2016 Annual Report
National Pollutant Discharge Elimination System

For The
City of Cambridge, Massachusetts
Combined Sewer Overflow Permit
#MA0101974

Submitted to
U.S. Environmental Protection Agency
Water Technical Unit

MA Department of Environmental Protection
Bureau of Resource Protection

Submitted by

City of Cambridge
Department of Public Works

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Louis DePasquale

Signature of Authorized Official: Louis A. DePasquale
City Manager, City of Cambridge

5-01-2017

Date

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1. Purpose of Report

This report has been prepared in accordance with Part I, Section D of Permit No. MA0101974, issued to the City of Cambridge Department of Public Works on September 30, 2009. The permit authorizes the City of Cambridge to discharge flow from twelve (12) Combined Sewer Overflows (CSO) located in eleven (11) regulator structures to the receiving water bodies named in the permit.

The City of Cambridge is additionally required to provide a comparison between CSOs under precipitation for the calendar year and precipitation under the typical year under existing system conditions.

Finally, an evaluation was performed of whether the CSO activation volumes and frequencies for 2016 are in accordance with the estimate in the MWRA Final CSO Facilities Plan or the report entitled "Notice of Project Change for the Long Term CSO Control Plan for Alewife Brook", given the precipitation which occurred during the year, and the CSO abatement activities which have been implemented. Where CSO discharges are determined to be greater than the activation frequency or volume in either document, an assessment of the results was completed and documented. A discussion of remaining CSO abatement activities and an assessment of the impact of those projects on attaining the level of CSO control identified in the relevant document or any amendments is provided in this document.

2. Combined Sewer Overflow Monitoring Plan

As part of the 2016 Annual CSO reporting process, the City of Cambridge undertook a thorough review of its CSO metering practices along-side a review of the network model representation of the seven active CSOs throughout the city. CSO metered data from the past three years of record (2014, 2015 and 2016) was compared to the City's network model simulation results (in Infoworks ICM) for the same three years. This review provided a more thorough understanding of the nature of metering at each CSO, including any recurring difficulties in measuring CSO spills and volume, inconsistencies in the model's simulation of CSO events, as well as areas of the network model where future calibration would be particularly beneficial to the City's understanding of its active CSOs. The comparison provided a renewed level of focus for future CSO monitoring and network model enhancement.

While the City has previously reported annual metered data in its CSO annual reports, it was determined that in the 2016 annual report as well as in future submissions, the City will cross-check and present the best available data from either the CSO meters or the CSO simulations. This will promote continuous improvement of the City's existing network model being used to report the final estimated annual spill count and volumes.

2.1 Existing CSO monitoring methodology

2.1.1 Existing CSO Structures

In accordance with the City of Cambridge's current CSO permit, the city has a total of twelve CSOs located in 11 regulator structures (listed in Table 2.1), five are located on the Charles River and seven are located on Alewife Brook.

Seven of the existing CSOs are currently open, four located on the Alewife Brook and three on the Charles River. On the Alewife Brook, the CAM004 and CAM400 regulators have been permanently closed and CAM002B is temporarily closed and will be re-opened under the LTCP. On the Charles River, both CAM009 and CAM011 have been closed. Figure 2.1 presents the locations of the seven active CSOs throughout the City of Cambridge.

Table 2.1 Summary of Combined Sewer Regulator Structures

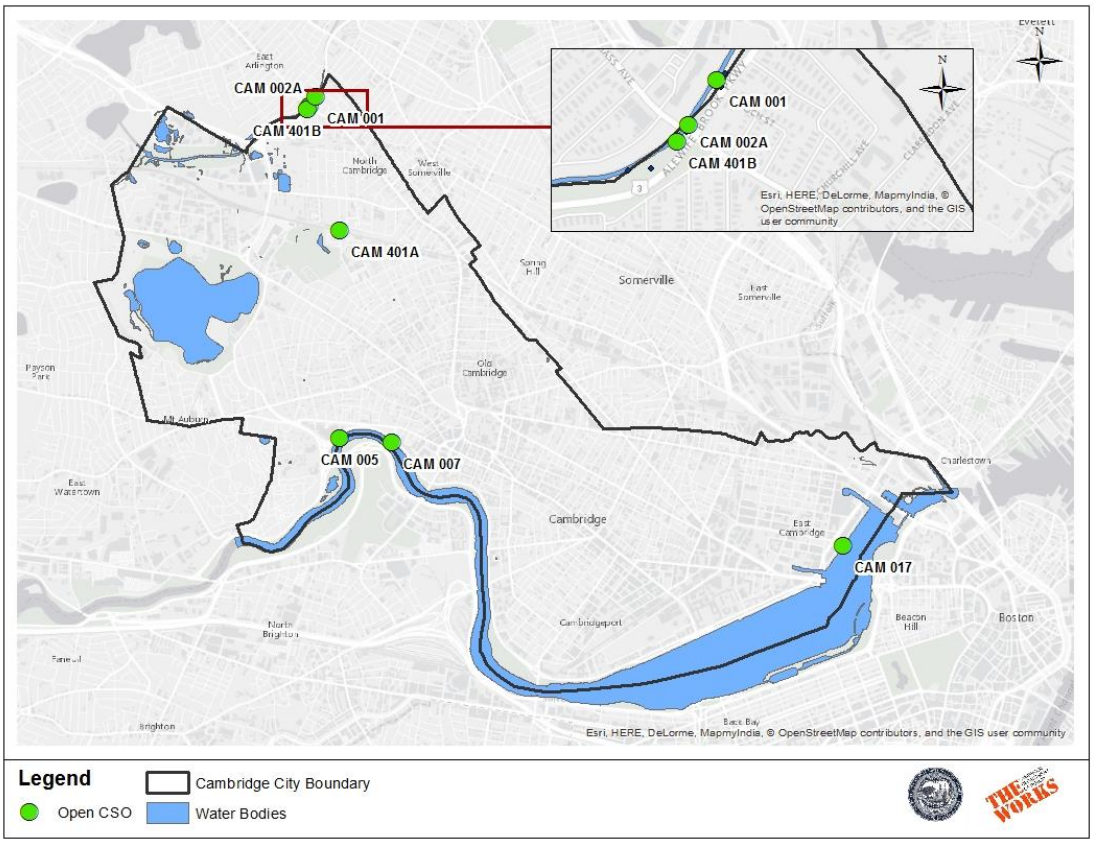
Regulator Structure	Location	Status	Waterbody
CAM 001	Alewife Brook Parkway	Open	Alewife Brook
CAM 002	2A-Massachusetts Ave. at Alewife Brook Parkway	Open	Alewife Brook
	2B-Massachusetts Ave. at Alewife Brook Parkway	Closed	Alewife Brook
CAM 004	Fresh Pond Rotary	Closed[1]	Alewife Brook
CAM 400	Alewife Brook Parkway and Harrison Avenue	Closed[2]	Alewife Brook
CAM 401A	Bellis Circle/Sherman Street	Open	Alewife Brook
CAM 401B	Massachusetts Ave. at Alewife Brook Parkway	Open	Alewife Brook
CAM 005	Mount Auburn Hospital	Open	Charles River
CAM 007	Memorial Drive at Hawthorne Street	Open	Charles River
CAM 009	Memorial Dr. at Old Murray Rd.	Closed[3]	Charles River
CAM 011	Plympton St.	Closed[3]	Charles River
CAM 017	Binney Street at First Street	Open	Charles River

[1] Permanently closed on December 27, 2015

[2] Permanently closed on March 31, 2011

[3] City retains the right to re-open once a hydraulic study is completed

Figure 2.1 Active CSO Locations



2.1.2 CSO Monitoring

The following section outlines the current methodology for CSO monitoring at each location including metering as well as network model representation and simulation.

CAM 001 Monitoring

The permitted configuration for CAM 001 consisted of an 18" overflow pipe with a steel plate at the end. The plate covered the bottom portion of the 18" pipe. The top of the steel plate was 5-3/4 inches below the crown of the 18" pipe. This created a restricted 70.6 square inch opening with an overflow elevation of 15.22 Feet (NGVD29).The final configuration for CAM 001 consists of a 10" PVC pipe outlet with a 15" PVC elbow for floatable controls. There is also a brick weir set as elevation 15.22 feet (NGVD). The configuration of the CAM001 regulator has not changed since the 2015 Annual CSO Report submission.

The metered data recorded at the CAM 001 outfall (measured at the meter vault located on the outfall pipe) has provided consistently reliable CSO spill data throughout the past several years of record.

CAM 002A Monitoring

Spill events and CSO volumes at CAM002 have previously been calculated using a standard weir equation for each storm event using the SCADA data for depth inside the CAM002 regulator structure (on Mass Avenue at Alewife Brook Parkway). The water depth data obtained inside the CAM002 regulator was then compared against depth and velocity (and hence, flow) data available on the CAM002A outfall pipe. The data available for 2016, however, showed discrepancies in the CAM002 outfall pipe and the level sensor in the regulator, which suggested consistent meter failures on the outfall pipe. For this reason, the Infoworks ICM network model was used to determine the spill count and volume at CAM002A and model results were then compared to the CAM002 meter data, where available. Meter data for CAM002 was available for the months of March through December, 2016.

CAM 004 Monitoring

CAM 004 was located within the Drain Vault 5 structure in the Alewife Brook Rotary at the junction of Concord Avenue and The Alewife Brook Parkway. The CAM004 outfall was closed on December 27, 2015, as part of a multiyear construction project.

CAM 400 Monitoring

The downstream combined sewer system for CAM 400 underwent construction as part of common manhole separation project (Contract 13). The work was completed in March 2011 and the CAM 400 CSO regulator was closed on March 31, 2011.

CAM 401A Monitoring

The CAM 401A regulator structure includes floatables control brush screens mounted on a static weir structure, as well as flap gates located just downstream of the weir. Due to the complicated nature of the structure and the difficulty identifying spill activations and calculating flow, the City's ICM model was used to determine the activation count and spill volume at the CAM 401A regulator. Where available, data from the depth meter sensor located upstream of the brush screens was compared to the model-simulated spill results. Depth sensor meter data was available for 2016 with the exception of the months of June through August.

CAM 401B Monitoring

Spill events and CSO volumes at CAM 401B have previously been calculated using a combination of a rectangular weir equation for elevations up to 1.4 feet above the invert of the outfall and an orifice equation when flows are above 1.4 feet. At CAM 401B, the depth is recorded inside of the regulator structure and a flow meter is mounted on the 401B outfall pipe. At this location, however, flow data was not available between the months of January through March and October through December, 2016. In addition, flow data between March and October was not a continuous record.

The Infoworks ICM network model was used to determine the spill count and volume at CAM 401B and model results were then compared to the CAM 401B meter data, where available.

CAM 005 Monitoring

The CAM 005 outfall is monitored with a depth/velocity sensor mounted on the upstream side of the outfall weir. Water depth data was available for all year while meter flow data was only available September through December. Therefore, model data was used to report CSO volumes. The depth data was reviewed for correlation with the rainfall data, as well as correlation with the Infoworks ICM network model's simulation of spills at CAM005. It should be noted that in the case of CAM005, the river level on the downstream end of the weir has been observed to be higher than the level on the upstream side of the weir, suggesting that a consistent backwater condition from the Charles River may be present on the outfall pipe.

The depth data showed a number of instances where the depth in the regulator structure increased in direct correlation with rainfall events, however there was only one instance where the depth was observed to increase over the weir elevation in 2016.

CAM 007 Monitoring

CAM007 has also been known to experience backwater conditions from the Charles River like CAM005. This structure is also monitored using depth sensors within the regulator structure. The metered data was used to identify periods of increased depth in the regulator and the data was then correlated to the rainfall and the model's simulation of spills at CAM007. Actual CSO volumes were reported using the model predictions.

CAM017 Monitoring

The CAM017 regulator structure consists of three bending weirs in parallel. Due to the complexity of the bending weirs, flow conditions, and downstream and upstream conditions a standard weir equation is not adequate. Data for this regulator was not available during 2016, therefore the CSO results from the 2016 model simulation are being reported. When data becomes available for the bending weir rotation, as well as the depth and velocity of flow at various points within the regulator, the model will be further calibrated using this data.

2.2 Summary of 2016 CSO Activations

According to the monitoring methodology outlined in Section 2.1, both the available metered data and the model results are presented in the following section. Due to the data availability limitations and the uncertainty with backwater conditions at some regulators, the total spill count and volume for 2016 that will be compared to the typical year rainfall in current conditions will only include modelled CSO results with the exception of CAM001. In 2016 there were a total of four activations at the four Alewife Brook CSO regulators and three activations occurred at the three Charles River CSO regulators. A summary of 2016 activations for the Alewife Brook and Charles River outfalls is provided in Table 2.2 and 2.3, respectively.

2.2.1 Alewife Brook CSO Results

The five active outfalls along Alewife Brook spilled a total of four times throughout 2016 resulting in a total of approximately 0.975MG of CSO. The CAM001 metered and modelled results were in strong agreement and both showed one small CSO activation on October 21, 2016. However, the

model CSO volume was higher than the meter data suggesting that this area may need to be recalibrated in the hydraulic model.

