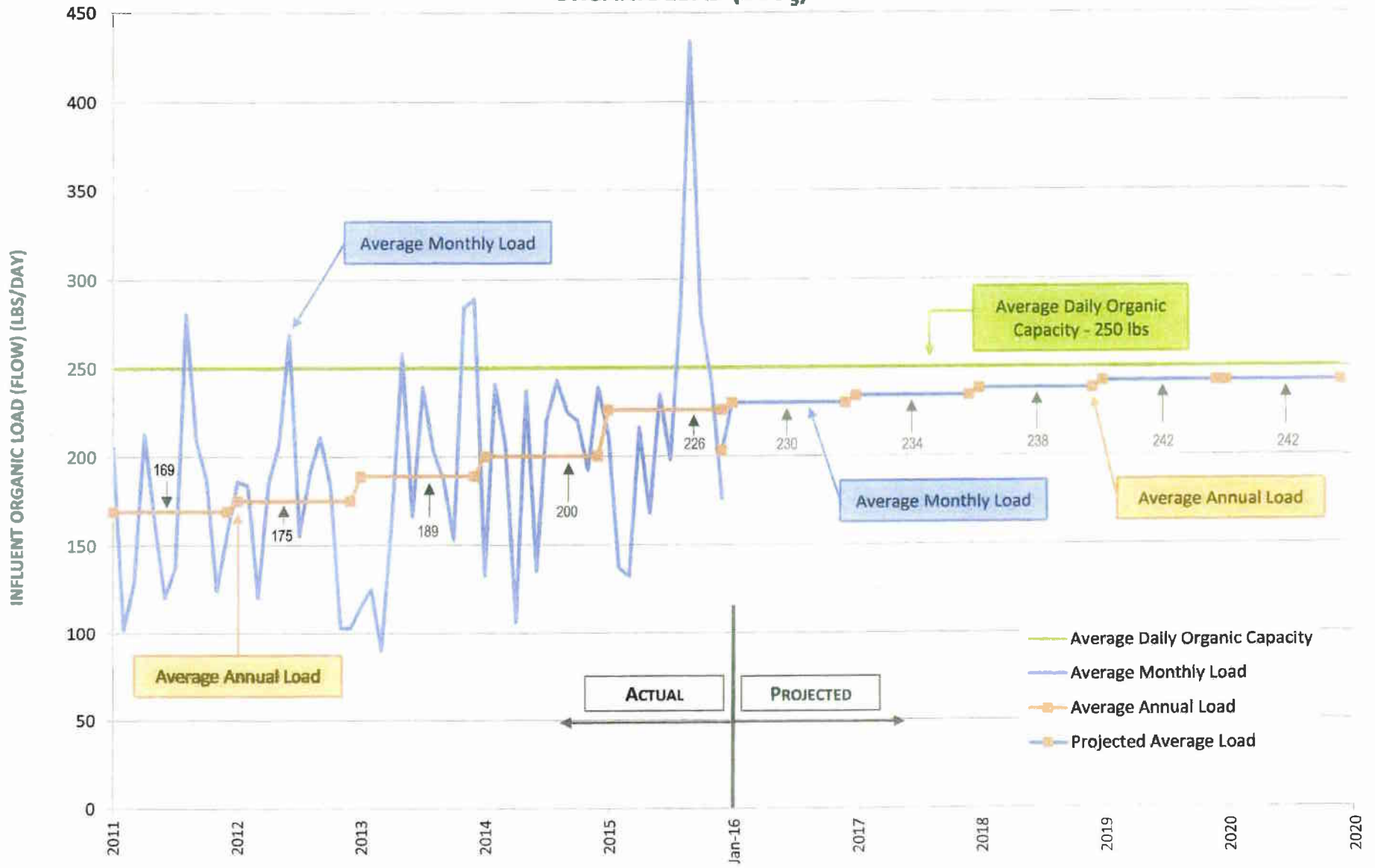
Beginning in 2009, organic loading was computed using the BOD₅ sample result (concentration) and the hydraulic loading (flow) on the same day the sample was taken. *During those months when more than one sample was taken, the individual daily computed loading results are averaged for the entire month. The average is then reported as the BOD₅ load (lbs/day) for that month.*

Table 3 - South End WWTF					
2011 - 2015 Organic Loading					
(LBS/DAY)					
Month	2011	2012	2013	2014	2015
January	205	186	115	132	212
February	102	184	125	241	137
March	128	120	90	206	132
April	213	185	163	106	216
May	164	207	258	237	168
June	120	269	166	135	235
July	137	155	239	220	198
August	281	190	204	243	283
September	209	211	187	225	434
October	187	184	153	220	279
November	124	103	284	192	242
December	156	106	289	239	176
Annual Average (AA)	169	175	189	200	226
Maximum Month	281	269	289	243	434
Ratio (Max Month to AA Ratio)*	1.66	1.54	1.53	1.22	1.92
5-Year Average Organic Ratio =	1.63	1.63	1.64	1.62	1.57

*While the hydraulic loading “peaking factor” is determined using the 3-Month Max to AA ratio, the organic loading “peaking factor” is determined using the Maximum Month (i.e., the single highest monthly average in the calendar year) to AA ratio.

The influent organic load projection factor (the ratio of the Peak Month Average Daily Influent Organic Load (Pounds) to the Annual Average Daily Influent Organic Load (Pounds) for the last five years is 1.57 and for 2015 is 1.92. The Peak Month Average Daily Influent Organic Load (Pounds) for years 2011 through 2015 is also shown in **Table 3**.

FIGURE 2
SOUTH END WWTF WATER QUALITY MANAGEMENT PERMIT NO. 1569432
ORGANIC LOAD (BOD₅)



3. 5-YEAR ORGANIC AND HYDRAULIC LOADING PROJECTIONS

For 2015 the Annual Average Daily Influent Organic Load (Pounds) and the Peak Month Average Daily Influent Organic Load (Pounds) are presented in **Table 3**. The calculated Annual Average Daily Influent Organic Load (Pounds) to the South End WWTF in the year 2015 was 226 lbs/day which does not exceed the current organic permitted capacity of 250 lbs/day. The Peak Month Average Daily Influent Organic Load (Pounds) in the year 2015 was 434 lbs/day which is greater than the currently permitted organic capacity of 250 lbs/day.

The Department of Environmental Protection now requires that, in addition to preparing the Municipal Wasteload Management Report pursuant to the provisions contained in Chapter 94 of Title 25 of the Pennsylvania Code, an analysis of *Adjusted* Annual Average Influent Hydraulic Load (Flow) and *Adjusted* 3-Month Maximum Influent Hydraulic Load (Flow) be included in the annual report in conjunction with Hydraulic Load projections.

For 2015 the Annual Average Influent Hydraulic Load (Flow) and the 3-Month Maximum Influent Hydraulic Load (Flow) are presented in **Table 1**. The calculated Annual Average Influent Hydraulic Load (Flow) to the WWTF in the year 2015 was 0.0819 MGD which does not exceed the current permitted capacity of 0.1040 MGD. The 3-Month Maximum Influent Hydraulic Load (Flow) in the year 2015 was 0.0903 MGD which does not exceed the currently permitted Annual Average Influent Hydraulic Load (Flow) of 0.1040 MGD.

Projected Influent Organic Load (Pounds)

Anticipated sewage flows from future connections within the South End Sewer Service Area are identified and listed in **Appendix 5, 5A and 5B**. The anticipated flows in **Appendix 5, 5A and 5B** were derived from several sources including: approved subdivision/land development plans, subdivision/land development plans under review, previously purchased capacity and written notices of pending interest. Footnotes included with **Appendix 5, 5A and 5B** clarify the status of the various entries.

The Annual Average Daily Influent Organic Load (Pounds) for each year shown in **Table 4** was computed using the current report year's annual average organic load, as shown in **Appendix 6**, and adding the projected BOD₅ load from proposed EDUs for 2016 as the starting point. Each successive year was computed using the prior year computed BOD₅ load and adding the projected BOD₅ load for that year as shown in **Appendix 7**.

The population associated with the total number of connected residential EDUs is 1,936 persons based on 605 connected residential units with an average occupancy of 3.2 persons per dwelling unit as explained in **Appendix 3**.

The Annual Average Daily Influent Organic Load (Pounds) is presented in **Table 4**. The Annual Average Daily Influent Organic Load (Pounds) to the WWTF in the year 2020 is projected to be 242 lbs/day which does not exceed the current permitted organic capacity of 250 lbs/day. The Annual Average Daily Influent Organic Load (Pounds) in 2020, factored by the 5-Year Rolling Average Annual Daily Influent Organic Load (Pounds) Peak Factor, results in the Peak Month Average Daily Influent Organic Load (Pounds). The Peak Month Average Daily Influent Organic Load (Pounds) in the year 2020 is projected to be 380 lbs/day.

Table 4 - South End WWTF		
2016 – 2020 Organic Loading Projections (LBS/DAY)		
Year	Annual Average BOD₅ Loading Projections¹ (lbs/day)	Maximum Monthly BOD₅ Loading Projections² (lbs/day)
2016	230	361
2017	234	367
2018	238	374
2019	242	380
2020	242	380

¹AA Projections = (current report year’s AA loadings) + (loadings from proposed EDUs)

²Max Month Projections = (AA projection) x (5-year Average Organic Ratio)

Projected Influent Hydraulic Load (Flow)

There are two subdivisions, Harrogate North (an age restricted community) and Harrogate South, that were built out in 2010. The initial connections from both subdivisions were made in 2006 and were ongoing through 2010. The Harrogate North Subdivision also includes a clubhouse that is connected to the South End Waste Water Treatment Facility. One new subdivision, Harlow Pointe, started construction in 2015 and will contain 42 age qualified townhouse units and a small clubhouse at build out.

Table 5 presents the basic information needed in conjunction with computing the *Adjusted* Annual Average Influent Hydraulic Load (Flow). **Table 6** presents the computations associated with arriving at the Five Year *Adjusted* Average Annual Flow which is 0.0857 MGD.

The *Adjusted* Annual Average Influent Hydraulic Load (Flow) to the WWTF in the year 2020 is projected to be 0.0917 MGD, as shown in **Table 7**, which does not exceed the current permitted hydraulic capacity of 0.1040 MGD. The *Adjusted* Annual Average Influent Hydraulic Load (Flow) in 2020, factored by the Five Year Rolling Average Influent Hydraulic Load (Flow) Peak Factor, results in the *Adjusted* 3-Month Maximum Influent Hydraulic Load (Flow). The *Adjusted* 3-Month Maximum Influent Hydraulic Load (Flow) in the year 2020 is projected to be 0.1036 MGD, as shown in **Table 7**, which is less than the current permitted hydraulic capacity of 0.1040 MGD.

Table 5 - South End WWTF			
2011 – 2015 Connected EDUs and Flow			
Year	#of EDUs Connected (Added)	gpd/EDU	New Flow (MGD)
2011	0	138	0.0000
2012	0	145	0.0000
2013	0	147	0.0000
2014	1	143	0.0001
2015	1	135	0.0001

The projected Annual Average Influent Hydraulic Load (Flow) for the years 2016 through 2020 is based on a number of factors, which include: the buildout of existing approved projects, projects currently undergoing review and approval, New Garden Township Municipal Use, failing septic systems and individual new connections. A detailed list of connections and anticipated flows is included as **Appendix 5, 5A and 5B**. The flow for each subdivision, and other uses, is based on an estimated number of units to be completed each year and the application of an appropriate average daily flow to each unit type. In summary, the Township is using the following flow allocations *for planning purposes* for the listed uses: conventional single family dwellings = 200 GPD; single family age qualified dwellings = 150 GPD; schools = 7.0 GPD/capita and various non-residential uses as described in the notes which are part of **Appendix 5, 5A and 5B**.

Table 6 - South End WWTF								
2011 – 2015 Adjusted Annual Average Flow								
Year	AA Flow in MGD	All projected connected (provide flows approved in planning modules or exemptions in MGD – include any connected projects that did not require planning)					Adjusted AA Flow	
		2011	2012	2013	2014	2015		
2011	0.0837		0.0000	0.0000	0.0001	0.0001	0.0839	
2012	0.0875			0.0000	0.0001	0.0001	0.0877	
2013	0.0884					0.0001	0.0886	
2014	0.0865					0.0001	0.0866	
2015	0.0819						0.0819	
Total	0.4280						Total	0.4287
5 Yr. Average	0.0856						5 Yr. Adj Avg	0.0857

Table 7 - South End WWTF					
2016 – 2020 <i>Adjusted</i> Projected Annual Average Flow					
Year	Previous Year's Annual Average Flow ¹	New EDUs	Increased Flow ² (MGD)	Projected Annual Average Flow ³ (MGD)	Projected Max Month Flow ⁴ (MGD)
2016	0.0857	12	0.0016	0.0873	0.0986
2017	0.0873	11	0.0015	0.0888	0.1003
2018	0.0888	11	0.0015	0.0903	0.1020
2019	0.0903	10	0.0014	0.0917	0.1036
2020	0.0917	0	0.0000	0.0917	0.1036

¹The first year's projections starts with the 5-year **adjusted** annual average.

²Increased Flow = (New EDUs x gpd/EDU) / 1,000,000

³Projected Annual Average Flow = Previous Year's AA Flow + Increased Flow

⁴Projected Max Month = Projected Annual Average Flow x 5-year average hydraulic ratio.

4. SEWER EXTENSIONS

During 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015 no new sewer extensions were constructed other than to serve Harrogate North and Harrogate South. Sections of the internal collection systems within both the Harrogate North and Harrogate South subdivisions were constructed in conjunction with new home sales and completed in 2010.

Construction of the Harlow Pointe subdivision started in 2015 and will continue in 2016. The sewage from Harlow Pointe will be conveyed from a pump station in the subdivision via force main to a point of connection with the Harrogate South collection system.

No extensions to the collection system were completed in 2015.

*No new sewer extensions were approved or exempted in 2015 in accordance with the provisions of the Sewage Facilities Act. All known projects that are in the preliminary planning stage will be tracked and the necessary approvals will be obtained with respect to new collection system extensions. A list which includes projects in various stages of planning is included as **Appendix 5B**. Now that Harlow Pointe is under construction, there are no pending subdivisions, therefore, there is no **Map 1** showing projects in the planning stage.*

5. PROGRAM FOR SANITARY SEWER MONITORING, MAINTENANCE AND REPAIR

A map of the collection system is provided as **Appendix 2**. In 2003, New Garden Township initiated a comprehensive I & I Program. The program included: surface inspection of the collection system, manhole inspections, televising sewer mains, wet and dry weather weir testing and flow analyses. Phase II of the study was conducted in 2004. Phase II focused on specific corrective actions that would need to be taken to eliminate the I & I. Phase III involved making the needed repairs found during Phases I & II. Based on 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015 data, I & I at the South End Waste Water Treatment Facility has been significantly reduced as a result of upgrades and repairs over past years. The I & I work completed during 2007 included raising cleanouts on individual properties. *To date, there have been no blockages within the collection system and no corrective actions or repairs have been needed.*

In 2008, I & I remediation consisted primarily of monitoring and making a number of minor repairs such as covering cleanouts. In addition, a leak was detected and repaired in Springberry Turn.

There are no sewer mains that are greater than 10" in diameter. Presently, no direct metering of the collection system is in place. Metering of the collection system, using portable meters, is performed periodically as part of routine monitoring and remediation as needed. The Sewer Authority members are considering the cost and need for adding metering within the collection system at strategic locations.

The Parish Road pump station is metered and the influent to the South End Waste Water Treatment Facility is also metered.

The overall condition of the sewage collection and conveyance system remains good based on information obtained during televising of the lines, visual inspections and operational indicators. These reviews have been ongoing throughout 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015 as needed. Phase IV of the Infiltration & Inflow (I & I) evaluation was started in 2007 and continues as resources permit. Routine inspections and maintenance of selected components of the collection and conveyances facilities and systems were conducted throughout 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015. A copy of each flow meter calibration report is included as **Appendix 8**.

The current monitoring program to track the condition of collection systems includes such things as visual inspection of manholes and manhole covers, monitoring flows in sections of the system on a rotating schedule, periodically televising sections of the system, periodic random inspection of structures connected to the system to look for illegal connection of roof drains, sump pumps, floor drains and the like and regularly scheduled pumping and cleaning of the pump stations. Also, Township personnel are present whenever a connection is made to the collection system.

In 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015, careful tracking, correlation and analysis of water meter readings and sewer meter readings at points throughout the service area which correspond to geographic areas served by pump stations and areas served only by gravity mains was ongoing. While still being perfected, the data analysis has proven to be very valuable in tracking flow and determining if problems may be developing within clearly defined geographic areas based on the correlation of water and sewer data.

One of the outcomes of the analysis is the ability to list residential, commercial, mixed and industrial connections served by each of the pump stations. The average daily flow associated with each type of use, as shown in this report, is well within a reasonable range.

Maintenance, repair and rehabilitation of the collection system involves a combination of taking corrective action whenever a problem is found in the collection system and performing routine maintenance and replacement on a scheduled basis; which has included excavating sections of the lines and replacing damaged pipe and joints.

There are no known portions of the collection system where capacity is being exceeded or is expected to be exceeded in the next five years.

6. CONDITION OF THE SEWER SYSTEM

The plant operator conducts daily inspections of the effluent pumps and all mechanical equipment at the South End Waste Water Treatment Facility. There were no major repairs undertaken at the South End Waste Water Treatment Facility in 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015. In 2007 eight new aerators were installed at the waste water treatment facility to improve distribution of air throughout the treatment lagoon consistent with the treatment design parameters and the lagoon cleaning completed in 2006. Routine maintenance of the aerators was performed during 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015. The motors on two aerators were replaced in 2010. Annually, a number of spray risers and heads must be repaired and/or replaced as a result of damage sustained during harvesting of the hay crop. Seeding and aerating the spray fields is performed as needed whenever field conditions dictate. A Crop Management Plan is included as **Appendix 9**.

However, as noted in Section 1 of this report, Spray Zones 3 and 4 were taken out of service in late summer of 2015 for remediation and will be placed back in service in the spring of 2016.

