TECHNICAL MEMORANDUM

Naugatuck Valley Regional Council of Governments
NVCOG Wastewater Regionalization Study
TM No. 1 – Flows and Loads

B&V Project 198910
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1.0 PURPOSE AND BACKGROUND

The purpose of this technical memorandum is to establish the flows and loads to be used for each of the five wastewater treatment communities participating in the NVCOG Wastewater Regionalization Study. That includes both average and peak flows to be expected over a 20-year planning period, through 2040. This information will be used as a basis for evaluating the various regionalization alternatives in the study. The projections in this memorandum have been developed based on review of MOR data, rainfall records and population projections, as well as input from officials of the five municipalities.

In each of the five communities, the average flows received to the plant have been significantly below the plant's permitted capacity in recent years, as shown on Table 1-1 below.

Table 1-1 Annual Average (AA) Flow: Actual (2015-2017) vs. Permitted Capacity

Municipal WPCF	Average Annual (AA) Flow, 2015-2017 (MGD)	Permitted AA Design Capacity (MGD)	2015-2017 AA Flow as Percent of Permitted Capacity
Derby	1.3	3.5	37%
Ansonia	1.57	3.5	45%
Seymour	0.97	2.93	33%
Beacon Falls	0.31	0.71	44%
Naugatuck	4.61	10.3	45%

2.0 POPULATION PROJECTIONS FOR THE FIVE COMMUNITIES

The Connecticut State Data Center (CSDC) population projections for the five towns included in this study, through planning year 2040, are summarized in Table 2-1 below. This information was based on recent population projections published by the CSDC, as funded by the Office of Policy and Management (OPM). The US Census data is included in the table as well, for reference.

Table 2-1 CT State Data Center Population Projections to 2040

Municipality	US Census 2010	Based on CT State Data Center Population Projections (published August 31, 2017)				
		2020	2030	2035	2040	Percent increase, 2040 vs. 2020
Derby	12,902	13,251	13,803	13,959	14,082	6.3%
Ansonia	19,249	19,841	20,648	20,890	21,067	6.2%
Seymour	16,540	16,798	16,924	16,852	16,753	-0.3%
Beacon Falls	6,049	6,421	6,587	6,591	6,587	2.6%
Naugatuck	31,862	32,212	32,638	32,372	31,854	-1.1%
TOTAL	86,602	88,523	90,600	90,664	90,343	2.1%

The CSDC is projecting that this region, like most of the rest of the state, will experience very modest growth over the next twenty years.

3.0 APPROACH TO DEVELOPING CURRENT FLOWS AND LOADS

One of the most critical considerations in evaluating regionalization alternatives is peak flows to the wastewater treatment plants. All five of the communities in this study have older collection systems, with significantly higher flows during wet weather conditions, when infiltration and inflow (I/I) cause significant increases in flows to the treatment plants.

Typically, the most useful data to determine current condition baseline flows to the plant would be from the most recent years, as reported in the monthly operator reports (MOR's) submitted by the communities to the State of Connecticut. However, in this case the three most recent years of record (2015-2017) were characterized by unusually low rainfall, in comparison to the overall 2000-2017 period. It is not unusual to review a longer period of flow records when performing future projections; this was done here as explained below.

Rainfall data from local weather stations in the NOAA database were reviewed, to compare recent historic rainfall patterns with observed flows at the water pollution control facilities (WPCF's). Since the available data from the nearby Waterbury-Oxford Airport station had gaps in the period of interest, other nearby weather stations with more complete sets of rainfall data were considered.

The three weather stations in the region with the best data available for the continuous period since 2000 were at the following locations: Meriden Markham Municipal Airport, in Meriden; Tweed Airport, in New Haven; and Igor Sikorsky Memorial Airport, in Stratford. Where overlapping recent rainfall data was available from the Waterbury-Oxford Airport, that was evaluated as well to confirm correlation with weather in the Naugatuck Valley.

Data from the Tweed Airport weather station was very similar to the data from the Meriden Markham Airport station, showing 2015-2017 as an extraordinarily dry period, with 2015 and 2016 annual rainfall totals being the two lowest since the year 2000. Annual rainfall data

from the Sikorsky Airport station since 2000 also indicated that 2015-2017 was a relatively dry period. Available NOAA rainfall data from the weather station at Meriden Markham Airport is summarized on Table 3-1.

