LEGEND

RHM SEWER AUTHORITY INTERCEPTORS

1-H — SERVICE AREA NO. – TOWNSHIP

SERVICE AREA BOUNDARY

RHM SEWER AUTHORITY AREA PRESENTLY SERVED IN ACCORD WITH 1968 OPERATING AGREEMENT

SERVICED AREA NOT IN ACCORD WITH 1968 OPERATING AGREEMENT

N

2000 0 2000 4000
1"=2000' scale feet

RHM OPERATIONS CENTER

RADNOR HAVERFORD MARPLE SEWER AUTHORITY METER PIT LOCATIONS & INTERCEPTOR SEWERS

ARRO

West Chester Office
1450 E. Boot Road
Bldg. 100-B
West Chester, PA 19380
O 610.495.2118
M 484.995.7137

March 07, 2019

Richard Taylor, Laboratory Manager
Valley Forge Sewer Authority
333 Pawling Road
Phoenixville, PA 19460

RE: Easttown Township
2018 Chapter 94 Report
ARRO #5080.82

Dear Mr. Taylor:

On behalf of our client, Easttown Municipal Authority, please find enclosed the Authority's 2018 Annual Report for inclusion within the 2018 VFSA Chapter 94 Report. We trust that you will find the enclosed information satisfactory.

As always, if you have any questions or require any additional information, please feel free to contact me via email at brady.flaharty@arroconsulting.com or telephone at 610.495.2118.

Sincerely,

Brady L. Flaharty

Brady L. Flaharty, P.E.
ARRO Consulting, Inc., Easttown Municipal Authority Engineer

BLF:car

Enclosure

c: Donald C. Curley, Administrator – Easttown Municipal Authority (w/ encl.)

CHAPTER 94
MUNICIPAL WASTELOAD MANAGEMENT
ANNUAL REPORT

2018
EASTTOWN MUNICIPAL AUTHORITY
CHESTER COUNTY, PENNSYLVANIA

Prepared by:

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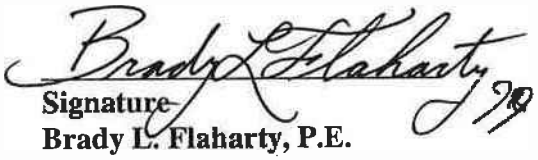

Signature
Brady L. Flaharty, P.E.
ARRO Consulting, Inc.
Authority Engineer

EASTTOWN MUNICIPAL AUTHORITY
CHESTER COUNTY, PENNSYLVANIA

CHAPTER 94
MUNICIPAL WASTELOAD MANAGEMENT
ANNUAL REPORT
OPERATING YEAR 2018

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1. INTRODUCTION

This Municipal Wasteload Management Annual Report is prepared in accordance with the Pennsylvania Department of Environmental Protection (Department) Chapter 94 for the Easttown Municipal Authority sewerage collection and conveyance system tributary to the Valley Forge Sewer Authority Wastewater Treatment Plant.

Easttown Municipal Authority (Authority) owns the sanitary sewer collection and conveyance systems within Easttown Township under Water Quality Management Permit No. 1503401. Easttown Township operates and maintains the facilities.

The sanitary sewer collection system is comprised of approximately 1673 manholes and 327,035 lineal feet of gravity sewer. There are approximately 2846 residential homes and 322 small businesses connected to the collection system. The conveyance systems are comprised of twelve (12) sewage pump stations with approximately 39,974 lineal feet of force main.

The Authority sanitary sewer collection system provides for collection of domestic sewage from Easttown Township, a suburban residential area encompassing several watersheds. Wastewater from each of these watersheds flows by gravity to one of twelve pumping stations, which ultimately convey the wastewater to a wastewater treatment plant operated by the Valley Forge Sewer Authority via the Aqua Resources, Inc.'s Valley Creek Trunk Sewer (VCTS) collection system. There is a small portion of the system, consisting of approximately 50 homes in the Valley Forge Road area that drains through the Tredyffrin Township collection system into the Radnor-Haverford-Marple Authority system. There is also a small portion of the system, comprised of approximately 177.4 EDUs, that drains through Tredyffrin Township to Upper Merion Township's Trout Run Water Pollution Control Center.

2. HYDRAULIC LOADINGS

Sewage flow from the Authority system is measured at three pumping stations, Berwyn, Daylesford and Saybrook, which each convey wastewater directly into the Tredyffrin Township collection system.

Exhibit 'A' contains a summary of Easttown total monthly flow to VFSA for 2018 and the previous 4 years, along with the 2018 monthly rainfall. The 2018 monthly flow and rainfall is charted in Exhibit 'E'.