There are no portions of the system where significant (non-routine) rehabilitation or cleaning is needed or underway in order to maintain the integrity of the system. The system has not experienced bypassing, combined sewer overflows, sanitary sewer overflows or excessive infiltration. There are ongoing efforts to monitor the system, identify sources of infiltration and inflow and make repairs when needed as described in Section 5.

Available existing and future capacity in the collection and conveyance system is adequate. No areas have been identified for replacement or upgrade to meet future demand in the foreseeable future. The majority of the system throughout the South End was built in the late 1980s and early 1990s. The material used in this part of the system is predominantly PVC. To date there has been no evidence of these sewers not having adequate capacity to properly convey existing flow. Whenever new development is proposed the downstream infrastructure is re-evaluated to determine its capacity and ability to meet the demand.

There are no sections of the system where surcharging occurs.

There are no sections of the system where sanitary sewer overflows have occurred.

7. SEWAGE PUMP STATIONS

There is one waste water pumping station within the South End Waste Water Treatment System Service Area, the Parish Road Pump Station, which conveys raw sewage from the northern section of the residential development to the headworks of the primary lagoon. It contains two three-inch solids-handling pumps, a flow meter, an alarm autodialer and a generator. In 2007 the Parish Road Pump Station was rebuilt and upgraded with new pumps, electrical service, generator and enclosure. The performance data for this pump station is included in **Table 8**. **Table 8** also includes sufficient data and information to support the conclusion that each of the pumps, operating independently, has the capability to convey all of the flow through the pump station. Information from the DEP document titled “Sewage Pumping Station Guidance” was used in the design of the pump station and calculating the performance criteria of each pump selected for use in the pump station. The calibration reports for the pump station are provided in **Appendix 8**. *The capacity of this pump station is not expected to be exceeded in the next two years.*

General maintenance of the Parish Road pump station is conducted twice per year. The pump station is cleaned quarterly. The generator is exercised weekly. There are currently no known serious problems with the pump station. However, there is an ongoing problem with rags entering the pump station. A basket strainer has been added to collect the rags and other large items. It may become necessary to add a “muffin monster” to the pump station if the problem with rags persists. The station is checked seven days/week for proper operation and the basket strainer cleaned as needed. The flow meter at the pump station is calibrated each year. In 2010 one pump was repaired and replaced. In 2013, a new meter was installed in the Parish Road Pump Station.

The Hartefeld IV pump station, prior to 2005, pumped to the South End Waste Water Treatment Facility but now pumps to the East End Waste Water Treatment Facility as a result of the redirection of flow completed in 2005.

Pump Station Name	Number of Pumps	Permitted Capacities		Present Flows		Projected Flows
		AA Permitted Capacity (gpd)	Hydraulic Design Capacity (excluding capacity of backup pump) (gpm)	Annual Average Flows (gpd)	Peak Instantaneous (or Peak Hourly Flow) (gpm)	2-Year Projected Maximum ¹ Flow (gpd)
Parish	2	324,000	325	48,506	57	89,640

¹To determine the 2-year projected maximum flows: 1) Determine the projected 2-year AA flow to the pump station based on proposed connections; 2) Determine the peaking factor for the pump station by using the peak instantaneous flow to AA ratio; 3) Calculate the 2-year projected peak flow by multiplying AA flow by the peak to AA ratio.

The pump station is equipped with an autodialer. The emergency power generator is serviced and maintained by Township personnel. The plant operator exercises the generator once per week in addition to the preventative maintenance service.

General:

Each year contracted generator inspection and maintenance services are performed in addition to each unit being exercised once each week by Township contract personnel. Similarly, each pump station flow meter is calibrated and certified by a contractor each year. Quarterly, each pump station is cleaned and pumped by a licensed septage hauler.

8. INDUSTRIAL WASTES

The South End Waste Water Treatment Facility only accepts waste water from private homes and domestic waste water from a swim club, a summer camp and the Harrogate North Clubhouse. It does not accept industrial waste water. A copy of the Township's current sewer user ordinance is included as **Appendix 10**.

9. CORRECTIVE ACTION PLAN (CAP)

Currently a Corrective Action Plan is not required. Therefore, **Appendix 11** is reserved for future use.

Connection Management Plan (CMP)

Currently a Connection Management Plan is not required. Therefore, **Appendix 12** is reserved for future use.

The Board of Supervisors will make a determination concerning the availability of sewage treatment capacity for each project based on the information available at that time.

New connections will be managed as shown in **Appendix 5, 5A and 5B**. Based on where the project stands with respect to plan approval, permitting, construction and occupancy, coupled with current and near term market conditions, the schedule shown in **Appendix 5, 5A and 5B** is realistic. There is a considerable cushion with respect to when and if an overload might actually occur which is dependent upon when and if the projected new connections are actually made as shown in **Appendix 5, 5A and 5B**.

Every new project submitted to the Township is immediately reviewed with respect to sewage needs and a dialog with the applicant is established. A determination of the capacity needed for the project is made and a realistic time frame established for connection of new units. The connection schedule is updated to reflect new project flows, if any, as new projects are approved.

The amount of flow and its organic concentration is routinely monitored as it enters the South End WWTF in order to avoid the situation where the flow is below the hydraulic capacity of the South End WWTF but the organic load exceeds the organic treatment capacity of the South End WWTF or the opposite.

Management of overall system capacity is an ongoing process which anticipates that adjustments will be made throughout the coming years in close cooperation with the DEP Planning Section. In the course of reviewing, and considering for approval, development plans, the Board of Supervisors will make a determination concerning the availability of sewage treatment capacity for each project based on the information available at that time. Projects which are anticipated to move forward are listed in **Appendix 5B**. At this time there are no new projects under review. Projects and associated flows, if any, that are expected to extend beyond the immediate next five year period are not counted in the projected WWTF flow for the next five years.

One step taken by the Board of Supervisors to address flow management was to prepare and adopt three ordinances in 2007 which directly address reservation of capacity and connection to and use of the sewer system; a copy of each ordinance is included as **Appendix 13**. Application of the provisions of these ordinances will greatly improve the management of new flow and system capacity.

Water meter readings are monitored on a quarterly basis and compared to metered sewage flows. In those instances when a user discharges more than is allocated, contact is made with the user and steps are taken to either reduce the discharge or purchase additional capacity, if available. Also, these reviews give an early indication of possible I & I problems which are then promptly addressed in order to maintain maximize usable system capacity.

The Crop Management Plans in included as **Appendix 9**.

10. CALIBRATION REPORTS

Meter calibration reports are included as **Appendix 8**.

11. TRIBUTARY MUNICIPALITY REPORTS

There are no flows from outside of New Garden Township entering the sewer system.

12. SLUDGE DISPOSAL

Since the South End WWTF employs lagoon treatment, sludge is not generated in the conventional sense and therefore removal is only required every several years. Inorganic and organic material that is not totally decomposed during the treatment process will settle and accumulate on the bottom of the lagoons. Experience with this facility suggests that it will be another five to ten years before enough sludge has accumulated in the lagoons to warrant its removal.

In 2009 the depth of sludge in the lagoons was actually measured and it was determined that the amount of accumulated sludge was not significant and did not warrant removal.

13. NOTICE OF VIOLATIONS

In 2009 the Department issued a Notice of Violation dated July 20, 2009 for failure to file two Discharge Monitoring Reports (DMRs) on time. A second Notice of Violation dated November 10, 2009 was issued for failure to file 16 DMRs on time out of the previous 42. The Department offered in its Notice “in lieu of the assessment of civil penalties for the late DMR submission violations, DEP is willing to resolve these open violation upon your registration and continued use of the DEP’s eDMR system.” Registration has been completed and the DMRs are now filed electronically.

No Notice of Violations were received in 2010, 2011, 2012, 2013 or 2014.

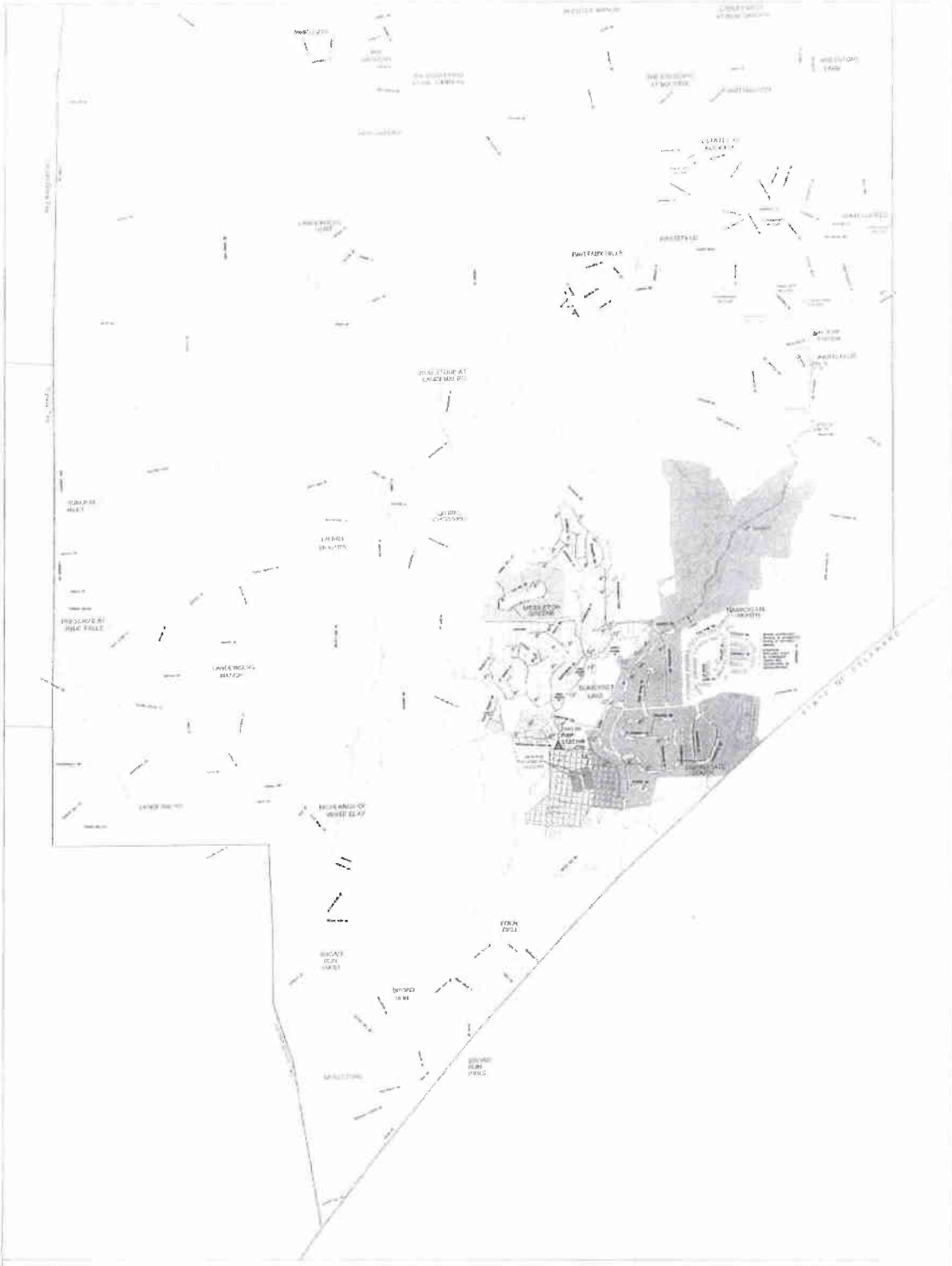
A Notice of Violation dated July 7, 2015 was received by the New Garden Township Sewer Authority; a copy is included as **Appendix 14**. The main focus of the NOV was that Spray Zones 3 and 4 were not being maintained in compliance with the Water Quality Management permit and Crop Management Plan for the facility. Immediate corrective action was taken and both Spray Zones 3 and 4 were completely tilled and replanted following the recommendations contained in Remediation Plan New Garden Township prepared by Larry Hepner CPSS; a copy is included as **Appendix 15**. The new grass cover was planted in the fall of 2015 and was well established by November. Spray Zones 3 and 4 will be placed back in service in the spring of 2016. Spray Zones 3 and 4 will be monitored to determine their performance.

A Notice of Violation dated November 9, 2015 was received by the New Garden Township Sewer Authority; a copy is included as **Appendix 16**. The main focus of the NOV was that the method of disposal of treated effluent from the South End WWTF, due to Spray Zones 3 and 4 being out of service, was not a permitted activity and should cease. Upon receipt of the NOV the land application approach noted in the NOV ceased. The current method of disposal of the treated effluent from the South End WWTF is hauling the effluent to a DEP permitted treated facility

APPENDICES

APPENDIX 1

PROCESS DIAGRAM



SEWER SERVICE DISTRICTS & LEGEND - CONNECTED UNITS

SHANGRILA (SOUTH END (S&EP))

- 100% SANITARY (S&EP)
- 100% SANITARY (S&EP)
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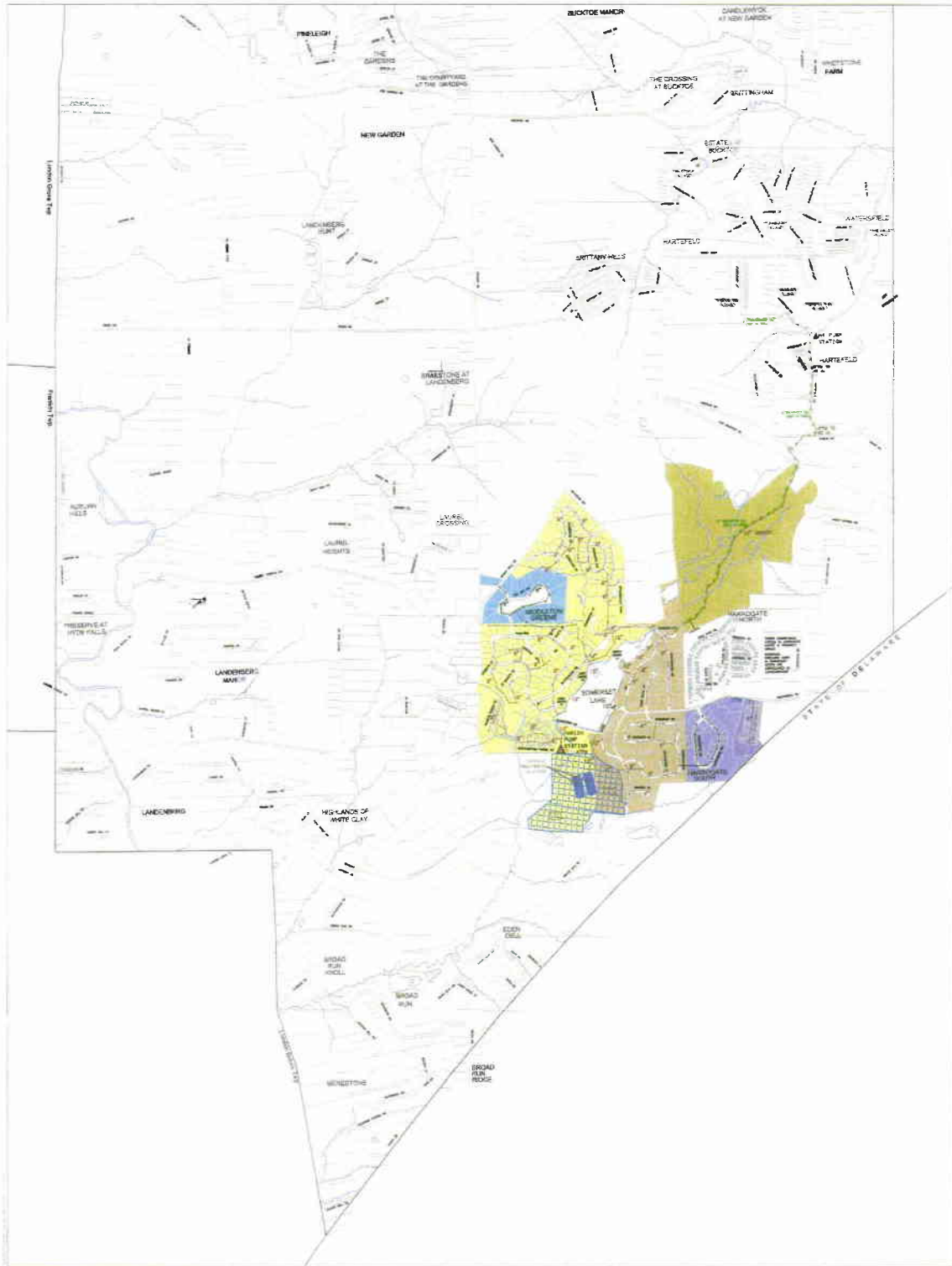
Symbol	Description
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NEW GARDEN TOWNSHIP
 CHESTER COUNTY, PENNSYLVANIA
 SOUTH END SEWER SERVICE MAP

Government Specialists, Inc.
 100 South 10th Street, 4th Floor, Philadelphia, PA 19106
 Phone: 215-595-1111 Fax: 215-595-1112

APPENDIX 2

SEWER SERVICE AREA MAP



SEWER SERVICE DISTRICTS LEGEND - CONNECTED UNITS

- SHANARA-LA (SOUTH END WWTP)**
- EAST SOMERSET (E4) (SHANARA-LA)
 - HARLOWE PARK (P4) (SHANARA-LA)
 - HARROGATE PARK (SHANARA-LA)
 - ST. ANTHONY (E4) (SHANARA-LA)
 - WEST SOMERSET (W4) (SHANARA-LA)
 - PUMP STATION (PUBLIC)
 - PUMP STATION (PRIVATE)
 - PUMP STATION (MUNICIPAL)
 - 15" PIPE MAIN
 - NOT IN SERVICE

