

**Application of Pennsylvania-American Water Company for Acquisition of
the Wastewater Assets of Valley Township
66 Pa. C.S. § 1329
Application Filing Checklist – Water/Wastewater
Docket No. A-2020-3020178**

20. Proof of Compliance. Provide proof of compliance with applicable design, construction and operation standards of DEP or of the county health department, or both, including:
- c. For **wastewater** system acquisitions, provide a copy of the Chapter 94 Municipal Wasteload Management Report that was most recently submitted to DEP.

RESPONSE:

- c. Attached is the 2019 Chapter 94 Municipal Wasteload Management Report that was most recently submitted to DEP by Valley. This report is attached as **Appendix A-20-c**.

**Chapter 94
Municipal Wasteload Management
Annual Report**

**2019
Valley Township
Chester County, Pennsylvania**

**Tributary Municipality Report to
Pennsylvania American Water Company
Coatesville District Wastewater Treatment Plant**

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Valley Township Board of Supervisors

Signature

Name, Title

VLTWP24027

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CHARTS

Chart 1 Valley Township Hydraulic Loading

APPENDIX

- A List of “New Connections for 2019”
- B Projected Connections
- C Pennoni’s Sanitary Sewer Flows Letter
- D Ordinance Chapter 18 “Sewers and Sewage Disposal”

FIGURES

Exhibit 1 Chapter 94 Township Wastewater Facilities

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1.0 INTRODUCTION

In February 2011, the Pennsylvania Department of Environmental Protection (PADEP) developed and issued a Chapter 94 Municipal Wasteload Management Annual Report Template. The template was offered as an organization tool for the content required in the Chapter 94 Report. This report has been prepared in accordance with the Chapter 94 Report Template.

This report is provided to comply with the Title 25, Chapter 94 Municipal Wasteload Management regulations of the Pennsylvania Department of Environmental Protection (PADEP) concerning wastewater facilities. The subject of this report is the sanitary sewer collection and conveyance system owned by Valley Township (Township). The Township maintains the sewer system and contracts with M&B Environmental Inc. to provide licensed operations of the six Township-owned pump stations.

Valley Township's sewer system is comprised of approximately thirty-nine miles of interceptors, force mains, and tributary collection sewers divided into three drainage basins as identified below. Each basin discharges wastewater into Pennsylvania-American Water Company's (PAWC) Coatesville District sanitary sewer system with treatment at PAWC's Coatesville District Wastewater Treatment Plant.

The Township's collection and conveyance system consists primarily of PVC, asbestos cement, and vitrified clay sewers, and precast concrete manholes. There are nine sewage pump stations, six of which are currently owned and operated by the Township, since dedication of the Hillview Pumping Station in 2019. The other three pump stations are currently the responsibility of private owners or developers. The original portion of the Township's sewer system was constructed in approximately 1970. The system has been expanded by extensions to serve residents and new developments.

There are approximately 3,275 EDUs connected to the Township's sewer system within the municipal boundaries as direct customers of Valley Township. There are also three intermunicipal connections in which wastewater is conveyed through the Township's sewer system via conveyance agreements with PAWC.

The Rock Run Basin covers roughly the northern third of the Township. Four Township-owned pump stations – Rock Run Pump Station, Highlands Corporate Center Pump Station #1, Country Ridge Pump Station, and Hillview Pump Station – are located in this basin. Two of the intermunicipal connections are also located within the Rock Run Basin – the Coatesville Country Club (from Coatesville Country Club Pump Station) and the Marriott (aka OTP Corporation) Hotel & Restaurant. All wastewater flow from the Rock Run Basin is conveyed into the Rock Run Pump Station, where the flow is metered during conveyance into PAWC's system.

The Hayti Basin covers roughly the central third of the Township. The two Township-owned Round Hill Pump Stations, North and South, are located in this basin. Flow from this basin is conveyed through a gravity interceptor along W. Lincoln Hwy to the Charles Street Meter Pit, where flows are metered prior to flowing into PAWC's system.

The Westwood Basin covers roughly the southern third of the Township. Flow from this basin is

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conveyed through a gravity interceptor along Valley Road to the Valley Road Meter Pit, where flows are metered prior to flowing into PAWC's system. The third intermunicipal connection, from the Strasburg Hunt subdivision in East Fallowfield Township, is located within this basin.

Valley Township sends all domestic sewage flow to PAWC and does not have a municipal wastewater treatment facility.

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2.0 HYDRAULIC AND ORGANIC LOADINGS

2.1 Hydraulic Loading

The following Tables 1.0 through 1.3 summarize Valley Township’s historic hydraulic loadings and the current calendar year rainfall. Refer to the attached Chart 1 for a line graph depicting the Annual Average Flows for the past five years and projected flows for the next five years.

Table 1.0 provides the hydraulic loading from the entire Valley Township service area excluding intermunicipal flows. Table 1.0 therefore shows only Valley Township’s portion of hydraulic loading at the PAWC Treatment Plant in order to facilitate comparison of actual flows versus the Township’s allocated flow at the Treatment Plant. These hydraulic loadings are calculated by adding the respective loadings from the individual sub-basins in Tables 1.1, 1.2, and 1.3 and then subtracting the intermunicipal flows. The total number of EDU within each basin are based on the Township’s 2019 sewer consumption data and billing records. The summation of the new connections and the 2018 EDUs does not necessarily equal the total 2019 EDUs due to disconnections, other abandoned services, and existing non-residential connections that have had EDU quantity adjustments.

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Table 1.0 - Valley Township Total						
Hydraulic Loading¹ (MGD)						Rainfall (inches)
Month	2015	2016	2017	2018	2019	2019
January	0.678	0.752	0.705	0.663	1.271	3.2
February	0.673	0.983	0.705	0.972	1.044	2.4
March	0.903	0.952	0.790	0.888	1.238	5.1
April	0.810	0.743	0.776	0.830	1.090	3.1
May	0.752	0.850	0.908	0.977	1.078	5.8
June	0.639	0.719	0.861	0.868	0.953	4.4
July	0.681	0.665	0.944	0.889	0.860	4.4
August	0.554	0.571	0.810	1.325	0.758	3.0
September	0.527	0.580	0.705	1.380	0.666	1.5
October	0.595	0.554	0.663	1.178	0.677	6.3
November	0.610	0.520	0.644	1.288	0.717	1.3
December	0.671	0.606	0.578	1.271	0.801	3.6
Annual Average (AA)	0.674	0.708	0.757	1.044	0.930	3.7
3 Month Max. Average	0.821	0.896	0.905	1.294	1.184	
Ratio (3 Month Max to AA Ratio)	1.22	1.27	1.19	1.24	1.27	
5-Year Average Hydraulic Ratio =					1.24	

¹ Valley Township Total Hydraulic Loadings do NOT include intermunicipal flows from the Coatesville Country Club, Strasburg Hunt, or the Marriott Hotel & Restaurant in order to provide only Valley Township's allocated flow contribution to the PAWC Treatment Plant.

Valley Township's total average monthly flow contribution to the PAWC Treatment Plant in 2019 was 0.930 MGD. The Sewage Treatment Agreement between Valley Township and PAWC currently provides Valley Township a total allocation of 1.140 MGD at the Treatment Plant. The 2019 average flow was within the Township's allocated capacity.

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Table 1.1 provides the hydraulic loading within the Rock Run Basin including intermunicipal flows from the Coatesville Country Club and Marriott Hotel & Restaurant. The total flow within this sub-basin, including the intermunicipal flows, is necessary for evaluation of the sub-basin’s actual condition and conveyance capacity in other sections of this report. The reported hydraulic loadings are from the permanent meter on the discharge side of the Rock Run Pump Station.

Table 1.1 - Rock Run Basin						
Hydraulic Loading¹						Rainfall
(MGD)						(inches)
Month	2015	2016	2017	2018	2019	2019
January	0.246	0.259	0.273	0.258	0.437	3.2
February	0.245	0.317	0.262	0.302	0.380	2.4
March	0.314	0.317	0.256	0.315	0.444	5.1
April	0.276	0.258	0.287	0.304	0.410	3.1
May	0.253	0.287	0.298	0.354	0.419	5.8
June	0.249	0.250	0.286	0.316	0.366	4.4
July	0.252	0.251	0.335	0.323	0.335	4.4
August	0.220	0.227	0.269	0.457	0.311	3.0
September	0.215	0.235	0.236	0.438	0.279	1.5
October	0.230	0.249	0.254	0.389	0.296	6.3
November	0.233	0.253	0.244	0.459	0.318	1.3
December	0.247	0.255	0.231	0.441	0.335	3.6
Annual Average (AA)	0.248	0.263	0.269	0.363	0.361	3.7
3 Month Max. Average	0.281	0.298	0.306	0.430	0.424	
Ratio (3 Month Max to AA Ratio)	1.13	1.13	1.14	1.18	1.18	
5-Year Average Hydraulic Ratio =					1.15	

¹ Hydraulic Loadings include flows from the Coatesville Country Club and Marriott Hotel & Restaurant in order to accurately assess sub-basin pipe and pump station capacities.

Since flows from this table include those from Coatesville Country Club and the Marriott Hotel, the number of EDUs from those locations were added. The EDUs from the Marriott Hotel were based on the Marriott Hotel’s Wastewater Facilities plan, which was allocated a total of 46 EDUs for the hotel and an additional 40 EDUs for an office building and a restaurant which have not been constructed. The EDUs from the Country Club were estimated for each month by dividing the monthly flow from those locations by the approved planning flowrate of 225 gpd/EDU. These values were then averaged for the entire year to estimate the number of EDUs from those locations. There was a total of 1,602 EDUs in the Rock Run Basin that are direct consumers of Valley Township, plus an estimated 4 EDUs from the Country Club, and 46 EDUs from the Marriott Hotel (1,602 + 4 + 46 = 1,652). Thus, there were approximately 1,652 EDUs that contributed to the Rock

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Run Basin at the end of 2019. There were no new connections in 2019. The average flowrate in 2019 was 218 gpd/EDU.

Table 1.2 provides the hydraulic loading within the Hayti Basin. The total flow within this sub-basin is necessary for evaluation of the sub-basin's actual condition and conveyance capacity in other sections of this report. The reported hydraulic loadings are from the permanent meter at the Charles Street Meter Pit.

Table 1.2 - Hayti Basin						
Hydraulic Loading (MGD)						Rainfall (inches)
Month	2015	2016	2017	2018	2019	2019
January	0.280	0.273	0.240	0.223	0.547	3.2
February	0.270	0.398	0.233	0.417	0.431	2.4
March	0.370	0.368	0.288	0.336	0.501	5.1
April	0.330	0.288	0.220	0.290	0.441	3.1
May	0.262	0.358	0.299	0.341	0.403	5.8
June	0.258	0.247	0.274	0.311	0.365	4.4
July	0.291	0.252	0.310	0.321	0.316	4.4
August	0.220	0.197	0.251	0.532	0.264	3.0
September	0.201	0.192	0.219	0.572	0.219	1.5
October	0.216	0.187	0.216	0.505	0.220	6.3
November	0.212	0.172	0.211	0.534	0.233	1.3
December	0.230	0.224	0.184	0.544	0.270	3.6
Annual Average (AA)	0.262	0.263	0.246	0.411	0.351	3.7
3 Month Max. Average	0.323	0.352	0.294	0.537	0.493	
Ratio (3 Month Max to AA Ratio)	1.24	1.34	1.20	1.31	1.14	
5-Year Average Hydraulic Ratio =					1.30	

There were approximately 906 EDUs in the Hayti Basin in 2019. There were 4 new connections in 2019. The average flowrate in 2019 was 387 gpd/EDU.

