2011 Annual Report (Year 3)
National Pollutant Discharge Elimination System

FOR THE

CITY OF CAMBRIDGE, MASSACHUSETTS
COMBINED SEWER OVERFLOW PERMIT
#MA0101974

April 2012

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

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Robert W. Healy

Signature of Authorized Official: Robert W. Healy
City Manager, City of Cambridge

4/25/12

Date

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1.0 Purpose of Report

This is the Year 3 Annual Report and 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 11 regulator structures to the receiving water bodies named in the permit.

By April 30th of each year the City is required to submit a report which includes the following information:

- Activation frequencies and discharge volumes for each Cambridge CSO;
- Precipitation during the previous year for each day, including total rainfall, peak intensity and average intensity;
- Status of the implementation of CSO abatement work for which the City is directly responsible;
- A summary of any modifications to the approved Nine Minimum Control (NMC) program; and
- A certification that the monthly inspections were conducted, results recorded and records maintained.

The City is additionally required to provide in the Annual Report for Year 3 and every two years thereafter the following information:

- A comparison between the precipitation for the year and the precipitation of the typical year under future planned conditions defined in the MWRA Final CSO Facilities Plan (LTCP) and "Notice of Project Change (NPC) documents. The Comparison includes the number of events and the size of events (including recurrence interval);
- A comparison between the activation volume and frequency for the year and the volume and frequency expected during a typical year under future planned conditions; and
- An evaluation of whether the CSO activation volumes and frequencies for the year are in accordance with the estimate in the MWRA LTCP 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 above, an assessment of the results is provided. A discussion of remaining CSO abatement activities and an assessment of the impact of those projects on attaining the level of CSO control identified are also provided in this report.

2.0 Combined Sewer Overflow Monitoring Plan

As part of the Year 1 Annual Report the City revised weir equations for use in estimating combined sewer overflow quantities at the various regulators. During Year 2 (2010) the City, further refined these results using model simulations where CSO activations are impacted by the river systems. For Year 3 (2011) the City continued to refine the results using model simulations of rainfall from the typical year and for the rainfall that occurred in 2011.

Section 2.1 describes the existing methodology by which the City estimates effluent volumes and characterizes CSO events. Section 2.2 presents data from calendar year 2011 based on this approach, and Section 2.3 describes recommended enhancements and reporting methodology to be utilized by the City going forward.

2.1 Existing CSO Monitoring Methodology

As part of the City's current NPDES Permit, the Department of Public Works (DPW) monitors the flow over weirs within combined sewer overflow regulator structures to estimate CSO discharge to the Charles River and Alewife Brook. Currently there are 12 permitted CSO locations associated with 11 CSO regulator structures in the City. CAM 002A and CAM 002B are associated with a single regulator structure at CAM 002A. Of these 11 regulator structures, three have been temporarily plugged (CAM 002B, CAM 009, and CAM 011) and one was permanently closed on March 31 2011 (CAM 400) resulting in eight active CSO outfalls currently being metered:

In the Alewife Brook Watershed;
CAM 001 (Alewife Brook Parkway),
CAM 002A (Massachusetts Ave. at Alewife Brook Parkway),
CAM 004 (Fresh Pond Rotary),
CAM 401A (Bellis Circle/Sherman Street),
CAM 401B (Massachusetts Ave. at Alewife Brook Parkway) discharging to Alewife Brook; and

In the Charles River Watershed;
CAM 005 (Mount Auburn Hospital),
CAM 007 (Memorial Drive at Hawthorne Street), and
CAM 017 (Binney Street at First Street) discharging to the Charles River.

Metering is typically performed by measuring the depth of flow over the weir and computing discharge using a weir equation. In addition, CAM 002A and CAM 005 have secondary area and velocity flow measuring devices in place at the CSO outfall pipe to more accurately determine the CSO overflow discharge.

The summary of CSO activations for 2011 which follows is based on activation and quantification results based on weir equations, flow measuring devices and modeling simulations using the Infoworks hydraulic modeling software for the various rainfall events during 2011. The details associated with the monitoring plan were provided in the 2009 Annual Report. 2.2

2.2 Summary of 2011 CSO Activations

Activation Frequency and Discharge Volumes

Based on the previously described monitoring procedures, six (6) total activations occurred at Charles River CSO regulators during two (2) separate storm events in 2011. Thirty-six (36) total activations occurred at Alewife Brook CSO regulators during fifteen (15) separate storm events in 2011. A summary of 2011 activations are provided in Table 2.1 and 2.2 for the Charles River and Alewife brook, respectively.