LINE NO.	LINE TYPE	LINE SIZE	LINE LENGTH	LINE STATUS
1	15" PIPE MAIN	15"	1000'	ACTIVE
2	15" PIPE MAIN	15"	500'	ACTIVE
3	15" PIPE MAIN	15"	750'	ACTIVE
4	15" PIPE MAIN	15"	600'	ACTIVE
5	15" PIPE MAIN	15"	400'	ACTIVE
6	15" PIPE MAIN	15"	300'	ACTIVE
7	15" PIPE MAIN	15"	200'	ACTIVE
8	15" PIPE MAIN	15"	100'	ACTIVE
9	15" PIPE MAIN	15"	150'	ACTIVE
10	15" PIPE MAIN	15"	250'	ACTIVE
11	15" PIPE MAIN	15"	350'	ACTIVE
12	15" PIPE MAIN	15"	450'	ACTIVE
13	15" PIPE MAIN	15"	550'	ACTIVE
14	15" PIPE MAIN	15"	650'	ACTIVE
15	15" PIPE MAIN	15"	750'	ACTIVE
16	15" PIPE MAIN	15"	850'	ACTIVE
17	15" PIPE MAIN	15"	950'	ACTIVE
18	15" PIPE MAIN	15"	1050'	ACTIVE
19	15" PIPE MAIN	15"	1150'	ACTIVE
20	15" PIPE MAIN	15"	1250'	ACTIVE
21	15" PIPE MAIN	15"	1350'	ACTIVE
22	15" PIPE MAIN	15"	1450'	ACTIVE
23	15" PIPE MAIN	15"	1550'	ACTIVE
24	15" PIPE MAIN	15"	1650'	ACTIVE
25	15" PIPE MAIN	15"	1750'	ACTIVE
26	15" PIPE MAIN	15"	1850'	ACTIVE
27	15" PIPE MAIN	15"	1950'	ACTIVE
28	15" PIPE MAIN	15"	2050'	ACTIVE
29	15" PIPE MAIN	15"	2150'	ACTIVE
30	15" PIPE MAIN	15"	2250'	ACTIVE
31	15" PIPE MAIN	15"	2350'	ACTIVE
32	15" PIPE MAIN	15"	2450'	ACTIVE
33	15" PIPE MAIN	15"	2550'	ACTIVE
34	15" PIPE MAIN	15"	2650'	ACTIVE
35	15" PIPE MAIN	15"	2750'	ACTIVE
36	15" PIPE MAIN	15"	2850'	ACTIVE
37	15" PIPE MAIN	15"	2950'	ACTIVE
38	15" PIPE MAIN	15"	3050'	ACTIVE
39	15" PIPE MAIN	15"	3150'	ACTIVE
40	15" PIPE MAIN	15"	3250'	ACTIVE
41	15" PIPE MAIN	15"	3350'	ACTIVE
42	15" PIPE MAIN	15"	3450'	ACTIVE
43	15" PIPE MAIN	15"	3550'	ACTIVE
44	15" PIPE MAIN	15"	3650'	ACTIVE
45	15" PIPE MAIN	15"	3750'	ACTIVE
46	15" PIPE MAIN	15"	3850'	ACTIVE
47	15" PIPE MAIN	15"	3950'	ACTIVE
48	15" PIPE MAIN	15"	4050'	ACTIVE
49	15" PIPE MAIN	15"	4150'	ACTIVE
50	15" PIPE MAIN	15"	4250'	ACTIVE
51	15" PIPE MAIN	15"	4350'	ACTIVE
52	15" PIPE MAIN	15"	4450'	ACTIVE
53	15" PIPE MAIN	15"	4550'	ACTIVE
54	15" PIPE MAIN	15"	4650'	ACTIVE
55	15" PIPE MAIN	15"	4750'	ACTIVE
56	15" PIPE MAIN	15"	4850'	ACTIVE
57	15" PIPE MAIN	15"	4950'	ACTIVE
58	15" PIPE MAIN	15"	5050'	ACTIVE
59	15" PIPE MAIN	15"	5150'	ACTIVE
60	15" PIPE MAIN	15"	5250'	ACTIVE
61	15" PIPE MAIN	15"	5350'	ACTIVE
62	15" PIPE MAIN	15"	5450'	ACTIVE
63	15" PIPE MAIN	15"	5550'	ACTIVE
64	15" PIPE MAIN	15"	5650'	ACTIVE
65	15" PIPE MAIN	15"	5750'	ACTIVE
66	15" PIPE MAIN	15"	5850'	ACTIVE
67	15" PIPE MAIN	15"	5950'	ACTIVE
68	15" PIPE MAIN	15"	6050'	ACTIVE
69	15" PIPE MAIN	15"	6150'	ACTIVE
70	15" PIPE MAIN	15"	6250'	ACTIVE
71	15" PIPE MAIN	15"	6350'	ACTIVE
72	15" PIPE MAIN	15"	6450'	ACTIVE
73	15" PIPE MAIN	15"	6550'	ACTIVE
74	15" PIPE MAIN	15"	6650'	ACTIVE
75	15" PIPE MAIN	15"	6750'	ACTIVE
76	15" PIPE MAIN	15"	6850'	ACTIVE
77	15" PIPE MAIN	15"	6950'	ACTIVE
78	15" PIPE MAIN	15"	7050'	ACTIVE
79	15" PIPE MAIN	15"	7150'	ACTIVE
80	15" PIPE MAIN	15"	7250'	ACTIVE
81	15" PIPE MAIN	15"	7350'	ACTIVE
82	15" PIPE MAIN	15"	7450'	ACTIVE
83	15" PIPE MAIN	15"	7550'	ACTIVE
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85	15" PIPE MAIN	15"	7750'	ACTIVE
86	15" PIPE MAIN	15"	7850'	ACTIVE
87	15" PIPE MAIN	15"	7950'	ACTIVE
88	15" PIPE MAIN	15"	8050'	ACTIVE
89	15" PIPE MAIN	15"	8150'	ACTIVE
90	15" PIPE MAIN	15"	8250'	ACTIVE
91	15" PIPE MAIN	15"	8350'	ACTIVE
92	15" PIPE MAIN	15"	8450'	ACTIVE
93	15" PIPE MAIN	15"	8550'	ACTIVE
94	15" PIPE MAIN	15"	8650'	ACTIVE
95	15" PIPE MAIN	15"	8750'	ACTIVE
96	15" PIPE MAIN	15"	8850'	ACTIVE
97	15" PIPE MAIN	15"	8950'	ACTIVE
98	15" PIPE MAIN	15"	9050'	ACTIVE
99	15" PIPE MAIN	15"	9150'	ACTIVE
100	15" PIPE MAIN	15"	9250'	ACTIVE



THIS MAP IS A REPRESENTATION OF THE SEWER SERVICE DISTRICTS AND IS NOT A GUARANTEE OF SERVICE. THE SEWER SERVICE DISTRICTS ARE SUBJECT TO CHANGE WITHOUT NOTICE. THE SEWER SERVICE DISTRICTS ARE NOT TO BE USED FOR ANY OTHER PURPOSE.

NEW GARDEN TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA
SOUTH END SEWER SERVICE MAP

Government Specialists, Inc.
 20 South York Street, P.O. Box 25, York, PA 17402-0025
 Phone: (717) 632-1542 • Fax: (717) 632-2768

APPENDIX 3

CURRENT CONNECTED POPULATION

APPENDIX 3

The 2010 U. S. Census data shows the average household size for each occupied dwelling unit in New Garden Township is 3.2 persons. In 2015 there were 605 residential units connected to the public sewerage system. The equivalent population is $3.2 \times 605 = 1,936$ persons.

There are a total of 607 equivalent dwelling units connected to the public sewage system which equates to 1,942 persons.

APPENDIX 4

INFLUENT FLOW METER CALIBRATION REPORT

The Meter Guy, Inc.

5758 GLEN OAKS DRIVE NARVON, PA 17555
PHONE: (717) 940-1987

SERVICE REPORT

TOM
NEW GARDEN TOWNSHIP
299 STARR ROAD
LANDENBERG, PA 19350

SERVICE DATE: 6/15/2015
METER#: C6168 AC
LOCATION: SOUTH PLANT
SERIAL #: 12822
MANUFACTURER: EASTECH
RECORDER: NA
TRANSMITTER: 2210
PRIMARY: 90° V-NOTCH
MAXIMUM CAPACITY: 546.6 GPM
SERVICE CONTRACT: SEMI-ANNUAL

WORK PERFORMED

CLEANED EQUIPMENT: X PRIMARY: X

RECORDER CALIBRATION CHECKED AT: NA
ERROR: NA CORRECTED ACCURACY:

TOTALIZER CALIBRATION CHECKED AT: 0, 50 & 100%
ERROR: 0% CORRECTED ACCURACY: ± 1%

TRANSMITTER CALIBRATION
SIMULATED HEAD RISES AND FLOW MEASUREMENT
ERROR: 0% CORRECTED ACCURACY: ± .08"

COMMENTS: LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE: J CHRIS CALLAHAN PERSON SEEN: TOM
copies:

TheMeterGuy, LLC

5758 GLEN OAKS DRIVE NARVON, PA 17555
PHONE: (717) 940-1987

*****SERVICE REPORT*****

TOM BAKER
NEW GARDEN TOWNSHIP
299 STARR ROAD
LANDENBERG, PA 19350

SERVICE DATE: 12/28/2015
METER#: C6168 AC
LOCATION: SOUTH PLANT
SERIAL #: 12822
MANUFACTURER: EASTECH
RECORDER: N/A
TRANSMITTER: 2210
PRIMARY: 90° V-NOTCH
MAXIMUM CAPACITY: 546.6 GPM
SERVICE CONTRACT: SEMI-ANNUAL

WORK PERFORMED

CLEANED EQUIPMENT: X **PRIMARY:** X

RECORDER CALIBRATION **CHECKED AT:** N/A
ERROR: N/A **CORRECTED ACCURACY:**

TOTALIZER CALIBRATION **CHECKED AT:** 0, 50 & 100%
ERROR: 0% **CORRECTED ACCURACY:** ± 1%

TRANSMITTER CALIBRATION **SIMULATED HEAD RISES AND FLOW MEASUREMENT**
ERROR: 0% **CORRECTED ACCURACY:** ± .08"

COMMENTS: LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE: GAVIN McCULLOCH **PERSON SEEN:** TOM
copies: [Email: tpbaker1969@gmail.com](mailto:tpbaker1969@gmail.com)

Appendix 5
Connections and Associated EDUs for 2016 - 2020

Project Name	Watershed	Service Area	Total Units	Estimated Timing of Additional Connections				
				2016	2017	2018	2019	2020
Harlow Pointe*			44	12	11	11	10	—
TOTAL GPD ⁽¹⁾			8,800	2,400	2,200	2,200	2,000	0
TOTAL EDUs ⁽¹⁾			44	12	11	11	10	0
CUMULATIVE GALLONS				88,100	90,300	92,500	94,500	94,500
CUMULATIVE EDUs				441	452	463	473	473

(1) 200 gpd/unit = 1 EDU per residential unit.

* Sewage facilities planning approved by DEP for 42 townhouse units and 2 clubhouse units.

Appendix 5A
Connections and Associated FLOWS for 2016 - 2020 [Gallons]

Project Name	Watershed	Service Area	Total Gallons	Estimated Timing of Additional Connections				
				2016	2014	218	2019	2020
Harlow Pointe*			8,800	2,400	2,200	2,200	2,000	—
TOTAL GPD ⁽¹⁾			8,800	2,400	2,200	2,200	2,000	0
TOTAL EDUs ⁽¹⁾			44	12	11	11	10	0
CUMULATIVE GALLONS				88,100	90,300	92,500	94,500	94,500
CUMULATIVE EDUs				441	452	463	473	473

(1) 200 gpd/unit = 1 EDU per residential unit

* Sewage facilities planning approved by DEP for 42 townhouse units and 2 clubhouse units.

Appendix 5B
Connections and Associated Flow Beyond 2020 [Gallons]

Project Name	Watershed	Service Area	Total Gallons	Estimated Timing of Additional Connections				
				2021	2022	2023	2024	2025
NONE				—	—	—	—	—
TOTAL GPD			0	0	0	0	0	0
TOTAL EDUs			0	0	0	0	0	0
CUMULATIVE GALLONS				94,500	94,500	94,500	94,500	94,500
CUMULATIVE EDUs				473	473	473	473	473

APPENDIX 6

HISTORICAL ORGANIC & HYDRAULIC LOAD SUMMARY

APPENDIX 6
 SOUTH END WWTF
 NEW GARDEN TOWNSHIP CHESTER COUNTY, PA

WATER QUALITY MANAGEMENT PERMIT NO. 1569432

HISTORICAL ORGANIC & HYDRAULIC LOAD SUMMARY

YEAR	2011	2012	2013	2014	2015	5-Year Average
Total EDUs Connected	605	603	602	606	607	
Annual Average Organic Load (total lbs/day)	169	175	189	200	226	192
Load Per EDU (lbs/day)	0.2793	0.2902	0.3140	0.3300	0.3723	0.3172
Annual Average Flow (MGD)	0.0837	0.0875	0.0884	0.0865	0.0819	0.0856
Flow Per EDU (GPD)	138	145	147	143	135	142

APPENDIX 7

ORGANIC LOAD PROJECTIONS

APPENDIX 7

SOUTH END WWTF
 NEW GARDEN TOWNSHIP CHESTER COUNTY, PA
 WATER QUALITY MANAGEMENT PERMIT NO. 1569432

ORGANIC LOAD PROJECTIONS

Year	Base Annual Average Organic Load (LBS/DAY)	Projected Additional Organic Load (LBS/DAY) ⁽²⁾	Projected Total Annual Average Organic Load (LBS/DAY)	Projected Max. Month Organic Load (LBS/DAY) ⁽³⁾
2016 ⁽¹⁾	226	4	230	361
2017	230	4	234	367
2018	234	4	238	374
2019	238	4	242	380
2020	242	0	242	380

- (1) The starting organic load is the current report year's annual average organic load.
- (2) The Projected Additional Organic Load is computed using the number of EDUs projected to be added in a given year, as shown in Appendix 5, times the average annual organic load per EDU for the report year, as shown in Appendix 6.
- (3) The Projected Maximum Month Organic Load is computed using the Projected Total Annual Average Organic Load in a give year times the 5-year average organic peak factor as shown in Table 3.

APPENDIX 8

FLOW METER CALIBRATION REPORTS

TheMeterGuy, LLC.

5758 GLEN OAKS DRIVE NARVON, PA 17555
PHONE: (717) 940-1987

SERVICE REPORT

TOM BAKER
NEW GARDEN TOWNSHIP
299 STARR ROAD
LANDENBERG, PA 19350

SERVICE DATE: 12/28/2015
METER#: C6168 AN
LOCATION: PARISH
SERIAL #: MO54050514
MANUFACTURER: SPARLING
RECORDER: N/A
TRANSMITTER: TIGER MAG
PRIMARY: 4 INCH
MAXIMUM CAPACITY: 300 GPM
SERVICE CONTRACT: ANNUAL

WORK PERFORMED

CLEANED EQUIPMENT: X **PRIMARY:** X

RECORDER CALIBRATION **CHECKED AT:** N/A
ERROR: N/A **CORRECTED ACCURACY:** N/A

TOTALIZER CALIBRATION **CHECKED AT:** 0 & OPERATING RATE
ERROR: 0% **CORRECTED ACCURACY:** ± 1%

TRANSMITTER CALIBRATION **CHECKED PROGRAMMING AND CHECKED AT 0 &**
OPERATING RATE
ERROR: 0% **CORRECTED ACCURACY:** ± 1%

COMMENTS: LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE: GAVIN McCULLOCH **PERSON SEEN:** TOM
copies: [EM: mbaker1969@gmail.com](mailto:mbaker1969@gmail.com)

APPENDIX 9

CROP MANAGEMENT PLAN

Crop Management Plan

Prepared for:

New Garden Township

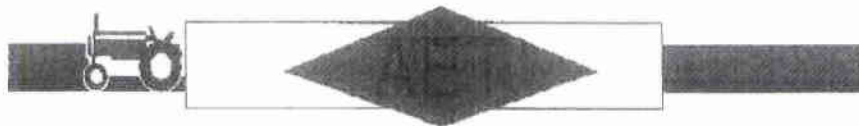
South Plant

299 Starr Rd.
Landenberg, PA 19350
610-268-2915

March 7, 2016

Prepared by:

Donald T. Moore
Agronomist, AET Consulting
2677 Telegraph Road
North East, MD 21901



agricultural, environmental & technical consulting

Crop Management Plan For New Garden Township South Plant

The spray irrigation system for New Garden Township is located adjacent to the Somerset Lake Development. The field is located on Broadrun Rd and consists of approximately 20.9 acres. The spray area contains well drained soils; see attached soil maps and mapping unit descriptions.

Soil Nutrients

Soil samples have been collected from each of the 7 spray zones. Ten to twelve cores have been randomly pulled from each zone to obtain a representative sample. These cores have each been pulled from 4-5 inches deep in the soil. Maps have been attached to this plan to describe the location of sample zones in both areas. A soil summary sheet has been included which outlines all nutrient levels in the appropriate zones for 2015 soil samples.

All zones continue to have adequate soil pH levels. Zones 1-4 are low to moderate on phosphorus while zones 5-7 are moderate to high on phosphorus. All zones are moderate to good for potassium. Soil phosphorus and potassium levels are likely not yield limiting for grass production but a maintenance application of potash is recommended to cover the nutrient removal of the hay harvest.

Crop Production

All zones currently have an established grass mix of reed canary grass and tall fescue with a small percentage of orchard grass. This blend provides a resilient cover on the soil as well as useful forage that can be harvested throughout the summer in multiple cuttings. This grass mixture can handle substantial water applications. Optimizing crop yield will allow this grass mixture to provide significant nutrient removal. A six ton per acre yield of hay will remove 240 lbs/acre of nitrogen, 90 lbs/acre of phosphorus and 300 lbs/acre of potassium from the soil.

Managing grass fields intensively generally includes some renovation of stands. Traffic and high management can thin stands. March and August are ideal times to overseed and thicken existing stands if need be. Renovation is recommended by no-tilling the cool season grass mix into thin areas in late August. A no-till drill will penetrate existing residue and will lightly incorporated seed into the soil while providing minimal soil disturbance. This will help to alleviate soil erosion possibilities. The rate for overseeding cool season grasses into these areas is 20-25 lbs of seed per acre.

Cutting Management

Cool season grass hay, generally, is ready to be harvested for the first time in early May. In general, the best compromise between yield and forage quality occurs in boot stage, this is when the grass head is ready to emerge from the top of the stem. Harvesting early will reduce yield and possibly stress plants enough to reduce stands. Harvesting late will increase lignin in the plant which drastically reduces forage quality.