Table 3-1 Meriden Markham Airport Rainfall Data, 2000-2017

Year	Total Annual Liquid Precipitation (in.)	Peak Day Precipitation (in.)	Date of Peak Precipitation
2000	47.94	2.86	Jul-15
2001	36.21	2.77	Jun-17
2002	46.03	2.27	Aug-29
2003	58.75	3.20	Sep-28
2004	47.36	3.84	Sep-18
2005	(N/A)	(N/A)	(N/A)
2006	58.71	3.23	May-12
2007	45.02	3.03	Apr-15
2008	58.63	3.89	Sep-06
2009	45.39	1.92	Oct-03
2010	43.61	2.88	Dec-12
2011	54.28	2.87	Aug-28
2012	32.10	2.15	Jun-02
2013	37.86	2.97	Jun-07
2014	31.45	1.81	Dec-09
2000-2014 (Avg.)	**45.95**	**2.84**	
2015	21.70	1.47	Sep-30
2016	25.66	1.25	Jan-10
2017	36.07	3.25	Oct-29
2015-2017 (Avg.)	**27.81**	**1.99**	
2000-2017 (Avg.)	**42.75**	**2.69**	
2015-17 Avg. as % of 2000-2017 Avg.	65%	74%	

Observations from this data include:

- 2015-2016 was an extraordinarily dry period: the two driest years by far since 2000, with about half the typical rainfall.
- 2017 rainfall also was well below average for the 2000-2017 period.
- The 2015-2017 period, the three most recent years of record, had only about two-thirds of the average rainfall compared to the overall 2000-2017 period.

In contrast, regional weather reporting indicated particularly intense rainfall periods in 2007 and 2010. For example, CT DEEP identified the storm of April 15-16, 2007 as one of the five worst flooding events to strike the state in the past 100 years, with over 8 inches of rain falling in one 24-hour period in some places (Source: Connecticut's 2010 Natural Hazard Mitigation Plan Update, December 2010). Also, the rain gage at Stevenson Dam, 5 miles WNW of Derby/Ansonia, reported 8.39 inches of rainfall in the month of March 2010. While long-term weather patterns are difficult to predict, it is prudent to consider wastewater flows seen during periods of high rainfall such 2010-2011 as more representative of the high peak flows that could be experienced in the future.

Rainfall data for the first nine months of 2018 was reviewed from four local weather stations, to see if there was any new trend since the end of 2017 that might impact initial conclusions. The data indicates that 2018 may be more typical of the 2000-2014 period, in terms of higher total annual rainfall and higher days of peak rainfall (versus what was seen in the relatively drier period 2015-2017). This confirms the conclusion that the 2015-2017 period should not be considered typical for planning purposes.

The following sections of this Technical Memorandum address each of the five communities, developing the current condition and future (2040) design condition flows and loads.

4.0 DERBY FLOWS AND LOADS

Black & Veatch reviewed available MOR data from the past three years (January 2015 – January 2018). However, as noted previously this flow data was from an extraordinarly dry period. Therefore, wastewater flows from a period with more typical (higher) rainfall also were considered in developing representative baseline flows for Derby.

The 2014 Derby Wastewater Facilities Plan was developed based on flow data from the 2006-2011 period. This included years with higher rainfall, more representative of typical weather conditions seen over the past 20 years.

Approximately 95% of the Town of Derby is served by the wastewater collection system. One small portion of Seymour, along the Route 34/ Roosevelt Drive corridor, contributes flow to the treatment plant. An allocation of 140,000 gpd is reserved for that flow from Seymour. The plant also receives flow from some residences in Ansonia and in the Town of Orange.

The Derby Facilities Plan included future flow projections that assumed an aggressive development program for Derby characterized by significant population growth and several anticipated development projects being constructed. Since the time that the Facilities Plan was prepared, that picture has changed.

Black & Veatch met with Derby representatives (including WPCA chair Jack Walsh, plant supervisor Lindsay King and the mayor's economic development liason Carmen DiCenso) on July 12, 2018. At that meeting, flow projections and future flows were discussed, in connection with the current local forecast for economic development and population growth. These discussions continued through July into early August, with input from Derby representatives.

Based on addional review by Derby representatives, the forecast of development and annual average flows was updated to reflect the most recent expectation of growth by the City. While Derby still foresees growth occurring over the next 20 years, the overall growth projection has been scaled back from what was forecast at the time of the 2014 Facilities Plan. For example, while a 300-500-unit development is anticipated on land adjacent to the treatment plant, Derby now considers it unlikely that the Hitchcock/ Hines Farm, Opera House, and Halo Projects will be

developed during the next 20 years. Also, if the Fountain Lake Industrial Park is developed, wastewater flow would be directed to the Ansonia WPCF rather than to Derby.