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Table 1.3 provides the hydraulic loading within the Westwood Basin including intermunicipal flows from Strasburg Hunt. The total flow within this sub-basin, including the intermunicipal flows, is necessary for evaluation of the sub-basin's actual condition and conveyance capacity in other sections of this report. The reported hydraulic loadings are from the permanent meter at the Valley Road Meter Pit.

Table 1.3 - Westwood Basin						
Month	Hydraulic Loading¹ (MGD)					Rainfall (inches)
	2015	2016	2017	2018	2019	2019
January	0.165	0.232	0.202	0.200	0.312	3.2
February	0.171	0.295	0.221	0.272	0.256	2.4
March	0.242	0.281	0.257	0.258	0.312	5.1
April	0.219	0.208	0.306	0.258	0.260	3.1
May	0.254	0.224	0.336	0.306	0.280	5.8
June	0.178	0.240	0.320	0.260	0.246	4.4
July	0.166	0.180	0.325	0.265	0.237	4.4
August	0.136	0.163	0.313	0.358	0.211	3.0
September	0.126	0.168	0.271	0.393	0.189	1.5
October	0.164	0.132	0.215	0.304	0.183	6.3
November	0.181	0.108	0.203	0.316	0.189	1.3
December	0.207	0.138	0.180	0.320	0.233	3.6
Annual Average (AA)	0.184	0.197	0.262	0.292	0.242	3.7
3 Month Max. Average	0.238	0.269	0.327	0.352	0.293	
Ratio (3 Month Max to AA Ratio)	1.30	1.36	1.25	1.20	1.21	
5-Year Average Hydraulic Ratio =					1.26	

¹ Hydraulic Loadings include flows from Strasburg Hunt in order to accurately assess sub-basin pipe capacities.

There were approximately 821 EDUs that contributed to the Westwood Basin at the end of 2019 including 54 EDUs from Strasburg Hunt. There were no new connections in 2019. The average flowrate in 2019 was 295 gpd/EDU.

2.2 Organic Loading

There are no wastewater treatment facilities in Valley Township, so the tables Organic Loading Sampling Data (Table 2) and Organic Loading (Table 3) are not applicable to this report.

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3.0 5-YEAR HYDRAULIC AND ORGANIC LOADING PROJECTIONS

There are no wastewater treatment facilities in Valley Township, so Organic Loading Projections (Table 4) are not applicable to this report.

PADEP has requested the 5-year hydraulic loading projections be determined using a 5-year adjusted annual average flow. Per the Chapter 94 Report Template, several tables and steps are required to calculate the 5-year adjusted annual average flow.

Tables 5.0 and 5.1 list the number of EDUs that were connected to the Township’s sewer system in each calendar year for the last five years. The wastewater generation rates in gpd/EDU were calculated using the average of the recorded monthly flowrates divided by the total number of connections at the end of a calendar year.

Table 5.0 provides the new flow from the entire Valley Township service area excluding new intermunicipal connections. The table therefore shows only Valley Township’s portion of new flows at the PAWC Treatment Plant in order to facilitate comparison of actual and projected flows versus the Township’s allocated flow at the Treatment Plant.

Table 5.0 - Yearly Total Connections			
Year	# of EDUs Connected	gpd/EDU	New Flow (MGD)
2015	49	214	0.010
2016	30	223	0.007
2017	58	234	0.014
2018	16	319	0.005
2019	4	284	0.001

The actual gpd/EDU flowrate in 2019 is more than the PAWC Treatment Plant’s approved planning flowrate of 225 gpd/EDU.

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Table 5.1 provides the new flow within each sub-basin including intermunicipal flows. The total flow within each sub-basin, including the intermunicipal flows, is necessary for evaluation of each sub-basin’s actual condition and conveyance capacity in other sections of this report.

Table 5.1 – Yearly Sub-Basin Connections				
	Year	# of EDUs Connected	gpd/EDU	New Flow (MGD)
Rock Run Basin	2015	47	158	0.007
	2016	21	152	0.003
	2017	17	159	0.003
	2018	4	220	0.001
	2019	0	218	0.000
Hayti Basin	2015	1	319	0.000
	2016	9	317	0.003
	2017	41	283	0.012
	2018	12	455	0.005
	2019	4	387	0.002
Westwood Basin	2015	1	224	0.000
	2016	0	231	0.000
	2017	0	320	0.000
	2018	0	356	0.000
	2019	0	295	0.000

The actual gpd/EDU flowrate within the Rock Run Basin is less than the PAWC Treatment Plant’s approved planning flowrate of 225 gpd/EDU, whereas the actual flowrates in the Hayti Basin and Westwood Basin are higher than the approved planning flowrates.

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Table 6.0 determines the Adjusted Annual Average (AA) Flows in accordance with the Chapter 94 Report Template.

Table 6.0 calculates the Adjusted AA Flow for the entire Valley Township service area excluding intermunicipal flows. The table therefore shows only Valley Township’s portion of Adjusted AA Flows at the PAWC Treatment Plant in order to facilitate comparison of actual and projected flows versus the Township’s allocated flow at the Treatment Plant.

Table 6.0 – Yearly Incremental Flow								
Year	AA Flow (MGD)	All projects connected (provide flows approved in planning modules or exemptions in MGD - include any connected projects that did not require planning)					Adjusted AA Flow (MGD)	
		2015	2016	2017	2018	2019		
2015	0.674		0.007	0.014	0.005	0.001	0.701	
2016	0.708			0.014	0.005	0.001	0.728	
2017	0.757				0.005	0.001	0.764	
2018	1.044					0.001	1.045	
2019	0.930						0.930	
Total	4.858						Total	5.602
5-Year Average	0.810						5-Year Adj Average	0.824

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Table 7.0 determines the 5-Year Adjusted Hydraulic Projections in accordance with the Chapter 94 Report Template.

Table 7.0 calculates the 5-Year Adjusted Hydraulic Projections for the entire Valley Township service area excluding intermunicipal flows. The table therefore shows only Valley Township’s portion of Adjusted Hydraulic Projections at the PAWC Treatment Plant in order to facilitate comparison of actual and projected flows versus the Township’s allocated flow at the Treatment Plant. The actual 2019 Township-wide average of 284 gpd/EDU is used in the Table 7.0 projections.

Table 7.0 – Adjusted Projections					
Year	Previous Year's Annual Average Flow¹	New EDUs	Increased Flow² (MGD)	Projected Annual Average Flow³ (MGD)	Projected Max Month Flow⁴ (MGD)
2020	0.824	9	0.003	0.827	1.024
2021	0.827	10	0.003	0.829	1.027
2022	0.829	63	0.018	0.847	1.049
2023	0.847	56	0.016	0.863	1.069
2024	0.863	42	0.012	0.875	1.084

¹ The first year's projection (2020) starts with the 5-Year Adjusted Annual Average Flow calculated in Table 6.0.

² Increased Flow = (New EDUs × gpd/EDU figure) / 1,000,000. The actual 2019 Township-wide average of 284 gpd/EDU is used for projections.

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

⁴ Projected Max Month Flow = Projected Annual Average Flow × 5-Year Average System-Wide Hydraulic Ratio of 1.24.

As per Table 7.0, the 5-Year Annual Average and the 5-Year Monthly Maximum from Valley Township are projected to remain below the Township’s total current allocation of 1.140 MGD at the PAWC Treatment Plant.

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4.0 SEWER EXTENSIONS

No new sewer extensions were constructed in 2019. A list of new connections in 2019 is included in Appendix A.

The enclosed map, Exhibit #1, shows all sewer extensions that have been approved or exempted but are not yet constructed as well as proposed projects in the preliminary planning stages that require sewer extensions or tie-ins to existing sewers. Appendix B includes a table listing each planned and on-going sewer extension or tie-in project with a brief description, the estimated population to be served, and a projected connection schedule.

5.0 PROGRAM FOR SANITARY SEWER MONITORING, MAINTENANCE, AND REPAIR

The Valley Township Road Crew monitors and maintains the sanitary sewer collection and conveyance systems, including the Township-owned sewage pump stations, with the assistance of contract professionals as needed.

5.1 I/I Monitoring

Sanitary sewer flows are metered at the downstream end of each of the three sub-basins. Meter data is read approximately weekly by PAWC. Valley Township also maintains a continuous data logger at the Rock Run Pump Station (Rock Run Basin). PAWC has remotely located continuous data loggers for the Charles Street Meter Pit (Hayti Basin) and the Valley Road Meter Pit (Westwood Basin) also.

Metered flows within each of the three drainage basins are periodically analyzed by the Township Engineer, Pennoni Associates, Inc. A written summary of observations and recommendations, including flow graphs with precipitation data, is forwarded to the Board of Supervisors.

The higher flow rates per EDU in the Hayti Basin and Westwood Basin indicates there is likely infiltration problems and illegal sump pump connections. It is also believed that inflow problems occur in the older sewers within the Rock Run Basin during storm events. Refer to “Appendix C: Pennoni’s Sanitary Sewer Flows Letters” for further explanation.

The Township continues to use Pipe Data View for cleaning and televising of limited areas annually. The Township is planning to continue working with Pipe Data View to clean and televise additional pipe runs in 2020.

5.2 Pump Station Operations and Monitoring

Valley Township contracts with M&B Environmental to provide licensed operation services of the Township-owned sewage pump stations. This contract includes routine operations, scheduled maintenance, data recording, and maintenance of written logs. The contract operator is on-site at each pump station at least once per week, and Township staff visit each pump station the remainder of the week. There is an emergency generator at each

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pump station, and each pump station has an auto dialer to alert Township staff and the contract operator in the event of a problem.

The Township also contracts with Pipe Data View for pump station wetwell cleaning on a quarterly basis.

5.3 Maintenance & Repair Program

In 2019, a few pipe blockages were cleared throughout the Township.

The sewer line along Country Club Road is cleaned quarterly due to ongoing grease issues, which are believed to originate from the Rainbow Elementary School. The Township plans to evaluate the school's grease pre-treatment system in 2020.

Pipe Data View repaired 4 severely leaking manholes in the Hayti Basin in 2019.

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6.0 CONDITION OF THE SEWER SYSTEM

There are no bypassing conditions or combined sanitary sewer systems within Valley Township. There was one reported sanitary sewer overflow (SSO) in the Township in 2019. The SSO occurred along Front Street on May 21, 2019 caused by a grease blockage.

The Township’s collection and conveyance systems are generally in fair condition. The newer portions of the gravity sewer system are constructed of polyvinyl chloride (PVC) mains, PVC laterals, and precast concrete manholes. The older sections of the gravity system, which were constructed circa 1970, consist mainly of asbestos cement pipe (ACP), vitrified clay pipe (VCP), and precast concrete manholes. Force mains are generally all PVC, with the older force mains that were installed in the late 1980s being Schedule 40, and newer force mains being SDR21 and SDR26.

Televisual inspections over the past several years throughout the Township have revealed problems, typically where ACP or VCP was originally installed, including cracking pipe, holes in pipe, roots, offset joints, sags, and leaking lateral connections. Some of the lateral connections appear to have been improperly constructed. Leaks have also been observed in manholes, primarily at riser joints and at the connection between the sewer pipe and the manhole. There were generally limited problems, if any, found in the newer PVC sewers and respective manholes. Urgent problems have been repaired as they are located.