As previously mentioned, the CAM 401A regulator is monitored using a depth sensor and, due to the complicated nature of the structure, the City's Infoworks ICM model was used to determine activation frequency and spill volume. The depth sensor data was reviewed and a significant increase in depth was observed on October 21, 2016, which matched the only overflow predicted by the hydraulic model with a total volume of 0.655MG.

The metered data and model simulation results both showed one spill event at CAM401B during 2016. The level sensor inside the regulator did not identify any levels above the overflow weir but reached its peak level on October 21. The model captured only one small spill on October 21, 2016 and reported herein. This discrepancy between the regulator level sensor and the hydraulic model could not be reconciled as the overflow meter was not continuously recording data.

Table 2.2 Summary of 2016 Activations at Alewife Brook CSOs

Receiving Water	Outfall No.	Results	
		2016 CSO Spills	**2016 CSO Volume (MG)**
Alewife Brook	CAM 001	1	0.002[1]
	CAM 002A	1	0.295[2]
	CAM 002B[3]	-	-
	CAM 004[4]	-	-
	CAM 400[5]	-	-
	CAM 401A	1	0.655[6]
	CAM 401B	1	0.023[7]
	TOTAL	**4**	**0.975**

1 Metered Data
2 Modelled Data
3 CAM 002B is temporarily closed
4 Permanently closed December 27, 2015
5 Permanently closed on March 31, 2011
6 Result from modelled data. Metered data only available from September 2016 to December 2016
7 Modelled Data. Overflow pipe metered data is not available for the 2016 entire year

2.2.2 Charles River CSO Results

The level meter at the CAM005 overflow weir recorded one instance in which the upstream water level exceeded the crest elevation of the overflow weir on October 21, 2016. Model simulations for 2016 were in strong agreement and captured one spill on that same date with a total volume of 1.121MG.

The CAM007 regulator is also monitored using depth sensors within the regulator structure. The meter data was used to identify periods of increased depth in the regulator and the data was then correlated to the rainfall and the model's simulation of spills at CAM007. The meter identified one instance in which the upstream water level exceeded the crest of the overflow weir on October 21, 2016. This was in strong agreement with model results, which captured one overflow of 0.262MG on the same date.

Metered data for the CAM 017 regulator was not available during 2016, therefore results of the network model simulation are being reported but could not be cross-checked against meter readings. According to the hydraulic model, CAM017 spilled in one occasion in 2016 spilling a total of 3.17MG on October 21st.

Table 2.3 Summary of 2016 Activations at Charles River CSOs

Receiving Water	Outfall No.	Modelled (Metered) Results	
		2016 CSO Spills	2016 CSO Volume (MG)
Charles River	CAM 005	1	1.121[1]
	CAM 007	1	0.262[1]
	CAM 009	-	-
	CAM 011	-	-
	CAM 017	1	3.170[1]
	TOTAL	**3**	**4.615**

*CAM 009 and CAM 011 are temporarily closed

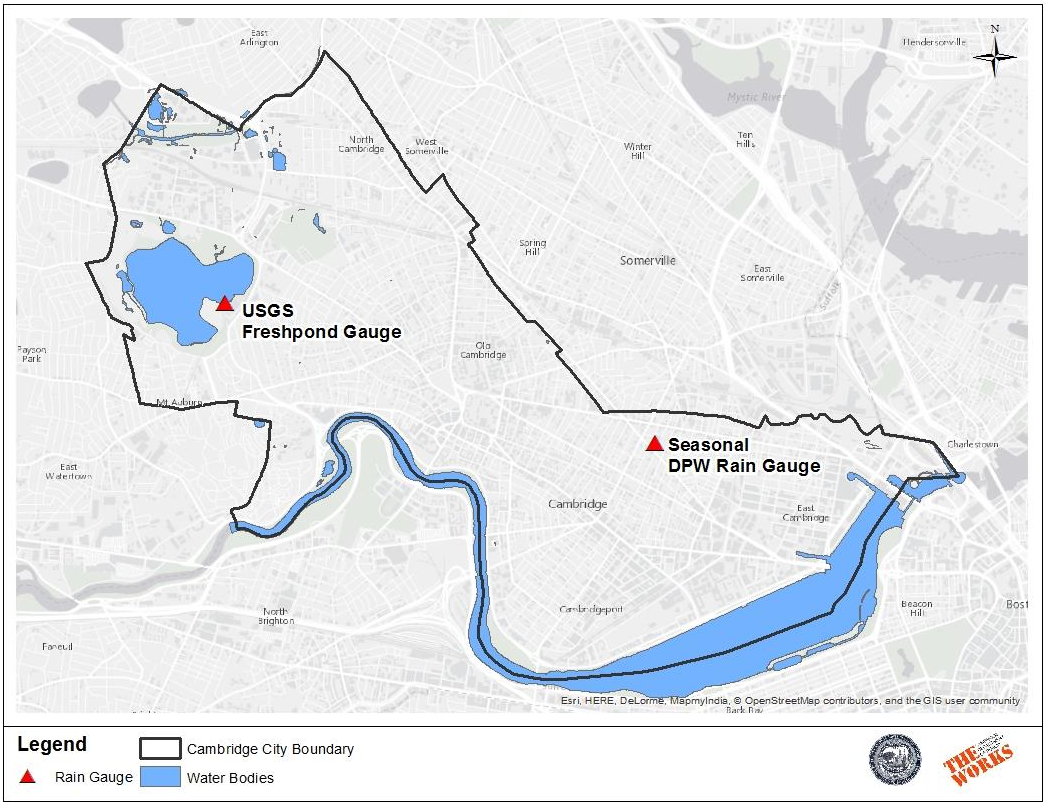
[1] From model data

2.3 Rainfall Characteristics

Under the City of Cambridge Combined Sewer Overflow Permit MA0101974, as part of the CSO NPDES Annual Report, precipitation data from the previous calendar year (2016) is analyzed against the typical year (1992) rainfall record.

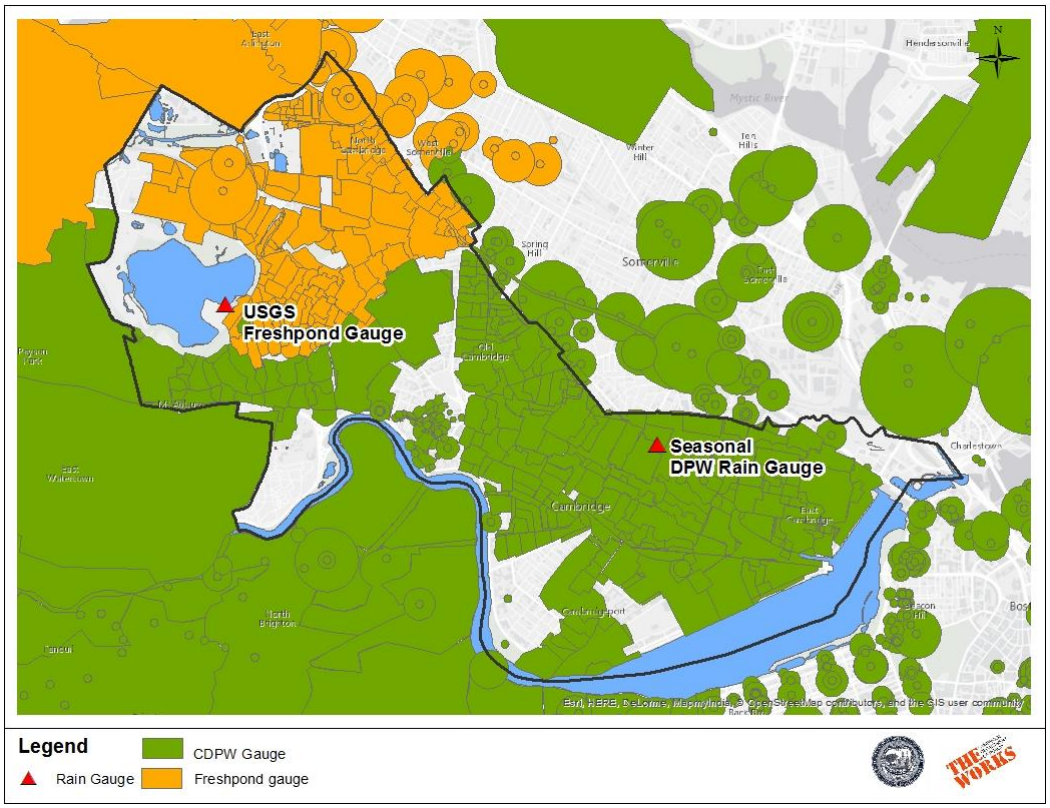
The City of Cambridge currently operates one seasonal rain gauge on the roof of the Cambridge DPW that in 2016 was operational from March 9, 2016 through December 31, 2016. The Cambridge DPW gauge data is presented in Appendix I. In addition to the seasonal DPW rainfall gauge, a second rain gauge operated by the USGS is located in Fresh Pond. Figure 2 shows the location of the two rainfall gauges used to obtain 2016 rainfall data.

Figure 2.2 Rain Gauge Locations



Given the geographic location of the two rain gauges in the two different watersheds in the City (Alewife Brook and Charles River), it was determined that the USGS Fresh Pond gauge would be most spatially representative of the Alewife Brook subcatchments and CSOs, whereas the DPW seasonal gauge provides a more spatially representative rainfall data for the Charles River subcatchments and CSOs. Figure 3 presents the model subcatchments tributary to the Alewife Brook CSOs and those tributary to the Charles River CSOs.

Figure 2.3 Model Rain Gauge Distribution



In order to create a year-long rainfall series for the Charles River catchments, missing rainfall data in the Cambridge DPW gage was filled in with rainfall data from the USGS gage from January 1st through March 8th, 2016. The two 2016 annual rainfall series (the USGS Fresh Pond Gauge data for the Alewife Brook and the hybrid series data for the Charles River catchments) were compared to the typical year rainfall in order to assess any similarities and differences in the rainfall distribution and patterns.

As shown in Graph 2.1, the accumulated 2016 USGS Fresh Pond and CDPW rainfall data are both less than the typical year (1992) rainfall. In addition, Figure 2.4 presents a map of the twenty-year average precipitation in the Northeast United States, indicating that the average total precipitation from 1981 to 2010 is between 45 and 50 inches, well above the observed 2016 total rainfall (33.5 inches in the DPW/USGS hybrid rainfall series and 31.3 inches in the USGS rainfall series at Fresh Pond).

Graph 2.1
Typical Year Rainfall versus 2016 Rainfall

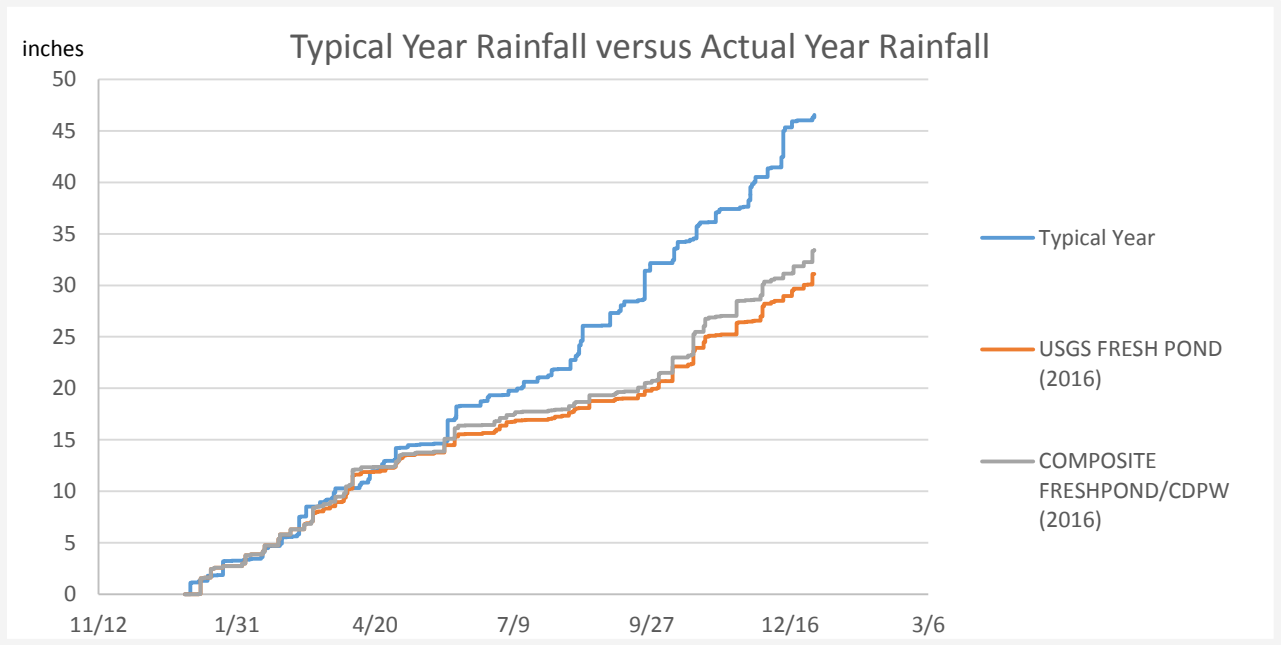
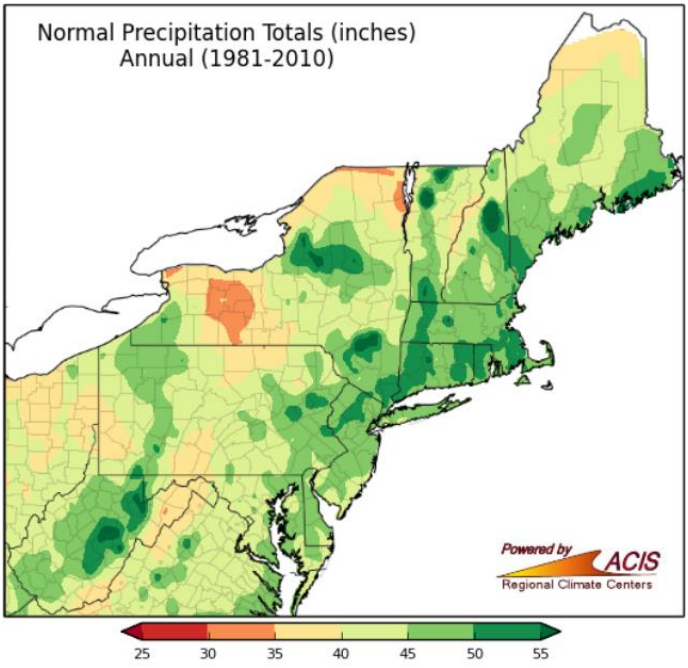