Taking the foregoing into account, Table 4-1 summarizes existing flow information and future projections for Derby. The last column on the right indicates the flows to the Derby treatment plant recommended to be used for the study horizon year 2040 in the NVCOG Regionalization Study. Maximum month, peak day and peak instantaneous flows were calculated from the average annual flow, using ratios developed in the Facilities Plan.

Table 4-1 Derby Wastewater Flows

Flow to Derby WPCF	Existing Condition		Future Condition	
	From 2015-2017 MOR Data	From 2014 Facilities Plan, Table 9-1	From Facilities Plan, Table 10-2[(2)], YR 2032	Revised Projection, YR 2040[(2)(3)]
Annual Average (MGD)	1.3	1.61	2.38	1.92
Maximum Month (MGD)	2.18	3.08	3.81	3.07
Peak Day (MGD)	3.59	8.1	9.5	7.7
Peak Hour (MGD)	10.0[(1)]	10.0[(1)]	12.5	10.0
[(1)] WPCF influent pump station capacity is currently limited to 10.0 MGD; collection system peak may be greater. Flows in excess of 10 MGD have been reported at the WPCF, and it has been reported that actual peak flows could be as high as 13 MGD.				
[(2)] Based on aggressive I/I program implementation to reduce Peaking Factors as follows: MM/AA from current 1.91 to 1.6; PD/AA from 5.03 to 4.0; and PH/AA from 6.21 to 5.25; as projected in the Facilities Plan.				
[(3)] AA flow based on Derby's revised development forecast.				

While the maximum recorded influent flow to the plant was 10.0 MGD, it is important to note that this reflects the maximum capacity of the treatment plant influent pump station (also 10.0 MGD). Therefore, it is assumed that during peak rain events, flow has been backing up in the collection system. The influent pump station recorded peak flows of 10.0 MGD during three months in 2010, as well as in January 2016 and May 2017.

As stated in the Facilities Plan, most of the wastewater collection system (150,000 LF out of a total 215,432 LF) consists of VC pipe. Prior inspections of limited sections of VC pipe in Derby have indicated unsatisfactory conditions; this may be characteristic of the VC pipe throughout the system. The 2014 Facilities Plan identified significant I/I issues in the collection system that need to be addressed. The City is currently under a Consent Order with DEEP and USEPA. Derby reportedly plans to spend $270,000/year over the next 15 years to reduce I/I. Therefore, the Facilities Plan projected that the peaking factors for flows will be reduced in the future, as indicated on the projected flows table above. *We recommend that a collection system flow metering program be undertaken to obtain a more accurate estimate of the peak flows to the WPCF.*

Average values for influent wastewater to the plant over the past three years were: 202 mg/L BOD, and 226 mg/L TSS. These are values within the typical range for domestic sewage in an

area without significant industrial contributions. It is assumed that similar average concentrations will be seen in the future and can be used for planning purposes.

5.0 ANSONIA FLOWS AND LOADS

Virtually the entire City (approximately 98%) of Ansonia is served by the wastewater collection system. A small portion of Derby, as well as minor sections of Seymour and Woodbridge flow to the Ansonia collection system. These contributions from the adjacent communities are relatively minor, representing only about 3% of the flow to the Ansonia wastewater treatment plant.

The 2004 Facilities Plan reported that average plant flows were approximately 2.2 MGD (based on 1998-2002 data). That Facilities Plan also projected that average annual flows would increase in linear fashion through 2025, to 3.5 MGD. However, the actual trend since the time the Facilities Plan was prepared has shown flows to the plant decreasing since that time. This trend may reflect national trends where water consumption is decreasing due to residential water conservation resulting modern plumbing fixtures and Codes, combined with lower commercial/ industrial water use. The City Housing Authority demolished a multi-unit public housing project since the time that the Facilities Plan was developed, with no plans to replace that facility. The City plans for moderate adaptive reuse of industrial buildings in the central business district to multi-use residential development. It is also noted that it is Connecticut state policy to support new residential development near rail stations in all towns in this study.