Metering data from each sub-basin’s downstream bulk meter (where sewage flows from Valley Township’s sewer system into PAWC’s sewer system) has been utilized by the Township Engineer to estimate existing and future conveyance capacities. The 2019 meter data has been analyzed in static sanitary sewer system models for each sub-basin as described in more detail below. The models include all interceptor sewer runs (considered 10-inch and larger) as well as certain critical collection sewer runs (considered 8-inch and smaller). The models do not include every collection sewer run since many are in small neighborhoods that generate minimal flow.

6.1 Rock Run Basin

Hourly metering data on the discharge side of the Rock Run Pump Station for the entire year was analyzed. The metered flows at the Pump Station, including intermunicipal flows from the Coatesville Country Club in West Caln Township and the Marriott (OTP Corporation) Hotel & Restaurant in the City of Coatesville, were:

<u>Average</u>	<u>Peak</u>	<u>Peaking Factor</u>
360,879 gpd	33,034 gph	2.17

The peak hourly flow occurred on the evening of April 20, 2019. The peak daily flow of 569,035 gallons occurred on March 22, 2019 after 2.5 inches of rainfall during a storm event.

The existing and future capacities of the sewer system were analyzed and estimated in the Rock Run Basin Sewer Interceptor Model. The model includes existing connections as well as connections that have been approved but have not connected. Existing connections were input into the model at the Rock Run Basin’s 2019 Annual Average (AA) flow rate

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of 218 gpd/EDU with a peaking factor of 2.17. Future connections were input into the model at the DEP-approved planning flow rate of 225 gpd/EDU with a peaking factor of 2.5.

The model indicates that all sewers have adequate capacity following full build-out of approved and proposed developments within the Township boundaries.

There is a 276-home development proposed on the Sands Property in West Caln Township that is proposed to be connected to the Rock Run sewer system. This additional flow is projected to cause the 10-inch interceptor from MH 1 to MH 532-13 to become over capacity. This sewer run is proposed to be upgraded to a 12-inch main as part of that development.

6.2 Hayti Basin

Hourly metering data at the Charles Street Meter Pit was analyzed. However, there were a number of data gaps in the hourly readings; therefore, the following metered flows at the Charles Street Meter Pit in 2019 were based on the readings available:

<u>Average</u>	<u>Peak</u>	<u>Peaking Factor</u>
350,759 gpd	≥ 24,014 gph	≥ 1.64

Based on the flow rates provided by PAWC, it appears the meter only reads up to 400 gpm, so the actual flows may have been higher than 24,014 gal/hr. The peak days provided by PAWC were January 1, 2019, January 2, 2019, January 20, 2019, and March 22, 2019 after 2.5 inches of rainfall during a storm event.

The existing and future capacities of the sewer system were analyzed and estimated in the Hayti Basin Sewer Interceptor Model. The model includes existing connections as well as all approved and currently proposed connections. Existing connections were input into the model at the Hayti Basin’s 2019 Annual Average (AA) flow rate of 387 gpd/EDU with a peaking factor of 1.64. Future connections were input into the model at the DEP-approved planning flow rate of 225 gpd/EDU with a peaking factor of 2.5.

The model indicates that all sewers have adequate capacity. All modeled sewers are projected to have remaining capacities of at least 264,000 gpd during peak hourly flows following full build-out of approved and proposed developments.

6.3 Westwood Basin

Hourly metering data at the Valley Road Meter Pit was analyzed for the Westwood Basin. However, there were a number of data gaps in the hourly readings. Therefore, the following metered flows at the Valley Road Meter Pit in 2019, including intermunicipal flows from Strasburg Hunt in East Fallowfield Township, were based on the readings available.

<u>Average</u>	<u>Peak</u>	<u>Peaking Factor</u>
242,341gpd	31,955 gph	3.16

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The peak hourly flow occurred on January 24, 2019 as noted by PAWC after almost 2.5 inches of rainfall in a 7-day period.

The existing and future capacities of the sewer system were analyzed and estimated in the Westwood Basin Sewer Interceptor Model. The model includes existing connections as well as any EDUs that are projected to be connected within the next five years. Existing connections were input into the model at the Westwood Basin's 2019 Annual Average (AA) flow rate of 295 gpd/EDU with a peaking factor of 3.16. There are no new connections proposed within the next five years.

The model indicates that the existing peak hour flow in MH 508-1 to MH 508-2 may have exceeded the capacity of the gravity sewer run in 2019. Additionally, the previously proposed 75-home Scott Farm development in East Fallowfield Township will exceed the capacity of the gravity sewer run from MH 508-1 to MH 508-2. Therefore, any potential system connections for Scott Farm will be evaluated with the model during the Act 537 sewage facilities planning.

**2019 Chapter 94 Report for Valley Township
Chester County, Pennsylvania**

7.0 SEWAGE PUMPING STATIONS

There are nine sewage pumping stations in Valley Township's sewer system, of which six are in the Rock Run Basin and three are in the Hayti Basin. There are no pumping stations in the Westwood Basin. Six of the nine pumping stations are owned and operated by Valley Township. Two pumping stations are owned and operated by developers and will eventually be dedicated to the Township upon completion of the respective developments. The pumping station at the Coatesville Country Club, located in West Caln Township, will not be dedicated to Valley Township since it is not located within the Township. The nine pumping stations are listed in the table below along with known characteristics. See Exhibit 1 for locations.

Pump Station Characteristics

Basin	Name	Peak Capacity	Owner / Operator	Status
Rock Run	Highlands Corp. Center P.S. #1	150 gpm	Valley Township	Dedicated
Rock Run	Highlands Corp. Center P.S. #2	150 gpm	High Associates (Developer)	To be Dedicated
Rock Run	Coatesville Country Club P.S.	50 gpm	Coatesville Country Club	Not in Valley Twp.
Rock Run	Country Ridge P.S.	65 gpm	Valley Township	Dedicated
Rock Run	Hillview P.S.	220 gpm	Valley Township	Dedicated in 2019
Rock Run	Rock Run P.S.	800 gpm	Valley Township	Dedicated
Hayti	Valley View Business Park Temporary P.S.	25 gpm	All County Properties (Developer)	To be Dedicated
Hayti	Round Hill P.S. #1	160 gpm	Valley Township	Dedicated
Hayti	Round Hill P.S. #2	40 gpm	Valley Township	Dedicated

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Table 8 provides existing flows and projected 2-year peak flows for the six pump stations that were owned and operated by Valley Township in 2019.

Present and projected flows at the Rock Run Pump Station are based upon the 2019 AA Flow from Table 1.1 since all wastewater in the Rock Run Basin flows through the Rock Run Pump Station. Present and projected flows at the Highlands Corporate Center Pump Station #1 and Country Ridge Pump Station are based upon logs of pump run times in 2019 since the pump stations do not have meters.

Table 8							
Pump Stations							
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 Flow (gpd)	Peak/Avg. Factor	2-Year Projected Maximum Flow ¹ (gpd)
Highlands Corp. Center P.S. #1	2	52,871	150	8,731	16,200 ²	1.86	16,200
Country Ridge P.S.	2	22,000 ³	65	6,954	16,436 ²	2.36	16,436
Hillview P.S.	2	61,200	220	26,213	58,080 ²	2.22	58,080
Rock Run P.S.	2	384,000	800	360,879	792,816 ⁴	2.20	794,769
Round Hill P.S. #1	2	48,600	160	16,877	22,845 ⁴	1.35	22,845
Round Hill P.S. #2	2	11,700	40	6,887	39,635 ⁴	5.76	39,635

¹ 2-Year Projected Maximum Flow = 2-Year Projected AA flow * peaking factor.
Highlands Corp. Center P.S., Country Ridge P.S., Hillview P.S., Round Hill P.S. #1 and Round Hill P.S. #2 (Projected Max. = Max. 2019 Daily Flow since no connections are projected.)
Rock Run P.S. = (792,816 gpd + (4 EDUs x 225 gpd/EDU)) x 2.17 peaking factor = 794,769
Round Hill P.S. #1 = Maximum 2019 Hourly Flow since no connections are projected.
Round Hill P.S. #2 = Maximum 2019 Hourly Flow since no connections are projected.

² Instantaneous flow data is not recorded. Peak daily flows are estimated from approximately daily pump run time data records to be 16,200 gpd (equivalent to 11.3 gpm for the entire 24-hour day) for the Highlands Corp. Center PS , 16,436 gpd (equivalent to 11.4 gpm for the entire 24-hour day) for the Country Ridge PS, and 58,080 gpd (equivalent to 40.3 gpm for the entire 24-hour day) for the Hillview PS.

³ Exact AA permitted capacity is not known. The permitted capacity is assumed to be approx. 22,000 gpd based upon hydraulic design capacity of 65 gpm and a DEP recommended peaking factor of 4.2 for pump stations of this size.

⁴ Peak hourly flow for the Rock Run PS in 2019 was 33,034 gal/hr, which is equivalent to 551 gpm. Peak daily flow for the Round Hill PS #1 was 22,845 gpd, which is equivalent to 15.9 gpm. Peak daily flow for the Round Hill PS #2 was 39,635 gpd, which is equivalent to 27.5 gpm.

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7.1 Rock Run Pump Station

The 2019 Annual Average flow at the Rock Run Pump Station was 360,879 gpd as per Table 1.1. The 2-Year Projected Annual Average Flow is 361,902 gpd which remains below the pump station's AA permitted capacity of 384,000 gpd.

The peak hourly flow at the Rock Run Pump Station in 2019 was 33,034 gallons (equivalent to 551 gpm). The peak hourly flow divided by actual average 2019 flow equals a maximum hour peaking factor of 2.20. The actual capacity of each pump at the pump station was evaluated in 2008 and determined to be approximately 830 gpm, so the peak flow was within the capacity of a single pump.

There is a 276-home development proposed on the Sands Property in West Caln Township. This additional flow is projected to cause the Rock Run Pump Station to exceed both its permitted AA and hydraulic design capacities. A third pump is proposed to be added to the pump station as part of that development. The addition of the third pump is projected to provide adequate capacity in the pump station to accommodate full build-out of all developing and undeveloped properties in the tributary Rock Run Basin.

The Township abandoned the PA DCED Small Water & Sewer Grant (matching grant) and related project to add an emergency bypass pump to the pump station due to financial constraints.

7.2 Highlands Corporate Center Pump Station #1

The estimated Annual Average flow at the Highlands Corporate Center Pump Station #1 in 2019 was 8,731 gpd, which is within the pump station's AA permitted capacity of 52,871 gpd. The estimated peak daily flow in 2019 was 11.3 gpm (16,200 gpd). The pump station has a design pump rate of 150 gpm. The actual capacity of each pump was evaluated in 2011 via drawdown testing and was confirmed to be approximately 150 gpm. Therefore, each pump can convey maximum flows while the other pump is idle or out of service. No new tributary connections are projected to be made in the next two years, so the 2-year projected maximum flow is the same as the actual 2019 peak flow.

7.3 Country Ridge Pump Station

The estimated Annual Average flow at the Country Ridge Pump Station in 2019 was 6,954 gpd, which is within the pump station's estimated AA permitted capacity of 22,000 gpd. The estimated peak daily flow in 2019 was equivalent to 11.4 gpm (16,436 gpd). The pump station has a design pump rate of 65 gpm. Therefore, each pump can convey maximum flows while the other pump is idle or out of service. No new tributary connections are projected to be made in the next two years, so the 2-year projected maximum flow is the same as the actual 2019 peak flow.