During 2018 the measured sewage flow from the Authority sewer system averaged 1,340,600 gallons-per-day. This represents an increase of approximately 431,498 gallons-per-day versus 2017 flows. The higher than normal flow is attributed to the excessive rainfall recorded in 2018. In 2018 a total of 71.13 inches of rain was recorded at USGS *Site 01473169 Valley Creek* near Valley Forge, PA, as compared to the yearly average of 44.87 inches of rain recorded from 2010 to 2017.

3. 5-YEAR HYDRAULIC AND ORGANIC LOADING PROJECTIONS

The total number of EDUs connected at the end of 2018 was 3841.7, which produced an average annual flow of 1.341 MGD and 349.0 gpd/EDU.

The number of EDUs and total average daily flow over the next five (5) years are both projected to increase as follows:

		Additional # of EDUs	*Total # of EDUs*	*Total Flow (MGD)**
Actual	*2018*	37.0	3,841.7	1.341
Projected	*2019*	45.0	3,886.7	1.356
Projected	*2020*	45.0	3,931.7	1.372
Projected	*2021*	45.0	3,976.7	1.388
Projected	*2022*	45.0	4,021.7	1.403
Projected	*2023*	45.0	4,066.7	1.419

* Projected flows are based on 2018 average gpd/EDU.

The increase in the number of connections was derived by interpolation of the Year 2040 Easttown Projected Flow, specified as 1.686 MGD, which is contained in the *Act 537 Supplement for Wilson Road Force Main*, Table 3-3, Average Daily Wastewater Flow Projections.

A summary of the EDUs, flows and organic loadings over the last five years and those projected for the next five years, along with graphs depicting the past and projected flows and loadings, are included in Exhibit 'B'. The 2018 average annual loading was

estimated to be 2,516 lbs/day based on an assumed BOD5 concentration of 225 mg/l. The maximum 1-month loading was estimated to be 3,336 lbs/day. The average 5-year ratio organic peaking factor is 1.41.

4. SEWER EXTENSIONS

There was one sewer extension in 2018, which was constructed in the Berwyn Pump Station drainage area.

Exhibit 'C' contains an updated Easttown Township Approved and Projected EDU map and an accompanying tracking list for the sanitary sewer system. EDUs are tracked by both Authority pump station drainage area and unmetered drainage area to the Valley Forge Sewer Authority wastewater treatment plant, by unmetered drainage area to the Radnor-Haverford-Marple Sewer Authority wastewater treatment plant and by unmetered drainage area to the Upper Merion Township Trout Run water pollution control plant. There are currently 4,098.2 EDUs connected to the Easttown Township sanitary sewer system with 5,146 projected to be connected by 2040. The tracking list and map is updated periodically as requests for connections are made and the Department approves EDUs.

5. PROGRAM FOR SANITARY SEWER MONITORING, MAINTENANCE, AND REPAIR

The sewer system is maintained by the Township Sewer Crew. The basic operation force consists of one (1) Crew Chief, and three (3) Pump Station Operators. This group is responsible for routine sewer and pump station maintenance and repairs. The Sewer Crew personnel on a daily basis check all pump stations with various readings and notations made for each station as well as conditions and status of major operational components. Each pump station is equipped with various alarms and an automatic dialer to notify Sewer Crew personnel in the event of an equipment malfunction or an unusual system condition. The Sewer Crew also has computer software installed at the Municipal Garage and at the Crew Chief's home that allow real-time monitoring of each pump

station. Additionally, a weekly "on-call" rotation is in place whereby two of the four-man crew is available at any given time to handle emergency situations.

The Township contracts with Municipal Maintenance Company (MMC) to provide monthly detailed inspections of each station within the system. MMC generates a report detailing specific conditions and suggested corrective measures. Township personnel formulate a plan to perform the necessary maintenance and repair, either in-house or contracted services. All necessary repairs are made in a timely manner.

6. CONDITION OF THE SEWER SYSTEM

During 2018 one sanitary sewer overflow event was reported within the Authority's collection system.

- A total of 4.25 inches of rain fell over June 10 and June 11, 2018. On June 11 the sewer crew arrived at the Berwyn Pump Station after receiving a high water alarm. The crew found the wet well at extreme high level condition and sewage was emanating from manhole #1267A adjacent to the pump station. After the rain lessened the pump station was able to maintain the incoming flow normally.

The Authority has televised certain portions of the sanitary sewer system in the Berwyn, Daylesford, Devon Hunt, Exeter, Millbrook, Newtown, Pinecroft, Saybrook and Spring Knoll Pump Station drainage areas. From 2012 through 2018 approximately 79,369 ft. of sanitary sewer has been televised. The televising found 80 pipe segment defects, 72 lateral defects and 23 manhole defects that were allowing or had potential to allow infiltration into the sanitary sewer system. Inflow/Infiltration (I/I) mitigation repair activities to correct defects found during the televising were started in July 2011 and continued through 2018.