Precipitation data for each day of the 2011 reporting period is provided in monthly tables in **Appendix I**. In conformance with permit requirements under Part 1, Section D, Paragraph 2, data is provided for each day, including total rainfall, peak intensity, and average intensity. The monthly CSO volume data sheets are provided in **Appendix II**.

Table 2.1
Summary of 2011 Activations
Charles River CSOs

Receiving Water	Outfall No.	Discharge Location	2011 Activation Frequency	2010 Activation Volume (million gallons)
Charles River	CAM005	Lowell St. @ Mt. Auburn St.	2	0.38
	CAM007	Memorial Dr. @ Hawthorne Street	2	0.63
	CAM009	Memorial Dr. @ Old Murray Rd.	*	n/a
	CAM011	Plympton St.	*	n/a
	CAM017	Edwin Land Blvd. @ Binney St.	2	0.11
	TOTAL			**1.12**
* CAM009 and CAM011 are temporarily blocked				

Table 2.2
Summary of 2011 Activations
Alewife Brook CSOs

Receiving Water	Outfall No.	Discharge Location	2011 Activation Frequency	2011 Activation Volume (million gallons)
Alewife Brook	CAM001	Foch St. @ Alewife Brook Pkwy.	3	0.11
	CAM002A CAM002B*	Mass Ave @ Alewife Brook Pkwy	10	1.87
	CAM004	Concord Ave Rotary @ Fresh Pond Pkwy	12	13.90
	CAM400**	Harrison Ave @ Alewife Brook Pkwy	0	0.00
	CAM401A	Sherman St. @ B&M Railroad	3	2.71
	CAM401B	Mass Ave/Columbus Ave @ Alewife Brook Pkwy	8	0.63
	TOTAL			**19.22**

*CAM002B is temporarily closed.
**CAM400 was permanently closed on March 31, 2011.

2.3 Modifications to CSO Monitoring Plan

The purpose of this analysis is to evaluate the current monitoring plan and to improve upon it, if possible, by modifying the present metering approach, and thus improve CSO activation reporting under the current NPDES permit.

CSO Regulator Structures

The methodology used to calculate overflows at each regulator structure has been reviewed and evaluated as described below. Where appropriate, revisions to existing calculation methodology as described in Year 1 and Year 2 reports are proposed. In addition, calculations will continue to be updated based on field investigations in order to reflect current field conditions.

CAM 001

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 (NGVD).

During construction for the Alewife Brook Floatables Control Contract, it was necessary to modify the design of the baffles in the CAM 001 regulator structure due to the restricted space within the existing brick manholes. This modification was constructed and included a brick weir with an overflow set at Elevation 15.22 Feet (NGVD) along with a 15" PVC elbow for floatables control. While this configuration was constructible, it did not provide the resistance to excessive CSO discharges to Alewife Brook equal to the 18" overflow configuration. In addition, this modified design did not provide sufficient access for DPW to install a flow meter to monitor CSO volumes to Alewife Brook.

An additional modification to the regulator configuration was made consisting of inserting a 6" long section of 10" diameter PVC pipe into the outlet of the 15" PVC elbow. The 10" pipe is secured within the 15" pipe with a Linkseal type joint sealing gasket.

Hydraulic backwater computations on both the permitted configuration based on the 18" pipe and on the modified configuration using the brick weir with the 10" pipe were performed. The analysis indicates that for flows up to 4 CFS, the performances of the two configurations are almost identical.

CAM 002A

The CAM 002 meter was removed for construction of floatables control under the Contract 4 construction project on August 21, 2010. The meter for CAM 002 was re-installed in July of 2011. For the portion of the year the meter was not installed the City hydraulic modeling program, Infoworks was used to determine if any CSO activations occurred. For the remaining part of the year the meter was in place and the weir was set at an elevation of 17.30-ft (CCB). A standard weir equation was used to calculate the CSO activation volume for each storm.