7.4 Round Hill Pump Station #1

The actual Annual Average flow at the Round Hill Pump Station #1 in 2019 was 16,877 gpd, which is within the pump station's AA permitted capacity of 48,600 gpd. The peak

2019 Chapter 94 Report for Valley Township Chester County, Pennsylvania

hourly flow in 2019 was equivalent to 15.9 gpm (22,845 gpd). The pump station has a design pump rate of 160 gpm. Therefore, each pump can convey maximum flows while the other pump is idle or out of service. No new tributary connections are projected to be made in the next two years, so the 2-year projected maximum flow is the same as the actual 2019 peak flow.

7.5 Round Hill Pump Station #2

The actual Annual Average flow at the Round Hill Pump Station #2 in 2019 was 6,887 gpd, which is within the pump station's AA permitted capacity of 11,700 gpd. The peak hourly flow recorded in 2019 was equivalent to 27.5 gpm (39,635 gpd). The pump station has a permitted hydraulic design capacity of 40 gpm. Therefore, each pump can convey maximum flows while the other pump is idle or out of service. No new tributary connections are projected to be made in the next two years, so the 2-year projected maximum flow is the same as the actual 2019 peak flow.

The meter at Round Hill Pump Station #2 was malfunctioning during two periods between May 21 and July 28, and November 15 and December 31. A replacement meter was ordered and will be installed in 2020.

7.6 Hillview Pump Station

The actual Annual Average flow at the Hillview Pump Station in 2019 was 26,213 gpd based on the totalized meter data collected from the station, which is within the pump station's permitted capacity of 61,200 gpd. The peak daily flow was 58,080 gpd (40.3 gpm). The pump station has a permitted hydraulic design capacity of 220 gpm. Therefore, each pump can convey maximum flows while the other pump is idle or out of service. No new tributary connections are projected to be made in the next two years, so the 2-year projected maximum flow is the same as the actual 2019 peak flow.

8.0 INDUSTRIAL WASTES

Although there are presently no industrial waste contributors to the wastewater system of which the Township is aware, Township Ordinance Chapter 18 "Sewer and Sewage Disposal" §207 addresses the strength of industrial wastes and permits only discharge of domestic strength. See Appendix D for a copy of the Ordinance.

9.0 CORRECTIVE ACTION PLAN

The Township is not projected to exceed their allocation at the PAWC Plant in the next five years. There are not considered to be any pump station capacity issues for full build-out of planned and approved connections within the Township boundaries. The sanitary sewer system collection and conveyance system does not appear to have any existing capacity issues except for the pipe section from MH-508-1 to MH 508-2 in the Westwood Basin. This pipe run may be surcharged during the peak wet weather flows as indicated in the static sanitary sewer model with the 5.07 peak factor. Flows within the Westwood Basin will continue to be monitored.

**2019 Chapter 94 Report for Valley Township
Chester County, Pennsylvania**

The proposed 276-home Sands Property development in West Caln Township is projected to overload one gravity sewer run and the Rock Run Pump Station. Valley Township will not permit any connections from the subject project until the developer has upgraded the gravity sewer run and installed a third pump in the Rock Run Pump Station. Further, Act 537 Sewage Facilities Planning approval will be required for the project along with a Water Quality Management Permit Amendment for the Rock Run Pump Station.

The proposed 75-home Scott Farm development in East Fallowfield Township may exceed the capacity of the gravity sewer run from MH 508-1 to MH 508-2 in the Westwood Basin. The modeling and sewer capacity will be re-evaluated by the Township Engineer as part of any Act 537 Sewage Facilities Planning for the project.

10.0 CALIBRATION REPORTS

PAWC is responsible for calibration of the meters at the Rock Run Pump Station and at the Charles Street (Hayti Basin) and Valley Road (Westwood Basin) Meter Pits. Valley Township is responsible for the Round Hill Pump Stations' meters. The Charles Street, Rock Run, and Valley Road meters were calibrated in 2019.

11.0 TRIBUTARY MUNICIPALITY REPORTS

Not applicable. Valley Township is a tributary municipality to the PAWC Coatesville District Wastewater Treatment Plant. PAWC has been provided a copy of this report.

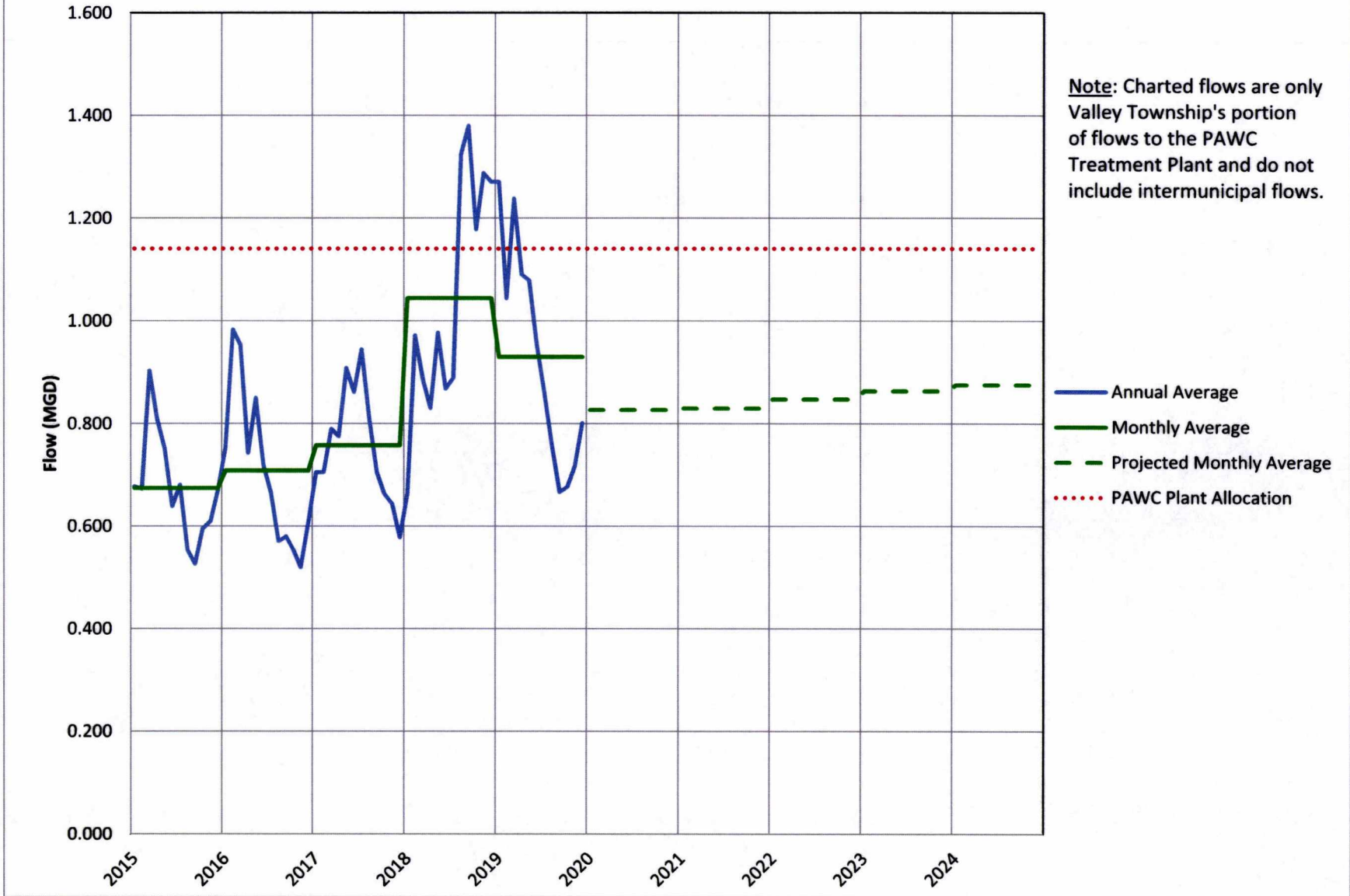
**2019 Chapter 94 Report for Valley Township
Chester County, Pennsylvania**

CHARTS

Valley Township Hydraulic Loading

Appendix A-20-c

Chart 1 - Valley Township Hydraulic Loading



Appendix A-20-c

**2019 Chapter 94 Report for Valley Township
Chester County, Pennsylvania**

APPENDIX A

List of “New Sewer Connections for 2019”

Appendix A-20-c

Appendix A-20-c

**2019 Chapter 94 Report for Valley Township
Chester County, Pennsylvania**

APPENDIX B

Projected Connections

Appendix A-20-c

**VALLEY TOWNSHIP
CHAPTER 94 REPORT
PROJECTED CONNECTIONS**

DEP Code No.	DEP PLAN APPROVAL STATUS	DEVELOPMENT	DESCRIPTION	ESTIMATED POPULATION SERVED	TOTAL EDUs	2018 ACTIVE EDUs	ACTUAL 2019	PROJECTED NEW CONNECTIONS					TOTAL IN 5 YEARS	6-10 YEAR CONN.'S
								2020	2021	2022	2023	2024		
1-15956-134-3IJ	APPROVED	Oakcrest (Glencrest Road)	Proposed Tie-in Phase I = Proposed Tie-In to Exist Gravity		63	52	*	2	2	2	2	1	9	*
1-15961-306-4	APPROVED	Highlands Corp Center Ph I, II, III (including CTDI)	Phase II = Extension, not designed yet Phase III = Private Low-Pressure Tie-In, not designed yet	Commercial	90	55	*	*	*	6	5	*	11	*
1-15956-125-3J	APPROVED	Valley Suburban Center (Stoltzfus Commercial)	Proposed 1010 ft 6" F.M. & 3925 ft 8" Grav. Extension	514 & Comm.	340	0	*	*	*	50	48	40	138	202
1-15956-128-3IJ	APPROVED	Valley Farm & Mt. Airy Road	Gravity Extension	213	81	56	*	1	*	*	*	*	1	24
1-15956-149-X	EXEMPT	Laurence Professional Center	Proposed Tie-in	Commercial	2	0	*	*	2	*	*	*	2	*
1-15956-181-E	EXEMPT	Valley View Bus. Park Lot 6	Proposed Tie-in	Commercial	1	0	*	1	*	*	*	*	1	*
		Valley View Bus. Park Lot 7	Proposed Tie-In	Commercial	2	0	*	2	*	*	*	*	2	*
		Valley View Lot 8 - Industrial	Gravity Extension & Pump Sta.	Commercial	5	0	*	*	2	3	*	*	5	*
		Valley View Bus. Park Lot 9	Extension, not designed yet	Commercial	1	0	*	*	*	1	*	*	1	*
		Airport Expansion	Proposed Tie-in	Commercial	30	0	*	1	1	1	1	1	5	25
		Valley Township Municipal Complex	Proposed Tie-in		5	1	0	*	1	*	*	*	1	*
		Spruce Street Residences	Proposed Tie-in		11	4	2	2	*	*	*	*	0	2
		923 West Chestnut St.	Proposed Tie-In		1	0	0	*	1	*	*	*	1	*
EXEMPT	140 Andrews Ln	Proposed Tie-In		1	0	*	*	1	*	*	1	*		
EXEMPT	Micronic USA	Proposed Tie-In		2	0	*	*	2	*	*	2	*		
				Total EDU			4	9	10	63	56	42	180	256
				Flow Rate = 225 gpd/EDU	Total Flow (MGD)		0.001	0.002	0.002	0.014	0.013	0.009	0.041	0.058

**2019 Chapter 94 Report for Valley Township
Chester County, Pennsylvania**

APPENDIX C

Pennoni's Sanitary Sewer Flows Letter

Appendix A-20-c



June 17, 2019

VLTW2400

Board of Supervisors
Valley Township
P.O. Box 467
Coatesville, PA 19320

**RE: Sanitary Sewer Flows
April 2018 – April 2019**

Attached are graphical records of sanitary sewer flows for the 13-month period from April 2018 through April 2019 as well as separate graphs for the past 5 years to provide a historical frame of reference.