During 2018 the Daylesford drainage area was designated for I/I investigation. Sewer crew staff conducted night flow metering in select manholes to identify sewer areas of I/I concern. Based on the metering observation data a contractor was engaged to televise portions of the sewer. Based on results of the televising the contractor grout-repaired pipe joints in approximately 1,150 LF of sewer, installed one mechanical seal, and grout-

injected five manholes. The Township estimated a reduction of 836,000 gallons per year of infiltration was removed from the Daylesford drainage area. The Township will conduct I/I investigations and repair work within portions of the whole sewer system as it sees the need through 2019.

During 2018 the Tredyffrin Township Municipal Authority sold the VCTS to Aqua Resources, Inc. Easttown, as a participant in the Valley Creek Trunk Sewer Asset Purchase Agreement, was accorded a portion of the sale proceeds. Some of the proceeds are being used to fund the Argyle Road Sewer Replacement project in 2019 after it was found by Authority operating personnel that certain manholes and sewer piping in Argyle Road downstream of The Greens Pump Station were highly deteriorated.

7. SEWAGE PUMPING STATIONS

The Township operates twelve (12) pumping stations owned by the Municipal Authority. All pumping stations are equipped with magnetic flow meters that measure the flows. Exhibit 'D' contains the 2018 flow information for each pump station.

During 2018 no overflow event was reported at any of the Authority pumping stations. However, on December 26, 2018, an existing clamp on the Berwyn Pump Station's buried 14-inch AC force main pipe broke and allowed wastewater to leak from the break. The pump station was taken offline while clamp was removed and replaced, then the pump station was placed back online.

During 2017 the Daylesford Pump Station upgrade construction was completed. The station's Sharps Woods Gravity and Force Main Replacement project was restarted at the end of 2018 and is expected to be put out to bid in 2019.

As a result of completed and planned I/I reduction work it is anticipated that there will be no need to upgrade or expand the Saybrook Pump Station.

8. PUMPING STATION FLOW DURING MAJOR STORM EVENTS

The Department requires Chapter 94 reports to include a discussion of metered flow data for the collection and conveyance systems, specifically during major storm events (greater than 1.0 inch of rain).

Exhibit 'F' contains a summary of Easttown total monthly flow versus rainfall to VFSA from its three major pump stations – Berwyn, Daylesford and Saybrook – and also the charts of the monthly and average yearly flow for these pump stations.

Exhibit 'G' contains a summary of monthly flow versus rainfall at the nine (9) small metered satellite pump stations – Berwyn Estates, Devon Hunt, Exeter, Fox Creek, Millbrook, Newtown, Pinecroft, Spring Knoll, and The Greens – and also the charts of the monthly and average yearly flow for these pump stations.

Exhibit 'H' contains a summary of the rainfall and the metered flows at all twelve (12) of the Authority's pump stations for the twenty-five (25) days in 2018 where rain fell more than 1-inch plus in a 24-hour period. The charts in Exhibits 'I' and 'J' were developed from this data.

Exhibit 'I' contains a chart for the Berwyn, Daylesford, and Saybrook Pump Stations during the twenty-five (25) rain events. As related to yearly average flow, the peaking factors for the three pump station meters during the rain events are as follows:

Pump Station	Yearly Avg. Flow (MGD)	Rain Events Peaking Factor	
		High	Average
Berywn	0.836	2.43	1.42
Daylesford	0.303	2.01	1.22
Saybrook	0.115	1.56	1.12

In conclusion, the peaking factors for Berwyn, Daylesford and Saybrook Pump Stations during the high rain event are within the Department's current peaking factor guidelines. However, as part of its CMP program, the Authority will continue to actively pursue I/I in the drainage areas of contributing upstream pump stations to Berwyn Pump Station, especially Devon Hunt and Exeter.

Exhibit 'J' contains the charts of peak rain event flows at the nine (9) small metered satellite pump stations – Berwyn Estates, Devon Hunt, Exeter, Fox Creek, Millbrook, Newtown, Pinecroft, Spring Knoll, and The Greens. As related to yearly average flow, the peaking factors for the nine (9) pump stations during the rain events are as follows:

Pump Station	Yearly Avg. Flow (MGD)	Rain Events Peaking Factor	
		High	Average
Berwyn Estates	0.007	1.38	1.09
Devon Hunt	0.072	2.19	1.40
Exeter	0.009	3.49	1.56
Fox Creek	0.012	2.86	1.53
Millbrook	0.004	1.54	1.08
Newtown	0.157	3.18	1.63
Pinecroft	0.003	2.11	1.41
Spring Knoll	0.043	3.00	1.54
The Greens	0.019	1.56	1.22

Based on the 2018 flow meter readings and the preceding rain event peaking factors, the current 4.19 peaking factor is sufficient for Millbrook and the station is not considered by the Authority for upgrade to meet current peaking factor guidance.