Later cuttings of cool season grasses tend to be much more vegetative. Stem development and elongation is reduced and harvested material is much leafier. Cool season grass mixes can generally be harvested on six to seven week intervals. Maintaining harvest intervals will not allow grasses to gain excessive height, thus interfering with spray heads. Care should be taken at harvest time to trim around all risers and spray heads. Tall vegetation could interfere with spray heads and cause a disruption in the spray pattern. This will cause an uneven distribution of water and nutrients

Weed Control

The following is a list of herbicide options for grass hay:

Ally XP

- Apply 0.2 to 0.3 oz./acre or 1 oz. per 100 gallons of water for spot treatments
- Always add surfactant at 1 qt. per 100 gal. of solution
- No grazing or haying restrictions with this product
- Do not over-seed or reseed pastures for 6-12 months depending on the species

Cimmaron

- Very similar product to *Ally XP* and will probably end up replacing *Ally XP* completely
- All rates, additives and restrictions are the same as listed above for *Ally XP*

Overdrive

- Apply 6 oz. per acre
- Always add surfactant at 1 qt. per 100 gallons of solution
- No grazing restrictions
- Fields can be overseeded or rotated to any crop 30 days after herbicide application

Milestone

- Apply 6 oz. per acre
- Addition of surfactant at 1 qt. per 100 gallons of solution is recommended
- No grazing or haying restrictions
- Not labeled for over-seeding for 12 months after application

General Herbicide Application Tips

- Best results are generally achieved when weeds are small and actively growing
- If making an application later in growing season, it is suggested to clip the pasture and let weeds start to re-grow before applying herbicide
- Do not mow pastures for 10-14 days following the herbicide application
- **As with any pesticide, always read and follow the herbicide label**

Compaction

Compaction is often an issue in spray irrigation fields. Traffic is often forced to be on fields under less than ideal soil conditions. Compaction reduces water the soils ability to allow for water infiltration and also reduces crop growth and yield. The best way to minimize compaction is to reduce traffic on field and stay off when conditions are too wet. Eliminating irrigation several days before harvest will allow the soil to dry and should prove helpful in reducing soil compaction as well as curing the crop.

An Aerway is a tool that will help to loosen soil and increase percolation potential. This tool is most helpful when used in fall and /or spring. An Aerway has a series of blades which penetrate soil and twist and loosen the soil surface while doing minimal damage to the established sod.

Water Management

All zones in both fields are rated for the following rates of hydraulic loading:

Winter months	1.2 inch/acre/week
Spring months	1.2 inch/acre/week
Summer months	1.2 inch/acre/week
Fall months	1.2 inch/acre/week

*Water applied rarely exceeds 75% of design capacity.

The ideal water management system would be to make an effluent application and then allow the soil to absorb that application and dry prior to making subsequent applications. Continually maintaining fields, at or above, field capacity for moisture promotes, runoff, nutrient leaching, plant disease and soil compaction. This management will vary somewhat depending on rainfall.

Fertility Recommendations

Limestone

Somerset Lake

Field	Limestone type	Application rate/acre
Zone 1	---	---
Zone 2	---	---
Zone 3	---	---
Zone 4	---	---
Zone 5	---	---
Zone 6	---	---
Zone 7	---	---

*Maintaining soil ph levels between 6.1 and 6.7 optimizes plant growth thus maximizing nutrient uptake.

Broadcast Fertilizer

New Garden Township has recently started sampling effluent for macro-nutrients. It is recommended that in the future an effluent sample be collected annually and analyzed for the following nutrients; total nitrogen; ammonia nitrogen, phosphorus, potassium, calcium, magnesium & sodium. This will allow for better management of nutrients through effluent and broadcast fertilizer applications.

Effluent Nutrient Loading Rate

Somerset Lake

TKN	1.58 lbs/acre/inch
NH3	0.46 lbs/acre/inch
Nitrate N	1.12 lbs/acre/inch

If each field is at 100% capacity for hydraulic loading, the following rates of nitrogen would be applied annually. Nitrogen values are nitrate nitrogen only because with surface applications ammonia nitrogen is assumed to be lost to volatilization.

Somerset Lake 69.9 lbs nitrogen

Based on the available results, nitrogen is relatively low.

I recommend a supplemental rate of nitrogen be applied to all spray zones. Apply supplemental nitrogen at the rate of 30 lbs/acre after spring green-up, when fields are actively growing. Apply an additional 25 lbs/acre after first cutting. This will help to reduce stress and promote overall plant health. In addition, a maintenance application of potash is recommended in the fall. Apply 0-0-60 at 200 pounds per acre to all Zones. This will help to replenish root reserves and promote overall plant health.

It is also recommended plant tissue samples be taken during the growing season. These samples provide an excellent report card of nutrient availability and uptake. These sample analyses afford us the ability to more closely regulate any and all nutrient applications.

Soil sodium levels were also evaluated in all fields. High soil sodium levels can affect soil structure thus altering water percolation. Soil sodium levels can be buffered with a gypsum application (calcium sulfate) if need be.

The chart below outlines exchangeable sodium levels. At this time all zones are calling for very little, if any buffering. Therefore, no supplemental gypsum applications are recommended at the present time.

Exchangeable Sodium Levels

Field	Ca	Mg	Na	Ca	Mg	Na	SAR	ESR	ESP	CEC	CaSO ₄ Needed (lb/acre)
	ppm			meq							
South 1	1648	240	67	8.24	2.00	0.29	0.129	0.029	2.78	11.4	0
South 2	1648	240	67	8.24	2.00	0.29	0.129	0.029	2.78	11.4	0
South 3	1455	245	50	7.28	2.04	0.22	0.101	0.023	2.29	10.6	0
South 4	1455	245	50	7.28	2.04	0.22	0.101	0.023	2.29	10.6	0
South 5	1722	296	66	8.61	2.47	0.29	0.122	0.026	2.54	11	0
South 6	1722	296	66	8.61	2.47	0.29	0.122	0.026	2.54	11	0
South 7	1722	296	66	8.61	2.47	0.29	0.122	0.026	2.54	11	0

SAR = Sodium Absorption Ratio
 ESR = Exchangeable Sodium Ratio
 ESP = Exchangeable Sodium Percent (do not want greater than 15%)

Soil Summary

Client: New Garden TWP

Acres: 74.0

Date: 04/13/15

Field #	Acres	Sample Date	Crop Rotation History			OM	CEC	pH	PPM			% Saturation		
			2014	2015	2016				P	P FIV	K	K	Mg	Ca
EAST1	9.0	02/27/15	grass	grass	grass	2.5	8.3	6.4	63	76	115	3.0	20.7	73.0
EAST2	9.0	02/27/15	grass	grass	grass	2.2	8.1	6.6	49	61	81	2.2	16.8	58.5
EAST3	9.0	02/27/15	grass	grass	grass	3.9	17.8	6.8	292	319	141	1.7	12.5	67.5
EAST4	9.0	02/27/15	grass	grass	grass	2.7	15.2	6.9	234	257	126	1.8	13.4	68.4
EAST5	9.0	02/27/15	grass	grass	grass	4.3	17.7	6.9	350	380	134	1.6	13.0	69.3
EAST6	9.0	02/27/15	grass	grass	grass	2.0	10.2	6.7	66	79	103	2.2	17.6	59.6
SOUTH1-2	20.0	02/27/15	grass	grass	grass	2.4	10.3	6.7	70	83	113	2.4	17.0	59.8
SOUTH3-4	\	02/27/15	grass	grass	grass	2.2	9.6	6.6	30	41	95	2.1	18.7	56.9
SOUTH5-7	\	02/27/15	grass	grass	grass	3.4	9.3	6.4	122	138	176	4.1	23.4	69.5

Soil Analysis Report



Report To
 AET CONSULTING INC
 2677 TELEGRAPH RD
 NORTH EAST, MD 21901-1207

Prepared For
 NEW GARDEN TWP

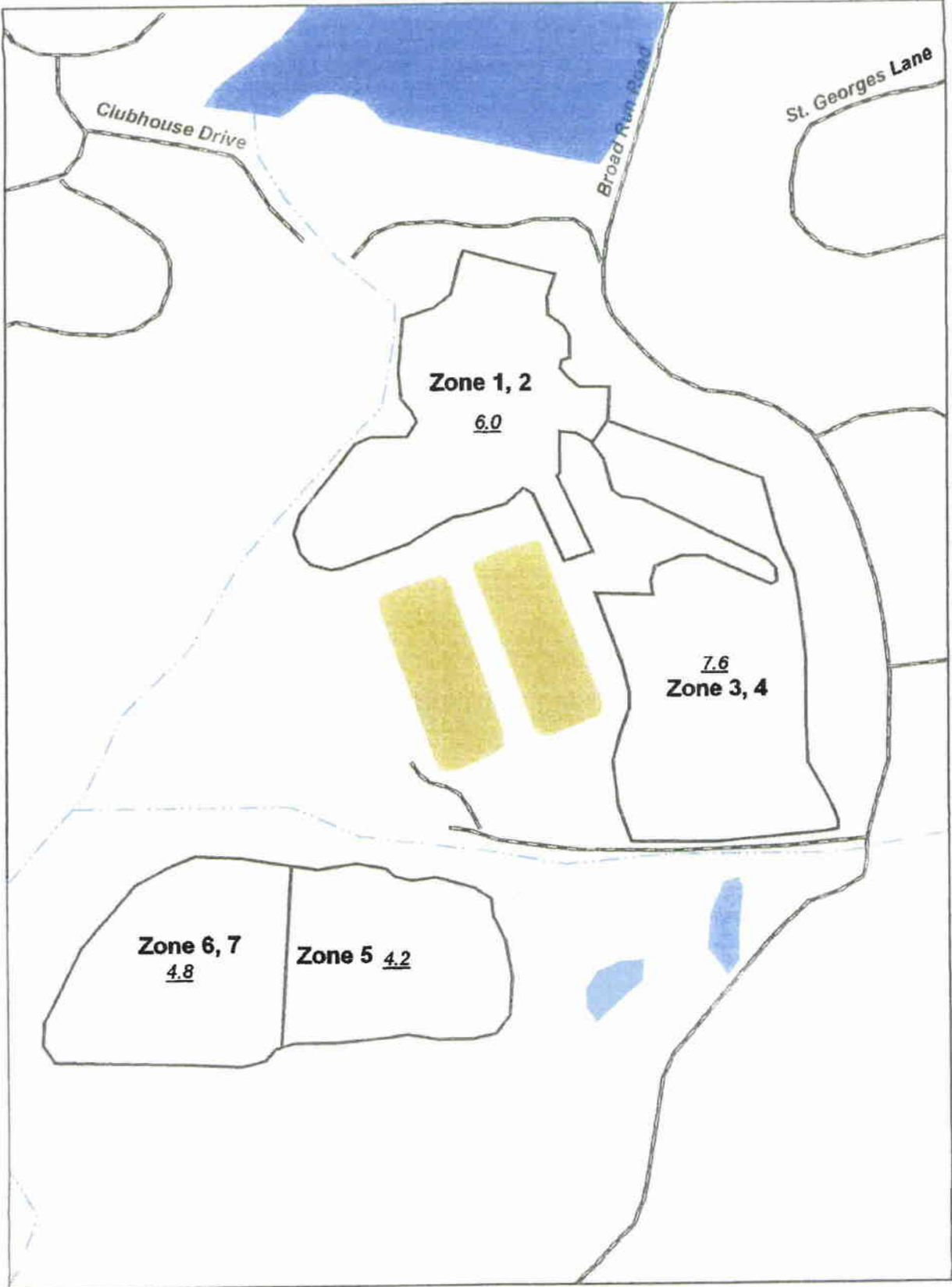
Sampled 02-27-2016
Tested 03-04-2016

Sample Number	Lab Number	pH		Organic Matter %	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating					
		Soil pH	Buffer pH		Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn
EAST 1	J36639	6.4	7.0	2.5	63 G	115 M	235 G	1625 H	8.3	3.0	20.7	73.0						
EAST 2	J36640	6.6	7.0	2.2	49 M	81 M	186 G	1265 G	8.1	2.2	16.8	58.5						
EAST 3	J36642	6.8	7.2	3.9	292 V	141 M	305 G	3209 G	17.8	1.7	12.5	67.5						
EAST 4	J36643	6.9	7.2	2.7	234 V	126 M	279 G	2777 G	15.2	1.8	13.4	68.4						
EAST 5	J36644	6.9	7.1	4.3	350 V	134 M	314 G	3271 H	17.7	1.6	13.0	69.3						
EAST 6	J36645	6.7	7.0	2.0	66 G	103 M	245 G	1623 G	10.2	2.2	17.6	59.6						
SOUTH 1-2	J36646	6.7	7.0	2.4	70 G	113 M	240 G	1648 G	10.3	2.4	17.0	59.8						
SOUTH 3-4	J36647	6.6	7.2	2.2	30 M	95 M	245 G	1455 G	9.6	2.1	18.7	56.9						
SOUTH 5-7	J36648	6.4	7.1	3.4	122 H	176 G	296 G	1722 G	9.3	4.1	23.4	69.5						

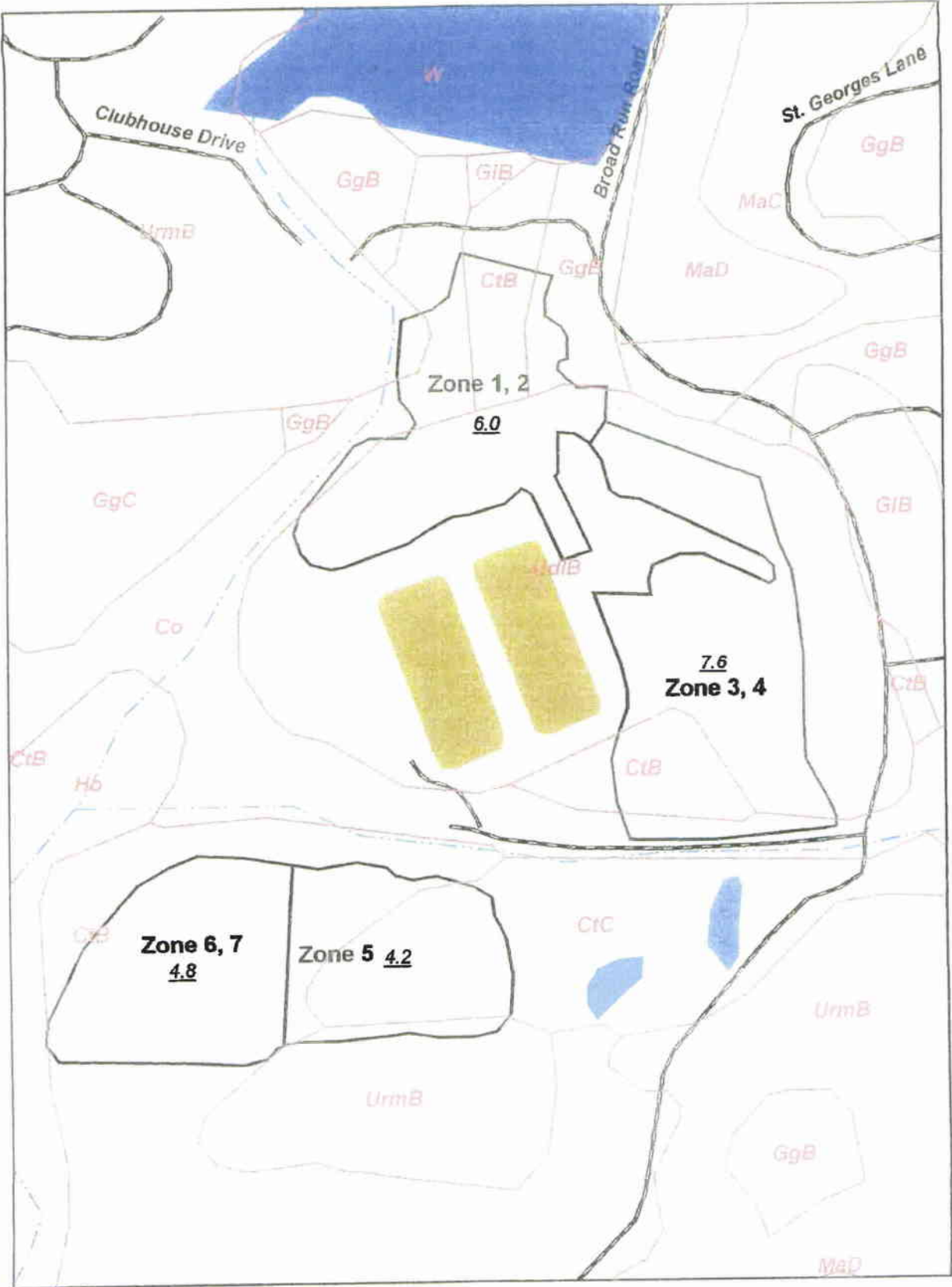
* Results: P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm
 Ratings: L=Low M=Medium G=Good H=High V=Very High

Sample Number	Lab Number	P-FIV	DPS	Na m3-ppm	Na Sat %
EAST 1	J36639	76		64	3.3
EAST 2	J36640	61		47	2.5
EAST 3	J36642	317	84	67	1.6
EAST 4	J36643	256	66	64	1.8
EAST 5	J36644	379	103	62	1.5
EAST 6	J36645	79		60	2.6
SOUTH 1-2	J36646	83		67	2.8
SOUTH 3-4	J36647	41		50	2.3
SOUTH 5-7	J36648	138		66	3.1

New Garden Township



New Garden Township



Map Unit Legend

Chester County, Pennsylvania (PA029)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Co	Codorus silt loam	2.5	9.1%
CtB	Conestoga silt loam, 3 to 8 percent slopes	8.1	30.3%
CtC	Conestoga silt loam, 8 to 15 percent slopes	4.8	18.0%
GgB	Glenelg silt loam, 3 to 8 percent slopes	0.9	3.4%
MaC	Manor loam, 8 to 15 percent slopes	0.0	0.0%
UdIB	Udorthents, limestone, 0 to 8 percent slopes	10.5	39.1%
Totals for Area of Interest		26.8	100.0%

APPENDIX 10

SEWER USER ORDINANCE

TOWNSHIP OF NEW GARDEN
CHESTER COUNTY, PENNSYLVANIA
ORDINANCE NO. 174

AN ORDINANCE OF THE TOWNSHIP OF NEW GARDEN FIXING AND IMPOSING SEWER RENTS AND CHARGES FOR THE SEWER SERVICE RENDERED BY THE TOWNSHIP; PROVIDING FOR THE COLLECTION OF SEWER RENTS AND CHARGES AND IMPOSING PENALTIES FOR DELINQUENT PAYMENTS; AND PROVIDING FOR PROHIBITED DISCHARGE STANDARDS AND OTHER RELATED MATTERS.