Figure 2.4 Twenty Year Average Rainfall in the Northeast US



[1]Map from Northeast Regional Climate Center

A review of the distribution of storms in 2016 by total rainfall was performed. Tables 2.4 and 2.5 present a comparison of storm frequency and volumes within various ranges of total precipitation for the two 2016 series and for the typical year. The USGS gauge recorded only two storms less than the typical year (118 versus 116). On the other hand, the 2016 USGS/DPW hybrid series had a smaller number of storms totaling 105 for the year. The number of storms were counted assuming an inter-event time equal to six hours. Both 2016 rainfall series had a smaller total rainfall than the typical year (28.4% and 33.1% less for the 2016 hybrid series and the USGS Fresh Pond series, respectively). The Fresh Pond gage had 77 storms in the <0.25 inch range, with a total volume of 5.35in and the CDPW meter recorded less storms in this lower range (66) with less volume (4.75 inches).

The number of storms and annual rainfall volume in the 0.25 to 0.50 inch range was slightly higher in 2016 than in the typical year as shown in Tables 2.4 and 2.5. The opposite was true for storms ranging between 0.5 and 1.0 inches in total rainfall where the typical year has a significantly higher number of storms and overall volume than 2016.

For storms with volumes greater than 1.0 inch and less than 2.0 inches, there was a discrepancy between the 2016 hybrid and the Fresh Pond rainfall series. The hybrid series had a higher number of storms and overall volume for this range than the typical year but, overall, the total volume and frequency of these storms was rather close to the typical year's. On the other hand, the 2016 Fresh Pond series had less storms within this range and significantly less volume (15.06in in the typical year vs. 11.11in in 2016).

Neither of the two gages recorded any storms above 2 inches, while the typical year rainfall includes three storms of this magnitude.

Table 2.4 Frequency of Rainfall Events per Storm Depth Range

Rainfall Series	Total Rainfall (inches)	Total Number of Storms	Number of Storms by Volume				
			Volume <0.25 inches	Volume 0.25 to 0.50 inches	Volume 0.5 to 1.0 inches	Volume 1.0 to 2.0 inches	Volume >=2.0 inches
Typical Year	46.8	118	70	17	17	11	3
Fresh Pond/CDPW Composite	33.5	105	66	20	7	12	0
Fresh Pond (USGS)	31.2	116	77	19	11	9	0

Table 2.5. Annual Rainfall Volume Distribution per Storm Depth Range

Rainfall Series	Total Rainfall (inches)	Total Number of Storms	Rainfall Volume of Storms (in)				
			Volume <0.25 inches	Volume 0.25 to 0.50 inches	Volume 0.5 to 1.0 inches	Volume 1.0 to 2.0 inches	Volume >=2.0 inches
Typical Year	46.8	118	4.52	6.33	12.01	15.06	8.91
Fresh Pond/CDPW Composite	33.5	105	4.75	7.53	4.75	16.47	0.00
Fresh Pond (USGS)	31.2	116	5.35	6.84	7.90	11.11	0.00

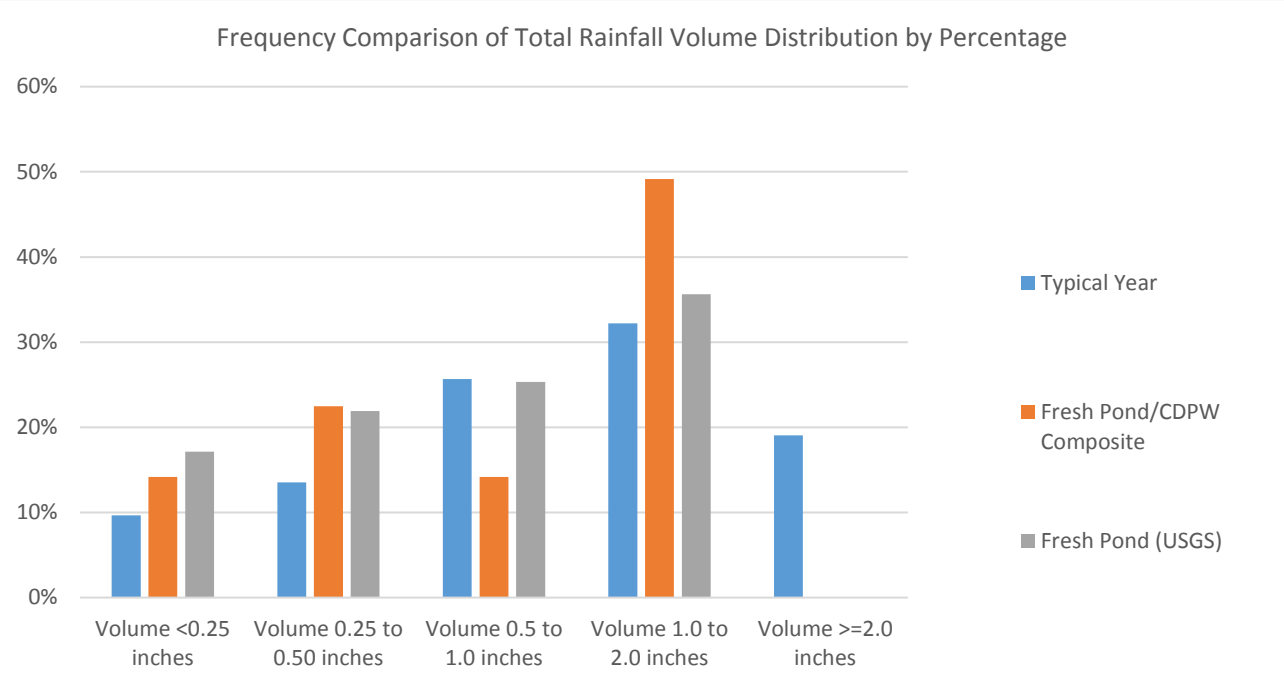
Table 2.6 Percent of Annual Rainfall Volume per Storm Depth Range

Rainfall Series	Total Rainfall (inches)	Total Number of Storms	Volume of Storms by Percentage				
			Volume <0.25 inches	Volume 0.25 to 0.50 inches	Volume 0.5 to 1.0 inches	Volume 1.0 to 2.0 inches	Volume >=2.0 inches
Typical Year	46.8	118	9.66%	13.53%	25.67%	32.19%	19.05%
Fresh Pond/CDPW Composite	33.5	105	14.18%	22.47%	14.18%	49.15%	0.00%
Fresh Pond (USGS)	31.2	116	17.15%	21.92%	25.32%	35.61%	0.00%

Table 2.6 and Graph 2.2 present the distribution of the total volume of storms by percentage. In 2016, the hybrid series had rainfall mostly concentrated in the 0.25-to-0.50inch range and the 1.0-to-2.0 inch range, being the latter the most dominant in overall volume. On the other hand, the 2016 USGS series and the typical year had most of the rainfall concentrated in the 0.50-to-1.0 inch and the 1.0-to-2.0 inch range with the latter being less dominant when compared to the hybrid series. However, the typical year had a significant amount of annual rainfall accumulated in events greater than 2 inches while no such event was recorded in 2016.

This variability amongst the 2016 series and the and typical year indicates that significant deviations with regards to CSO performance are to be expected between CSOs in the Alewife Brook versus the Charles River basins. Overall performance against the typical year is a function not only of storm volumes but also of storm intensity, which is analyzed in this section.

Graph 2.2 Frequency Comparison of Total Rainfall Volume Distribution by Percentage



In addition to the analysis of storm events by total rainfall depth, the storm intensities of the 2016 and typical year rainfall series were also compared. Table 2.7 presents the distribution of storms among of the rainfall series per by 15-minute peak intensity. Table 2.8 presents the average and peak intensities for storms greater than 1 inch in depth and Table 2.9 presents the same metrics for storm events with a 15-minute peak intensity greater than 0.40in/hr.

Table 2.7 Number of Storm Events at Selected Ranges of Peak Intensity

Rainfall Series	No. of Storms	Total Rainfall	15-min Peak Intensity				
			0.01 to 0.10	0.10 to 0.25	0.25 to 0.50	0.50 to 1.0	> 1.0
		(inches)	(in/hr)	(in/hr)	(in/hr)	(in/hr)	(in/hr)
Typical Year	118	46.8	60	27	16	11	4
Fresh Pond/CDPW Composite	105	33.5	52	28	15	9	1
Fresh Pond (USGS)	116	31.2	57	36	15	7	1

As outlined in Table 2.8, the typical year includes fourteen storm events over one inch whereas both CDPW and the Fresh Pond gauge recorded twelve and nine events greater than one inch in total

rainfall, respectively. Storm events were counted assuming an inter-event time equal or greater than six hours (i.e. if no rain occurs between the end of one rainfall period and the beginning of the next then they are counted as two separate events). Recurrence intervals listed in Table 2.8 indicate that the typical year has three storms over one inch in rainfall (12/11/1992, 10/23/1992, and 9/22/1992) near or above the 1 year recurrence interval, whereas the 2016 data only showed one storm event (10/21/2016) with a recurrence interval greater than 1 year but only for the DPW gauge. The Fresh Pond gauge used for the Alewife Brook catchments recorded a significantly smaller event on 10/21/2016 with a return interval well below 1-year.

Table 2.8 Comparison of Storms Greater 1 Inch of Total Rainfall, Typical Year Versus 2016

Rainfall Series	No. of Storms	Date	Duration (h)	Total Rainfall (in)	Average Int. (in/h)	15-min Peak Int (in/h)	Recurrence Interval
Typical Year	14	12/11/1992	39.5	3.88	0.10	0.24	2-5Y
		9/22/1992	22	2.79	0.13	0.65	1-2Y
		5/31/1992	29.3	2.24	0.08	0.48	<1Y
		3/6/1992	34	1.89	0.06	0.22	<1Y
		11/21/1992	34.8	1.88	0.05	0.36	<1Y
		8/17/1992	25.5	1.81	0.07	0.80	<1Y
		1/23/1992	16	1.36	0.09	0.40	<1Y
		6/5/1992	17.3	1.34	0.08	1.0	<1Y
		9/3/1992	12.3	1.19	0.10	0.68	<1Y
		10/23/1992	3	1.18	0.39	1.08	~1Y
		1/4/1992	20.8	1.15	0.06	0.48	<1Y
		5/2/1992	5.5	1.14	0.21	1.32	<1Y
		8/15/1992	38.5	1.1	0.03	0.28	<1Y
		4/16/1992	30	1.02	0.03	0.28	<1Y
Fresh Pond/CDPW Composite	12	10/21/2016	6.3	1.97	0.31	1.68	~2Y
		3/14/2016	34.5	1.55	0.04	0.3	<1Y
		1/10/2016	10.8	1.52	0.14	0.64	<1Y
		10/9/2016	18.8	1.52	0.08	0.21	<1Y
		11/15/2016	14	1.48	0.11	0.57	<1Y
		4/7/2016	7.5	1.43	0.19	0.51	<1Y
		11/30/2016	16.8	1.34	0.08	0.27	<1Y
		5/30/2016	10.5	1.25	0.12	0.75	<1Y
		10/27/2016	15.3	1.22	0.08	0.24	<1Y
		12/29/2016	15.3	1.13	0.07	0.45	<1Y
		2/24/2016	30	1.05	0.04	0.48	<1Y

Rainfall Series	No. of Storms	Date	Duration (h)	Total Rainfall (in)	Average Int. (in/h)	15-min Peak Int (in/h)	Recurrence Interval
		6/5/2016	12.8	1.03	0.08	0.69	<1Y
Fresh Pond (USGS)	9	1/10/2016	10.8	1.52	0.14	0.64	<1Y
		10/8/2016	22.3	1.44	0.06	0.20	<1Y
		4/7/2016	7.8	1.33	0.17	0.44	<1Y
		10/21/2016	6.3	1.26	0.20	1.60	<1Y
		11/30/2016	16.5	1.24	0.08	0.36	<1Y
		11/15/2016	15.3	1.17	0.08	0.48	<1Y
		10/27/2016	23.8	1.06	0.04	0.24	<1Y
		2/24/2016	30	1.05	0.04	0.48	<1Y
		12/29/2016	7.8	1.04	0.13	0.40	<1Y
*Recurrence intervals greater than 1 year were calculated using the Extreme Precipitation Tables from Northeast Regional Climate Center.							