The peaking factor of 2.86 experienced at Fox Creek, also a station not considered by the Authority for upgrade, is believed to be caused by high flow from its contributing upstream pump station, Pinecroft, which has a peaking factor of 2.11.

9. INDUSTRIAL WASTES

There are no known industrial waste dischargers within Easttown Township.

10. CORRECTIVE ACTION PLAN

The Department mandated the Authority to develop a CMP/CAP in December 2010. ARRO Consulting, Inc. prepared a Capacity Management Plan (CMP) and an associated Strategic I/I Reduction Plan, which collectively makes up the Corrective Action Plan (CAP) that sets forth the actions the Authority would take over the next five years to reduce overloads and provide additional capacity in its sanitary sewer system. The CAP/CMP that was submitted to PADEP by transmittal letter dated February 10, 2011

and, after minor revisions, was approved by PADEP by letter, dated October 25, 2011. Quarterly updates are submitted to the Department. The first quarterly update was submitted in January 2012.

All of Easttown's CAP milestone work within the Berwyn Pump Station and Saybrook Pump Station drainage areas is complete. The Valley Creek Trunk Sewer gravity system upgrade in Tredyffrin Township and the Wilson Road Force Main Rehabilitation, into which flow the effluent from Berywn Pump Station and Saybrook Pump Station, are also complete. However, PADEP has still not granted the Township authorization to allow any of the recently upgraded pump stations to pump at full design peak flow capacity. The Daylesford Pump Station upgrade construction is complete. The station's Sharps Woods Gravity and Force Main Replacement project was restarted at the end of 2018 and is expected to be put out to bid in 2019. The Authority will continue its CAP work and continue managing capacity within the Daylesford Pump Station drainage area.

11. CALIBRATION REPORTS

The flow meters at Berwyn, Daylesford and Saybrook Pump Stations were calibrated during 2018. Copies of the calibration reports are included in Exhibit 'K'.

EXHIBITS

Exhibit A

Easttown Municipal Authority

Past & Present Hydraulic Loading Data

Table 1

TABLE 1

EASTTOWN MUNICIPAL AUTHORITY
2018 ANNUAL CHAPTER 94 REPORT
HYDRAULIC LOADING DATA (MGD)
2014 - 2018

Month	2014	2015	2016	2017	2018	2018 Rainfall (in.)
January	1.235542	1.066465	1.049568	0.966575	0.869454	2.43
February	1.422990	[illegible]	[illegible]	0.911219	1.219988	6.20
March	[illegible]	[illegible]	[illegible]	0.966853	1.440283	4.09
April	[illegible]	[illegible]	[illegible]	[illegible]	1.301480	3.76
May	[illegible]	0.953631	1.175391	[illegible]	1.292485	6.36
June	1.135987	0.947148	0.981711	[illegible]	1.316415	6.04
July	0.903484	0.945913	0.859479	0.879162	1.066002	6.13
August	0.825636	0.797012	0.810786	0.816475	1.197483	9.82
September	0.817695	0.783948	0.787647	0.760021	1.534737	9.53
October	0.837325	0.857556	0.790326	0.765258	[illegible]	2.48
November	0.882250	0.861203	0.799209	0.799465	[illegible]	8.32
December	1.019266	1.011020	0.931850	0.796040	[illegible]	5.97
Average Annual Flow (MGD)	**1.147154**	**0.979029**	**1.010343**	**0.909103**	**1.340600**	
Max. 3 Month Ave. Flow (MGD)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	**Total 71.13**
PEAKING FACTOR						
Max. 3 Month Ave. Flow / Ave. Annual Flow	**1.360**	**1.200**	**1.300**	**1.190**	**1.210**	

Flow Peaking Factor:	
Average 5 Year Ratio	**1.252**

Jan - Dec 2018: Rain Data from USGS Site 01473169 Valley Creek near Valley Forge.