Black & Veatch met with Ansonia WPCA representatives (including WPCA chairman Nunzio Parente, and Superintendent Brian Capozzi) on July 12, 2018 to visit the plant and to discuss flows and loads, and to review draft flows and loads for Ansonia that had been developed by Black & Veatch, in preparation for the meeting. The outcome of this meeting was agreement on the following points:

a. No major expansion of the wastewater service area is anticipated.

b. Average annual flow to the plant should be based on the most recent average annual flow data (2015-2017), increased through the year 2040 in proportion to the projected population growth for Ansonia (+6.2%, based on CT State Data Center).

c. For maximum month, peak day and peak hour flows, similar adjustments should be made to data from the 2009-2010 period, which included greater rainfall and more high-intensity rainfall events.

    1. The peak flow projections for 2040 should also take into account the effect of collection system rehabilitation work performed during the past several years, to reduce I/I.

    2. While difficult to quantify, Black & Veatch will assume that the net effect of a 6.2% population increase offset by recent and future I/I reduction will be a slight net decrease (-5%) in max month and peak day flows, and a net decrease of 10% in peak hour flows.

Table 5-1 summarizes the existing and future flows to the Ansonia wastewater treatment plant. The middle column presents design flows that were provided in the Ansonia-Derby Interconnection

Feasibility Study (April 2014). The column at the far right presenting the proposed 2040 wastewater flows to be used in the NVCOG regionalization study.

Table 5-1 Ansonia Wastewater Flows

Flow to Ansonia WPCF	Existing Condition		Future Condition
	From 2015-2017 MOR Data	From 2014 Interconnection Study (2009-2011 Data)	Projection, YR 2040
Annual Average (MGD)	1.57	1.92	1.7
Maximum Month (MGD)	2.6	4.6	4.4
Peak Day (MGD)	3.9	5.73	5.4
Peak Hour (MGD)	6.91[(1)]	10.5	9.5
[(1)] Ansonia plant staff report that although the influent pumps are designed for 12 MGD, in recent years the plant is limited to about 7 MGD due to hydraulic limitations between the UV channel and outfall.			

As noted in the footnote to the table above, in recent years there has been a hydraulic restriction at the back end of the Ansonia wastewater treatment plant that is limiting peak flow that the plant is able to treat. This is a situation that should be investigated further by Ansonia and corrected as soon as possible, so that the plant will be able to receive flows up to its full capacity during higher wet weather flow events. Also, correcting this problem will maximize the ability of the plant to take additional flow under regionalization alternatives that will be considered in Phase 2 of this study.

Average values for influent wastewater to the plant over the past three years were: 236 mg/L BOD, and 176 mg/L TSS. These are values within the typical range for domestic sewage in an area without significant industrial contributions. It is assumed that similar average concentrations will be seen in the future and can be used for planning purposes.

6.0 SEYMOUR FLOWS AND LOADS

The Nafis and Young Draft Engineering Report on WPCF Phosphorus Planning (May 31, 2016) stated that in addition to serving Seymour, the WPCF also serves parts of Oxford. The total sewered population sending flow to the WPCF is approximately 7,500, according to that report.

The Seymour Plan of Conservation and Development (POCD), dated September 8, 2016 noted that according to inter-municipal agreement, 7% of the total WPCF design capacity is allocated to Oxford. (Note that plant's permitted annual average design flow is 2.93 MGD.)

According to the CT State Data Center population projections, the population of Seymour is forecast to increase by approximately 0.8% (from 16,798 to 16,924) between 2020 and 2030. Thereafter a very slight decline in the local population through 2040.

In the absence of plans showing major expansion of the collection system to serve outlying areas or other significant development that would impact flows, Black & Veatch has assumed that future flows and loads for Seymour will increase in proportion to the projected population

growth forecast. On that basis, flows for planning year 2040 are developed from existing condition information in Table 6-1, and presented in the last column to the right.

Table 6-1 Seymour Wastewater Flows

Flow to Seymour WPCF	Existing Condition			Future Condition
	From 1/2015-2/2018 MOR Data	From 2010 MOR Data	Existing Condition (Nafis & Young)[1]	Projection, YR 2040[(2)]
Annual Average (MGD)	0.97	1.22	1.3	1.3
Maximum Month (MGD)	1.93	2.73		2.9
Peak Day (MGD)	3.34	6.3		6.7
Peak Hour (MGD)	7.0	7.2	7.3	7.4
[1] From e-mail communication from Nafis & Young to NVCOG, June 2018.				
[2] Population growth based on CT State Data Center forecast of 0.8% maximum increase. Flows escalated from existing condition AA and PH flows from Nafis & Young. MM and PD flows projected from 1.05 x 2010 MOR data.				