Table 2.9 lists storms with peak intensities greater than 0.40in/hr and their average intensities for all three rainfall series.

Table 2.9 Comparison of Storms with 15-min Peak Intensities Greater than 0.40 Inches/hour, Typical Year Versus 2016

	No. of Storms	Date	Duration	15-min Peak Intensity	Average Intensity	Recurrence Interval
			(hours)	(in/hr)	(in/hr)	
Typical Year	20	9/9/1992	0.5	1.72	1.14	<1Y
		5/2/1992	5.5	1.32	0.21	<1Y
		8/11/1992	10.5	1.24	0.08	<1Y
		10/23/1992	3.00	1.08	0.39	~1Y
		6/5/1992	17.3	1.00	0.08	<1Y
		7/11/1992	0.5	0.84	0.44	<1Y
		8/17/1992	25.5	0.8	0.07	<1Y
		10/10/1992	5.30	0.72	0.09	<1Y
		10/10/1992	6.5	0.68	0.10	<1Y
		9/3/1992	12.3	0.68	0.10	<1Y

	No. of Storms	Date	Duration	15-min Peak Intensity	Average Intensity	Recurrence Interval
			(hours)	(in/hr)	(in/hr)	
		7/31/1992	18.8	0.68	0.03	<1Y
		9/22/1992	22	0.65	0.13	<1Y
		7/29/1992	0.5	0.64	0.40	<1Y
		6/20/1992	2.3	0.56	0.15	<1Y
		1/14/1992	9.5	0.52	0.05	<1Y
		5/31/1992	29.3	0.48	0.08	<1Y
		1/4/1992	20.8	0.48	0.06	<1Y
		3/11/1992	12.3	0.48	0.08	<1Y
		6/20/1992	0.3	0.44	0.44	<1Y
		10/11/1992	12.8	0.44	0.05	<1Y
Fresh Pond/CDPW Composite	13	10/21/2016	6.3	1.68	0.31	1-2Y
		5/30/2016	10.5	0.75	0.12	<1Y
		8/13/2016	5	0.75	0.08	<1Y
		6/5/2016	12.8	0.69	0.08	<1Y
		7/1/2016	2	0.66	0.15	<1Y
		1/10/2016	10.8	0.64	0.14	<1Y
		11/15/2016	14	0.57	0.11	<1Y
		9/23/2016	7	0.54	0.06	<1Y
		4/7/2016	7.5	0.51	0.19	<1Y
		6/7/2016	1.5	0.51	0.16	<1Y
		2/24/2016	30	0.48	0.04	<1Y
		12/29/2016	15.3	0.45	0.07	<1Y
		7/5/2016	4.3	0.42	0.07	<1Y
Fresh Pond (USGS)	14	10/21/2016	6.3	1.60	0.20	<1Y
		6/5/2016	13.8	0.76	0.06	<1Y
		1/10/2016	10.8	0.64	0.14	<1Y
		8/22/2016	5.3	0.60	0.13	<1Y
		9/23/2016	1.8	0.60	0.22	<1Y
		5/6/2016	1	0.56	0.20	<1Y
		5/30/2016	10.5	0.52	0.07	<1Y
		7/1/2016	2	0.52	0.19	<1Y
		11/15/2016	15.3	0.48	0.08	<1Y
		2/24/2016	30	0.48	0.04	<1Y
		10/22/2016	5.3	0.48	0.05	<1Y

	No. of Storms	Date	Duration	15-min Peak Intensity	Average Intensity	Recurrence Interval
			(hours)	(in/hr)	(in/hr)	
		4/7/2016	7.8	0.44	0.17	<1Y
		9/30/2016	31.5	0.44	0.02	<1Y
		5/1/2016	21.5	0.44	0.02	<1Y

Comparison of peak intensity distributions of the 2016 rainfall series and the typical year shows that 2016 had approximately 30-35% less storms with a peak intensity higher than 0.40 in/hr. The typical year has a total of five storms with an average intensity greater than 0.30in/h. Four out of these five have a duration of 30 minutes or less and only the 10/23/1992 is more significant in terms of duration (3 hours) and rainfall accumulation (1.17 inches). On the other hand, the 2016 hybrid series had only one event with an average rainfall intensity greater than 0.30in/h on 10/21/2016 but this event was greater in volume (1.95in) and in duration (6.3hours). The 2016 Fresh Pond rainfall series did not have any event greater than 0.30 inch/hr.

2.4 Combined Sewer Overflow Comparison

With the analysis of the 2016 rainfall complete and the CSO spill count and activations for 2016 calculated, the 2016 CSO results were then compared to those anticipated during the typical year (1992). Table 2.10 presents the 2016 and typical year model simulation results for the existing Cambridge network model. As noted previously, there are a number of inactive CSOs on both the Alewife Brook and the Charles River systems that are included in the table for consistency.

The City's InfoWorks ICM network model was used to calculate the typical year rainfall activations and spill volumes and compare them with the 2016 rainfall spill activations and volumes. Given the discrepancies previously noted in section 2.3, the activation frequency and volumes for the 2016 rainfall presented in Table 2.10 represent the model-simulated spills (except for CAM001) and do not include the metered CSO data.

Table 2.10 Comparison of 2016 and Typical Year CSO Results

	2016 RAINFALL UNDER 2016 SYSTEM CONDITIONS		TYPICAL YEAR RAINFALL UNDER 2016 SYSTEM CONDITIONS		TYPICAL YEAR RAINFALL WITH LONG TERM CONTROL PLAN*	
OUTFALL	ACTIVATION FREQUENCY	VOLUME (MG)	ACTIVATION FREQUENCY	VOLUME (MG)	ACTIVATION FREQUENCY	VOLUME (MG)
ALEWIFE BROOK						
CAM 001	1	0.002	0	0	5	0.190
CAM 002	1	0.295	3	0.317	4	0.690
CAM 004[1]	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED	N/A
CAM 400[2]	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED	N/A
CAM 401A	1	0.655	5	1.029	5	1.610
CAM 401B	1	0.023	0	0	7	2.150
TOTAL	**4**	**0.975**	**8**	**1.346**	**21**	**4.630** [4]
CHARLES RIVER						
CAM 005	1	1.121	5	0.534	3	0.840
CAM 007	1	0.262	0	0	1	0.030
CAM 009[3]	0	0	0	0	2	0.010
CAM 011[3]	0	0	0	0	0	0
CAM 017	1	3.170	1	0.877	1	0.450
TOTAL	**3**	**4.615**	**6**	**1.411**	**7**	**1.330**

*VALUES REFLECT TARGET CSO VOLUMES AT LTCP COMPLETION AS PER CSO PERMIT. THESE ARE NOT MODEL RESULTS.

1. CAM 004 CLOSED ON DECEMBER 27, 2015
2. CAM 400 CLOSED ON MARCH 31, 2011
3. TEMPORARILY PLUGGED
4. THIS TOTAL DOES NOT INCLUED MWRA 003 AND SOM 001, THE TOTAL LTCP VOLUME OF CSO IS 7.29 MG PER YEAR IF THESE ARE INCLUDED

Alewife Brook Comparisons

The Alewife Brook in existing conditions showed a total of four activations with 0.975MG volume under the 2016 rainfall and eight activations with 1.34MG of CSO under a typical year. This is significantly less than the target 4.63MG of CSO in LTCP conditions in the typical year.

CAM 001

The 2016 rainfall in 2016 conditions had one activation with an overflow of 0.002 MG in existing conditions and none forecasted under the typical year rainfall. This value is lower than the target 0.19MG for the typical year under LTCP conditions.

CAM 002

The 2016 rainfall under existing condition at CAM002 has one activation and a volume of 0.295MG and three activations with the typical year rainfall for a total of 0.32MG. This value is lower than the target 0.69MG for the typical year under LTCP conditions.

CAM 004

This structure was completed on December 27, 2015 and the LTCP has CAM 004 closed since that date.

CAM 401A

In 2016, the model identified one overflow with 0.655MG of volume on 10/21/2016 in current model conditions. The model forecasted 1.02MG under a typical year rainfall. This value is lower than the target 1.61MG for the typical year rainfall under LTCP conditions.

CAM 401B

In 2016, the model forecasted a total of 0.023MG of spill under one activation. The typical year rainfall under 2016 conditions would not trigger any activations at CAM401B according to the hydraulic model. This value is lower than the target 2.15MG for the typical year under LTCP conditions.

Charles River Comparisons

A summary of the CSO activations under different rainfall and system conditions is provided below.

CAM 005

The 2016 rainfall under the existing conditions has one activation with an overflow volume of 1.121MG. The typical year rainfall under 2016 conditions triggered five activations of this regulator with a total volume of 0.534MG. This value is lower than the target 0.84MG for the typical year under LTCP conditions.

CAM 007

2016 rainfall produced one spill under existing conditions for a total of 0.26MG. The typical year rainfall under 2016 conditions has zero spills forecasted as opposed to the targeted 0.03MG in LTCP conditions.

CAM 009 and CAM 011

CAM 009 and CAM 011 are temporarily plugged. The LTCP has both of these outfalls open. The City of Cambridge plans to keep these outfalls closed until a more comprehensive study can be

completed in this area on the effects of climate change and upstream conditions. This report assumes that these outfalls shall remain closed beyond the LTCP closing date of December 31, 2015.

CAM 017

The 2016 rainfall under 2016 conditions produced one spill with an overflow volume of 3.17MG. With typical year rainfall, the 2016 conditions model generated 0.88MG of overflow in one single spill and the LTCP overflow volume under the typical year rainfall has been estimated in 0.45MG also in one single spill. It is unclear at this point if the difference between 2016 and LTCP conditions in typical year is due to LTCP changes in operations at MWRA's Cottage Farm, Prison Point and/or DeLauri facilities that need to be updated in the Cambridge model. Additionally, modeling methodology of the bending weirs at CAM017 could be further fine-tuned to more accurately represent their operation once the meters are reactivated.

2.5 Monitoring Recommendations

It is recommended to further calibrate the model in the areas tributary to CAM001 in order to fully reconcile the discrepancy in metered versus modelled CSO spill volume. Flow data for the inflow into the CAM001 regulator can be obtained from the MWRA and could be used to calibrate the model in this location.

CAM002 metered data seemed to show two spills during 2016 but available data was limited to March through December and there are some indications of potential meter malfunction. The model simulated only one spill at CAM002 with a total volume of 0.295MG. It is recommended that the CAM002 outfall data be regularly reviewed during the upcoming year to identify any spurious readings that may be unrelated to rainfall, as well as any gaps in data availability. The model at CAM 002 should also be further enhanced using upstream inflow meter data and regulator level data to calibrate the model's representation of the CSO structure.

Given the complicated nature of the CAM401A regulator, the City should consider flow metering and recalibration of the tributary sewers upstream of the structure that might provide a more accurate understanding of the nature of CSO spills at this location.

At CAM401B, it is recommended that SCADA data be regularly reviewed during the coming year in order to identify any spurious readings that may be unrelated to rainfall, as well as any gaps in data availability. The model at CAM 401B can also be further improved by using upstream inflow meter data and regulator level data to calibrate the model's representation of the 401B CSO catchment.

It is recommended that, when metered data for the CAM017 regulator becomes available for the bending weir rotation, as well as the depth and velocity of flow at various points within the regulator, the model be further calibrated using this data.

Inspection, flow metering and recalibration of the CAM005 and CAM007 catchments and regulators is also recommended in order to better capture activations at these regulators during large storm events.

Periodic coordination with the MWRA is advised in order to routinely incorporate changes in the

regional system and capture existing and final LTCP conditions. Pump operations and system optimization at different key MWRA facilities is critical and may have a significant impact on Cambridge CSOs as the combined system ties to MWRA's interceptors.

3. Status of CSO Abatement Projects

3.1 Project Updates

The City of Cambridge continues to implement abatement projects in accordance with the Massachusetts Water Resources Authority (MWRA) Final CSO Facilities Plan, the Federal Court Order (US v. MDC., et al., No. 85-0489 (D. Mass)), as amended by the Second Stipulation of the United States and the Massachusetts Water Resources Authority on Responsibility and Legal Liability for Combined Sewer Overflow Control. The information provided in this Annual Report conforms to information and data submitted to the MWRA for inclusion in their court-ordered annual report on CSO abatement project progress.