Exhibit B

Easttown Municipal Authority

Past, Present & Projected

EDUs, Flows and Organic Loadings

Table 2 & Table 3 and Graph 1 & Graph 2

TABLE 2

EASTTOWN MUNICIPAL AUTHORITY
2018 ANNUAL CHAPTER 94 REPORT
ORGANIC LOADING DATA (lbs/Day)
2014 - 2018

Month	2014	2015	2016	2017	2018
January	2,318	2,001	1,970	1,814	1,632
February	2,670	1,910	2,917	1,710	2,289
March	2,660	2,591	2,405	1,814	2,703
April	2,954	2,112	2,067	2,172	2,442
May	3,178	1,789	2,206	2,094	2,425
June	2,132	1,777	1,842	1,828	2,470
July	1,695	1,775	1,613	1,650	2,000
August	1,549	1,496	1,521	1,532	2,247
September	1,534	1,471	1,478	1,426	2,880
October	1,571	1,609	1,483	1,436	2,458
November	1,656	1,616	1,500	1,500	3,305
December	1,913	1,897	1,749	1,494	3,336
Average Annual BOD (lbs/Day)	**2,153**	**1,837**	**1,896**	**1,706**	**2,516**
Max. 1 Month BOD5 Loading (lbs/Day)	3,178	2,591	2,917	[illegible]	[illegible]
RATIO:					
Max. 1 Month BOD5 / Ave. Annual BOD5	**1.48**	**1.41**	**1.54**	**1.27**	**1.33**
Organic Peaking Factor: Average 5 Year Ratio	**1.41**				