WHEREAS, the Township of New Garden (the "Township") operates and maintains sewerage collection systems (the "Sewer System") in certain areas of the Township, and provides sewerage service to properties in those certain areas, which Sewer System is owned by the New Garden Township Sewer Authority, pursuant to Lease dated March 1, 1991, and Supplementary Lease dated May 1, 1997 amending and supplementing the said Lease dated March 1, 1991, and Second Supplementary Lease dated August 29, 2001 further amending and supplementing the said Lease dated March 1, 1991 and the said Supplementary Lease dated May 1, 1997; and

WHEREAS, the Township of New Garden (the "Township") has previously enacted Ordinances wherein sewer rents and charges for the sewer services rendered by the Township were imposed upon users of such services; and

WHEREAS, the Township desires to continue to effect technical corrections and amendments to those prior Ordinances to ensure that the provisions of the sewerage treatment Permits and the sewerage treatment Agreements between the Township and other municipalities are being complied with, and that all properties being provided with sewerage service are treated equally; and

WHEREAS, the sewer rents and charges imposed by the latest of these Ordinances have been found to be presently insufficient in amount for the Township to comply with the expenses and obligations related thereto; and

WHEREAS, the Township deems it necessary to increase the sewer rents and charges imposed for the sewer service rendered by the Township; and

WHEREAS, in furtherance of the foregoing, the Township desires to amend and re-state the foregoing Article III of Chapter 152 of the New Garden Township Code as hereinafter set forth.

NOW, THEREFORE, the Board of Supervisors of New Garden Township hereby enacts and ordains as follows:

SECTION 152-11. DEFINITIONS

Unless the context specifically indicates otherwise, the meaning of the terms used in this Ordinance shall be as follows:

a. AUTHORITY shall mean New Garden Township Sewer Authority.

b. BUILDING SEWER shall mean the extension from the sewage drainage system of any structure to the Lateral of a Sewer, at the property line, curb line or alley line.

c. CONNECTION UNIT shall mean as follows:

(1) With respect to single-family residential customers, each residence connected to the Sewer System shall be considered One (1) connection unit. With respect to attached dwelling units or dwelling units located as apartments, flats or other multi-family arrangements, each attached dwelling unit, flat, apartment or other multiple dwelling unit, whether connected through sewer laterals to each individual unit or a common lateral, shall be considered One (1) connection unit, as if each such unit had a direct and separate connection to the Sewer System; and

(2) With respect to non single-family dwellings, flats, apartments, stores or offices having the use of the Sewer System through one sewer lateral, each and every residential unit, flat, apartment, store, or office shall be considered One (1) connection unit, as if each such unit had a direct and separate connection to the Sewer System. For purposes of clarification, a shopping center with Ten (10) stores connected to a single lateral would be considered Ten (10) connection units, except as such connection units may be increased by the provisions of Subsection (3) below of this SECTION 152-11; and except as such connection units may be increased by the provisions of Subsection (3) below of this SECTION 152-11 DEFINITIONS, Subsection C. connection unit of this Ordinance.

(3) With respect to commercial or industrial properties, the number of connection units shall be equal to the daily water usage in gallons divided by 200. The daily water usage shall be computed by dividing the difference in successive quarterly meter readings by the number of days between such readings. If, after such an industrial or commercial building is fully occupied, or, if after a change in use of a commercial or industrial building is determined to have occurred by the Township or the Authority, the Township or the Authority shall, based upon water meter readings, review the number of connection units assessed upon initial connection of a building to make certain that the number of connection units actually in use by the customer are the same or less than those assessed. If the number of connection units exceeds those charged at the time of initial connection of the building as determined by comparison of meter readings as indicated above, the Township or the Authority shall charge additional tapping

fees at the rate then in effect in the Township. However, should such excess connection units not be available, the user must curtail (terminate) the excess (additional) flow being discharged to the Sewer System.

- d. DOMESTIC WASTE shall mean sewage discharged into the Sewer System having concentrations not exceeding the following:
 - (1) Ammonia - Nitrogen as N: 20mg/l;
 - (2) BOD₅: 250mg/l;
 - (3) Dissolved solids: 500mg/l;
 - (4) Nitrogen (TKN): 40mg/l;
 - (5) Phosphorus (Phosphate) as P: 10mg/l;
 - (6) Suspended solids: 250mg/l.
- e. INDUSTRIAL WASTE shall mean any biodegradable solid, liquid, or gaseous substance or water borne wastes or form of energy rejected, ejected or escaping from any industrial, manufacturing, trade or business process or from the development, recovery or processing of natural resources, as distinct from domestic waste.
- f. LATERAL shall mean that part of the Sewer System extending from a Sewer to the property line, curb line or alley line.
- g. OWNER shall mean any person vested with ownership, legal or equitable, sole or partial, of any property located in a Sewer Area.
- h. PERSON shall mean any individual, partnership, company, association, society, corporation or other group or entity.
- i. SEWER shall mean any pipe or conduit constituting a part of the Sewer System used or usable for sewage collection purposes and to which ground, surface or storm water is not admitted intentionally.
- j. SEWER SYSTEM shall mean all facilities, as of any particular time, for collecting, treating and/or disposing of sewage and owned or operated by the Township or the Authority.
- k. TOWNSHIP shall mean the Township of New Garden.

SECTION 152-12. SEWER RENTALS AND CHARGES, EXCLUDING CHARGES FOR INDUSTRIAL WASTE

A. There is hereby imposed on the owner of each property served by the Sewer System, not discharging Industrial Waste, quarter-annual sewer rents and/or charges based upon the following classifications and in the following base minimum amounts:

BASE MINIMUM QUARTERLY SEWER RENT

Occupancy for periods of less than a full quarter will result in the quarterly sewer user charge being billed plus excess, if any.

- (1) Each private dwelling; each dwelling unit in a double house or in a row of connecting houses; each apartment, room, group of rooms, manufactured home or enclosure occupied or intended to be occupied as separate living quarters by a family or group of persons living together or by persons living alone, but excluding hotels, motels, or boarding houses.....\$ 80.00

- (2) Each commercial, retail, industrial or institutional establishment and each bedroom unit of a motel, hotel or boarding house, having sanitary facilities, including stores, food markets, professional offices, mushroom houses, automotive repair garages and establishments not regularly preparing and/or dispensing food or beverages, but excluding those uses enumerated in Subsection (3)below of SECTION 152-12, Subsection A, hereof, and excluding industrial establishments discharging biodegradable industrial waste which are governed by SECTION 152-13, hereof.....\$110.00

- (3) Each restaurant, bar, institution or establishment regularly preparing and/or dispensing food or beverages, whether for consumption on or off the premises, including, but not limited to, stores, food markets, delicatessens, food marts, schools, day care centers, or other establishments requiring food handling licensing, and beauty parlor and service station.....\$130.00

B. There is hereby imposed on the owner of each property served by the Sewer System, not discharging Industrial Waste, in addition to the base quarter - annual sewer rents and/or charges, additional rents and/or charges for discharge (based on water usage) in excess of Five thousand (5,000) gallons per quarter, but less than Fifteen Thousand and One (15,001) gallons per quarter, based upon the following classifications and in the following amounts:

EXCESS I QUARTERLY SEWER RENT

Occupancy for periods of less than a full quarter will result in the quarterly sewer user charge being billed plus excess, if any

- (1) Each private dwelling; each dwelling unit in a double house or in a row of connecting houses; each apartment, room, group of rooms, manufactured home or enclosure occupied or intended to be occupied as separate living quarters by a family or group of persons living together or by persons living alone, but excluding hotels, motels or boarding houses.....\$ 10.50 per 1,000 gallons or any fraction thereof

- (2) Each commercial, retail, industrial or institutional establishment and each bedroom unit of a motel, hotel or boarding house, having sanitary facilities, including stores, food markets, professional offices, mushroom houses, automotive repair garages and establishments not regularly preparing and/or dispensing food or beverages, but excluding those uses enumerated in Subsection(3) below of SECTION 152-12, Subsection B. hereof, and excluding industrial establishments discharging biodegradable industrial waste which are governed by SECTION 152-13 hereof.....\$16.00 per 1,000 gallons or any fraction thereof

- (3) Each restaurant, bar, institution or establishment regularly preparing and/or dispensing food or beverages, whether for consumption on or off the premises, including but not limited to, stores, food markets, delicatessens, food marts, schools, day care centers, or other establishments requiring food handling licensing, and beauty parlor and service station.....\$ 21.75 per 1,000 gallons or any fraction thereof

C. There is hereby imposed on the owner of each property served by the Sewer System, not discharging Industrial Waste, in addition to the base quarter - annual sewer rents and/or charges, additional rents and/or charges for discharge (based on water usage) in excess of Fifteen Thousand (15,000) gallons per quarter, based upon the following classifications and in the following amounts:

EXCESS II QUARTERLY SEWER RENT

Occupancy for periods of less than a full quarter will result in the quarterly sewer user charge being billed plus excess, if any.

- (1) Each private dwelling; each dwelling unit in a double house or in a row of connecting houses; each apartment, room, group of rooms, manufactured home or enclosure occupied or intended to be occupied as separate living quarters by a family or group of persons living together or by persons living alone, but excluding hotels, motels or boarding houses.....\$ 13.00 per 1,000 gallons

- (2) Each commercial, retail, industrial or institutional establishment and each bedroom unit of a motel, hotel or boarding house, having sanitary facilities, including stores, food markets, professional offices, mushroom houses, automotive repair garages and establishments not regularly preparing and/or dispensing food or beverages, but excluding those uses enumerated in Subsection (3) below of SECTION 152-12., Subsection C. hereof, and excluding industrial establishments discharging biodegradable industrial waste which are governed by SECTION 152-13. hereof.....\$ 19.50 per 1,000 gallons or any fraction thereof

- (3) Each restaurant, bar, institution or establishment regularly preparing and/or dispensing food or beverages, whether for consumption on or off the premises, including but not limited to stores, food markets, delicatessens, food marts, schools, day care centers, or other establishments requiring food handling licensing, and beauty parlor and service station.....\$ 26.25 per 1,000 gallons or any fraction thereof

D. If two or more of the use classifications specified in Subsections A., B. and C. above of this SECTION 152-12 hereof exist in one building and have the use of the sewer system through one sewer connection, the charge applicable to both or all of such use classifications shall be imposed as if there were a separate connection for each of the use classifications.

SECTION 152-13. SEWER RENTS AND CHARGES FOR INDUSTRIAL WASTE AND REGULATIONS PERTAINING THERETO

A. There is hereby imposed on the Owner of each property served by the Sewer System and discharging Industrial Waste into the Sewer System, based on the volume of metered water usage, quarter-annual sewer rents or charges, as follows:

The Base minimum quarter-annual Sewer Rent shall be Three hundred eighty five and 00/100 Dollars (\$385.00) for the first Five thousand (5,000) gallons of sewerage discharged. Thereafter, the Excess quarter-annual Sewer Rent shall be Twenty-seven and 50/100 Dollars (\$27.50) for each One Thousand (1,000) gallons of sewerage discharged, or fraction thereof, in excess of Five Thousand (5,000) gallons per quarter, but less than Fifteen Thousand and One (15,001) gallons per quarter, and Thirty-six and 00/100 (\$36.00) for each One Thousand (1,000) gallons of sewerage discharged, or fraction thereof, in excess of Fifteen Thousand (15,000) gallons per quarter.

B. No Industrial Waste shall be discharged into the Sewer System until:

1. a water meter satisfactory to the Township has been installed at the Owner's expense, which Owner shall be responsible for its maintenance and safekeeping; and
2. a sewage meter satisfactory to the Township for the purpose of monitoring sewage flows, and not for the purpose of computing sewer rents, has been installed at the Owner's expense, which Owner shall be responsible for its maintenance and safe keeping; and
3. the Owner has applied for and obtained approval from the Township for the discharge of Industrial Waste.

C. Industrial Waste surcharges. There shall be additional charges for industrial wastes having concentrations of BOD₅, suspended solids, dissolved solids, nitrogen or phosphorus in excess of the average concentration of these pollutants in normal domestic waste, based on the "Surcharge Formula" set forth in Subsection D. below of this SECTION 152-13 hereof. This provision does not, however, vest any right for any user of the sewer system to discharge waste which exceeds the strength of Domestic Waste.

D. Surcharge Formula.

1. In order to determine the additional charge for Industrial Waste with strength greater than that of domestic waste, the following formula shall be used:

$$S_Q = 0.00834 Q_I [(BOD_{5I} - 250) TC_{BOD5} + (SS_I - 250) TC_{SS} + (DS_I - 500) TC_{DS} + (N_I - 40.0) TC_N + (P_I - 10) TC_P]$$

Where:

S_Q = The quarterly surcharge to be added to the normal sewer rent.

0.00834 = A constant to convert waste concentrations, expressed in mg/l, to thousands of pounds of waste.

Q_I = The quarterly industrial waste flow, expressed in million gallons.

BOD_{5I} , SS_I , DS_I , N_I , and P_I = The respective concentrations of BOD_5 , suspended solids, dissolved solids, nitrogen (TKN) and phosphorus (total as P) of the industrial waste, expressed in mg/l.

250, 250, 500, 40 and 10 = Constants which express the waste load concentrations in mg/l for normal domestic wastes.

TC_{BOD5} = The treatment cost incurred by the Township as updated annually per one thousand (1,000) pounds of BOD_5 .

TC_{SS} = The treatment cost incurred by the Township as updated annually per one thousand (1,000) pounds of suspended solids.

TC_{DS} = The treatment cost incurred by the Township as updated annually per one thousand (1,000) pounds of dissolved solids.

TC_N = The treatment cost incurred by the Township as updated annually per one thousand (1,000) pounds of nitrogen.

TC_P = The treatment cost incurred by the Township as updated annually per one thousand (1,000) pounds of phosphorus.

2. When a value of BOD_5 , suspended solids, dissolved solids, nitrogen and/or phosphorus is less than the normal domestic waste concentration as established herein, then the normal domestic waste concentration shall be used in the calculation of the industrial waste surcharge.

E. Additional surcharges. The formula specified in Subsection D., hereof is to determine additional charges or surcharges for the treatment of Industrial Wastes having concentrations of BOD₅, suspended solids, dissolved solids, nitrogen and phosphorus in excess of those of domestic waste. It is, however, recognized that the discharge of any waste or other matter which contains any one (1) or more of the prohibited substances listed in Section 4. hereof, may result in extraordinary laboratory, labor, maintenance and/or treatment expenses to the Township - Hence, in the event of the discharge of any Industrial Waste or other matter or substance, as may be permitted by the Township, containing any one (1) of the prohibited substances listed in Section 4. hereof, the Township shall have the power to assess the owner of the property from which such discharge is made administrative fees or charges and penalties in addition to the normal sewer rental and/or any Industrial Waste surcharge incurred under Subsection D. hereof.

F. Methods of payment of extra charges by industrial users. The Industrial Waste surcharge shall be payable quarterly. The Township shall cause the water meter of each industrial user where the wastewater flow determination is based upon metered water consumption, and the wastewater meter where the wastewater flow determination is based upon wastewater flow measurement, to be read on a quarterly basis, and the Township shall cause Industrial Waste surcharge bills to be mailed forthwith following each reading.

1. The Township shall cause periodic sampling of the wastewater discharged by each industrial user, at the Owner's expense.
2. The analysis (which shall also be at Owner's expense) of the sample shall be the basis for computing industrial waste surcharges.
3. Bills for industrial waste surcharge shall be mailed to the owner's address specified on the industrial waste discharge permit. Failure to receive a bill as a result of incorrect address or otherwise shall not excuse the obligation to pay the charges or extend the time for payment.

G. Industrial users. Industrial Waste surcharge payments by an industrial user shall be computed from the date Industrial Waste discharge to the Sewer System begins and shall continue indefinitely.

H. Discontinuance of use. If an industrial user discontinues discharging Industrial Waste as determined by the Township, to the Sewer System, its charges for Industrial Waste surcharges shall cease.

I. All chemical or biological analyses specified herein shall be performed by an independent laboratory certified by the Commonwealth of Pennsylvania to conduct such tests in accordance with applicable procedures presented in the latest revised edition of "Standard Methods for the Examination of Water and Waste Water", as published jointly by the American Public Health Association, American Water Works Association and the Water Pollution Control Federation.

J. Occupancy for periods of less than a full quarter will result in the minimum quarterly sewer user charge being billed plus excess, if any.