As described in more detail in the MWRA 2015 CSO Annual Progress Report (available at http://www.mwra.com/cso/csoannualreports.htm), the CSO Control Plan for Alewife Brook includes four (4) project components for which the City of Cambridge is responsible, including:

- CAM004 Stormwater Outfall and Wetland Basin (Contract 12)
- CAM004 Sewer Separation (Contracts 8A, 8B, and 9)
- CAM400 Common Manhole Separation (Contract 13)
- Interceptor Connection Relief and Floatables Control (Contract 4)

Contracts 8A, 8B and 9

For a copy of the project plans visit:

Concord Ave:

www.cambridgema.gov/theworks/ConcordArea

Huron 8A:

www.cambridgema.gov/tjewprls/HuronA

Huron 8B:

www.cambridgema.gov/theworks/HuronB

3.2 Project Schedule

Design and construction milestones for the Alewife Brook projects were added to Schedule Seven (7) in 2006 when EPA and DEP approved the regional long-term CSO control plan. However, the wetland appeals process continued through 2007 and into 2008. As a result of the delays associated with the wetlands appeals, the court approved new project schedules and time estimates to complete major design, permitting and construction tasks.

Project	Benefit	Implementation Status	Scheduled Completion
Contract 4: Interceptor Connection Relief and Floatables Control	Upgrades connections between Cambridge and MWRA systems to provide greater capacity; provides floatables control.	Project completed in October 2010.	2010
Contract 13: CAM400 Manhole Separation	Removes stormwater from the sewer system; eliminate CSO at Outfall CAM400.	Project completed in March 2011.	2011
Contract 12: CAM004 Stormwater Outfall and Wetland Basin	Conveys separated stormwater flows to wetland system for treatment and flow attenuation.	Commence construction in Spring 2012.	2014
Contracts 8A, 8B and 9: CAM004 Sewer Separation	Removes stormwater from the sewer system; eliminate CSO at Outfall CAM004.	Early work along Fresh Pond Parkway was completed in 2000-02. Sewer Separation construction has begun in Contract 8A and Contract 8B. Contract 9 is estimated to start in March 2014	2015

Table 3.1 – City of Cambridge CSO Abatement Projects and Status

CSO Outfall	Required Project Type Under 2nd Stipulation	Receiving Water	Contract / Project Name	Completion Date or *Proposed Completion Date*	Notes
CAM001	Floatables Control	Alewife	Contract 4 - Floatables	*October 2010*	Baffles installed.
CAM002	Floatables control; interceptor relief	Alewife	Contract 4 - Floatables	*October 2010*	Baffles installed 2010 and blocked underflow.
CAM004	Sewer Separation	Alewife	2A/2B Fresh Pond Parkway	2001	CSO is now controlled by Drain Vault 5
CAM004	Sewer Separation	Alewife	Contract 8A/8B/9	*December 27st 2015*	At completion, CSO at CAM004 will be eliminated; removal of blocked underflow in CAM002 and orifice plate in CAM401B
CAM004	Sewer Separation	Alewife	Contract 12- Stormwater Outfall	*April 2013*	Stormwater outfall and treatment wetland
CAM400	Sewer Separation / common manholes	Alewife	Contract 13	*March 2011*	CSO regulator eliminated; convert to stormwater outfall.
CAM401A	Floatables Control	Alewife	Bellis Circle	2005	Installed brush screen
CAM401B	Floatables control; interceptor relief	Alewife	Contract 4- Floatables	*October 2010*	Baffles installed in 2010 and underflow throttled.
CAM005	Hydraulic Relief	Charles	MWRA CAM005 Hydraulic Relief	2000	For full project description see: http://www.mwra.com/annual/csoar/2009/csoar2009.pdf
CAM007	Floatables Control	Charles	Contract 5	2009	Baffle installed
CAM009	Floatables Control	Charles	Contract 5	2009	Outfall temporarily plugged
CAM011	Floatables Control	Charles	Contract 5	2009	Outfall temporarily plugged
CAM017	Floatables Control	Charles	Contract 5	2009	Baffles were installed in 2009.
CAM017	Hydraulic Relief	Charles	CAM 017 Hydraulic Relief	2013	Bending weirs and baffles installed in 2014

4. Modifications to Nine Minimum Controls Plan

The Nine Minimum Controls Plan (NMCP) was updated in its entirety and submitted together with the first annual report (April 2009). The plan provides a summary of the evaluations undertaken to address each control measure since the original plan was developed in 1997. Enhancements were made to the NMCP to meet the minimum implementation levels stipulated in the permit.