The total flow from the Township was below the allocation at the PAWC Treatment Plant from April 2018 to July 2018 with an average flow of 890,919 gpd. However, from August 2018 to March 2019 (excluding February 2019) the total flow from the Township was above the 1.14 MGD allocation at the PAWC Treatment Plant. The average flow from August 2018 to March 2019 (excluding February 2019) was 1.28 MGD, and the peak monthly flow was 1.38 MGD. These flows are all a significant increase over the Township's average flow from 2014-2017 of 721,594 GPD. Since January 2013, the only other instance when the total flow from the Township was above the allocation at the PAWC Treatment Plant occurred in May 2014 (1.16 MGD).

The increased flows since August 2018 are attributed to the significant amount of precipitation. The first four months of 2019 have had less precipitation than the previous five months, but the precipitation remains higher than normal. The precipitation in the first four months has been approximately 30% (1.1" per month) greater than the average of the first four months in the previous five years. As a result, flows have only gradually decreased.

Observations for each basin follow. The primary areas of concern remain the older sewers in the Hayti Basin and the Westwood Basin.

- Flows in the Hayti Basin from February 2018 through April 2019 exceeded the Township's design flowrate of 300 gpd/connection for every month. We conclude that this basin remains subject to significant inflow and infiltration (I&I). We suspect I&I is primarily due to infiltration and illegal sump pump connections, most likely in the older portions of the Hayti Basin system. We are providing recommendations for specific I&I repairs based on recent visual and TV inspections under separate cover.
- Flows in the Westwood Basin from February 2018 through April 2019 exceeded the Township's design flowrate of 300 gpd/connection for every month. While these flows per connection have been high, they are not nearly as high as those within the Hayti Basin. Similar to the Hayti Basin, the flow increases have generally occurred during wetter seasons, and we conclude that this basin is also subject to significant I&I. We suspect I&I is primarily due to infiltration and illegal sump pump connections, most likely in the older portions of the Westwood Basin system.
- Flows in the Rock Run Basin over the past five years have not exceeded the Township's design flowrate of 300 gpd/connection. However, the flowrates in August 2018 through April 2019 were nearly double the flowrates from 2014 to 2017.

Instantaneous meter data at the Rock Run Pump Station in prior years indicated I&I. Metering from 2011 through 2015 indicated significant inflow during very large storm events. The pumping rate at the Rock Run Pump Station exceeded the capacity of a single pump during very large storms (approximately once per year) which indicated that both pumps were running simultaneously. The single pump capacity was exceeded one day in 2018 during a 2.79-inch storm, and there have been no exceedances in 2019 as of April 30, 2019.

We recommend focusing on immediate I&I repairs in the Hayti Basin and performing a sump pump investigation in the older areas of the Hayti Basin. The secondary focus should be I&I and sump pumps in the older areas of the Westwood Basin.

If you have any questions or need additional information, please do not hesitate to contact me.

Sincerely,



Michael J. Ellis, PE
Senior Engineer

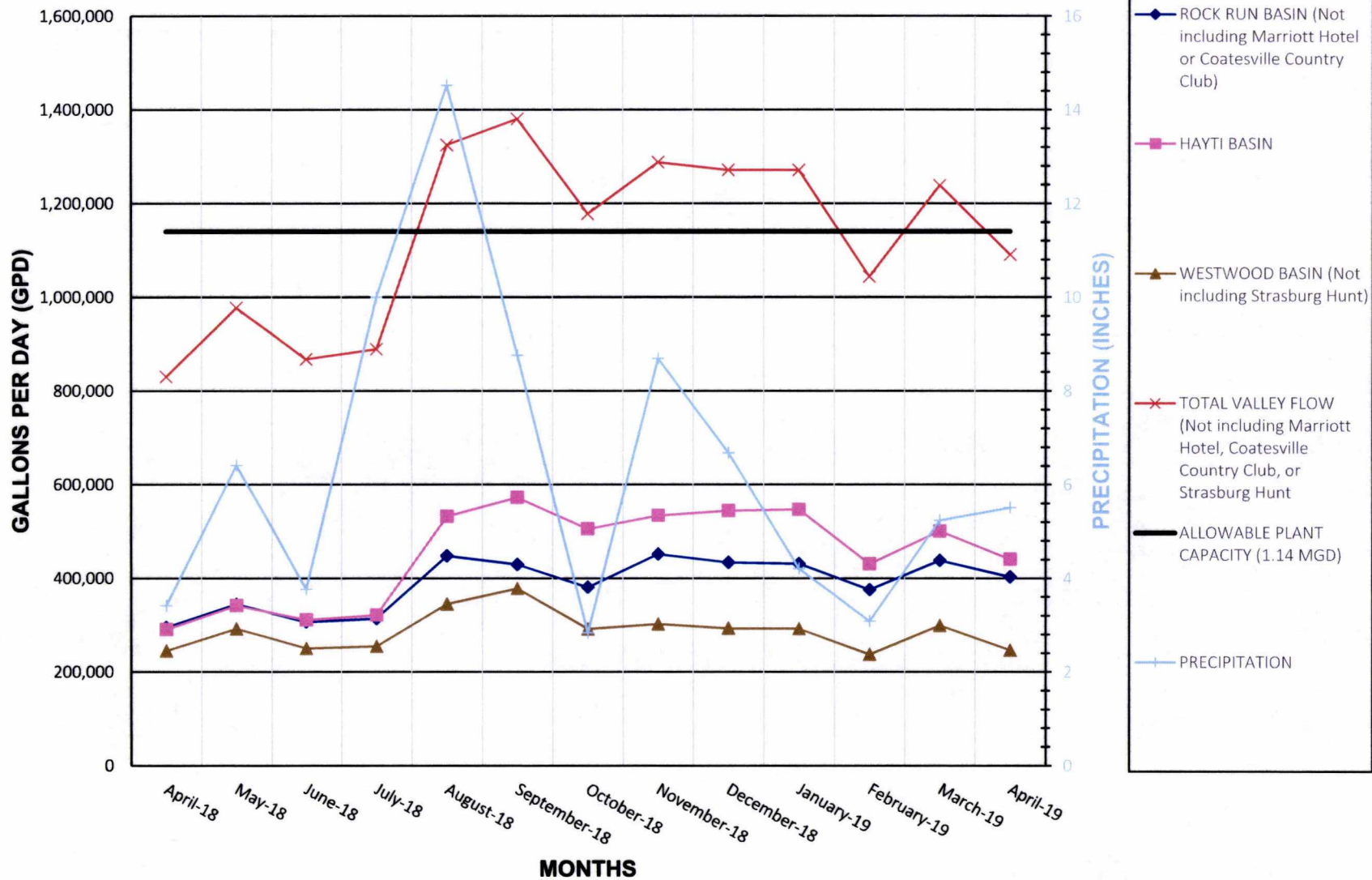
PENNONI ASSOCIATES INC.

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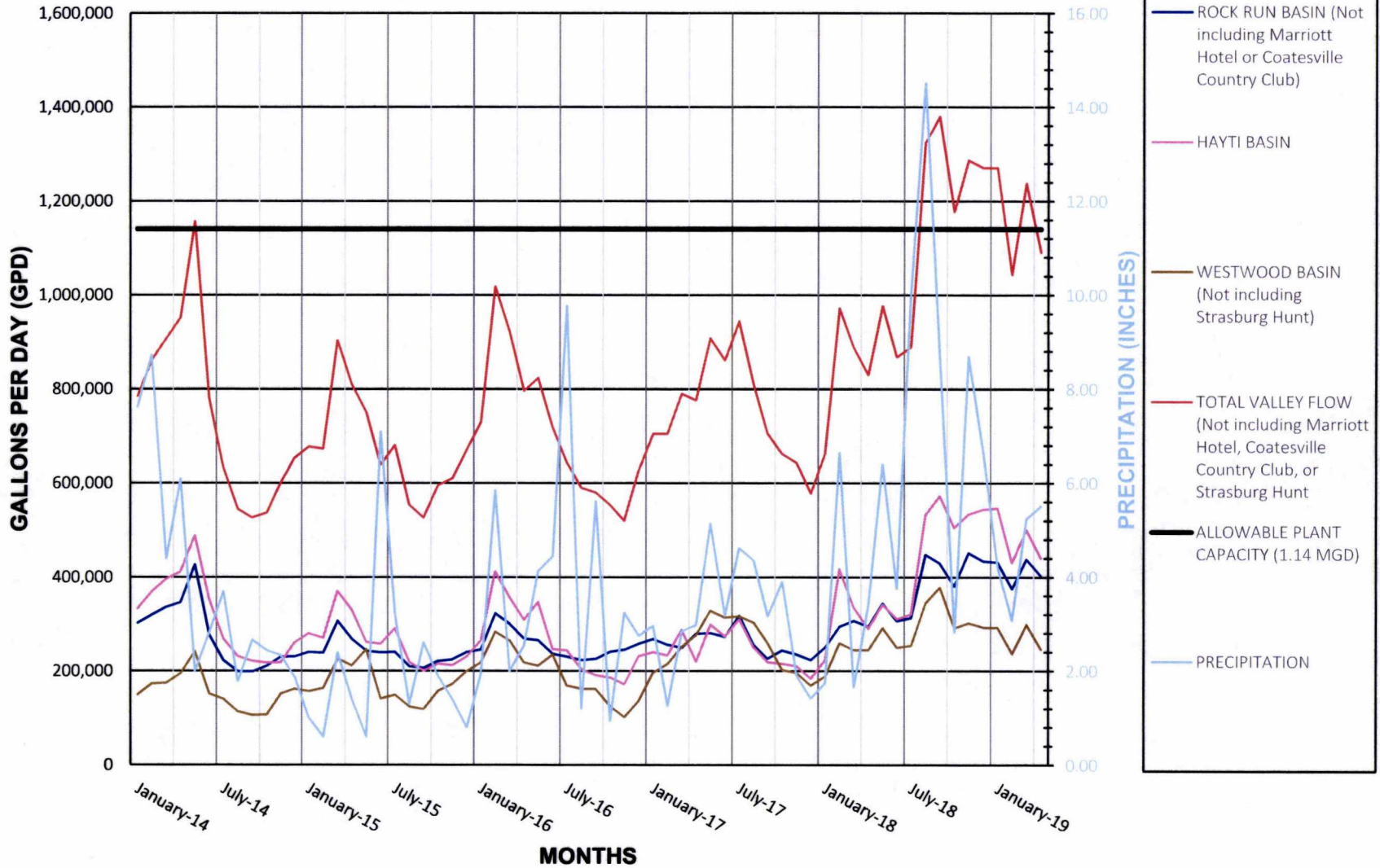
Enclosures: 13-Month Sanitary Sewer Monthly Flows vs. Precipitation graph
5-Year Sanitary Sewer Monthly Flows vs. Precipitation graph
13-Month Sanitary Sewer Monthly Flows per Connection graph
5-Year Sanitary Sewer Monthly Flows per Connection graph

cc: Carol Lewis, Township Manager
Janis Rambo, Township Secretary
Cindi King, Assistant Township Secretary
Kris Lenhart, Road Crew