SECTION 152-14. PROHIBITED DISCHARGE STANDARDS

A. No waste, chemicals or other matter shall be discharged into the Sewage System:

- (1) having a five (5) - day, twenty (20) degree C. (Centigrade) biochemical oxygen demand (B.O.D.) averaging more than 250 milligrams per liter (mg/l) or as may be otherwise determined by the Township, but no higher than such determination;
- (2) having a suspended solids content averaging more than 250 mg/l;
- (3) having ammonia nitrogen as N in excess of 20 mg/l;
- (4) having a dissolved solids content in excess of 500 mg/l;
- (5) having a phosphorus content as P in excess of 10 mg/l;
- (6) having an average chlorine demand greater than ten (10) mg/l;
- (7) having a temperature higher than 150 degrees F;
- (8) containing more than 100 mg/l of fat, oil or grease;
- (9) containing any gasoline, benzene, naphtha, fuel oil or other inflammable or explosive liquid, solid or gas;
- (10) containing any unground garbage;
- (11) containing any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, paunch manure or any other solid or viscous substance capable of causing obstruction to the flow in the sewer system or other interference with the proper operation of the sewage collection, conveyance, or treatment systems;
- (12) having a "PH" lower than 6.5 or higher than 9.0 or having any other corrosive property capable of causing damage or hazard to structures, equipment or personnel of the Sewer System;
- (13) containing toxic or poisonous substances in sufficient quantity to injure or interfere with any sewage treatment process, to constitute a hazard to humans or animals, or to create any hazard in the waters receiving the effluent of the sewage treatment plant (toxic wastes shall include, but shall

not be limited to, wastes containing cyanide, copper and/or chromium ions);

- (14) containing total solids, waters, wastes, or other solids of such character and quantity that unusual attention or expense is required to handle such materials at the sewage treatment plant to which such effluent is discharged, or in the collection and conveyance systems;
- (15) containing any noxious or malodorous gas or substance capable of creating a public nuisance;
- (16) collected from septic tanks, cesspools or other on - lot sanitary disposal systems;
- (17) restricted by virtue of the Department Of Environmental Protection Permit under which the Sewer System to which such effluent is discharged is required to operate;
- (18) containing any radioactive materials;
- (19) containing any colored wastewaters;
- (20) having any rates of flow taking on the properties of a slug, except as the Township may specifically agree to accept in accordance with Section 3. of this Ordinance; or
- (21) having an Aluminum content in excess of 1.10 mg/l;
- (22) having an Antimony content in excess of 5.0 mg/l;
- (23) having an Arsenic content in excess of .42 mg/l;
- (24) having a Barium content in excess of 4.0 mg/l;
- (25) having a Boron content in excess of 1.0 mg/l;
- (26) having a Cadmium content in excess of .02 mg/l;
- (27) having a Chlordane content in excess of .000121 mg/l;
- (28) having a Chloroform content in excess of .002 mg/l;
- (29) having a Chromium (hexavalent) content in excess of .1 mg/l;
- (30) having a Chromium (total) content in excess of 1.0 mg/l;
- (31) having a Copper content in excess of .09 mg/l;
- (32) having a Cyanide (total) in excess of .18 mg/l;
- (33) having a Diazinon content in excess of .00053 mg/l;
- (34) having an Iron content in excess of 5.0 mg/l;
- (35) having a Lead content in excess of .032 mg/l;
- (36) having a Lindane content in excess of .00018 mg/l;
- (37) having a Manganese content in excess of 1.0 mg/l;
- (38) having a Mercury content in excess of .0014 mg/l;

- (39) containing any Napthalene;
- (40) having a Nickel content in excess of 1.0 mg/l;
- (41) containing any Pentachlorophenol;
- (42) containing any Phenols (total) in excess of .22 mg/l;
- (43) having a Selenium content in excess of .04 mg/l;
- (44) having a Silver content in excess of .01 mg/l;
- (45) having a Tin content in excess of 3.0 mg/l;
- (46) having a Nanadium content in excess of 3.0 mg/l;
- (47) having a Zinc content in excess of .11 mg/l;
- (48) Containing Total Halogenated Organics in excess of 5.0 mg/l;
- (49) containing any Toxic Pollutants Listed in Section 307 of the Clean Water act:
 - (a) in excess of 5.0 mg/l for any single parameter total; or
 - (b) in excess of 30.0 mg/l for all toxic parameters listed; or
- (50) containing any Toxic Pollutants as may be determined by the Pennsylvania Department of Environmental Protection.
- (51) which is not biodegradable
- (52) containing any stormwater, roof drainage, surface drainage, floor drainage or similar non-sanitary waste

B. Notwithstanding the provisions of Subsection A. above of this SECTION 153-14 hereof, the Township may, on a case-by-case basis, in its sole discretion, permit the discharge of waste, chemicals or other matter exceeding the limits for the parameters listed in Subsection A. above of this SECTION 153-14 hereof considering the capability and capacity of the sewage treatment facility in which the waste will be treated; the anticipated duration of the exceedance, the volume of the waste to be discharged, the extent to which the waste may adversely impact operation of the sewage system and any regulatory requirements associated with operation and maintenance of the sewage system. In addition, the Township shall consider the provisions of any Municipal Industrial Pretreatment Program (MIPP) that may now or in the future be in effect which may govern the character and composition of any waste, chemicals or other matter which may be discharged into the sewer system.

C. In those instances where the Township shall permit the discharge of waste, chemicals or other matter exceeding the limits for the parameters listed in Subsection A. above, a permit shall be issued by the Township to the user of the sewer system discharging such waste. Said permit shall be reviewed at least annually and may be re-issued for a term not exceeding Two (2) years. Such permit may be revoked or amended by the Township at any time it deems in its best interest.

D. Standards Relating To Fat, Oil and Grease,

1. No waste, chemicals or other matter shall be discharged into the Sewage System containing more than 100 mg/l of fat, oil or grease;

2. No fat, oil, grease or other substance shall be discharged into the Sewage System that will become solid or vicious and which may cause obstruction to the flow in a sewer or pass through or cause other interference with the operation of the wastewater treatment facilities or collection system;

3. No fat, oil, or grease shall be discharged into the Sewage System in such quantity or concentration which may cause obstruction to the flow in a sewer or pass through or cause other interference with the operation of the wastewater treatment facilities or collection system;

4. Fat, oil and grease interceptors (traps) shall be provided and installed, at the Owner's sole cost and expense, when, in the opinion of the Township or the Authority, they are necessary for the proper handling of liquid wastes containing floatable fat, oil or grease in such quantity or concentration as to cause obstruction to the flow in a sewer or pass through or interfere with the operating of the wastewater treatment facilities, except such interceptors shall not be required for private living quarters or dwelling units;

5. All fat, oil and grease interceptors (traps) shall be of a type and capacity approved by the Township and the Authority, shall be located as to be readily and easily accessible for inspection, sampling and cleaning, shall be designed, constructed and maintained in accordance with the STANDARD SPECIFICATIONS AND DETAILS regarding sewer facilities and infrastructure of the New Garden Township Sewer Authority dated March 2003, and adopted by both the Township and the Authority by separate Resolutions on March 11, 2003, as may be from time to time amended;

6. The Township or the Authority shall cause periodic inspections of the interceptors, periodic sampling of the wastewater discharge to and from the interceptor (as may be deemed necessary by the Township or the Authority), and the analysis of such wastewater (also as may be deemed necessary by the Township or the Authority), all at the sole cost and expense of the Owner;

7. The Township or the Authority, in the proper maintenance of these interceptors, shall cause the captured material to be removed and disposed of by appropriate means on a schedule to be determined by the Township or the Authority, at the sole cost and expense of the Owner. The removal, hauling and disposal of the collected materials shall be performed by currently-licensed waste disposal firms;

8. The Township or the Authority, or their duly authorized representatives, agents, servants or hires, shall have the right to enter onto any property to carry out the actions and procedures set forth herein, including inspection, observation, measurement, sampling, testing and removal of collected materials; and

9. The full and complete cost and expense of repairing any damage to or correcting any malfunction of, problems, faults or deficiencies in any component of the New Garden Township Sewer Authority's waste water collection, conveyance or treatment systems, including, but not limited to, sewer mains, pump stations and treatment facilities, caused by the failure to adequately and completely remove fats, oils, greases, sand, grit and similar materials from the waste water discharged from the property or facility owned or used by any person, partnership, corporation or other entity shall be the joint and several responsibility of and shall be paid by such person, partnership, corporation or other entity.

SECTION 152-15. TIME AND METHOD OF PAYMENT OF SEWER RENTAL

A. The quarter-annual sewer rentals shall be payable on or before the first day of the month next succeeding the month in which bills are delivered. If any quarterly installment of sewer rent is not paid within thirty (30) days after the date of the bill, a penalty of ten percent (10%) shall be added thereto; and if the installment plus penalty is not paid within sixty (60) days after the date of the bill, the aggregate amount thereof shall bear interest from the penalty date at the rate of ten percent (10%) per year, or fraction thereof. Any unpaid sewer rental, together with penalties and interest thereon to the extent permitted by law, and all delinquent costs, shall be a lien on the property served, which may be collected by action in assumpsit, by distress and/or by a lien filed in the nature of a municipal claim and/or by termination of Water and/or Sewer services as and to the extent provided by law. In addition, any costs and/or attorney's fees incurred by the Township or Authority shall be added to the unpaid sewer rental along with penalties and interest as set forth above, and the aggregate of the same shall be entered as a lien on the property served.

B. The Township and Authority hereby adopts the following fee schedule to be paid to legal counsel for representation in proceedings to recover any delinquent sewer rental claim. The Township and Authority finds these fees fair, and reasonable for such service to be rendered by legal counsel, hereby approves these fees, and shall impose them upon the property owner in proceedings to recover delinquent sewer rental claims, together with any additional court costs or other necessary expenses incurred by the Township or Authority in connection with the collection of delinquent sewer rental claims.

ACTION TAKEN BY LEGAL COUNSEL: LEGAL FEES FOR SUCH ACTION:

Open file and send demand letter	\$165.00
File lien and send second letter	\$150.00
Prepare and file Writ of Scire Facias	\$175.00
Re-Issue Writ	\$ 50.00
Prepare and mail correspondence per Pa.R.C.P. Section 237.1	\$ 35.00
Motion for Alternate Service	\$200.00
Motion for Summary Judgment	\$200.00
Prepare and file Default Judgment	\$150.00
Prepare and file Writ of Execution for Sheriff Sale	\$750.00
With Sale	\$500.00
Charge for Check which does not clear	\$ 35.00
Miscellaneous Litigation	Hourly rate \$175.00 per hour.

C. Every Owner shall keep the Township advised of his correct address. Failure of any Owner to receive his quarter-annual bills shall not be considered an excuse for non-payment nor shall such failure result in an extension of the time during which the bill is payable.

SECTION 152-16. ADDITIONAL CONDITIONS REGARDING SERVICE

A. If any Person shall fail for (30) thirty days after written notice from the Township to remedy any unsatisfactory condition with respect to a Building Sewer, the Township may refuse to permit such Person to use the Sewer System until such unsatisfactory condition shall have been remedied to the satisfaction of the Township.

B. The Township reserves the right to refuse any Person or property the use or increased use of the Sewer System, to refuse any person or property additional connection units, or to compel the pretreatment of Industrial Wastes, in order to prevent discharge into the Sewer System of excessive effluent and/or harmful wastes.

C. The Township reserves the right to and may, from time to time, adopt, revise, amend and re-adopt such rules and regulations as it deems necessary and proper for the use and operation of the Sewer System. Any such revisions, amendments and re-adoption effecting this Ordinance shall be applied retroactively and immediately to all users of the Sewer System without regard to the provisions of any ordinance, rule, regulation and similar legislation that was in effect at the time when connection to and use of the Sewer System was first made by any and all users thereof.

D. The Township or the Authority in their absolute discretion shall have the right to enter into Agreements with respect to the terms and conditions under which Domestic Waste or Industrial Waste may be discharged into the Sewer System and with respect to the payment to be made in connection therewith.

E. All persons and properties discharging sewerage into the Sewer System or being served thereby, not having water meters installed on the water lines serving such Persons or properties, shall have water meters installed on such water lines. The Township or the Authority shall install such water meters.

F. The Township or the Authority reserves the right to compel any Person or property discharging sewerage into the Sewer System to install sewer meters at the expense of such person or the Owner of the property and to base all sewer rentals and/or charges on metered sewerage usage.

G. All meters or other measuring devices and effluent sampling devices installed or required to be used under the provisions of this Ordinance shall be installed at a location approved by and accessible to the Township and the Authority, and the Township or the Authority shall be responsible for the reading thereof.

H. All sewer rentals and/or charges shall be based on metered water usage; except as may be otherwise determined by the Township or the Authority in cases of certain industrial and/or commercial users not discharging all of such user's sewerage effluent into the Sewer System, or not returning all of the water used to the Sewer System, in which cases sewer rentals and/or charges may be based on sewerage discharged into the Sewer System by determining the differences between water meters where there are separate water meters which measure water flow delivered to the subject property and measure the water flow that is not discharged into the Sewer System and/or by the sewerage discharged into the Sewer System measured by a separate sewage meter, whichever method is determined by the Township or Authority to be most appropriate.

I. All meters or other measuring devices installed or required to be used under the provisions of this Ordinance shall be approved by the Township or the Authority, and shall be tested, inspected, and repaired as required by the Township or the Authority, and all testing, inspection and repairs of such measuring device shall be made at the expense of the property Owner. The Owner of the property upon which such measuring device is installed shall be responsible for its maintenance and safe keeping, and all testing, inspection and repairs of such measuring device shall be made at the expense of the property Owner.

J. The Township reserves the right to, and may from time to time modify, revise or raise the fees, charges, surcharges, excess charges, administrative fees and rates set forth in this Ordinance by the adoption of amendments hereto, Resolution or subsequent Ordinances.

K. There shall be only one (1) water meter permitted for any property whereon a single residential dwelling unit is located for the purpose of measuring the amount of water used thereon.

SECTION 152-17. MISCELLANEOUS

A. The Township shall have the right of access at all reasonable times to any part of any property served by the Sewer System as shall be required for purposes of inspection, measurement, sampling and testing, and for other functions relating to service rendered by the Township to its Sewer System.

B. Whenever a property is vacated, the Owner must give notice to the Township Secretary of such fact and until such notice is given, and such vacancy is confirmed by the Township, the Owner shall be responsible for sewage charges. When a vacancy is properly reported an allowance for the period of vacancy, if such vacancy extends for a period of one billing quarter or more, shall be made if it is shown to the satisfaction of the Township that the water system is properly secured against use, so long as there exists no moratorium on connections to the Sewer System in the sewerage district in which such property is located. Should there be such moratorium in effect during all or any portion of the period in which any such property is vacant, the full sewage charges must be paid for the total number of connection units assigned to such property. Further, should such vacancy continue for a period of Three (3) years, the Owner will again become responsible for sewerage charges, regardless of the existence of such moratorium. The failure to pay or continue to pay all such sewage charges when due will result in the loss to such property of those connection units for which such sewage charges are not timely paid, with no return nor reimbursement of Connection Fees or any portion thereof, and the assignment of such connection units to other persons or properties.

Additionally, the continuance of such vacancy, for a period of Five (5) years from the date the property became vacant will result in the loss to such property of those connection units attributable to such vacancy, with no return nor reimbursement of Connection Fees or any portion thereof, and the assignment of such connection units to other persons or properties.

C. The reservation of sewer connection units by any party for any property shall be governed by various Township Ordinances and Resolutions and Resolutions of the Authority as the same may from time to time be amended, revised, modified or replaced.

D. Whenever there is any change of ownership of any improved property, the property Owner must give to the Township Secretary written notice of such change of ownership.

E. This Ordinance shall supersede all prior Ordinances or Resolutions as to the specific subject matter contained herein. All Ordinances or parts of Ordinances which are inconsistent herewith are hereby repealed.

F. This Ordinance shall be applicable to all persons using properties, owners of properties, tenants of properties and properties which are currently connected to the Sewer System or which may hereafter become connected to the Sewer System and shall apply to all sewer rents and charges for the Sewer Service rendered by the Township and the collection thereof, including Penalties and Delinquent Payments, and other matters relating thereto.

G. The provisions of this Ordinance are severable and if any of its provisions shall be held to be unconstitutional, illegal or invalid, such unconstitutionality, illegality or invalidity shall not effect or impair any of the remaining provisions of this Ordinance. It is hereby declared to be the legislative intent of the Board of Supervisors that this Ordinance would have been adopted had any such unconstitutional, illegal or invalid provision not been included herein.

SECTION 152-18. VIOLATIONS AND PENALTIES

A. The Solicitor for the Authority and/or the Solicitor for the Township shall be empowered and shall be charged with the responsibility of obtaining equitable, injunctive or other appropriate relief in the Court of Common Pleas of Chester County, before a District Magistrate or before appropriate administrative boards in order to secure compliance with the provisions of this Ordinance.

B. Any person or entity who or which violates or permits the violation of any provision of this Ordinance who shall not voluntarily pay the penalty imposed for violation of this Ordinance shall, upon being found liable thereof in any civil enforcement or other proceeding before a District Magistrate, pay a civil penalty of not more than Six Hundred (\$600.00) Dollars, plus court costs and reasonable attorney's fees, for each and every violation. Such civil penalty, costs and attorney's fees shall be enforced by the Authority and/or the Township pursuant to the applicable Rules of Civil Procedure, and shall be paid into the appropriate Sewer Fund. Each day during which failure to comply continues shall constitute a separate violation. This remedy shall be in addition to any other lawful remedies available to the Authority and Township.


This Ordinance shall be recorded in the Ordinance Book of the Township and shall become effective five (5) days after adoption thereof.


ORDAINED AND ENACTED THIS 11th day of September, 2007.

BOARD OF SUPERVISORS
NEW GARDEN TOWNSHIP

BY: 
Chairman

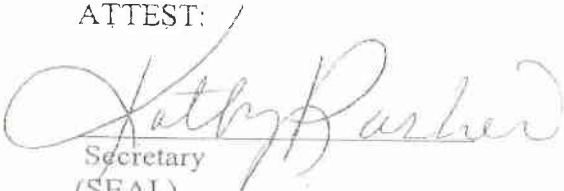
BY: 
Vice Chairman

BY: 
Member

BY: 
Member

BY: _____
Member

ATTEST:


Secretary
(SEAL)

APPENDIX 11

CORRECTIVE ACTION PLAN

APPENDIX 12
CONNECTION MANAGEMENT PLAN

APPENDIX 12

CURRENTLY

A

CONNECTION MANAGEMENT PLAN

IS NOT REQUIRED

APPENDIX 13

ORDINANCES RELATED TO RESERVING SEWAGE TREATMENT CAPACITY

APPENDIX 13

TOWNSHIP OF NEW GARDEN
CHESTER COUNTY, PENNSYLVANIA
ORDINANCE NO. 172

AN ORDINANCE REPLACING ORDINANCES NO. 47C AND NO. 138 OF THE TOWNSHIP OF NEW GARDEN PROVIDING A METHOD BY WHICH PROPERTY OWNERS IN THE TOWNSHIP MAY RESERVE CONNECTIONS TO THE SEWER SYSTEM AND PROVIDING FOR THE FIXING AND IMPOSING OF FEES FOR SUCH RESERVATION.