Black & Veatch met with Town of Seymour, WPCA and plant operations representatives (including Annmarie Drugonis, Ben Proto, Jon Livolsi of Seymour and the WPCA, and Walter Royals of Veolia Water) on August 22, 2017 to discuss flows and loads. At this meeting draft flows and loads developed by Black & Veatch in preparation for the meeting, were reviewed and discussed. The outcome of that discussion included the following points:

a. Seymour officials confirmed that almost all of the septic tank issues in the Town have been addressed already. Therefore, they do not anticipate any significant increases in flows to the plant resulting from adding customers currently served by onsite disposal systems.

b. According to the Plan of Conservation and Development for the Town of Oxford, the only developable land in that town that could be served by Seymour in the future is along the Route 67 corridor. Oxford has an existing agreement under which they have reserved up to 250,000 gpd of capacity at the Seymour WPCF.

c. Seymour has been planning to implement an I/I study. To date, Phase 1 of that study, which represents an area of the Town, has been completed. Because this project is still in an early stage, at this time there is no information available to address the potential for I/I removal. However, it is noted that the peak flows seen at the plant (7.0+ MGD) are relatively high relative to annual average flows.

Average values for influent wastewater to the plant over the past three years were: 154 mg/L BOD, and 162 mg/L TSS. These are values on the lower side of the range for domestic sewage in an area without significant industrial contributions, which may reflect infiltration into the collection system. It is assumed that similar average concentrations will be seen in the future and can be used for planning purposes.

7.0 BEACON FALLS FLOWS AND LOADS

The past three years of MOR data for the Town of Beacon Falls water pollution control facility was reviewed. However, as indicated previously, this represented a period of below-average rainfall. Therefore, we have considered existing condition wastewater flow values provided by the 2015 Wastewater Facilities Plan, which were based on a wetter period (September 2009 to October 2012) to be more appropriate to use in this study; since they are more representative of longer-term weather patterns.

Table 7-1 provides a summary of existing flows, as well as the future (2040) flows that Black & Veatch is planning to use in this regionalization study for Beacon Falls.

Table 7-1 Beacon Falls Wastewater Flows

Flow to Beacon Falls WPCF	Existing Condition		Future Condition
	From MOR Data (6/2015-3/2018)	From Facilities Plan[1]	Projection, YR 2040[2]
Annual Average (MGD)	0.31	0.36	0.45
Maximum Month (MGD)	0.48	0.612	0.765
Peak Day (MGD)	0.69	1.01	1.263
Peak Hour (MGD)	1.24	1.22	1.525
[1] From 2015 Wastewater Facilities Plan, based on 9/2009-10/2012 data.			
[2] From DPC Engineering Memo on Beacon Falls WPCF Upgrades Summary, dated October 17, 2018, as basis of design for the proposed upgrade.			

Black & Veatch met with Beacon Falls WPCA representatives and their consultant DPC Engineering on October 18, 2018 to discuss flows and loads as well as plant upgrade plans. At this meeting Black & Veatch was provided with a copy of a memorandum on Beacon Falls WPCF Upgrades Summary, dated October 17, 2017. That memorandum provided estimated existing condition plant flows from the 2015 Wastewater Facilities Plan, as well as the basis of design flows used by DPC for the proposed WPCF upgrade. The basis of design flows contained in that memorandum, included here on Table 7-1 reflect additional sanitary flows, I/I reduction and anticipated water conservation.

Average values for influent wastewater to the plant over the past three years were: 180 mg/L BOD, and 239 mg/L TSS. The plant upgrade basis of design forecasts that at future average annual design flows, influent BOD will be 211 mg/L and TSS will be 199 mg/L on an average annual basis. The loading conditions used for the plant upgrade basis of design will be used for estimated loadings, for planning purposes.

8.0 NAUGATUCK FLOWS AND LOADS

The Naugatuck WPCF serves approximately 90% of Naugatuck, with the remaining 10 percent of the Borough served by on-site septic systems. The Naugatuck WPCF also receives flow from portions of Middlebury and Oxford. Lesser flows come from residences and developments in Beacon Falls and Prospect. The Naugatuck Wastewater Treatment Facilities Plan,

prepared Kleinfelder in December 2017, did not note septic tank failure issues in the community. Therefore, it has been assumed that the existing collection system will not be adding significant additional wastewater flow from residents currently served by on-site septic systems.