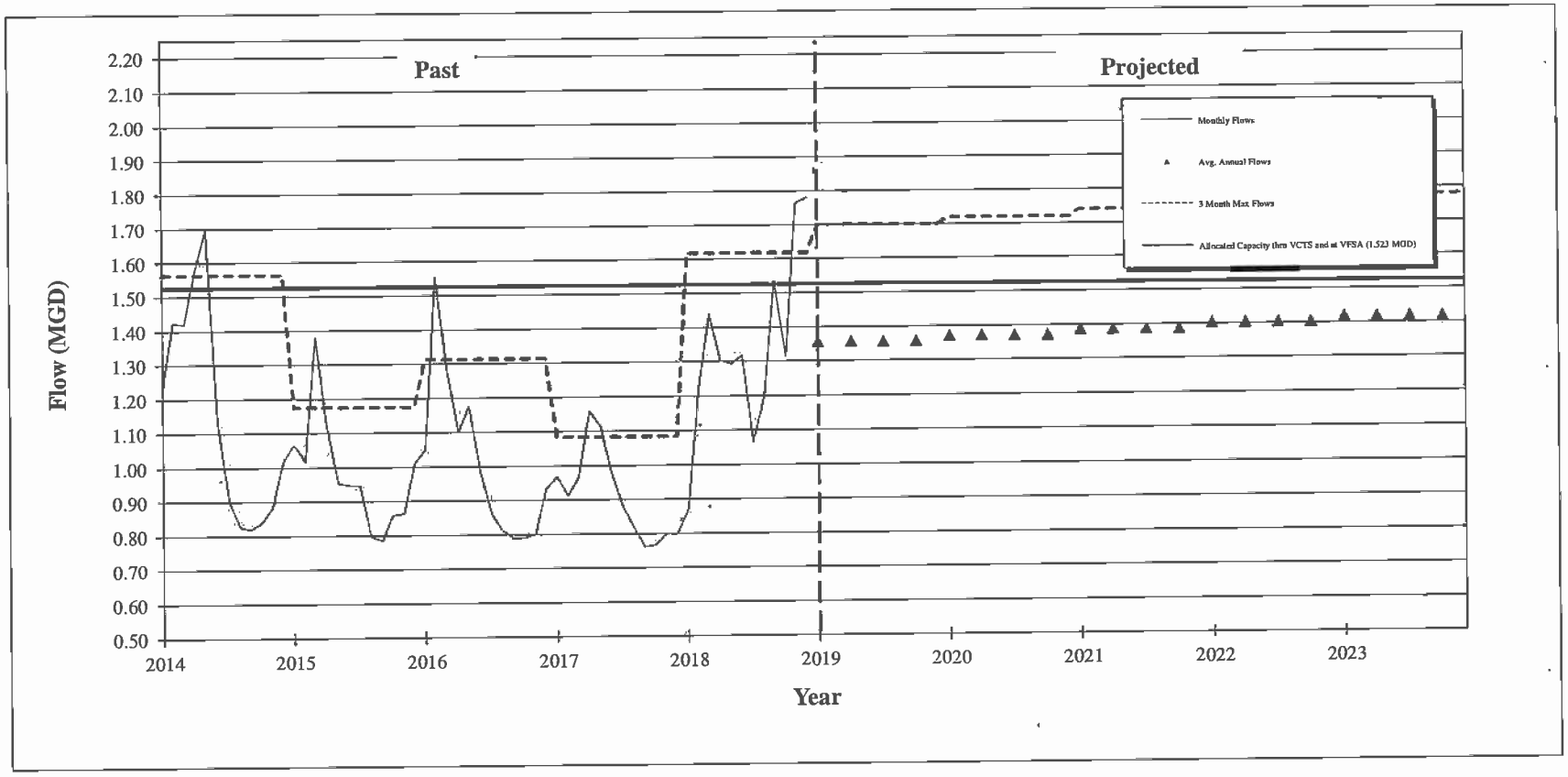
TABLE 3

EASTTOWN MUNICIPAL AUTHORITY
2018 ANNUAL CHAPTER 94 REPORT
PAST AND PROJECTED LOADINGS

Year	EDUs	Connected Population	Average Total Flow (mgd)	Max. 3 Month Ave. Flow (mgd)	Per Capita Flow (gpcd)	Average Total BOD5 (lbs/day)	Per Capita BOD5 (lbs/day)
2014	3,751.4	10,837	1.147	1.56	106	2,153	0.199
2015	3,753.2	10,878	0.979	1.17	90	1,837	0.169
2016	3,786.7	10,918	1.010	1.31	93	1,896	0.174
2017	3,804.7	10,959	0.909	1.08	83	1,706	0.156
2018	3,841.7	10,999	1.341	1.62	122	2,516	0.229
Average		**10,918**	**1.077**		**99**	**2,021**	**0.185**
Projected Loadings							
2019	3,886.7	11,128	1.356	1.70	122	2,060	0.185
2020	3,931.7	11,257	1.372	1.72	122	2,084	0.185
2021	3,976.7	11,385	1.388	1.74	122	2,108	0.185
2022	4,021.7	11,514	1.403	1.76	122	2,131	0.185
2023	4,066.7	11,643	1.419	1.78	122	2,155	0.185