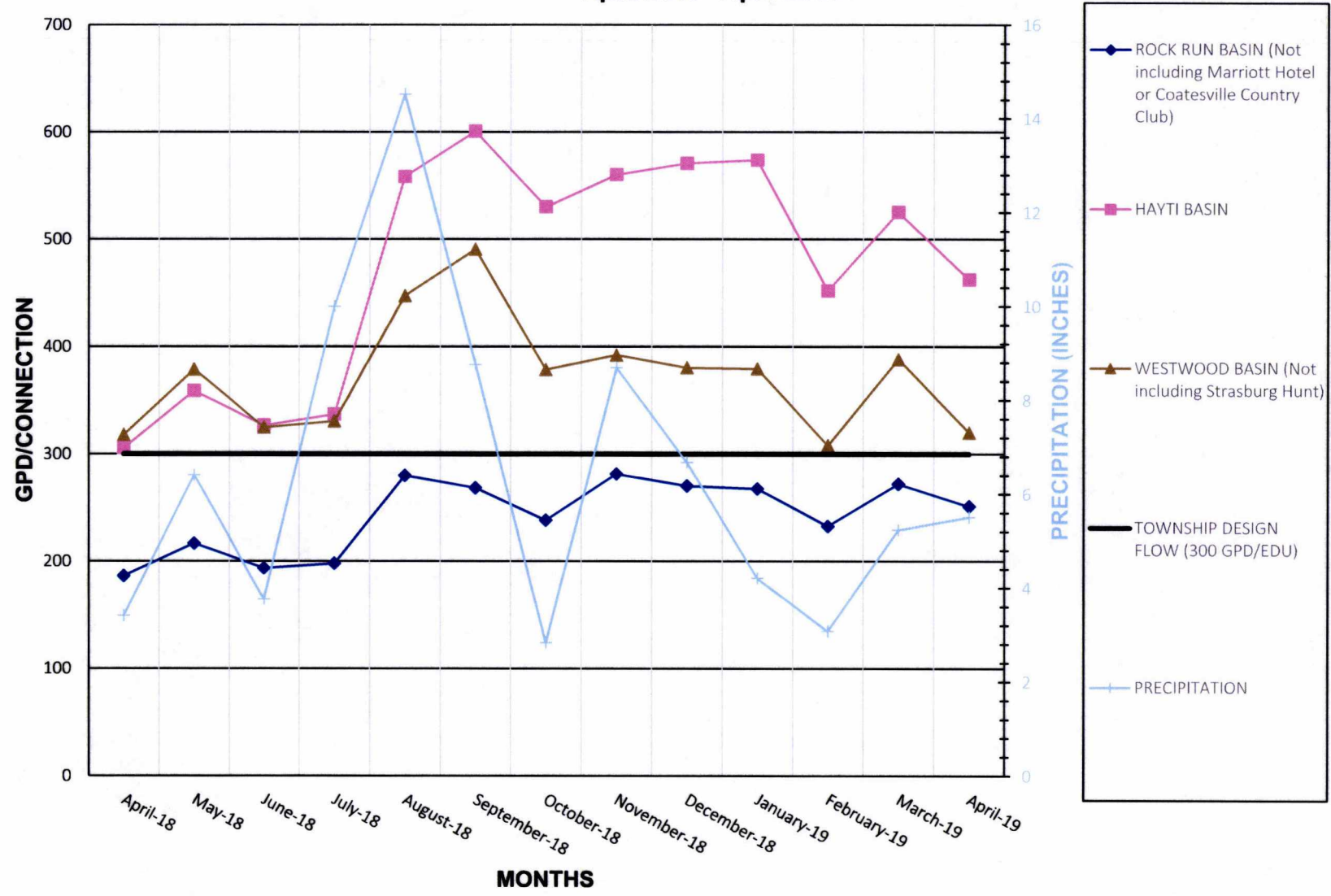
13 - MONTH SANITARY SEWER MONTHLY FLOWS VS. PRECIPITATION April 2018 - April 2019



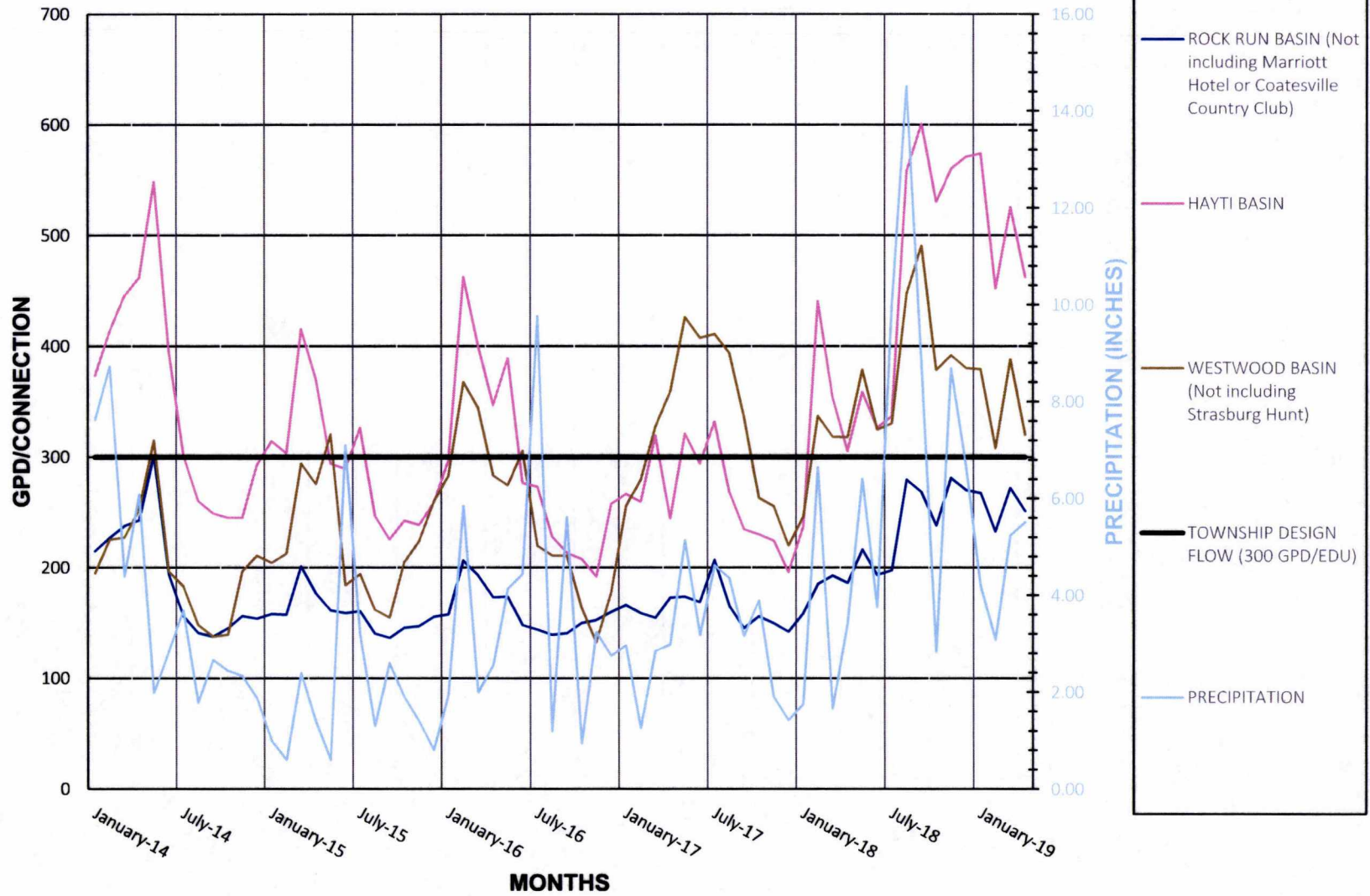
5 - YEAR SANITARY SEWER MONTHLY FLOWS VS. PRECIPITATION January 2014 - April 2019



13 - MONTH SANITARY SEWER MONTHLY FLOWS PER CONNECTION April 2018 - April 2019



5 - YEAR SANITARY SEWER MONTHLY FLOWS PER CONNECTION January 2014 - April 2019



**2019 Chapter 94 Report for Valley Township
Chester County, Pennsylvania**

APPENDIX D

Ordinance Chapter 18 “Sewers and Sewage Disposal”

PART 1

PUBLIC SANITARY SEWER SYSTEMS

§101. DEFINITIONS.

AUTHORITY - Valley Township Authority as originally organized and as presently or hereafter constituted, which has been created by the Board of Supervisors of the Township and to which has been referred by the Board of Supervisors of the Township the specific project of the sewers.

OCCUPIED BUILDING - each single dwelling unit, household unit, flat or apartment unit, store, shop, office, business or industrial unit or family unit contained within any structure erected within one hundred fifty (150) feet from the sewer system and intended for continuous or periodic habitation, occupancy or use by human beings or animals and from which structure sanitary sewerage is, or may be, discharged.

PERSON - an individual, firm, company, association, society, corporation or group.

PROPERTY ACCESSIBLE TO THE SEWER SYSTEM - improved property which adjoins, abuts on, or is adjacent to the sewer system.

SANITARY SEWAGE - the normal water-carried household and toilet wastes from residences, business buildings, institutions and industrial establishments.

SEWER SYSTEM - the public sanitary sewer collection system, together with appurtenant facilities about to be acquired and constructed for a portion of the Township and any improvements, additions or extensions that hereafter may be made thereto by the Authority or the Township or to any part or parts of any or all thereof.

TOWNSHIP - Valley Township, Chester County, Pennsylvania or the duly constituted and elected municipal officials therefor.

(Ord. 76, 11/13/1971, §1)

§102. OCCUPIED BUILDINGS TO BE CONNECTED TO ACCESSIBLE SEWERS.

1. All persons owning any occupied building, now erected upon property in the Township accessible to the sewer system shall, at their own expense, connect such building with the sewer system within sixty (60) days after written notice to such persons from the Township.
2. All persons owning any property in the Township accessible to the sewer system upon which an occupied building is hereafter erected shall, at the time of the erection of such building and at their own expense, connect the same with the sewer system.

SEWERS AND SEWAGE DISPOSAL

3. All persons owning any occupied building upon property in the Township which hereafter becomes accessible to the sewer system shall, at their own expense, connect such building with the sewer system within sixty (60) days after notice to do so from the Township.
4. Where more than one (1) occupied building, as hereinbefore defined, is contained in a separate structure, a single common connection to the lateral of the sewer system may be permitted for accommodating all units contained in such structure, except that separate connections shall be required for each semidetached or row-type house or structure.

(Ord. 76, 11/13/1971, §2)

§103. UNLAWFUL MEANS OF DISCHARGE OF SANITARY SEWAGE FROM PROPERTY ACCESSIBLE TO SANITARY SEWER.

It shall be unlawful for any person owning any property in the Township accessible to the sewer system to erect, construct or use or maintain or cause to be erected, constructed, used or maintained, any privy cesspool, sinkhole, septic tank or other receptacle on such premises for receiving sanitary sewage after the expiration of the particular period specified in §102 or otherwise at any time to erect, construct, use or maintain any pipe, conduit, drain or other facility for the discharge of sanitary sewage into the gutters of the Township, the storm sewers of the Township or upon public or private property or otherwise, except into the sewer system.

(Ord. 76, 11/13/1971, §3)

§104. NUISANCES DEFINED; ABATEMENT THEREOF.