APPENDIX I

2016 DAILY RAINFALL DATA

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
USGS METER AT FRESHPOND, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
1/1/16	0.00	0.00	0.00
1/2/16	0.00	0.00	0.00
1/3/16	0.00	0.00	0.00
1/4/16	0.00	0.00	0.00
1/5/16	0.00	0.00	0.00
1/6/16	0.00	0.00	0.00
1/7/16	0.00	0.00	0.00
1/8/16	0.00	0.00	0.00
1/9/16	0.02	0.00	0.04
1/10/16	1.52	0.06	0.64
1/11/16	0.00	0.00	0.00
1/12/16	0.09	0.00	0.16
1/13/16	0.00	0.00	0.00
1/14/16	0.00	0.00	0.00
1/15/16	0.00	0.00	0.00
1/16/16	0.82	0.03	0.24
1/17/16	0.04	0.00	0.04
1/18/16	0.08	0.00	0.04
1/19/16	0.00	0.00	0.00
1/20/16	0.00	0.00	0.00
1/21/16	0.00	0.00	0.00
1/22/16	0.00	0.00	0.00
1/23/16	0.15	0.01	0.08
1/24/16	0.01	0.00	0.04
1/25/16	0.00	0.00	0.00
1/26/16	0.00	0.00	0.00
1/27/16	0.00	0.00	0.00
1/28/16	0.00	0.00	0.00
1/29/16	0.00	0.00	0.00
1/30/16	0.00	0.00	0.00
1/31/16	0.00	0.00	0.00
Total	2.73		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
USGS METER AT FRESHPOND, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
2/1/16	0.00	0.00	0.00
2/2/16	0.00	0.00	0.00
2/3/16	0.25	0.01	0.16
2/4/16	0.00	0.00	0.00
2/5/16	0.82	0.03	0.12
2/6/16	0.00	0.00	0.00
2/7/16	0.00	0.00	0.00
2/8/16	0.07	0.00	0.04
2/9/16	0.03	0.00	0.08
2/10/16	0.00	0.00	0.00
2/11/16	0.00	0.00	0.00
2/12/16	0.00	0.00	0.00
2/13/16	0.00	0.00	0.00
2/14/16	0.00	0.00	0.00
2/15/16	0.26	0.01	0.12
2/16/16	0.58	0.02	0.32
2/17/16	0.00	0.00	0.00
2/18/16	0.00	0.00	0.00
2/19/16	0.00	0.00	0.00
2/20/16	0.01	0.00	0.04
2/21/16	0.00	0.00	0.00
2/22/16	0.00	0.00	0.00
2/23/16	0.00	0.00	0.00
2/24/16	0.62	0.03	0.28
2/25/16	0.44	0.02	0.48
2/26/16	0.00	0.00	0.00
2/27/16	0.00	0.00	0.00
2/28/16	0.00	0.00	0.00
2/29/16	0.00	0.00	0.00
Total	3.08		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
USGS METER AT FRESHPOND, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
3/1/16	0.00	0.00	0.00
3/2/16	0.51	0.02	0.24
3/3/16	0.00	0.00	0.00
3/4/16	0.00	0.00	0.00
3/5/16	0.00	0.00	0.00
3/6/16	0.00	0.00	0.00
3/7/16	0.00	0.00	0.00
3/8/16	0.00	0.00	0.00
3/9/16	0.00	0.00	0.00
3/10/16	0.50	0.02	0.20
3/11/16	0.07	0.00	0.04
3/12/16	0.00	0.00	0.00
3/13/16	0.00	0.00	0.00
3/14/16	0.17	0.01	0.08
3/15/16	0.81	0.03	0.20
3/16/16	0.04	0.00	0.04
3/17/16	0.08	0.00	0.08
3/18/16	0.07	0.00	0.12
3/19/16	0.00	0.00	0.00
3/20/16	0.00	0.00	0.00
3/21/16	0.27	0.01	0.08
3/22/16	0.00	0.00	0.00
3/23/16	0.00	0.00	0.00
3/24/16	0.00	0.00	0.00
3/25/16	0.22	0.01	0.12
3/26/16	0.00	0.00	0.00
3/27/16	0.00	0.00	0.00
3/28/16	0.40	0.02	0.16
3/29/16	0.00	0.00	0.00
3/30/16	0.00	0.00	0.00
3/31/16	0.00	0.00	0.00
Total	3.14		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
USGS METER AT FRESHPOND, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
4/1/16	0.10	0.00	0.20
4/2/16	0.33	0.01	0.16
4/3/16	0.41	0.02	0.20
4/4/16	0.44	0.02	0.08
4/5/16	0.01	0.00	0.04
4/6/16	0.00	0.00	0.00
4/7/16	1.33	0.06	0.44
4/8/16	0.05	0.00	0.08
4/9/16	0.00	0.00	0.00
4/10/16	0.00	0.00	0.00
4/11/16	0.02	0.00	0.04
4/12/16	0.24	0.01	0.16
4/13/16	0.00	0.00	0.00
4/14/16	0.00	0.00	0.00
4/15/16	0.00	0.00	0.00
4/16/16	0.00	0.00	0.00
4/17/16	0.00	0.00	0.00
4/18/16	0.00	0.00	0.00
4/19/16	0.02	0.00	0.04
4/20/16	0.00	0.00	0.00
4/21/16	0.00	0.00	0.00
4/22/16	0.01	0.00	0.04
4/23/16	0.09	0.00	0.08
4/24/16	0.00	0.00	0.00
4/25/16	0.00	0.00	0.00
4/26/16	0.27	0.01	0.24
4/27/16	0.00	0.00	0.00
4/28/16	0.00	0.00	0.00
4/29/16	0.00	0.00	0.00
4/30/16	0.00	0.00	0.00
Total	3.32		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
USGS METER AT FRESHPOND, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
5/1/16	0.09	0.00	0.08
5/2/16	0.42	0.02	0.44
5/3/16	0.17	0.01	0.08
5/4/16	0.24	0.01	0.12
5/5/16	0.05	0.00	0.04
5/6/16	0.20	0.01	0.56
5/7/16	0.06	0.00	0.16
5/8/16	0.02	0.00	0.04
5/9/16	0.00	0.00	0.00
5/10/16	0.00	0.00	0.00
5/11/16	0.00	0.00	0.00
5/12/16	0.00	0.00	0.00
5/13/16	0.10	0.00	0.08
5/14/16	0.01	0.00	0.04
5/15/16	0.00	0.00	0.00
5/16/16	0.00	0.00	0.00
5/17/16	0.00	0.00	0.00
5/18/16	0.00	0.00	0.00
5/19/16	0.00	0.00	0.00
5/20/16	0.00	0.00	0.00
5/21/16	0.00	0.00	0.00
5/22/16	0.00	0.00	0.00
5/23/16	0.00	0.00	0.00
5/24/16	0.13	0.01	0.24
5/25/16	0.00	0.00	0.00
5/26/16	0.00	0.00	0.00
5/27/16	0.00	0.00	0.00
5/28/16	0.00	0.00	0.00
5/29/16	0.00	0.00	0.00
5/30/16	0.72	0.03	0.52
5/31/16	0.00	0.00	0.00
Total	2.21		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
USGS METER AT FRESHPOND, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
6/1/16	0.00	0.00	0.00
6/2/16	0.00	0.00	0.00
6/3/16	0.00	0.00	0.00
6/4/16	0.00	0.00	0.00
6/5/16	0.85	0.04	0.76
6/6/16	0.00	0.00	0.00
6/7/16	0.21	0.01	0.40
6/8/16	0.00	0.00	0.00
6/9/16	0.00	0.00	0.00
6/10/16	0.00	0.00	0.00
6/11/16	0.04	0.00	0.08
6/12/16	0.00	0.00	0.00
6/13/16	0.00	0.00	0.00
6/14/16	0.00	0.00	0.00
6/15/16	0.00	0.00	0.00
6/16/16	0.00	0.00	0.00
6/17/16	0.00	0.00	0.00
6/18/16	0.00	0.00	0.00
6/19/16	0.00	0.00	0.00
6/20/16	0.00	0.00	0.00
6/21/16	0.08	0.00	0.24
6/22/16	0.00	0.00	0.00
6/23/16	0.00	0.00	0.00
6/24/16	0.00	0.00	0.00
6/25/16	0.00	0.00	0.00
6/26/16	0.00	0.00	0.00
6/27/16	0.00	0.00	0.00
6/28/16	0.17	0.01	0.36
6/29/16	0.18	0.01	0.36
6/30/16	0.00	0.00	0.00
Total	1.53		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
USGS METER AT FRESHPOND, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
7/1/16	0.37	0.02	0.52
7/2/16	0.00	0.00	0.00
7/3/16	0.00	0.00	0.00
7/4/16	0.00	0.00	0.00
7/5/16	0.34	0.01	0.28
7/6/16	0.01	0.00	0.04
7/7/16	0.00	0.00	0.00
7/8/16	0.01	0.00	0.04
7/9/16	0.01	0.00	0.04
7/10/16	0.11	0.00	0.16
7/11/16	0.01	0.00	0.04
7/12/16	0.00	0.00	0.00
7/13/16	0.00	0.00	0.00
7/14/16	0.04	0.00	0.08
7/15/16	0.00	0.00	0.00
7/16/16	0.01	0.00	0.04
7/17/16	0.00	0.00	0.00
7/18/16	0.01	0.00	0.04
7/19/16	0.00	0.00	0.00
7/20/16	0.00	0.00	0.00
7/21/16	0.00	0.00	0.00
7/22/16	0.00	0.00	0.00
7/23/16	0.00	0.00	0.00
7/24/16	0.00	0.00	0.00
7/25/16	0.00	0.00	0.00
7/26/16	0.00	0.00	0.00
7/27/16	0.01	0.00	0.04
7/28/16	0.00	0.00	0.00
7/29/16	0.08	0.00	0.04
7/30/16	0.00	0.00	0.00
7/31/16	0.08	0.00	0.08
Total	1.09		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
USGS METER AT FRESHPOND, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
8/1/16	0.00	0.00	0.00
8/2/16	0.14	0.01	0.08
8/3/16	0.00	0.00	0.00
8/4/16	0.00	0.00	0.00
8/5/16	0.00	0.00	0.00
8/6/16	0.11	0.00	0.24
8/7/16	0.00	0.00	0.00
8/8/16	0.00	0.00	0.00
8/9/16	0.00	0.00	0.00
8/10/16	0.29	0.01	0.20
8/11/16	0.01	0.00	0.04
8/12/16	0.07	0.00	0.16
8/13/16	0.19	0.01	0.40
8/14/16	0.14	0.01	0.16
8/15/16	0.00	0.00	0.00
8/16/16	0.02	0.00	0.04
8/17/16	0.00	0.00	0.00
8/18/16	0.00	0.00	0.00
8/19/16	0.00	0.00	0.00
8/20/16	0.00	0.00	0.00
8/21/16	0.01	0.00	0.04
8/22/16	0.68	0.03	0.60
8/23/16	0.00	0.00	0.00
8/24/16	0.00	0.00	0.00
8/25/16	0.00	0.00	0.00
8/26/16	0.00	0.00	0.00
8/27/16	0.00	0.00	0.00
8/28/16	0.00	0.00	0.00
8/29/16	0.00	0.00	0.00
8/30/16	0.00	0.00	0.00
8/31/16	0.00	0.00	0.00
Total	1.66		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
USGS METER AT FRESHPOND, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
9/1/16	0.01	0.00	0.04
9/2/16	0.00	0.00	0.00
9/3/16	0.00	0.00	0.00
9/4/16	0.00	0.00	0.00
9/5/16	0.07	0.00	0.08
9/6/16	0.10	0.00	0.04
9/7/16	0.04	0.00	0.08
9/8/16	0.01	0.00	0.04
9/9/16	0.00	0.00	0.00
9/10/16	0.02	0.00	0.04
9/11/16	0.02	0.00	0.08
9/12/16	0.00	0.00	0.00
9/13/16	0.00	0.00	0.00
9/14/16	0.00	0.00	0.00
9/15/16	0.00	0.00	0.00
9/16/16	0.00	0.00	0.00
9/17/16	0.00	0.00	0.00
9/18/16	0.00	0.00	0.00
9/19/16	0.32	0.01	0.24
9/20/16	0.00	0.00	0.00
9/21/16	0.00	0.00	0.00
9/22/16	0.00	0.00	0.00
9/23/16	0.39	0.02	0.60
9/24/16	0.01	0.00	0.04
9/25/16	0.00	0.00	0.00
9/26/16	0.00	0.00	0.00
9/27/16	0.20	0.01	0.16
9/28/16	0.00	0.00	0.00
9/29/16	0.00	0.00	0.00
9/30/16	0.07	0.00	0.04
Total	1.26		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
USGS METER AT FRESHPOND, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
10/1/16	0.64	0.03	0.44
10/2/16	0.03	0.00	0.04
10/3/16	0.00	0.00	0.00
10/4/16	0.00	0.00	0.00
10/5/16	0.00	0.00	0.00
10/6/16	0.00	0.00	0.00
10/7/16	0.00	0.00	0.00
10/8/16	0.01	0.00	0.04
10/9/16	1.43	0.06	0.20
10/10/16	0.00	0.00	0.00
10/11/16	0.00	0.00	0.00
10/12/16	0.00	0.00	0.00
10/13/16	0.00	0.00	0.00
10/14/16	0.00	0.00	0.00
10/15/16	0.00	0.00	0.00
10/16/16	0.00	0.00	0.00
10/17/16	0.00	0.00	0.00
10/18/16	0.17	0.01	0.16
10/19/16	0.00	0.00	0.00
10/20/16	0.06	0.00	0.16
10/21/16	1.28	0.05	1.60
10/22/16	0.30	0.01	0.48
10/23/16	0.00	0.00	0.00
10/24/16	0.00	0.00	0.00
10/25/16	0.00	0.00	0.00
10/26/16	0.00	0.00	0.00
10/27/16	0.54	0.02	0.20
10/28/16	0.52	0.02	0.24
10/29/16	0.00	0.00	0.00
10/30/16	0.12	0.01	0.08
10/31/16	0.00	0.00	0.00
Total	5.1		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
USGS METER AT FRESHPOND, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
11/1/16	0.00	0.00	0.00
11/2/16	0.00	0.00	0.00
11/3/16	0.06	0.00	0.12
11/4/16	0.00	0.00	0.00
11/5/16	0.00	0.00	0.00
11/6/16	0.05	0.00	0.04
11/7/16	0.00	0.00	0.00
11/8/16	0.00	0.00	0.00
11/9/16	0.00	0.00	0.00
11/10/16	0.00	0.00	0.00
11/11/16	0.00	0.00	0.00
11/12/16	0.00	0.00	0.00
11/13/16	0.00	0.00	0.00
11/14/16	0.00	0.00	0.00
11/15/16	1.12	0.05	0.48
11/16/16	0.05	0.00	0.04
11/17/16	0.00	0.00	0.00
11/18/16	0.00	0.00	0.00
11/19/16	0.00	0.00	0.00
11/20/16	0.05	0.00	0.16
11/21/16	0.01	0.00	0.04
11/22/16	0.00	0.00	0.00
11/23/16	0.00	0.00	0.00
11/24/16	0.04	0.00	0.04
11/25/16	0.06	0.00	0.08
11/26/16	0.00	0.00	0.00
11/27/16	0.00	0.00	0.00
11/28/16	0.00	0.00	0.00
11/29/16	0.42	0.02	0.12
11/30/16	1.00	0.04	0.36
Total	2.86		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
USGS METER AT FRESHPOND CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
12/1/16	0.24	0.01	0.16
12/2/16	0.00	0.00	0.00
12/3/16	0.00	0.00	0.00
12/4/16	0.00	0.00	0.00
12/5/16	0.14	0.01	0.04
12/6/16	0.00	0.00	0.00
12/7/16	0.12	0.01	0.04
12/8/16	0.00	0.00	0.00
12/9/16	0.00	0.00	0.00
12/10/16	0.00	0.00	0.00
12/11/16	0.01	0.00	0.04
12/12/16	0.46	0.02	0.16
12/13/16	0.00	0.00	0.00
12/14/16	0.00	0.00	0.00
12/15/16	0.00	0.00	0.00
12/16/16	0.00	0.00	0.00
12/17/16	0.53	0.02	0.16
12/18/16	0.18	0.01	0.28
12/19/16	0.00	0.00	0.00
12/20/16	0.00	0.00	0.00
12/21/16	0.00	0.00	0.00
12/22/16	0.00	0.00	0.00
12/23/16	0.00	0.00	0.00
12/24/16	0.40	0.02	0.24
12/25/16	0.00	0.00	0.00
12/26/16	0.01	0.00	0.04
12/27/16	0.00	0.00	0.00
12/28/16	0.00	0.00	0.00
12/29/16	1.04	0.04	0.40
12/30/16	0.00	0.00	0.00
12/31/16	0.09	0.00	0.04
Total	3.22		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
COMPOSITE FRESH POND (1.12016-3.8.2016) & DPW RAINFALL GAUGE (3.9.2016-12.20.2016), CAMBRIDGE, MA

Date	Daily (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
1/1/16	0.00	0.00	0.00
1/2/16	0.00	0.00	0.00
1/3/16	0.00	0.00	0.00
1/4/16	0.00	0.00	0.00
1/5/16	0.00	0.00	0.00
1/6/16	0.00	0.00	0.00
1/7/16	0.00	0.00	0.00
1/8/16	0.00	0.00	0.00
1/9/16	0.02	0.00	0.04
1/10/16	1.52	0.06	0.64
1/11/16	0.00	0.00	0.00
1/12/16	0.09	0.00	0.16
1/13/16	0.00	0.00	0.00
1/14/16	0.00	0.00	0.00
1/15/16	0.00	0.00	0.00
1/16/16	0.82	0.03	0.24
1/17/16	0.04	0.00	0.04
1/18/16	0.08	0.00	0.04
1/19/16	0.00	0.00	0.00
1/20/16	0.00	0.00	0.00
1/21/16	0.00	0.00	0.00
1/22/16	0.00	0.00	0.00
1/23/16	0.15	0.01	0.08
1/24/16	0.01	0.00	0.04
1/25/16	0.00	0.00	0.00
1/26/16	0.00	0.00	0.00
1/27/16	0.00	0.00	0.00
1/28/16	0.00	0.00	0.00
1/29/16	0.00	0.00	0.00
1/30/16	0.00	0.00	0.00
1/31/16	0.00	0.00	0.00
Total	2.73		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
COMPOSITE FRESH POND (1.12016-3.8.2016) & DPW RAINFALL GAUGE (3.9.2016-12.20.2016), CAMBRIDGE, MA

Date	Daily (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
2/1/16	0.00	0.00	0.00
2/2/16	0.00	0.00	0.00
2/3/16	0.25	0.01	0.16
2/4/16	0.00	0.00	0.00
2/5/16	0.82	0.03	0.12
2/6/16	0.00	0.00	0.00
2/7/16	0.00	0.00	0.00
2/8/16	0.07	0.00	0.04
2/9/16	0.03	0.00	0.08
2/10/16	0.00	0.00	0.00
2/11/16	0.00	0.00	0.00
2/12/16	0.00	0.00	0.00
2/13/16	0.00	0.00	0.00
2/14/16	0.00	0.00	0.00
2/15/16	0.26	0.01	0.12
2/16/16	0.58	0.02	0.32
2/17/16	0.00	0.00	0.00
2/18/16	0.00	0.00	0.00
2/19/16	0.00	0.00	0.00
2/20/16	0.01	0.00	0.04
2/21/16	0.00	0.00	0.00
2/22/16	0.00	0.00	0.00
2/23/16	0.00	0.00	0.00
2/24/16	0.62	0.03	0.28
2/25/16	0.44	0.02	0.48
2/26/16	0.00	0.00	0.00
2/27/16	0.00	0.00	0.00
2/28/16	0.00	0.00	0.00
2/29/16	0.00	0.00	0.00
Total	3.08		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
COMPOSITE FRESH POND (1.12016-3.8.2016) & DPW RAINFALL GAUGE (3.9.2016-12.20.2016), CAMBRIDGE, MA

Date	Daily (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
3/1/16	0.00	0.00	0.00
3/2/16	0.51	0.02	0.24
3/3/16	0.00	0.00	0.00
3/4/16	0.00	0.00	0.00
3/5/16	0.00	0.00	0.00
3/6/16	0.00	0.00	0.00
3/7/16	0.00	0.00	0.00
3/8/16	0.00	0.00	0.00
3/9/16	0.00	0.00	0.00
3/10/16	0.45	0.02	0.15
3/11/16	0.06	0.00	0.06
3/12/16	0.00	0.00	0.00
3/13/16	0.00	0.00	0.00
3/14/16	0.27	0.01	0.12
3/15/16	1.28	0.05	0.30
3/16/16	0.06	0.00	0.06
3/17/16	0.08	0.00	0.09
3/18/16	0.04	0.00	0.06
3/19/16	0.00	0.00	0.00
3/20/16	0.00	0.00	0.00
3/21/16	0.20	0.01	0.27
3/22/16	0.00	0.00	0.00
3/23/16	0.00	0.00	0.00
3/24/16	0.01	0.00	0.03
3/25/16	0.22	0.01	0.12
3/26/16	0.00	0.00	0.00
3/27/16	0.00	0.00	0.00
3/28/16	0.50	0.02	0.18
3/29/16	0.00	0.00	0.00
3/30/16	0.00	0.00	0.00
3/31/16	0.00	0.00	0.00
Total	3.67		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
COMPOSITE FRESH POND (1.12016-3.8.2016) & DPW RAINFALL GAUGE (3.9.2016-12.20.2016), CAMBRIDGE, MA