WHEREAS, the New Garden Township Sewer Authority (the "Authority") owns a Sewer System located in and serving various geographical areas within New Garden Township (the "Sewer System"); and

WHEREAS, said Sewer System is operated and maintained by the Township of New Garden (the "Township") pursuant to a lease dated March 1, 1991 (the "Lease"); and

WHEREAS, the Authority and the Township have adopted various Resolutions and Ordinances, respectively, which govern connection to and the use of the Sewer System and rates and charges related thereto; and

WHEREAS, the Township has previously enacted Ordinances No. 47C and No. 138 specifically to allow property owners in New Garden Township a method by which they could reserve sewer connections; and

WHEREAS, the Township desires to further amend the foregoing Ordinances by replacing them in their entirety; and

WHEREAS, in furtherance of the foregoing, the Township desires to amend and re-state all of Article V of Chapter 152 of the New Garden Township Code as hereinafter set forth.

NOW, THEREFORE, the Board of Supervisors of New Garden Township hereby enacts and ordains as follows:

ARTICLE V Reservation of Capacity and Making Connections

§ 152-26 Application for Connection.

- A. A property owner, developer, commercial establishment, industrial facility or other legal entity authorized to make and submit an application (the "Applicant") for connection to the Authority's sewage collection and conveyance system and/or sewage treatment and reclamation system (the "Sewer System") and who intends

to construct, cause to be constructed or otherwise connect to the Authority's Sewer System shall pay a nonrefundable application fee set by the Authority, from time to time by resolution, plus reimburse the Authority for any and all additional actual costs and expenses incurred by the Authority associated with processing such application. All applications for connection to the Authority's Sewer System shall be made in writing on forms provided by the Authority, shall be submitted to the Authority's business office at 299 Starr Road and shall include such information, plans and documents as requested by the Authority concerning the source(s) of the proposed discharge and the estimated flow in gallons per day and number of EDUs associated with the proposed connection and discharge to the Authority's Sewer System. All applications for connection to the Authority's Sewer System shall include a detailed description of the nature and character of the waste proposed to be discharged to the Authority's Sewer System and detailed calculations showing how the amount of flow from the proposed discharge was computed. Applicant shall also provide a written detailed explanation and diagrams which thoroughly describe the manner and method by which the physical connection to the Authority' sewer system is proposed to be made. Applications shall be logged in by the Authority by the date and time that the written application was determined to be complete by the Authority in its sole discretion, to include the nonrefundable application fee. Applications for connection to the Authority's Sewer System shall not be processed by the Authority until such written applications are determined by the Authority to be complete and include the information, plans, documents and nonrefundable application fee required herein, by the rules and regulations of the Authority and any other information requested by the Authority. The Authority reserves the right and privilege to reject any application that it deems incomplete.

B. Sewer connection.

- (1) No physical connection shall be made to the Authority's Sewer System by the Applicant, Applicant's contractor, Applicant's agent or any party other than the Authority, Authority's contractors or others specifically authorized by the Authority or the Township.
- (2) Applicant shall notify Authority at least five (5) business days in advance of the date that physical connection to the Authority's Sewer System is expected to be made. Authority shall, upon receipt of such notice, coordinate with Applicant with regard to completing said physical connection and inspection of the same. Physical connection to Authority's Sewer System shall not be made until the steps set forth in Paragraph A. hereinabove have been satisfactorily executed. Applicant shall be solely responsible for the payment of all costs and expenses associated with completing such physical connection and restoration of all areas disturbed thereby. All physical connections shall be made pursuant to the Standard Specifications and Details, rules, regulations, policies, procedures and ordinances of the Authority and Township.

- C. An equivalent dwelling unit (EDU) is currently the same as a billing unit which is 200 gallons per day which may be revised from time-to-time at the sole discretion of the Authority or the Township.

§ 152-27 Reservation of Capacity.

- A. Method of allocation of capacity. The Authority shall allocate and reserve capacity in its sewer system in terms of gallons per day. The Applicant is required to fully substantiate the amount of sewage discharge (flow) requested in the application for reservation and allocation of capacity. The Authority shall determine, in its sole discretion, the validity of Applicant's request and computation of flow and shall make the final determination as to the amount of flow to be reserved in conjunction with each application received and processed.
- B. Method of reservation of capacity. The Authority shall, in its sole discretion, make the final determination as to the amount of flow to be reserved in conjunction with each application received and processed.
- C. Application for allocation and reservation of capacity. An Applicant for reservation and allocation of capacity in the Authority's Sewer System shall pay a nonrefundable application fee by cash, check or money order, set by the Authority from time to time by resolution, plus reimburse the Authority for any and all additional actual costs and expenses incurred by the Authority associated with processing such application. All applications for allocation and reservation of capacity in the Authority's Sewer System shall be made in writing on forms provided by the Authority, shall be submitted to the Authority's business office at 299 Starr Road and shall include such information, plans and documents as requested by the Authority concerning the source(s) of the proposed discharge and the estimated flow, in gallons per day for which the reservation and allocation of capacity is being requested. All applications for allocation and reservation of capacity shall include a detailed description of the nature and character of the waste proposed to be discharged to the Authority's Sewer System and detailed calculations showing how the amount of flow from the proposed discharge was computed. An application for allocation and reservation of capacity will only be accepted for processing when such application is submitted in conjunction with filing a formal application to the Township for subdivision or land development approval or conditional use. Applications shall be logged in by the Authority by the date and time that the written application was determined to be complete by the Authority, in its sole discretion, to include payment of the nonrefundable application fee and twenty percent (20%) of the total amount of the tapping fee due based on the total number of gallons requested to be reserved and allocated. Applications for the reservation and allocation of capacity shall not be processed by the Authority until such written applications are determined by the Authority to be complete and include the information, plans, documents, nonrefundable application fee and twenty percent (20%) of the total amount of the tapping fee due based on the total number of gallons requested to be reserved and allocated as required herein, by the rules and regulations of the Authority and any other

information requested by the Authority. The Authority reserves the right and privilege to reject any application that it deems incomplete.

- D. Allocation of capacity. Capacity remaining in the Authority's Sewage System shall be allocated and reserved based on the order in which written applications, as described in paragraph C. hereinabove, are determined to be complete by the Authority by date and time of day. Subject to the limitations set forth herein, capacity shall be reserved and allocated in an amount equal to one-hundred percent (100%) of the total amount approved by the Authority for each application until there is no longer sufficient capacity in the Authority's Sewer System to accommodate the amount approved by the Authority for each subsequent application, provided, that all fees, costs and/or charges for reservation of such capacity shall have been paid in full. Where an Applicant who seeks to reserve capacity has previously been allocated and reserved capacity for a particular facility, property, tract or subdivision, such Applicant shall not be eligible to apply for or to receive an additional allocation and reservation of capacity, in any amount, for the same facility, property, tract or subdivision, until Applicant has constructed and connected to the Authority's sewer system, source(s) of discharge which contribute at least forty percent (40%) of the flow of capacity from the immediately preceding amount of reserved and allocated for such Applicant, and one-hundred percent (100%) of the flow of capacity from any and all previously reserved and allocated capacity, and such connected units are generating revenue to the Authority in an amount at least equal to the Authority's minimum quarterly sewer user rates for each EDU so connected. In interpreting this section, separate phases of construction of a property, project, facilities, subdivision or land development shall be treated as part of the same property, project, facilities, subdivision or land development and this provision shall apply to each phase of such property, project, facilities, subdivision or land development.
- E. Nothing herein contained to the contrary, the Authority shall retain for the discretionary use of the Township, flow equal to forty (40) EDUs. Further, the Authority shall retain flows equal to fifteen (15) EDUs for use of the Township but restricted to uses such as individual residential or commercial requiring one (1) or two (2) EDUs of capacity or to replace the use of an on-site septic system that is failing or has failed or if expansion thereof is required and no suitable area is available for such expansion.
- F. Failure to commit capacity. If the Authority has not reserved and allocated capacity for a particular application, within twelve (12) months immediately following the date the Authority determined that such application for reservation and allocation of capacity is complete, then, and only in such circumstance, such application may be considered void and no longer valid at the option of the applicant. If applicant exercises such option to void the application, such application shall be removed from the list of complete applications and the twenty percent (20%) payment of the amount of the tapping fee paid in conjunction with filing such application shall be refunded, in full, but without interest, to Applicant

who filed such application. If Applicant shall thereafter file an application for reservation and allocation of capacity for the same or substitute property, project, facilities, subdivision or land development, such application shall be processed as a new application pursuant to the provisions of this Article V.

G. Payment for reservation and allocation of capacity. All payments required under this Article shall be by cash, check or money order.

- (1) Capacity shall not be considered reserved and allocated until Applicant has received approval from the Authority, the Pennsylvania Department of Environmental Protection (DEP), and any other agency having jurisdiction, of the Sewage Facilities Planning Module ("SFPM") for the subject property, project, facilities, subdivision or development, and, within thirty (30) calendar days immediately following the date of approval by the Authority, the DEP, and any other agency having jurisdiction, of the SFPM, Applicant has paid to the Authority thirty percent (30%) of the total amount of the tapping fee based on the total number of gallons to be reserved and allocated. Such thirty percent (30%) payment is in addition to the twenty percent (20%) payment noted in paragraph C. hereinabove.
- (2) The balance of the tapping fee, which is equal to fifty percent (50%) of the total tapping fee due based on the total number of gallons to be reserved and allocated, shall be paid in full upon the sooner of the following events having occurred: (a) within two (2) years immediately following the date of approval by the DEP, and any other agency having jurisdiction, of the SFPM for the subject property, project, facilities, subdivision or land development or (b) when fifty percent (50%) of the total amount of capacity which has been reserved and allocated for a property, project, facilities, subdivision or land development has been placed in service and generating at least the minimum quarterly base sewer user charge as income to the Authority.

The failure to timely pay (time to be of the essence) any payment due under Section G.(1) and/or G.(2) above shall constitute a forfeiture of reservation and capacity for such unpaid capacity.

H. Retention of capacity. Once capacity has been reserved and allocated to a property, project, facilities, subdivision or land development, it shall be reserved and allocated only for that property, project, facilities, subdivision or land development set forth in the application. All reservations and allocation of capacity shall be made in accordance with the provisions of this article and the resolutions, rules and regulations of the Authority, as the same may now exist and as the same may be amended and revised from time to time.

- (1) The reservation and allocation of capacity for a property, project, facilities, subdivision or land development, except as provided in Subsection H(1)(a) hereof, shall remain valid for a period of five (5) years from the date the

Authority established that capacity has been reserved and allocated to the subject property, project, facilities, subdivision or land development.

- (a) If, after reservation of capacity to the subject property, project, facilities, subdivision or land development, the amount of the estimated flow, in gallons per day for which the reservation and allocation of capacity was determined, is reduced as a result of the governmental review process associated with approval of the subject property, project, facilities, subdivision or land development, through "no fault" of the Applicant, any flows (EDUs) which are no longer required to adequately serve the subject property, project, facilities, subdivision or land development shall then and in those circumstances be reallocated and returned to the Authority. For example, if capacity has been reserved and allocated for one-hundred (100) dwelling units in a subdivision, but the final approved subdivision plan permits construction of only seventy-five (75) dwelling units, then the flow allocated and reserved for twenty-five (25) dwelling units shall become available to the Authority for reallocation by the Authority in its sole discretion. In such case, the tapping fee paid by the Applicant for reservation and allocation of capacity in excess of that which is required to adequately serve the subject property, project, facilities, subdivision or land development shall be fully refunded to the Applicant, without interest.
- (2) If the Applicant for a particular property, project, facilities, subdivision or land development who obtained a reservation and allocation of capacity to serve such property, project, facilities, subdivision or land development thereafter transfers ownership of the subject property, project, facilities, subdivision or land development for which the reservation and allocation of capacity has been granted and assigned, said reservation of capacity may, with written approval from the Authority, be transferred with the change in ownership of the property, project, facilities, subdivision or land development, provided that, the required amount of capacity and number of EDUs for the transferee's proposed use remains the same as the original reservation and allocation of capacity for the subject property, project, facilities, subdivision or land development. The transferee of ownership of the property, project, facilities, subdivision or land development shall not be allocated any additional capacity as a result of the transfer or any proposed change in the use associated with property, project, facilities, subdivision or land development. The Authority must be notified in advance and in writing of any transfer of ownership of a property, project, facilities, subdivision or land development for which capacity has been reserved and allocated and provided with documentation substantiating the identity of the transferee of the property, project, facilities, subdivision or land development. In addition, the transferee shall be required to execute and deliver to the Authority such financial assurances and guarantees as may be required by the Authority,

in its sole discretion, to perform and fulfill all of the requirements related to the reservation and allocation of capacity for the subject property, project, facilities, subdivision or land development and such transferee shall be subject to the provisions of this article and the applicable resolutions, rules and regulations of the Authority.

(3) Capacity which has been reserved and allocated cannot be sold, transferred, assigned or otherwise used for any other property, project, facilities, subdivision or land development than that for which the application was made and approved.

(4) If an Applicant has not caused the property, project, facilities, subdivision or land development to be connected to and commence using the Authority's Sewer System within the five-year (5) period set forth hereinabove, the reservation of and allocation of capacity shall expire and the capacity which had been reserved and allocated for the property, project, facilities, subdivision or land development shall be recovered by the Authority for its use and reallocation in its sole discretion unless the Applicant shall take the steps set forth in Subsection H.(4)(b) hereof of this article to preserve the reservation of capacity.

(a) If an Applicant does not desire to retain some or all of the unused but reserved and allocated capacity for a property, project, facilities, subdivision or land development beyond the original five-year (5) period, the Applicant may request a refund of the tapping fee paid for such unused but reserved and allocated capacity and notify the Authority of the Applicant's unconditional release of such unused but reserved and allocated capacity. Upon receipt of such request, the Authority shall refund eighty-five percent (85%) of the dollar amount of the tapping fee originally paid by Applicant to reserve and allocate such unused capacity.

(b) If the Applicant desires to retain the unused but reserved and allocated capacity beyond the five-year (5) period, the Applicant must immediately begin to pay each quarter, commencing immediately upon the expiration of the five-year (5) period set forth herein, the minimum quarterly base sewer user charge for each and every EDU of capacity which has been reserved and allocated but which remains unused. If the Applicant is delinquent in the payment of such minimum quarterly base sewer user charge for a period of ninety (90) or more days, the reservation and allocation of capacity associated with the unused but reserved and allocated capacity shall automatically, and immediately, expire and the unused allocated and reserved capacity which has been allocated to the property, project, facilities, subdivision or land development shall be recovered by the Authority for reallocation in its sole discretion. In such instance and circumstance, the Applicant shall

not be entitled to any compensation in any form for any of the unused but reserved and allocated capacity forfeited by Applicant under the provision of this section.

I. Reduction in capacity. In the event any governmental or regulatory body or court having competent jurisdiction to do so reduces the Authority's capacity in its Sewer System or if the rules, regulations or written guidance of such entity results in a reduction in said capacity and such reduction makes it impossible for the Authority to honor any or all of its commitment to reserve and allocate capacity previously approved by the Authority, the Authority shall equitably reapportion the remaining, reduced Sewer System capacity among and between those applicants to whom capacity has been reserved and allocated in accordance with the Authority's resolutions, rules and regulations as may be adopted and/or promulgated from time to time.

(1) The Authority shall, in the event of a reduction in its Sewer System capacity, give written notice to all parties entitled to a reservation and allocation of capacity, informing each of them of the cause of the reduction in the Sewer System capacity, providing a calculation of the amount of the reduction in the Sewer System capacity and the amount of Sewer System capacity reserved and reallocated to each such Applicant. The notice shall also contain a calculation of the amount of fees and charges payable in connection with the amount of capacity reserved and reallocated to each such Applicant to include a computation of any refund which may be due the Applicant as a result of such reduction in Sewer System capacity.

(2) Under such circumstances as described in the immediately preceding paragraph, the Authority shall refund the amount of any tapping fee paid for the reservation and allocation of capacity which was then subsequently reduced, in full, without interest, to each Applicant affected by such reduction.

(3) Under such circumstances, any Applicant who has experienced a reduction in the amount of capacity Applicant would otherwise be entitled to, such Applicant may chose to make a new application for reservation of capacity under the provisions of this Article V. If Applicant elects to make such application, the Authority may, in its sole discretion, place such request for reservation and allocation of capacity on the list of reserved and allocated capacity ahead of others already on said list and adjust the allocation of reserved capacity to all Applicants on said list accordingly if there is insufficient capacity to accommodate the total amount of capacity so reserved and allocated by all Applicants.

§ 152-28 Definitions.

Unless the context specifically indicates otherwise, the meaning of the terms used in this article shall be as defined in Pennsylvania Act of December 19, 1990 (P.L. No. 203) of

8/23/07

the Municipalities Authorities Act of 1945, as amended. Editor's Note: See now 53 Pa.C.S.A. § 5601 et seq.

§ 152-29 Effect on other provisions.

This Ordinance shall supersede all prior Ordinances and Resolutions as to the specific subject matter contained herein. All Ordinances or parts of Ordinances which are inconsistent herewith are hereby repealed.

This Ordinance shall be recorded in the Ordinance Book of the Township and shall become effective five (5) days after adoption thereof.

2007. ORDAINED AND ENACTED THIS 11th day of SEPTEMBER

BOARD OF SUPERVISORS
NEW GARDEN TOWNSHIP

BY: *Robert Penatt*
Chairman

BY: *Bob*
Vice Chairman

BY: *J. S. Allen*
Member

BY: *Brendy Hoopes*
Member

BY: _____
Member

ATTEST:

Kathy Parlier
Secretary

(SEAL)

TOWNSHIP OF NEW GARDEN
CHESTER COUNTY, PENNSYLVANIA
ORDINANCE NO. 173

AN ORDINANCE OF THE TOWNSHIP OF NEW GARDEN GOVERNING CONNECTION TO THE SEWER SYSTEM, THE IMPOSITION OF TAPPING FEES, AND PROVIDING FOR PENALTIES FOR VIOLATIONS OF THE ORDINANCE.