Any person who erects, constructs, uses or maintains a privy, cesspool, sinkhole or septic tank on any property accessible to the sewer system, or otherwise erects, constructs, uses or maintains any pipe, conduit, drain or other facility for the discharge of sanitary sewage in violation of this Part, shall be deemed and shall be declared to be erecting, constructing and maintaining a nuisance, which nuisance the Township is hereby authorized and directed to abate in the manner provided by law.

(Ord. 76, 11/13/1974, §4)

§105. MANNER OF MAKING CONNECTIONS.

No connections shall be made to the sewer system, except in compliance with the ordinances and resolutions, as well as such rules and regulations as may, from time to time, be enacted, adopted, approved or promulgated by the Township or the Authority.

(Ord. 76, 11/13/1971, §5)

§106. NECESSITY FOR ENACTMENT; PENALTY FOR VIOLATION.

The provisions of this Part are declared to be for the health, safety and welfare of the citizens of the Township and any person or legal entity violating any provision of this Part shall be guilty of a summary offense and subject to a fine not to exceed one thousand dollars (\$1,000.00), together with all court costs and reasonable attorney's fees incurred by the Township in such enforcement proceeding, and may further be punished by imprisonment to the extent allowed by law for summary offenses. Each ten (10) day period during which such violation shall continue, shall be deemed to be a separate offense. Each occupied building, as hereinbefore defined, whether or not the owners hereof shall be permitted to connect two (2) or more occupied buildings or units by a single common connection to a lateral of the sewer system or shall be required to make separate connections for each occupied building or unit shall constitute a separate and distinct unit under the provisions of this Part and the persons owning occupied buildings, consisting of multiple units contained in the same structure, who violate any of the provisions of this Part, shall be subject to the aforesaid fine for each and every one of such occupied buildings or units which are in violation of the provisions of this Part.

(Ord. 76, 11/13/1971, §7; as amended by Ord. 75-1, 4/17/1975, §1; by Ord. 96-4, 5/7/1996, §18; and by Ord. 97-2, 3/18/1997, §18)

PART 2

SEWER TAPPING OR CONNECTION FEES AND SEWER RENTALS; SEWER USES

§201. DEFINITIONS.

INDUSTRIAL WASTE - any solid, liquid or gaseous substance or waterborne wastes or form of energy rejected or escaping from any industrial, manufacturing, trade or business process or from the development, recovery or processing of natural resources, as distinct from sanitary sewage.

OWNER - any person vested with ownership legal or equitable, sole or partial, of any property served, directly or indirectly, by the sewer system.

PERSON - any individual, firm, company, association, society, corporation or group.

SANITARY SEWAGE - the normal water-carried household and toilet wastes from residences, business buildings, institutions, commercial and industrial establishments.

SEWER SYSTEM - all temporary and permanent facilities at any time, and from time to time, owned and operated by the Township and used or usable for, on in a connection with, the collection, treatment and disposal of sanitary sewage. [Ord. 99-2]

TOWNSHIP - Valley Township, Chester County, Pennsylvania, or the duly constituted and elected municipal authorities thereof.

(Ord. 77, 11/13/1971, §1; as amended by Ord. 86-3, 3/18/1986, §2; and by Ord. 99-2, 1/4/1999, §1-3)

§202. IMPOSITION OF TAPPING OR CONNECTION FEES.

1. There is hereby imposed upon each owner of each property connecting to the sewer system a tapping or connection fee of \$1,200 for each connection made to such sewer system. A permit shall issue upon payment, and shall be valid for 1 year. If connection is not made within that time, an additional permit must be obtained and a new fee paid, for each connection to be made. The above fee is a cost and expense of the owner under §209.
2. In addition to the tapping or connection fee imposed under subsection (1) hereof, a capacity fee shall be due and payable Valley Township at the time of application for a building permit. The purpose of this fee shall be to recapture the Township's cost of purchasing additional sewage allocation from the City of Coatesville Authority. The capacity fee shall be calculated as follows:

SEWERS AND SEWAGE DISPOSAL

Residential Customers

Residential Customer-

Single Family Home \$590.00

Townhouse \$590.00

Apartment Houses:

1 Bedroom \$300.00

2 Bedroom \$450.00

3 Bedroom \$590.00

All Other Customers (per 100 gallons of estimated flow) \$195.00

Flow values shall be daily rate

The Township reserves the right to adjust the amount of the capacity fee for nonresidential (other) customers if it is determined from water meter readings that the original estimated flow was understated by more than five (5) percent.

(Ord. 77, 11/13/1971, §2; as amended by Ord. 77-4, 6/13/1977; by Ord. 85-2, 7/16/1985; by Ord. 86-4, 3/18/1986, §1; and by Ord. 2000-7, 9/5/2000)

§203. CONNECTION INSPECTION FEES.

There is hereby imposed upon each owner of each property connecting to the sewer system a sewer connection inspection fee in an amount as established, from time to time, by resolution of the Board of Supervisors for each connection made to the sewer system.

(Ord. 77, 11/13/1971, §2; as amended by Ord. 77-4, 6/13/1977; and by Ord. 99-5, 11/3/1999)

§204. IMPOSITION OF SEWER RENT OR CHARGE.

There is hereby imposed upon each owner of each property served by the sewer system and having the use thereof, an annual sewer rent or charge, payable quarterly as hereinafter provided, for the use, whether direct or indirect, of the sewer system, based on the schedules of classifications and rates or charges hereinafter set forth.

(Ord. 77, 11/13/1971, §3; as amended by Ord. 78-14, 4/26/1979; by Ord. 86-6, 5/27/1986; by Ord. 88-5, 11/15/1988; and by Ord. 99-2, 1/4/1999, §4)

§205. AMOUNT AND MANNER OF COMPUTATION OF SEWER RENTALS OR CHARGES.

1. The annual sewer rental or charge imposed hereby upon the owner of each property served by the sewer system, except as specified in subsection (2) hereof, shall be ninety-three dollars (\$93.00) per quarter per equivalent dwelling unit according to the following schedule: [Ord. 99-2]

UNIT SCHEDULE FOR SEWER RENTAL	
Category	Sewer Rental Units
Single-family dwelling	1
Each family apartment or business suite in a multiple dwelling or office building	1
Each additional apartment or business suite	1
Each half of a double house	1
Each beauty parlor, food market, service station, garage, funeral parlor, doctor's or dentist's office	1
Each church or fire company or similar charitable organization	1
Each restaurant or tavern - 20 seats or less	2
Each additional 10 seats or portion thereof	1
Each hotel or motel - 3 rental units or less	1
Each additional 5 rooms or portion thereof	1
Each nursing home, group home, institution or hospital housing 4 beds or less	2
Each additional 2 beds or portion thereof	1
Each commercial and industrial establishment or professional office not otherwise classified which does not discharge an industrial waste, regularly occupied during business hours by less than 8 persons and for each 5 additional persons or portion thereof in regular occupancy during business hours	1
Each school regularly occupied during school hours by 10 persons or less and for each additional 10 persons or portion thereof	1
For the purpose of computing school occupancy the number of pupils to be included for each year shall be the number enrolled in the school on October 1 of each year	

SEWERS AND SEWAGE DISPOSAL

2. The quarterly sewer rental or charge imposed upon users, owners and occupiers of land and buildings that are serviced by the Sewer System and either by the Valley Township or the City of Coatesville Authority water systems, shall be seventy-five dollars (\$75.00) for the first ten thousand (10,000) gallons of metered water usage, and four dollars and fifty cents (\$4.50) for each additional one thousand (1,000) gallons, or fraction thereof. [Ord. 99-2]
3. Sewer rentals imposed upon owners of property served by the sewer system and discharging industrial wastes are determined by the following formula:

"Equivalent Dwelling Unit" shall be the quotient obtained by dividing the total gallons per quarter of waste water being discharged to the sewer system by fifteen thousand (15,000) gallons, and such wastewater shall mean equivalent sewage flow with an average of five (5)-day BOD of two hundred fifty (250) milligrams per liter (mg/L), an average suspended solids (SS) content of two hundred fifty (250) mg/L and an average chlorine demand (Cld) of ten (10) mg/L and if samples of such industrial wastes indicate values higher than the above listed values for BOD, suspended solids or chlorine demand, then the "equivalent dwelling units" for said waste shall be adjusted for values or factors higher than those listed (without credit or reduction for lower values or factors) in accordance with the following formula:

$$EDU = \frac{\text{Flow}}{15,000} \times 1 + \frac{(\text{BOD} - 250)}{(250)} \times 0.8 + \frac{(\text{SS} - 250)}{(250)} \times 0.5 + \frac{(\text{Cld} - 10)}{(10)} \times 0.2$$

4. If two (2) or more dwellings, stores, industrial units, etc., are connected through a single lateral or if two (2) or more types of uses are made of the same property, the sewer rent payable under the foregoing schedule shall be computed as though each such dwelling, store, industrial unit, etc., and each such type of use were a separate property or user with a separate connection to the sewer.
5. In the event that the Township is not provided, upon request, with accurate information, including supporting documentation, to determine the number of employees or pupils using any property or such other data as may be necessary to determine a user classification or rate, the Township's estimate or determination thereof shall be conclusive.
6. The Township reserves the right to change rental unit values from time to time, to add or delete property classifications and, in cases of dispute, to contract a rate or to determine the proper classification of a given property serviced by an unmetered supply of water. [Ord. 92-2]

(Ord. 77, 11/13/1971, §4; as amended by Ord. 77-2, 6/13/1977; by Res. 80-4, 1/1/1980; by Ord. 82-2, 3/10/1982, §1; by Ord. 84-5, 12/18/1984; by Res. 84-9, 7/17/1984; and by Res. 86-4, 2/18/1986; by Res. 90-10, 8/21/1990; by Res. 92-2, 1/21/1992; by Ord. 92-2, 6/2/1992, §§1,2; and by Ord. 99-2, 1/4/1999, §§5,6)

§206. COMMERCIAL AND INDUSTRIAL CONNECTIONS.

1. Effective June 1, 1992, any commercial and industrial customer that makes connection to the sewer system shall install water meter(s) on his/her/its water supply system, which meter(s) shall comply with the Valley Township water specifications.
2. Any such commercial or industrial owner or other person responsible for the payment of the sewer rental or charges for the property shall be billed on a monthly basis by the Township based on the flow of water through the meter(s) as read by the Township. The sewer charge based upon the water flow shall be as follows:

0-6,000 gallons	\$24.00
6,001 gallons - 60,000 gallons	\$ 1.53 per 1,000 gallons
60,001 gallons - or more	\$ 1.35 per 1,000 gallons

(Ord. 77, 11/13/1971; as added by Ord. 92-2, 6/2/1992)

§207. EXCLUSION OF HARMFUL WASTE.

1. The Township reserves the right to refuse permission to connect to the sewerage system, to compel discontinuance of use of the sewer system or to compel pretreatment of waste waters in order to prevent discharges deemed harmful or to have a deleterious effect upon any portion of the sewerage system. No waste shall be discharged to the sewerage system:
 - A. Having a temperature higher than one hundred ten (110) degrees F.
 - B. Containing more than one hundred (100) ppm by weight of fats, oils and grease.
 - C. Containing any gasoline, benzine, naphtha, fuel oil or other inflammable or explosive liquids, solids or gases.
 - D. Containing any garbage that has not been ground by household-type or other suitable garbage grinders.
 - E. Containing any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar plastics, wood, paunch manure or any other solid or viscous substances capable of causing obstructions or other interference with proper operation of the sewerage system.
 - F. Having a pH lower than six and one-half (5\6 1/2) or higher than nine (9.0) or having any other corrosive property capable of causing damage or hazards to structures, equipment or personnel of the sewerage system.
 - G. Containing toxic or poisonous substances in sufficient quantity to injure or interfere with any sewage treatment process or constitute hazards to humans or animals or to create any hazard in waters which receive treated effluent from the

SEWERS AND SEWAGE DISPOSAL

City of Coatesville sewage treatment plant. Toxic wastes shall include, but not by way of limitation, wastes containing cyanide, chromium, copper and nickel ions.