Date	Daily (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
4/1/16	0.05	0.00	0.06
4/2/16	0.29	0.01	0.12
4/3/16	0.67	0.03	0.33
4/4/16	0.00	0.00	0.00
4/5/16	0.16	0.01	0.12
4/6/16	0.03	0.00	0.03
4/7/16	1.43	0.06	0.51
4/8/16	0.02	0.00	0.06
4/9/16	0.00	0.00	0.00
4/10/16	0.00	0.00	0.00
4/11/16	0.01	0.00	0.03
4/12/16	0.23	0.01	0.09
4/13/16	0.00	0.00	0.00
4/14/16	0.00	0.00	0.00
4/15/16	0.00	0.00	0.00
4/16/16	0.00	0.00	0.00
4/17/16	0.00	0.00	0.00
4/18/16	0.00	0.00	0.00
4/19/16	0.01	0.00	0.03
4/20/16	0.00	0.00	0.00
4/21/16	0.00	0.00	0.00
4/22/16	0.00	0.00	0.00
4/23/16	0.00	0.00	0.00
4/24/16	0.00	0.00	0.00
4/25/16	0.00	0.00	0.00
4/26/16	0.00	0.00	0.00
4/27/16	0.00	0.00	0.00
4/28/16	0.00	0.00	0.00
4/29/16	0.00	0.00	0.00
4/30/16	0.00	0.00	0.00
Total	2.88		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
COMPOSITE FRESH POND (1.12016-3.8.2016) & DPW RAINFALL GAUGE (3.9.2016-12.20.2016), CAMBRIDGE, MA

Date	Daily (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
5/1/16	0.08	0.00	0.06
5/2/16	0.41	0.02	0.36
5/3/16	0.15	0.01	0.06
5/4/16	0.49	0.02	0.27
5/5/16	0.05	0.00	0.03
5/6/16	0.06	0.00	0.06
5/7/16	0.01	0.00	0.03
5/8/16	0.01	0.00	0.03
5/9/16	0.00	0.00	0.00
5/10/16	0.00	0.00	0.00
5/11/16	0.02	0.00	0.03
5/12/16	0.00	0.00	0.00
5/13/16	0.11	0.00	0.03
5/14/16	0.03	0.00	0.03
5/15/16	0.00	0.00	0.00
5/16/16	0.00	0.00	0.00
5/17/16	0.00	0.00	0.00
5/18/16	0.00	0.00	0.00
5/19/16	0.00	0.00	0.00
5/20/16	0.00	0.00	0.00
5/21/16	0.00	0.00	0.00
5/22/16	0.00	0.00	0.00
5/23/16	0.00	0.00	0.00
5/24/16	0.11	0.00	0.15
5/25/16	0.00	0.00	0.00
5/26/16	0.00	0.00	0.00
5/27/16	0.00	0.00	0.00
5/28/16	0.00	0.00	0.00
5/29/16	0.00	0.00	0.00
5/30/16	1.25	0.05	0.75
5/31/16	0.00	0.00	0.00
Total	2.75		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
COMPOSITE FRESH POND (1.12016-3.8.2016) & DPW RAINFALL GAUGE (3.9.2016-12.20.2016), CAMBRIDGE, MA

Date	Daily (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
6/1/16	0.00	0.00	0.00
6/2/16	0.00	0.00	0.00
6/3/16	0.00	0.00	0.00
6/4/16	0.00	0.00	0.00
6/5/16	1.03	0.04	0.69
6/6/16	0.00	0.00	0.00
6/7/16	0.24	0.01	0.51
6/8/16	0.00	0.00	0.00
6/9/16	0.00	0.00	0.00
6/10/16	0.00	0.00	0.00
6/11/16	0.03	0.00	0.06
6/12/16	0.00	0.00	0.00
6/13/16	0.00	0.00	0.00
6/14/16	0.00	0.00	0.00
6/15/16	0.00	0.00	0.00
6/16/16	0.00	0.00	0.00
6/17/16	0.01	0.00	0.03
6/18/16	0.00	0.00	0.00
6/19/16	0.00	0.00	0.00
6/20/16	0.00	0.00	0.00
6/21/16	0.02	0.00	0.03
6/22/16	0.00	0.00	0.00
6/23/16	0.00	0.00	0.00
6/24/16	0.00	0.00	0.00
6/25/16	0.00	0.00	0.00
6/26/16	0.00	0.00	0.00
6/27/16	0.00	0.00	0.00
6/28/16	0.34	0.01	0.39
6/29/16	0.03	0.00	0.03
6/30/16	0.00	0.00	0.00
Total	1.70		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
COMPOSITE FRESH POND (1.12016-3.8.2016) & DPW RAINFALL GAUGE (3.9.2016-12.20.2016), CAMBRIDGE, MA

Date	Daily (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
7/1/16	0.31	0.01	0.66
7/2/16	0.00	0.00	0.00
7/3/16	0.00	0.00	0.00
7/4/16	0.00	0.00	0.00
7/5/16	0.30	0.01	0.42
7/6/16	0.00	0.00	0.00
7/7/16	0.00	0.00	0.00
7/8/16	0.00	0.00	0.00
7/9/16	0.05	0.00	0.09
7/10/16	0.23	0.01	0.30
7/11/16	0.00	0.00	0.00
7/12/16	0.00	0.00	0.00
7/13/16	0.00	0.00	0.00
7/14/16	0.06	0.00	0.24
7/15/16	0.00	0.00	0.00
7/16/16	0.00	0.00	0.00
7/17/16	0.00	0.00	0.00
7/18/16	0.00	0.00	0.00
7/19/16	0.00	0.00	0.00
7/20/16	0.00	0.00	0.00
7/21/16	0.00	0.00	0.00
7/22/16	0.00	0.00	0.00
7/23/16	0.00	0.00	0.00
7/24/16	0.00	0.00	0.00
7/25/16	0.00	0.00	0.00
7/26/16	0.00	0.00	0.00
7/27/16	0.00	0.00	0.00
7/28/16	0.00	0.00	0.00
7/29/16	0.08	0.00	0.06
7/30/16	0.00	0.00	0.00
7/31/16	0.05	0.00	0.09
Total	1.07		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA

COMPOSITE FRESH POND (1.12016-3.8.2016) & DPW RAINFALL GAUGE (3.9.2016-12.20.2016), CAMBRIDGE, MA

Date	Daily (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
8/1/16	0.00	0.00	0.00
8/2/16	0.06	0.00	0.03
8/3/16	0.00	0.00	0.00
8/4/16	0.00	0.00	0.00
8/5/16	0.00	0.00	0.00
8/6/16	0.04	0.00	0.06
8/7/16	0.00	0.00	0.00
8/8/16	0.00	0.00	0.00
8/9/16	0.00	0.00	0.00
8/10/16	0.29	0.01	0.18
8/11/16	0.00	0.00	0.00
8/12/16	0.02	0.00	0.06
8/13/16	0.27	0.01	0.75
8/14/16	0.13	0.01	0.24
8/15/16	0.00	0.00	0.00
8/16/16	0.00	0.00	0.00
8/17/16	0.00	0.00	0.00
8/18/16	0.00	0.00	0.00
8/19/16	0.00	0.00	0.00
8/20/16	0.00	0.00	0.00
8/21/16	0.00	0.00	0.00
8/22/16	0.65	0.03	0.36
8/23/16	0.00	0.00	0.00
8/24/16	0.00	0.00	0.00
8/25/16	0.00	0.00	0.00
8/26/16	0.00	0.00	0.00
8/27/16	0.00	0.00	0.00
8/28/16	0.00	0.00	0.00
8/29/16	0.00	0.00	0.00
8/30/16	0.00	0.00	0.00
8/31/16	0.00	0.00	0.00
Total	1.45		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
COMPOSITE FRESH POND (1.12016-3.8.2016) & DPW RAINFALL GAUGE (3.9.2016-12.20.2016), CAMBRIDGE, MA

Date	Daily (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
9/1/16	0.00	0.00	0.00
9/2/16	0.00	0.00	0.00
9/3/16	0.00	0.00	0.00
9/4/16	0.00	0.00	0.00
9/5/16	0.06	0.00	0.06
9/6/16	0.14	0.01	0.06
9/7/16	0.11	0.00	0.15
9/8/16	0.00	0.00	0.00
9/9/16	0.00	0.00	0.00
9/10/16	0.01	0.00	0.03
9/11/16	0.07	0.00	0.15
9/12/16	0.00	0.00	0.00
9/13/16	0.00	0.00	0.00
9/14/16	0.02	0.00	0.06
9/15/16	0.00	0.00	0.00
9/16/16	0.00	0.00	0.00
9/17/16	0.00	0.00	0.00
9/18/16	0.00	0.00	0.00
9/19/16	0.36	0.02	0.27
9/20/16	0.00	0.00	0.00
9/21/16	0.00	0.00	0.00
9/22/16	0.00	0.00	0.00
9/23/16	0.44	0.02	0.54
9/24/16	0.02	0.00	0.03
9/25/16	0.00	0.00	0.00
9/26/16	0.00	0.00	0.00
9/27/16	0.20	0.01	0.12
9/28/16	0.00	0.00	0.00
9/29/16	0.00	0.00	0.00
9/30/16	0.09	0.00	0.06
Total	1.49		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
COMPOSITE FRESH POND (1.12016-3.8.2016) & DPW RAINFALL GAUGE (3.9.2016-12.20.2016), CAMBRIDGE, MA

Date	Daily (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
10/1/16	0.64	0.03	0.24
10/2/16	0.04	0.00	0.03
10/3/16	0.00	0.00	0.00
10/4/16	0.00	0.00	0.00
10/5/16	0.00	0.00	0.00
10/6/16	0.00	0.00	0.00
10/7/16	0.00	0.00	0.00
10/8/16	0.00	0.00	0.00
10/9/16	1.52	0.06	0.21
10/10/16	0.00	0.00	0.00
10/11/16	0.00	0.00	0.00
10/12/16	0.00	0.00	0.00
10/13/16	0.00	0.00	0.00
10/14/16	0.00	0.00	0.00
10/15/16	0.00	0.00	0.00
10/16/16	0.00	0.00	0.00
10/17/16	0.00	0.00	0.00
10/18/16	0.17	0.01	0.12
10/19/16	0.00	0.00	0.00
10/20/16	0.08	0.00	0.09
10/21/16	2.01	0.08	1.68
10/22/16	0.20	0.01	0.21
10/23/16	0.00	0.00	0.00
10/24/16	0.00	0.00	0.00
10/25/16	0.00	0.00	0.00
10/26/16	0.00	0.00	0.00
10/27/16	0.56	0.02	0.21
10/28/16	0.72	0.03	0.24
10/29/16	0.00	0.00	0.00
10/30/16	0.14	0.01	0.09
10/31/16	0.00	0.00	0.00
Total	6.07		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
COMPOSITE FRESH POND (1.12016-3.8.2016) & DPW RAINFALL GAUGE (3.9.2016-12.20.2016), CAMBRIDGE, MA

Date	Daily (in.)	Maximum Intensity (in/hr)	Average Intensity (in/hr)
11/1/16	0.00	0.00	0.00
11/2/16	0.00	0.00	0.00
11/3/16	0.08	0.00	0.12
11/4/16	0.00	0.00	0.00
11/5/16	0.00	0.00	0.00
11/6/16	0.05	0.00	0.06
11/7/16	0.01	0.00	0.03
11/8/16	0.00	0.00	0.00
11/9/16	0.00	0.00	0.00
11/10/16	0.00	0.00	0.00
11/11/16	0.00	0.00	0.00
11/12/16	0.00	0.00	0.00
11/13/16	0.00	0.00	0.00
11/14/16	0.00	0.00	0.00
11/15/16	1.43	0.06	0.57
11/16/16	0.05	0.00	0.03
11/17/16	0.00	0.00	0.00
11/18/16	0.00	0.00	0.00
11/19/16	0.00	0.00	0.00
11/20/16	0.04	0.00	0.09
11/21/16	0.00	0.00	0.00
11/22/16	0.00	0.00	0.00
11/23/16	0.00	0.00	0.00
11/24/16	0.04	0.00	0.03
11/25/16	0.05	0.00	0.06
11/26/16	0.00	0.00	0.00
11/27/16	0.00	0.00	0.00
11/28/16	0.00	0.00	0.00
11/29/16	0.40	0.02	0.12
11/30/16	1.05	0.04	0.24
Total	3.20		

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2016 DAILY RAINFALL DATA
COMPOSITE FRESH POND (1.12016-3.8.2016) & DPW RAINFALL GAUGE (3.9.2016-12.20.2016), CAMBRIDGE, MA