WHEREAS, the New Garden Township Sewer Authority (the "Authority") owns a Sewer System located in and serving various geographical areas within New Garden Township ("the "Sewer System"); and

WHEREAS, the Township of New Garden (the "Township") operates and maintains the Sewer System within the Township; and

WHEREAS, the Township has previously enacted Ordinances providing for connection to the Sewer System, permit requirements, conditions and the imposition of tapping fees; and

WHEREAS, the Township desires to modify, amend and re-state such Ordinances; and

WHEREAS, in furtherance of the foregoing, the Township, has deemed it appropriate to amend and re-state Article II of Chapter 152 of the New Garden Township Code as hereinafter set forth.

NOW, THEREFORE, the Board of Supervisors of New Garden Township hereby enacts and ordains as follows:

ARTICLE II Tapping Fees

§ 152-7. Connection to Sewer System; permit required; conditions.

- A. No person shall uncover, connect with, make any opening into, use, alter or disturb, in any manner, any main or any part of the Sewer System without first obtaining a permit in writing from the Township and Authority.
- B. The application for a permit required under Subsection A. of this section shall be made by the owner of the property served or to be served by the Sewer System, or by the duly authorized agent of such owner.
- C. No person shall make or shall cause to be made a connection of any improved property to a sewer main or Sewer System until such person fulfills each of the following conditions:

- (1) Applies for and obtains a permit as required by Subsection A. of this section;
- (2) Provides to the Township and Authority at least five (5) business days notice before such connection is to be made in order that the Township and/or Authority may supervise and inspect or may cause to be supervised and inspected the work of connection and necessary testing the sewer lateral;
- (3) Furnishes satisfactory evidence that any tapping fee charged and imposed by this article has been paid;
- (4) Obtains and pays for any required street opening permit; and
- (5) Complies with all applicable rules, regulations, specifications and ordinances of the Township and/or Authority with respect to the sewer system. In particular, the provisions of Chapter 152, Article V of the Code of the Township of New Garden.

D. All direct and indirect costs and expenses associated with construction of the extension from the sewage drainage system of any structure to the property line or curb stop (the "building sewer") and the extension from the building sewer to the sewer system main (the "lateral") and all direct and indirect costs and expenses of connection of the lateral to the sewer system main shall be borne by the owner of the 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 sewer or lateral or connection of a lateral to a sewer system main.

E. Except as otherwise provided in this subsection, each property shall be connected separately and independently to the Sewer System through a single building sewer. Grouping of more than one property on one building sewer shall not be permitted, except under special circumstances, and for good cause shown, and then only after special permission by the Board of Supervisors or the Sewer Authority, in writing, shall have been secured subject to such rules, regulations, and conditions that may be prescribed by the Township and/or the Sewer Authority.

§ 152-8. Imposition of tapping fees.

A. All persons who desire to or are required by ordinance of the Township to connect to the Sewer System shall be required to pay the fees enumerated herein.

- B. In lieu of the payment of a connection fee or consumer facilities fee component of the tapping fee, as such terms are defined in Act 203; as amended from time-to-time, the Township shall require the owner or owners of a subject property to construct and connect a sewer lateral to serve the subject property at the sole cost and expense of such property owner or owners. The property owner or owners shall dedicate said lateral to the Authority upon completion of construction thereof. All laterals shall be constructed and connected in accordance with the then applicable rules, regulations and ordinances of the Township and Authority.
- C. The Township has heretofore and hereby imposes a tapping fee on all property owners who desire to or are required to connect to the Sewer System. The amount of said fee shall be based upon the fee schedule attached hereto and incorporated herein by reference, and shall contain a capacity component, collection component, special purpose component, and reimbursement component, or such other categories as may be prescribed by applicable statute, each as set forth on the attached fee schedule. Said fee schedule may be modified hereafter by the Township and Authority by resolution.

§ 152-9. Violations and Penalties.

- A. The Solicitor for the Authority and/or the Solicitor for the Township shall be empowered and shall be charged with the responsibility of obtaining equitable, injunctive or other appropriate relief in the Court of Common Pleas of Chester County, before a District Magistrate or before appropriate administrative boards in order to secure compliance with the provisions of this Ordinance.
- B. Any person or entity who or which violates or permits the violation of any provision of this Ordinance who shall not voluntarily pay the penalty imposed for violation of this Ordinance shall, upon being found liable thereof in any civil enforcement or other proceeding before a District Magistrate, pay a civil penalty of not more than Six Hundred (\$600.00) Dollars, plus court costs and reasonable attorney's fees, for each and every violation. Such civil penalty, costs and attorney's fees shall be enforced by the Authority and/or the Township pursuant to the applicable Rules of Civil Procedure, and shall be paid into the appropriate Sewer Fund. Each day during which failure to comply continues shall constitute a separate violation. This remedy shall be in addition to any other lawful remedies available to the Authority and Township.

§ 152-10. Effect on other Ordinances.

This Ordinance shall supersede all prior Ordinances and Resolutions as to the specific subject matter contained herein. All Ordinances or parts of Ordinances which are inconsistent herewith are hereby repealed.

This Ordinance shall be recorded in the Ordinance Book of the Township and shall become effective five (5) days after adoption thereof.

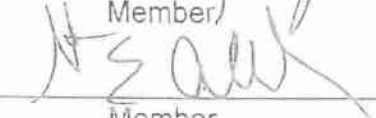
2007. ORDAINED AND ENACTED THIS 11th day of SEPTEMBER.

BOARD OF SUPERVISORS
NEW GARDEN TOWNSHIP

BY: 
Chairman

BY: 
Vice Chairman

BY: 
Member

BY: 
Member

BY: _____
Member

ATTEST:


Secretary

(SEAL)

SEWERS
CHAPTER 152
ATTACHMENT 1

TOWNSHIP OF NEW GARDEN
SEWER TAPPING FEE SCHEDULE

(a)	Collection Component	
	All Drainage/Service Areas	\$ 1,316.31 per EDU
(b)	Capacity Component	
	All Drainage/Services Areas	\$ 6,796.28 per EDU
(c)	Special Purpose Component	
	All Drainage/Service Areas	NONE
(d)	Reimbursement Component	
	All Drainage/Service Areas	NONE

The Tapping Fee payable by a property owner shall be the sum of the applicable capacity and collection components unless circumstances are such that the Special Purpose Component and/or the Reimbursement Component are to be included, in which case those dollar amounts associated with each of the respective Components shall be added to the Collection Component and Capacity Component dollar amounts in order to determine the total amount of the Tapping Fee which shall then become due and payable.

One (1) EDU of capacity shall be the equivalent of 200 gallons per day of average daily flow based on a consecutive ninety (90) day period.

The above listed Tapping Fee dollar amounts were last revised July 18, 2005.

APPENDIX 14

NOTICE OF VIOLATION - JULY 7, 2015

July 7, 2015

NOTICE OF VIOLATION

Mr. Spencer Andress
New Garden Township Sewer Authority
299 Star Road
Landenberg, PA 19350

Re: Clean Water/ Operations/ Sewage
South End Sewage Treatment Plant
WQM Permit No. 1596432-A1
New Garden Township
Chester County

Dear Mr. Andress:

The Department of Environmental Protection's (DEP's) July 1, 2015 inspection of the South End Sewage Treatment Plant (STP) spray irrigation zones 3-4 revealed the following violation(s):

1. The spray field vegetation is not being maintained as permitted.
 - a. The sprayfields were permitted for hay producing mixed grasses such as orchard grass, reed canary grass and tall fescue to remove wastewater effluent nitrogen. While some of these grasses still exist in the field, unacceptable levels of non-hay producing vegetation such as phragmites and other weed pressures are present.
 - b. Areas of matted cut grass were observed on the ground surface. By design, vegetation is to be cut and removed from the site for nitrogen removal.
2. The sprayfield contains significant soil compaction. Large tire ruts, ponding, runoff and erosion were noted throughout the field. The site was not accessible by walking due to severe wetness and ponding. The field was inspected from the STP access road. During the inspection, water was flowing from the field onto the roadway and then directly into the down gradient watercourse.
3. The sprayfield is not being managed in accordance with the 2015 Crop Management Plan. Vegetation cutting management, weed control, compaction and water management were observed to be inconsistent with the plan.

4. Observations of the vegetation and soil conditions within the sprayfield indicate that the sewerage facilities are not being properly operated and maintained as designed. Photographs taken during the July 1, 2015 inspection are attached.

Failure to properly operate and maintain treatment facilities in accordance with the requirements set forth in a DEP permit constitutes a violation of the Clean Streams Law, the Act of June 22, 1937, P.L. 1987, as amended, 35 P.S. §§ 691.1 - 691.1001 (Clean Streams Law).

The above noted soil and vegetation conditions within spray irrigation zones 3-4 of the South End STP fail to comply with the terms and conditions of DEP Water Quality Management WQM Permit 1596432-A1. Condition(s) in violation of a DEP permit constitute a violation of Sections 201 and 202 of the Clean Streams Law, the Act of June 22, 1937, P.L. 1987, as amended, 35 P.S. §§ 691.1 - 691.1001 (Clean Streams Law). Such violations also constitute unlawful conduct under Section 611 of the Clean Streams Law, 35 P.S. § 691.611, and are subject to the enforcement provisions of Section 605 of the Clean Streams Law, 35 P.S. § 691.605 which includes the assessment of civil penalties.

DEP requests that you promptly initiate corrective measures. In order to achieve compliance, implementation of the following procedures is recommended within 30 days of the date of this letter:

1. Submit to the DEP a written report addressing the circumstances under which these violations occurred, and what provisions will be taken to correct these violations and to prevent their reoccurrence. DEP advises that effluent not be discharged to the fields under the observed saturated conditions. Application of effluent shall be managed to prevent runoff or ponding.
2. Submit a revised Crop Management Plan including a schedule to specifically address and remediate soil compaction, vegetation management and run-off from the sprayfields. This Plan will be subject to approval by DEP, as per the permit condition.
3. Submit a storage lagoon water budget analysis to evaluate the impact of potential decreased irrigation to zones 3-4 that may result from wetness and/or field rehabilitation. If peak winter storage levels are anticipated to approach freeboard, a contingency plan to dispose of the excess storage volumes should be prepared and submitted.



**Spray Irrigation Zone 3-4 phragmites and vegetation cuttings on the ground surface
July 1, 2015.**



Spray Irrigation Zone 3-4 tire ruts, soil compaction, soil erosion
July 1, 2015.



**Spray Irrigation Zone 3-4 tire ruts, soil compaction, wetness and ponding
Photo from previous site visit June, 2015.**

APPENDIX 15

**REMEDIATION PLAN - NEW GARDEN TOWNSHIP
SPRAY ZONES 3 AND 4**

APPENDIX 15

Remediation Plan New Garden Township

South Plant Zones 3 and 4

(Abbreviated Report)

Prepared by Larry Hepner CPSS

I am writing an abbreviated report with just a summary of this investigation along with recommendations for remediation of zones three and four at this time. The reason for the abbreviated report is the short time frame for preparing the fields for planting which ideally needs to occur the last week in August or the first week in September to ensure a good crop stand going into winter to be able to go to full spray application next spring. The steps for remediation can be outlined now for review by DEP to allow New Garden as much time as possible to line up a farmer or farmers with the appropriate equipment and time to do the planting. If planting is delayed or the stand does not establish well the site may not be ready for full application next spring. I will draft a full report with the details of each auger boring taken at the site and profile descriptions of each test pit from the site along with recommendations for application rates once revegetation has occurred. I am currently reviewing historic application rates as well as awaiting laboratory analysis of samples that I submitted to A&L labs for fertility analysis. As soon as I receive the lab results I will make fertility recommendations for the new seeding.

Narrative Summary of findings.

On Monday July 27, 2015 auger borings were taken over zones three and four of the New Garden South spray fields. On Wednesday July 29, 2015 backhoe test pits were examined in zones three and four. The attached map shows the approximate location of the auger borings and test pits. I am drafting a full report which will contain the details of each auger boring and backhoe test pit. It appears that approximately 16 inches (+or-) fill material was placed in the spray field in the vicinity of auger borings 1 and 2 and confirmed with test pits 1 and 2. This fill material appears to be C horizon material perhaps placed when the lagoons were constructed. The fill material appears permeable, but the original Ap horizon beneath the fill is compacted as is the existing surface. Other auger borings and backhoe test pit indicate subsoil redox features over the entire site range from just below the Ap horizon in areas that were ponded to 16 to 32 inches below the surface in other areas.

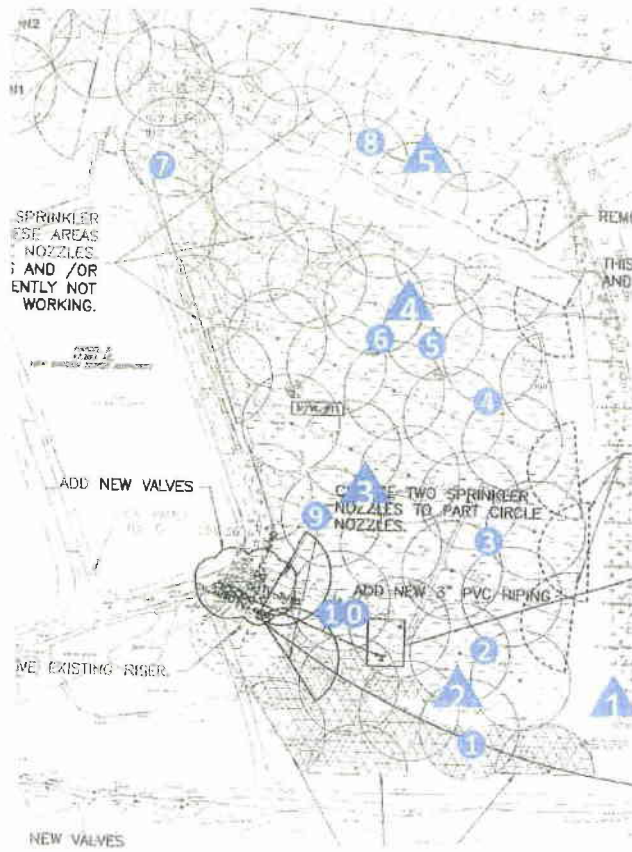
I believe we will be able to ameliorate the surface compaction and the compaction of the buried Ap from the placement of the fill. However, the application rate will be driven by the depth to the redox features and the ability to establish and maintain a vigorous stand of reed canary grass at the site. This abbreviated report will be addressing the ameliorating of the compacted layers and the reestablishment of reed canary grass on zones 3 and 4. The full report to follow will attempt to address the long term application rates as they relate to the soil conditions for zones 3 and 4.

Steps 1 through 6 should occur as soon as possible. This will allow time before planting for weeds to germinate and be eliminated in step 7 just prior to planting.

Recommendations for Reestablishing Vegetation

1. The site has dried sufficiently to allow mowing and baling of the grass. This should be done as soon as possible.
2. As soon as I receive the soil fertility analysis results I will provide a recommendation for any lime or broadcast fertilizer that needs to be applied. I expect them the week of August 3rd.
3. Just prior to subsoiling in step 4 if some vegetation has regrown the field should be mowed with a brush hog mower as close to the surface as possible.
4. The field should be sub soiled to a minimum depth of 24 inches. The subsoil shanks should be set approximately 2 feet apart.
5. The field should be moldboard plowed.
6. After plowing and subsoiling the field should be disked in order to prepare a fine firm seedbed. The seedbed must be firm in order to have good establishment of the reed canary grass. Several diskings may be necessary. Ideally it would be good to have a rain event after disking to help firm the soil and to allow weeds to germinate. This may or may not happen.
7. The field should be disked or harrowed again just prior to planting which should be around September 1st but no later than Sept 5th. This will kill any vegetation that has germinated.
8. Broadcast a starter fertilizer 20-20-20 per acre just prior to planting which should be around September 1st but no later than Sept 5th.
9. Use a cultipacker or similar implement to prepare a final seedbed and incorporate the starter fertilizer just prior to planting.
10. Around September 1 but no later than Sept 5th plant reed canary grass at 28 lbs per acre as the main stand plus 5 lbs per acre perennial rye to provide quick cover. The reed canary grass and the perennial rye can be mixed together for a seeding rate of 33 lbs per acre. The planting depth should be $\frac{1}{4}$ inch but no deeper than $\frac{1}{2}$ inch. A band seeder or grain drill can be used for planting. If the grain drill does not have press wheels to firm the seed to the soil a cultipacker with the teeth up should be used to obtain good seed soil contact. The seedbed must be firm so the seed is not pushed deeper than $\frac{1}{2}$ inch below the surface. Two trips over the field at approximate right angles may be needed with the seeding equipment to achieve the 33 lbs per acre seeding rate.
11. Light irrigation could be done after planting, probably approximately $\frac{1}{4}$ inch of water per week. Caution should be used to not apply irrigation water at a rate that will cause puddling and washing of seed. Once the grass germinates it is important to keep the soil moist. Several light irrigations during the week not exceeding $\frac{1}{4}$ inch of water per week would be appropriate.
12. After planting if weed pressure becomes high brush hog mowing would be needed. Caution not to mow too low and clip the growing grasses.

In addition to the open crop fields there is an area of dense brush marked on the attached plan in zone 3. Several half circle risers surround this area. A number of the sprinkler heads appear to be within the brush and may not be operating correctly. The brush around each of those risers should be cleared to allow operation. Also there was a tree down in this area that should be removed. The tree removal and brush clearing should be done before the site is subsoiled. Some travel over the spray field will occur as part of the clearing process and the subsoiling will remove any compaction that occurs. There is a narrow section of open field between the brush area and the lagoon. This area has been used as a travel area to reach the upper portion of zone 3. Once replanting occurs this area should not be used as a travel lane. Travel to the upper portion of zone 3 could occur on the lane adjacent to the lagoon and a gate installed in the chain link fence to provide access to zone 3.



**New Garden Spray
Zones 3 and 4
South Plant**

- ① Auger Borings
- ▲ Backhoe Test Pits



Lower end of Spray Zone 4 in foreground, Zone 3 in back



Lower end of Spray Zone 4 taken a few steps back from above picture location



Lower end of Spray Zone 4



Lower end of Spray Zone 4

MAP

MAP 1

NO PENDING SUBDIVISIONS

NO MAP