- H. Containing noxious or malodorous gases or substances capable of creating public nuisance.
 - I. Containing solids of such character and quantity that special and unusual attention is required for their handling.
 - J. Containing substances having characteristics, etc., which violate provisions of any agreement by the Township and the City of Coatesville or the City of Coatesville Authority for the treatment of sanitary sewage or industrial wastes now existing, or subsequently concluded. [Ord. 99-2]
2. Where required, in the opinion of the consulting engineers, the user shall provide at his expense such preliminary treatment or handling as may be necessary to modify the objectionable characteristics or control the quantities and rates of discharge of such water or wastes as necessary.

(Ord. 77, 11/13/1971, §5; as amended by Ord. 99-2, 1/4/1999, §7)

§208. CHANGES IN CLASSIFICATION, ADDITIONAL CLASSIFICATIONS AND MODIFICATIONS.

If the use or classification of any property should change, the difference in sewer rental, if any, will be changed or credited, as the case may be, on the bill for the succeeding month. Additional classifications and additional sewer rentals may be established by the Township from time to time.

(Ord. 77, 11/13/1971, §6; as amended by Ord. 86-6, 5/27/1986)

§209. TIME OF PAYMENT; COMPUTATION OF AMOUNT; INITIAL BILLING.

- 1. The tapping fee or connection charge shall be due and payable at the time application is made to the Authority to make any connection to the sewer system, as provided herein, or upon the date when the Township shall connect any improved property to the sewer system at the cost and expense of the owner if such owner shall have failed to make such connection as required in the ordinance of the Township then in effect requiring such connection.
- 2. All sewer rental billings shall be due and payable on the first day of each month for the service provided in the month preceding. Rent for any billing period in which a connection is made shall be prorated and shall be billed in conjunction with the next regular billing or by special billing as the officials responsible for billing may elect. A five (5) percent discount on the gross bill for sewer service will be allowed if paid within fifteen (15) days after billing date.

(Ord. 77, 11/13/1971, §7; as amended by Ord. 77-5, 9/27/1977; and by Ord. 86-6, 5/27/1986)

§210. PENALTIES; DELINQUENT SEWER RENTALS AND LIENS.

1. The charges for sewer service shall be subject to a ten (10) percent penalty if not paid within thirty (30) days after the date of the bill. If not paid within sixty (60) days after the date of the bill, the bill plus the penalty shall bear interest from the due date at the rate of ten (10) percent per annum until paid and the Township shall have the right to cut off sewer service from the delinquent premises and not to restore the same until all delinquent bills against the same are paid, together with the cost of cutting off and restoring the service. [Ord. 92-1]
2. Payments made, as evidenced by the United States Post Office mark, on or previous to the end of the period during which the bills are payable at face, will be deemed to be a payment within such period.
3. All sewer rentals, together with all penalties and interest thereof, not paid on or before the end of six (6) months from the date of each bill shall be deemed to be delinquent. All delinquent sewer rentals and all penalties and interest thereon, together with the Township's attorney's fees and costs incurred in connection therewith, shall be a lien on the property served and shall be entered as a lien against such property in the office of the Prothonotary of Chester County where they shall bear interest at the rate of ten (10) percent per annum, until paid. [Ord. 96-3]
4. The Township's attorney's fees referenced in subsection (3), above, shall be according to a schedule as established from time to time by resolution of the Board of Supervisors, which the Board of Supervisors determines to be fair and reasonable for the service being performed. [Ord. 99-5]

(Ord. 77, 11/13/1971, §8; as amended by Ord. 78-14, 4/26/1979; by Ord. 86-6, 5/27/1986; by Ord. 88-5, 11/15/1988; by Ord. 92-1, 1/21/1992 §§1,2; and by Ord. 99-5, 11/3/1999)

§211. SEGREGATION OF SEWER REVENUES.

The funds received by the Township from the collection of the sewer rentals and charges and all penalties and interest thereon, as herein provided for, shall be segregated and kept separate and apart from all other funds of the Township in the operation, maintenance, repair, alteration, inspection, depreciation or other expenses in relation to such sewer system and for such payments as the Township may be required to make under any lease or agreement it may enter into in connection with, or the financing of, the sewer system, in accordance with the provisions of the Act of May 2, 1945, P.L. 382, as amended.

(Ord. 77, 11/13/1971, §9)

§212. RULES AND REGULATIONS.

SEWERS AND SEWAGE DISPOSAL

The Township reserves the right to and may, from time to time, adopt, revise, amend and readopt such rules and regulations as it deems necessary and proper for the use and operation of the sewer system and all such rules and regulations shall be and become a part of this Part. Any person, firm or corporation who shall violate any provision of this Part, including any violation of the said rules and regulations, shall be guilty of a summary offense and subject to a fine not to exceed one thousand dollars (\$1,000.00), together with all court costs and reasonable attorney's fees incurred by the Township in such enforcement proceeding. Each day that such violation continues shall be considered a separate offense.

(Ord. 77, 11/13/1971, §10; as amended by Ord. 96-4, 5/7/1996, §18; and by Ord. 97-2, 3/18/1997, §18)

§213. EFFECTIVE DATE.

This Part and any rules and regulations hereunder shall become effective immediately and shall be applicable to all properties as soon as they become connected with and have the right to use, the sewer system. The Township reserves the right to make such changes from time to time as, in its opinion, may be desirable or beneficial and to amend this Part or to change the rates or charges in such manner and at such times, as in its opinion, may be advisable.

(Ord. 77, 11/13/1971, §11)

PART 3

PROHIBITED SEWAGE DISPOSAL FACILITIES

§301. CONSTRUCTION OF CERTAIN FACILITIES PROHIBITED.

It shall be unlawful for any person owning or occupying a property on which there is a building required to be connected to a public sewer in the Township of Valley to construct or use on such property any privy, privy vault, cesspool, septic tank or other device for the disposal of sanitary sewage and any such prohibited devices shall be filled in with clean bankrun gravel or dirt within one (1) year following the date on which the aforesaid connection is required to be made if, after inspection by the Plumbing Inspector, said prohibited device presents a hazard or is likely to present a safety hazard in the foreseeable future.

(Ord. 72-2, 2/9/1972, §1)

§302. PURPOSE; PENALTY FOR VIOLATION.

The provisions of this Part are declared to be for the health, safety and welfare of the citizens of the Township and any person or legal entity violating any provision of this Part shall be guilty of a summary offense and subject to a fine not to exceed one thousand dollars (\$1,000.00), together with all court costs and reasonable attorney's fees incurred by the Township in such enforcement proceeding, and may further be punished by imprisonment to the extent allowed by law for summary offenses. Each ten (10) day period during which such violation of such provisions shall continue shall be deemed to be a separate offense. Each occupied building, whether or not the owners thereof shall be permitted to connect two (2) or more occupied buildings or units by a single common connection to a lateral of the sewer system or shall be required to make separate connections for each occupied building or unit, shall constitute a separate and distinct unit under the provisions of this Part and the persons owning occupied buildings, consisting of multiple units contained in the same structure, who violate any of the provisions of this Part, shall be subject to the aforesaid fine for each and every one of such occupied buildings or units which are in violation of the provisions of this Part.

(Ord. 72-2, 2/9/1972, §2; as amended by Ord. 75-1, 4/17/1975, §3; by Ord. 96-4, 5/7/1996, §18; and by Ord. 97-2, 3/18/1997, §18)

Appendix A-20-c

**2019 Chapter 94 Report for Valley Township
Chester County, Pennsylvania**

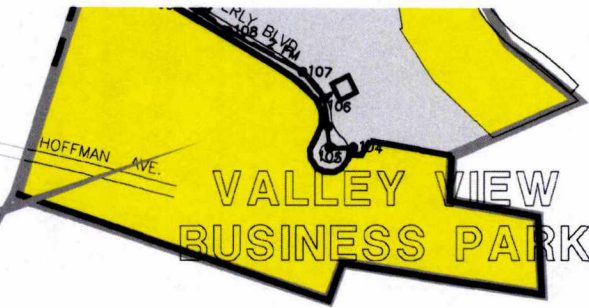
FIGURES

Chapter 94 Valley Township Sanitary Sewer Facilities

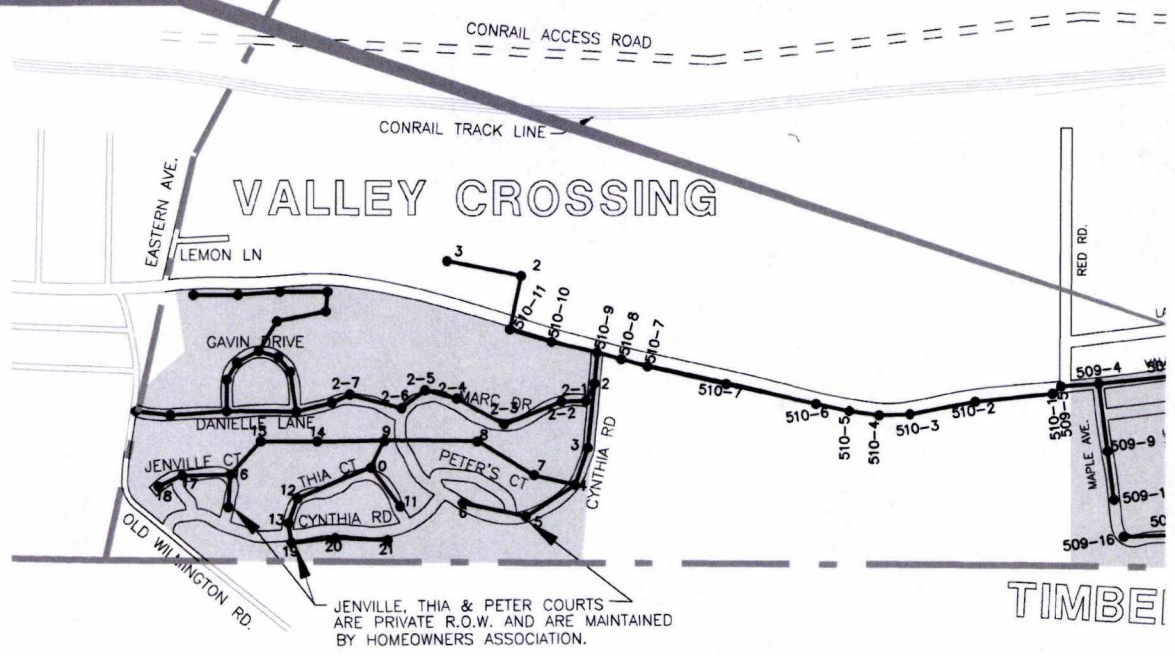
Appendix A-20-c

**VALLEY VIEW BUSINESS PARK
LOT 6 - 9**

SPRUCE STREET RESIDENCES



VALLEY VIEW
BUSINESS PARK



VALLEY CROSSING

JENVILLE, THIA & PETER COURTS
ARE PRIVATE R.O.W. AND ARE MAINTAINED
BY HOMEOWNERS ASSOCIATION.

TIMBER