Date	Daily (in.)	Average Intensity (in/h)	Maximum Intensity (in/hr)
12/1/16	0.29	0.01	0.27
12/2/16	0.00	0.00	0.00
12/3/16	0.00	0.00	0.00
12/4/16	0.00	0.00	0.00
12/5/16	0.16	0.01	0.15
12/6/16	0.00	0.00	0.00
12/7/16	0.14	0.01	0.06
12/8/16	0.00	0.00	0.00
12/9/16	0.00	0.00	0.00
12/10/16	0.00	0.00	0.00
12/11/16	0.00	0.00	0.00
12/12/16	0.48	0.02	0.24
12/13/16	0.00	0.00	0.00
12/14/16	0.00	0.00	0.00
12/15/16	0.00	0.00	0.00
12/16/16	0.00	0.00	0.00
12/17/16	0.02	0.00	0.03
12/18/16	0.68	0.03	0.24
12/19/16	0.00	0.00	0.00
12/20/16	0.00	0.00	0.00
12/21/16	0.00	0.00	0.00
12/22/16	0.01	0.00	0.03
12/23/16	0.00	0.00	0.00
12/24/16	0.41	0.02	0.21
12/25/16	0.00	0.00	0.00
12/26/16	0.00	0.00	0.00
12/27/16	0.00	0.00	0.00
12/28/16	0.00	0.00	0.00
12/29/16	1.10	0.05	0.45
12/30/16	0.08	0.00	0.06
12/31/16	0.09	0.00	0.04
Total	3.44		

APPENDIX II
MONTHLY CSO VOLUMES

January 2016 Daily Rainfall and Combined Sewer Overflows

January	Rain Gauges		CAM001	CAM002	CAM401A	CAM401B	CAM005	CAM007	CAM017
	Cambridge DPW	USGS Fresh Pond	Foch St. @Alewife Brook Pkwy.	Mass Ave. @ Alewife Brook Pkwy	Sherman St. @ B&M Railroad	Mass Ave./Columbus Ave. @ Alewife Brook Pkwy	Lowell St. @ Mt. Auburn St.	Memorial Dr. @ Hawthorne St.	Edwin Land Blvd. @ Binney St.
	(in)	(in)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)
1/1	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/2	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/3	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/4	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/5	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/6	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/7	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/8	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/9	N/A	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/10	N/A	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/11	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/12	N/A	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/13	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/14	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/15	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/16	N/A	0.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/17	N/A	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/18	N/A	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/19	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/20	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/21	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/22	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/23	N/A	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/24	N/A	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/25	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/26	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/27	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/28	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/29	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/30	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/31	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	N/A	2.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00

February 2016 Daily Rainfall and Combined Sewer Overflows

February	Rain Gauges		CAM001	CAM002	CAM401A	CAM401B	CAM005	CAM007	CAM017
	Cambridge DPW	USGS Fresh Pond	Foch St. @Alewife Brook Pkwy.	Mass Ave. @ Alewife Brook Pkwy	Sherman St. @ B&M Railroad	Mass Ave./Columbus Ave. @ Alewife Brook Pkwy	Lowell St. @ Mt. Auburn St.	Memorial Dr. @ Hawthorne St.	Edwin Land Blvd. @ Binney St.
	(in)	(in)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)
2/1	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/2	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/3	N/A	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/4	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/5	N/A	0.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/6	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/7	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/8	N/A	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/9	N/A	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/10	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/11	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/12	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/13	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/14	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/15	N/A	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/16	N/A	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/17	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/18	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/19	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/20	N/A	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/21	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/22	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/23	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/24	N/A	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/25	N/A	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/26	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/27	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/28	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/29	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	N/A	3.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00

March 2016 Daily Rainfall and Combined Sewer Overflows

March	Rain Gauges		CAM001	CAM002	CAM401A	CAM401B	CAM005	CAM007	CAM017
	Cambridge DPW	USGS Fresh Pond	Foch St. @Alewife Brook Pkwy.	Mass Ave. @ Alewife Brook Pkwy	Sherman St. @ B&M Railroad	Mass Ave./Columbus Ave. @ Alewife Brook Pkwy	Lowell St. @ Mt. Auburn St.	Memorial Dr. @ Hawthorne St.	Edwin Land Blvd. @ Binney St.
	(in)	(in)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)
3/1	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/2	N/A	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/3	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/4	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/5	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/6	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/7	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/8	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/9	1.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/10	0.46	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/11	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/14	0.28	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/15	1.28	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/16	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/17	0.07	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/18	0.04	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/21	0.21	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/24	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/25	0.21	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/28	0.51	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	4.27	3.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00

April 2016 Daily Rainfall and Combined Sewer Overflows

April	Rain Gauges		CAM001	CAM002	CAM401A	CAM401B	CAM005	CAM007	CAM017
	Cambridge DPW	USGS Fresh Pond	Foch St. @Alewife Brook Pkwy.	Mass Ave. @ Alewife Brook Pkwy	Sherman St. @ B&M Railroad	Mass Ave./Columbus Ave. @ Alewife Brook Pkwy	Lowell St. @ Mt. Auburn St.	Memorial Dr. @ Hawthorne St.	Edwin Land Blvd. @ Binney St.
	(in)	(in)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)
4/1	0.05	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/2	0.31	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/3	0.66	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/4	0.00	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/5	0.15	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/6	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/7	1.46	1.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/8	0.02	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/11	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/12	0.22	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/19	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/22	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/23	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/26	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	2.92	3.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00

May 2016 Daily Rainfall and Combined Sewer Overflows

May	Rain Gauges		CAM001	CAM002	CAM401A	CAM401B	CAM005	CAM007	CAM017
	Cambridge DPW	USGS Fresh Pond	Foch St. @Alewife Brook Pkwy.	Mass Ave. @ Alewife Brook Pkwy	Sherman St. @ B&M Railroad	Mass Ave./Columbus Ave. @ Alewife Brook Pkwy	Lowell St. @ Mt. Auburn St.	Memorial Dr. @ Hawthorne St.	Edwin Land Blvd. @ Binney St.
	(in)	(in)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)
5/1	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/2	0.43	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/3	0.14	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/4	0.47	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/5	0.06	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/6	0.06	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/7	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/8	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/11	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/13	0.11	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/14	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/24	0.11	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/30	1.26	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	2.78	2.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00

June 2016 Daily Rainfall and Combined Sewer Overflows

June	Rain Gauges		CAM001	CAM002	CAM401A	CAM401B	CAM005	CAM007	CAM017
	Cambridge DPW	USGS Fresh Pond	Foch St. @Alewife Brook Pkwy.	Mass Ave. @ Alewife Brook Pkwy	Sherman St. @ B&M Railroad	Mass Ave./Columbus Ave. @ Alewife Brook Pkwy	Lowell St. @ Mt. Auburn St.	Memorial Dr. @ Hawthorne St.	Edwin Land Blvd. @ Binney St.
	(in)	(in)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)
6/1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/5	0.94	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/7	0.26	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/11	0.02	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/21	0.02	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/28	0.25	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/29	0.78	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	2.28	1.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00

July 2016 Daily Rainfall and Combined Sewer Overflows

July	Rain Gauges		CAM001	CAM002	CAM401A	CAM401B	CAM005	CAM007	CAM017
	Cambridge DPW	USGS Fresh Pond	Foch St. @Alewife Brook Pkwy.	Mass Ave. @ Alewife Brook Pkwy	Sherman St. @ B&M Railroad	Mass Ave./Columbus Ave. @ Alewife Brook Pkwy	Lowell St. @ Mt. Auburn St.	Memorial Dr. @ Hawthorne St.	Edwin Land Blvd. @ Binney St.
	(in)	(in)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)
7/1	0.36	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/5	0.36	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/6	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/8	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/9	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/10	0.2	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/11	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/14	0.08	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/16	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/18	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/27	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/29	0.07	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/31	0.06	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.18	1.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00

August 2016 Daily Rainfall and Combined Sewer Overflows

August	Rain Gauges		CAM001	CAM002	CAM401A	CAM401B	CAM005	CAM007	CAM017
	Cambridge DPW	USGS Fresh Pond	Foch St. @Alewife Brook Pkwy.	Mass Ave. @ Alewife Brook Pkwy	Sherman St. @ B&M Railroad	Mass Ave./Columbus Ave. @ Alewife Brook Pkwy	Lowell St. @ Mt. Auburn St.	Memorial Dr. @ Hawthorne St.	Edwin Land Blvd. @ Binney St.
	(in)	(in)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)
8/1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/2	0.06	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/6	0.04	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/10	0.28	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/11	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/12	0.03	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/13	0.32	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/14	0.15	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/16	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/21	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/22	0.65	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.53	1.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00

September 2016 Daily Rainfall and Combined Sewer Overflows

September	Rain Gauges		CAM001	CAM002	CAM401A	CAM401B	CAM005	CAM007	CAM017
	Cambridge DPW	USGS Fresh Pond	Foch St. @Alewife Brook Pkwy.	Mass Ave. @ Alewife Brook Pkwy	Sherman St. @ B&M Railroad	Mass Ave./Columbus Ave. @ Alewife Brook Pkwy	Lowell St. @ Mt. Auburn St.	Memorial Dr. @ Hawthorne St.	Edwin Land Blvd. @ Binney St.
	(in)	(in)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)
9/1	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/5	0.05	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/6	0.14	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/7	0.08	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/8	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/10	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/11	0.08	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/14	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/19	0.34	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/23	0.40	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/24	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/27	0.20	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/30	0.09	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.42	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00

October 2016 Daily Rainfall and Combined Sewer Overflows

October	Rain Gauges		CAM001	CAM002	CAM401A	CAM401B	CAM005	CAM007	CAM017
	Cambridge DPW	USGS Fresh Pond	Foch St. @Alewife Brook Pkwy.	Mass Ave. @ Alewife Brook Pkwy	Sherman St. @ B&M Railroad	Mass Ave./Columbus Ave. @ Alewife Brook Pkwy	Lowell St. @ Mt. Auburn St.	Memorial Dr. @ Hawthorne St.	Edwin Land Blvd. @ Binney St.
	(in)	(in)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)
10/1	0.59	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/2	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/8	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/9	1.55	1.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/18	0.16	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/20	0.08	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/21	2.02	1.28	0.002	0.29	0.65	0.02	1.12	0.26	3.17
10/22	0.20	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/27	0.58	0.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/28	0.74	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/30	0.14	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	6.10	5.10	0.002	0.29	0.65	0.02	1.12	0.26	3.17

November 2016 Daily Rainfall and Combined Sewer Overflows

November	Rain Gauges		CAM001	CAM002	CAM401A	CAM401B	CAM005	CAM007	CAM017
	Cambridge DPW	USGS Fresh Pond	Foch St. @Alewife Brook Pkwy.	Mass Ave. @ Alewife Brook Pkwy	Sherman St. @ B&M Railroad	Mass Ave./Columbus Ave. @ Alewife Brook Pkwy	Lowell St. @ Mt. Auburn St.	Memorial Dr. @ Hawthorne St.	Edwin Land Blvd. @ Binney St.
	(in)	(in)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)
11/1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/3	0.09	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/6	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/7	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/15	1.43	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/16	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/20	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/24	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/25	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/29	0.41	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/30	1.04	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	3.23	2.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00

December 2016 Daily Rainfall and Combined Sewer Overflows

December	Rain Gauges		CAM001	CAM002	CAM401A	CAM401B	CAM005	CAM007	CAM017
	Cambridge DPW	USGS Fresh Pond	Foch St. @Alewife Brook Pkwy.	Mass Ave. @ Alewife Brook Pkwy	Sherman St. @ B&M Railroad	Mass Ave./Columbus Ave. @ Alewife Brook Pkwy	Lowell St. @ Mt. Auburn St.	Memorial Dr. @ Hawthorne St.	Cambridge DPW
	(in)	(in)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(in)
12/1	0.33	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/5	0.15	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/7	0.13	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/11	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/12	0.50	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/17	0.02	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/18	0.65	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/22	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/24	0.41	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/26	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/29	1.13	1.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/30	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/31	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	3.50	3.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			Alewife Brook				Charles River		
Month	Rain Gauges		CAM001	CAM002	CAM401A	CAM401B	CAM005	CAM007	CAM017
	Cambridge DPW	USGS Fresh Pond	Foch St. @Alewife Brook Pkwy.	Mass Ave. @ Alewife Brook Pkwy	Sherman St. @ B&M Railroad	Mass Ave./Columbus Ave. @ Alewife Brook Pkwy	Lowell St. @ Mt. Auburn St.	Memorial Dr. @ Hawthorne St.	Edwin Land Blvd. @ Binney St.
	(in)	(in)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)
January	N/A	2.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
February	N/A	3.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
March	3.67	3.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
April	2.88	3.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May	2.75	2.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00
June	1.70	1.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
July	1.07	1.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
August	1.45	1.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00
September	1.49	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00
October	6.07	5.10	0.002	0.29	0.65	0.02	1.14	0.31	4.93
November	3.20	2.86	0.00	0.00	0.06	0.00	0.00	0.00	0.00
December	3.44	3.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00