GRAPH - #1

EASTTOWN MUNICIPAL AUTHORITY
2018 ANNUAL CHAPTER 94 REPORT
HYDRAULIC LOADING



GRAPH - #2

EASTTOWN MUNICIPAL AUTHORITY
2018 ANNUAL CHAPTER 94 REPORT
ORGANIC LOADING

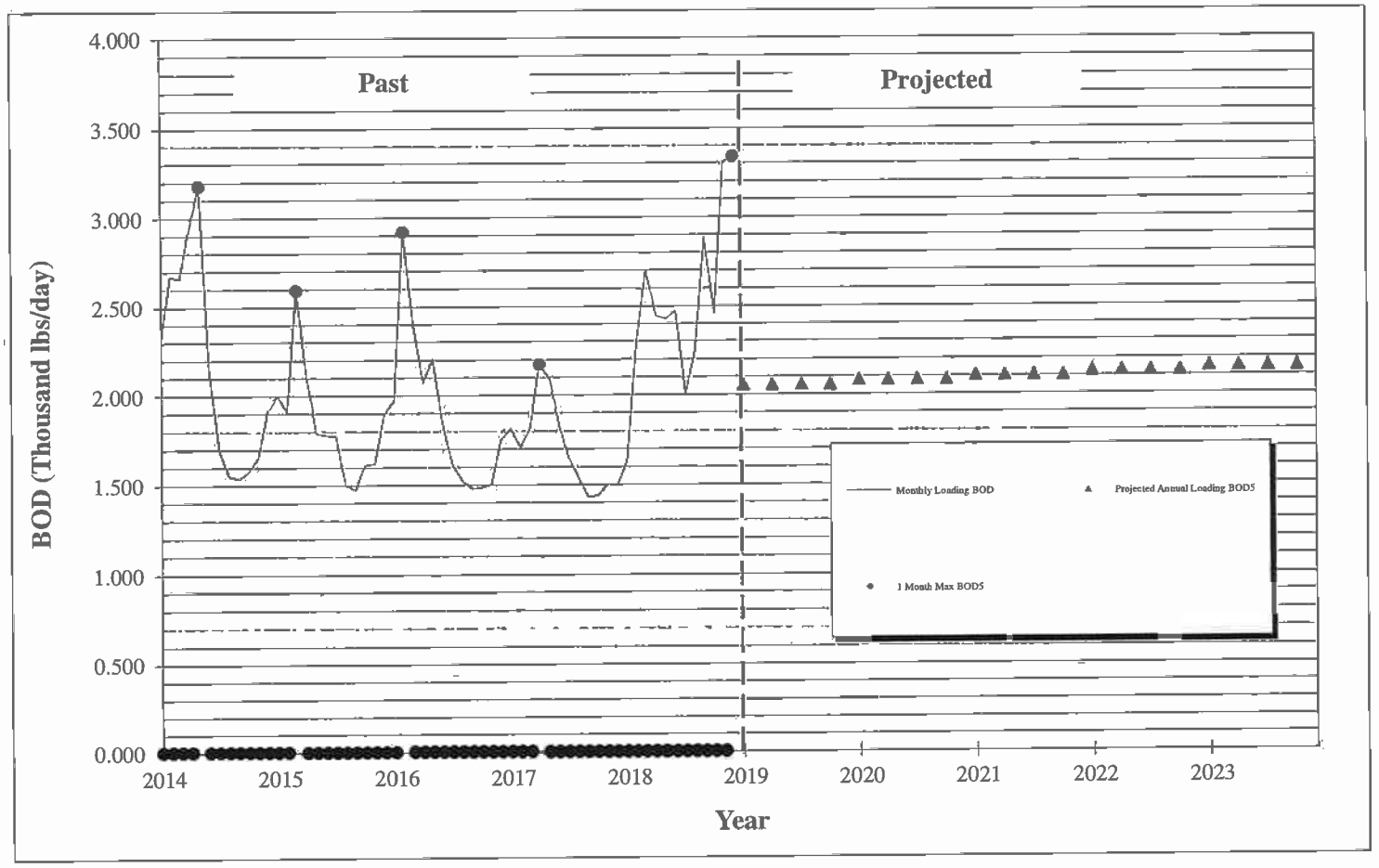


Exhibit C

Easttown Township

Approved and Projected Connections

EASTTOWN TOWNSHIP

APPROVED and PROJECTED EDU TRACKING LIST.