Future flows and loads (for year 2035) were developed in Section 3 of the Wastewater Treatment Facilities Plan. The Facilities Plan assumed minimal growth in Naugatuck through 2035 (net + 284 people, or + 0.9%); but significant growth in Middlebury (+22.4%). This would result in a net population increase within the collection system service area of +5.4%, as shown on Table 3-5 of that Facilities Plan.

The 2010-2015 period used in developing the existing condition flows includes a wetter period than the three most recent years, and therefore should more representative of the longer-term rainfall patterns. Therefore, Black & Veatch believes that the existing condition flows summarized in the Facilities Plan are appropriate to use for planning purposes in the current NVCOG Wastewater Regionalization study.

The SSES study undertaken by Naugatuck recommended three million dollars of I/I removal over a 4-year period, projected to remove 0.3 MGD of infiltration. The Facilities Plan assumed that the rate of I/I reduction would be offset by the rate of I/I increase over time, due to an aging collection system. Therefore, it assumed that flow peaking factors for future flows would remain the same as obseved, at 3.9 x average flows, into the future.

Annual average (AA) flows developed by contributing area in Section 3 of the Facilities Plan are summarized below in Table 8-1. The third column presents future flows based on projected population growth in the service area; while the fourth (last) column includes the full flow allocations available for towns of Middlebury and Oxford.

Table 8-1 Naugatuck Wastewater Flows, by Area

Contributing Area	Existing Condition (Facilities Plan, Table 3-4)	Projected, 2035 (Based on Facilities Plan, Sec. 3.4.5)	Projected, 2035 (From Facilities Plan, Table 3-6, including full allocations for Middlebury & Oxford)
AA Flow, Naugatuck Borough (MGD)	4.54	4.56	4.56
AA Flow, Middlebury (MGD)	0.62	0.78	1.8
AA Flow, Oxford (MGD)	0.083	0.28	1.0
AA Flow, Chemtura (MGD)	0.16	0.16	0.16
AA Flow, Beacon Falls (MGD)	negl.	0.04	0.04
AA Flow, Prospect (MGD)	negl.	0.004	0.004
AA Flow, TOTAL (MGD)	5.4	5.82	7.56

The design capacity of the Naugatuck WWTF is 10.3 MGD. Therefore, the amount of additional flow that could be taken at the Naugatuck WWTF resulting from regionalization would depend in part on how the Middlebury and Oxford reserve allocations are addressed.

The Bororough of Naugatuck has plans to foster new development in the Borough, within the planning period of this regionalization study, that go beyond what current State Data Center projections in Table 2-1 show. Based on a current population of 32,212 for the Borough of Naugatuck, with approximately 90% served by the wastewater collection system, the current estimated sewered population is 28,990. Based on input from local officials, we have added an allowance for 10% growth in the sewered population. That would add approximately 2,889 more people from Naugatuck Borough to the wastewater collection system by 2040. Assuming the resulting flow contribution is proportional to current flows, this would add an additional +0.45 MGD of average daily flow. Based on this, the reserve capacity available for additonal flows resulting from regionalization would be in the range of 2.29-3.95 MGD, as annual average flows, depending on how the current reserve allocations from Oxford and Middlebury are addressed. This is summarized in Table 8-2 below.

Table 8-2 Naugatuck WPCF 2040 AA Capacity Available for Regionalization

Contributing Area	Existing Condition (Facilities Plan, Table 3-4)	Projected (Based on Facilities Plan, Sec. 3.4.5)	Projected (From Facilities Plan, Table 3-6, including full allocations for Middlebury & Oxford)
2035 AA Flow Total w/o Naugatuck Growth (MGD)	5.4	5.82	7.56
2040 AA Flow Total w/o Naugatuck Growth (MGD)		5.90	7.56
10% Naugatuck Growth Allowance (MGD)		0.45	0.45
2040 AA Flows, with 10% Naugatuck Growth (MGD)		6.35	8.01
Plant Capacity (MGD)		10.30	10.30
Maximum Daily Flow[1]	21.9	24.8	31.2
2040 AA Capacity Available for Regionalization Flows (MGD)		3.95	2.29
NOTE: [1] Future peak flow in 2017 Wastewater Facilities Plan, section 3.4.5, was 29.5 MGD based on future average flow of 7.56 MGD. Future peak flows here use same assumptions for the future: no net change in I/I rate, and no net change in existing flow peaking factor of 3.9.			