Map ID	Development Name	Development Address	Development Tax Parcel	Total EDUs Approved	Total EDUs Connected Thru 2018	Approved EDUs Already Connected Thru 2018	Potential EDUs Connected 2019 - 2020	Potential EDUs Connected 2020 - 2040	Total Potential EDUs Connected 2018 - 2040	Total EDUs 2040
Berwyn Estates Pump Station Drainage Area					40.00	0.00	0.00	7.00	7.00	47.00
-	Projected/Potential Connections					0.00	0.00	7.00		
-	Miscellaneous EDUs							0.00		
Berwyn Pump Station Drainage Area					1,532.20	4.00	57.00	284.54	341.54	1,873.74
M	Boathouse Realty Assoc. (222 Waterloo Rd)	220 Berkley Avenue	55-3J-64.4	5.00		4.00	1.00			
M	Boathouse Realty Assoc (222 Waterloo Rd)	216 Waterloo Road	55-3J-64.5	1.00		0.00	1.00			
M	Boathouse Realty Assoc. (222 Waterloo Rd)	210 Berkley Avenue	55-3J-64.6	1.00		0.00	1.00			
N	SD 498/Gersbach	207 S. Waterloo Road	55-3J-70.1	1.00		0.00	1.00			
U	Denise Lehmann & Andrew Holder	13 Woodside Avenue	55-2L-179	1.00		0.00	1.00			
W	Midland Ave. Development, LLC	4 Midland Ave.	55-2G-43	16.00		0.00	16.00			
-	John & Patricia Imbesi 2016 Children's Trust	1060 Newtown Road	55-5-30	12.00		0.00	12.00			
-	Stonehaven Homes (Armstrong)	218 Francis Avenue	55-2H-107	12.00		0.00	12.00			
-	Ted Babby	28 South Fairfield	55-3J-23	1.00		0.00	1.00			
-	Bison Head Partners	749 First Avenue	55-2L-123	1.00		0.00	1.00			
-	Purdy Investment Partners, L.P.	218 Berkley Avenue	55-3J-64.8	1.00		0.00	1.00			
-	Daniel & Susan Schuller	200 Church Road	55-5B-73	1.00		0.00	1.00			
-	Keech Property	501 S. Waterloo Road	55-3P-5	1.00		0.00	1.00			
-	Ludin White LLC	729 First Avenue	55-2L-139.1	3.00		0.00	3.00			
-	Daggett Property	500 S. Waterloo Road	55-3-54	4.00		0.00	4.00			
-	Projected/Potential: Berwyn Village (Mack Oil)	50 Price Avenue	55-2G-10					12.00		
-	Projected/Potential: Fritz Lumber	631 Lancaster Avenue	55-2G-5					75.00		
-	Projected/Potential: Handel's Redevelopment	576 Lancaster Avenue	55-2G-42					29.00		
-	Projected/Potential: Other Connections							157.24		
-	Miscellaneous EDUs							11.30		
Darby Pump Station Drainage Area					135.50	0.00	4.00	199.22	203.22	338.72
-	Projected/Potential Connections			128.17		0.00	4.00	14.00		
-	Miscellaneous EDUs							185.22		
Daylesford Pump Station Drainage Area					658.40	0.00	7.00	157.80	164.80	823.20
-	Kelly Group Builders, Inc.	2291 S. Valley Road	54-04-0008	4.00		0.00	4.00			
-	Moser Land Development	616 Leopard Road	55-4-55	1.00		0.00	1.00			
-	Moser Land Development	616 Leopard Road	55-4-55	1.00		0.00	1.00			
-	Rahr Property	548 Morris Lane	55-4-66.7	1.00		0.00	1.00			
-	Projected/Potential Connections							63.00		
-	Miscellaneous EDUs							94.80		
Devon Hunt Pump Station Drainage Area					186.10	0.00	3.00	91.00	94.00	280.10
B	Lewis Subdivision	120 South Devon Avenue	55-3-63.1	3.00		0.00	3.00			
-	Projected/Potential Connections							91.00		
-	Miscellaneous EDUs							0.00		
Exeter Pump Station Drainage Area					31.20	4.00	5.00	4.00	9.00	40.20
D	Hill Custom Homes	550 Waterloo Avenue	55-3-43	8.00		4.00	4.00			
I	Keyes	393 Church Road	55-5-55	4.00		0.00	1.00			
-	Projected/Potential Connections							4.00		
-	Miscellaneous EDUs							0.00		
Fox Creek Pump Station Drainage Area					44.60	0.00	0.00	0.00	0.00	44.60
-	Projected/Potential Connections						0.00	0.00		
-	Miscellaneous EDUs							0.00		
Millbrook Pump Station Drainage Area					36.00	0.00	0.00	0.00	0.00	36.00
-	Projected/Potential Connections					0.00	0.00	0.00		
-	Miscellaneous EDUs							0.00		
Newtown Pump Station Drainage Area					393.60	5.00	4.00	47.00	51.00	444.60
A	South Leopard Road Associates***			9.00		5.00	4.00			
-	Tim and DeDe Veale	1220 S. Leopard Rd	55-4-118.2A	1.00		1.00	0.00			
-	Projected/Potential Connections							43.00		
-	Miscellaneous EDUs							4.00		
Pinecroft Pump Station Drainage Area					16.00	1.00	0.00	0.00	0.00	16.00
-	William & Kathy Creger	2040 Buttonwood Rd	55-4-184.1	1.00		1.00	0.00			
-	Projected/Potential Connections							0.00		
-	Miscellaneous EDUs							0.00		
Saybrook Pump Station Drainage Area					320.10	0.00	5.00	55.94	60.94	381.04
T	Alessandra Nicolas	49 Walnut Av.	55-2L-29	2.00		0.00	2.00			
-	Mary Nixon	1135 Sugartown Road	55-2-143	3.00		0.00	3.00			
-	Projected/Potential: Benson Homes & Development	15 Leopard Road	55-2L-11					25.00		
-	Projected/Potential Connections							30.94		
-	Miscellaneous EDUs							0.00		
Spring Knoll Pump Station Drainage Area					220.00	0.00	12.00	24.00	36.00	256.00
-	John & Patricia Imbesi	1016 Newtown Rd	55-5-30	12.00		0.00	12.00			
-	Projected/Potential Connections							6.00		
-	Miscellaneous EDUs							18.00		
The Greens Pump Station Drainage Area					116.00	0.00	0.00	13.00	13.00	129.00
-	Projected/Potential Connections						0.00	13.00		
-	Miscellaneous EDUs							0.00		
VFSA Unmetered Drainage Area					112.00	0.00	3.00	9.65	12.65	124.65
F	Peter A. Talman	435 Conestoga Road	55-2H-49	1.00		0.00	1.00	0.00		
-	YMCA	Berwyn Paoli Road		2.00		0.00	2.00	0.00		
-	Projected/Potential Connections							4.00		
-	Miscellaneous EDUs							5.65		
			VFSA Total EDUs =	239.17	3,841.70	15.00	100.00	893.15	993.15	4,834.85
			VFSA Metered EDUs =		3,594.20	15.00	93.00	684.28	777.28	
			VFSA Unmetered EDUs =		247.50	0.00	7.00	208.87	215.87	
RHM Unmetered Drainage Area					80.10		0.00	3.00	3.00	83.10
-	Projected/Potential Connections						0.00	3.00		
-	Miscellaneous EDUs							0.00		
			RHM Unmetered Subtotal EDUs =	0.00	80.10		0.00	0.00	0.00	83.10
Trout Run Unmetered Drainage Area					176.40		0.00	2.00	2.00	178.40
-	Projected/Potential Connections						0.00	2.00		
-	Miscellaneous EDUs							0.00		
			Trout Run Unmetered Subtotal EDUs =	0.00	176.40		0.00	0.00	0.00	178.40
			Grand Total EDUs =	**239.17**	**4,098.20**		**100.00**	**893.15**	**993.15**	**5,096.35**