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$$Q = 3.33*(L-0.2*h)*(h)^{1.5}$$

The above formula is used to calculate overflow volumes for all flows below 2.5-feet (*h*) above the weir elevation of 17.3-ft (CCB) . Beyond that, the City hydraulic model(Infoworks) was used to calculate all flows.

CAM 004

This CSO is located within a drainage confluence structure called Drain Vault 5 within the Alewife Brook Rotary at the junction of Concord Avenue and The Alewife Brook Parkway. The weir structure within this CSO is a complex weir with the lowest weir having a length of 7.5 ft and being perpendicular to the direction of flow, the two higher weirs are aligned parallel to the direction of flow and are 8 inches higher with a total weir length of an additional 17 feet.

After reviewing the data from the storms that occurred this year the current multi-step weir equation was considered insufficiently reflective of the complex weir arrangement that presently exists. Instead, the Cambridge Infoworks calibrated model was used to calculate the total amount of CSO instances and volume that occurred at this structure. River elevations for the year were taken from a meter that was located inside of CAM 401B, immediately upstream of the Massachusetts Avenue bridge and translated to the outfall of CAM 004. The weir structure was modified to be two separate weirs as described above. The heights or "h" values that were calculated by Infoworks were consistent with "h" values that the flow meter was reading.

Another factor to consider is that under future conditions, the downstream Wheeler Street drain is scheduled to be further modified and additional infrastructure put in place as part of the City's CAM004 sewer separation contracts (Contracts 8A, 8B, 9 and 12). The results of these improvements will again impact the predicted model values and a revised curve will be developed at that time to more accurately represent these future conditions.

CAM 400 (Closed April 7th 2011)

The neighborhood combined sewer system served by the CAM 400 regulator was under construction (Contract 13) for part of 2011. This construction consisted of laying new

storm sewer and sanitary sewer mains and separating common manholes. The work was completed in March 2011 and the CAM 400 CSO regulator was then closed.

Due to the ongoing construction at CAM 400 the meter was removed near the end of 2010. For the beginning portion of 2011 any overflows that occurred at CAM 400 were calculated using the MWRA/Cambridge Infoworks model.

CAM 401A

Due to the complicated nature of this structure and the existing floatables control brush screen at the existing weir, an alternative weir equation was used for comparison to the standard equation. This configuration requires a weir coefficient of $K = 2.4$ (based on information from the brush screen manufacturer) to replace the standard weir equation coefficient of 3.33. Consequently the equation used for this CSO structure overflow was:

$$Q = 2.4(l - 0.2h)h^{1.5}$$

The City will use this revised weir equation for future flow estimates. It should be noted that similar to other CSOs, this system will experience a backwater effect above the weir elevation for the 25-year storm event and above and will be subject to additional analysis when submitting annual reports.

CAM 401B

Due to the size of the outlet a rectangular weir will be used up to an elevation of 1.4 feet above the bottom of the invert and an orifice equation will be used for all flows above 1.4 feet.

Rectangular Weir

$$Q = 3.33(l - 0.2h)h^{1.5}$$

Orifice Equation

$$Q = ACv\sqrt{(2gh)}$$

The Infoworks modeling software will also be used to better understand the flows from the CSO regulator structure.

CAM 005

An area / velocity meter has been installed in the downstream overflow pipe, and it will continue to authenticate CSO overflows from the CAM 005 regulator instead of relying solely on the weir equations or model output. To determine flow values for CAM 005 the velocity meter and flow meter data was reviewed. When the velocities where positive a standard rectangular weir equation was used.

CAM 007
The standard weir equation is accurate in this scenario, and the City will continue to use this existing equation for flow approximation purposes.

CAM 017
The standard weir equation is accurate in this scenario, and the City will continue to use this existing equation for flow approximation purposes. CAM 017 will be reconstructed during the upcoming year and the structure will go through significant modifications. Several bending weirs will be constructed to replace the existing weir. The work is expected to start in 2012.

Note: CAM017 will undergo considerable changes during 2012 to replace the existing weir configuration and the City will install a number of bending weir flow control devices in its place. The equations and curves will be re-evaluated following construction to ensure that the most appropriate CSO flow assessment methods are being used. See **Appendix IV** for more information concerning the reconstruction project for CAM017.

2.4 Rainfall Characteristics

Under the City of Cambridge Combined Sewer Overflow Permit MA0101974 an analysis of precipitation for the previous year against the typical year should be performed in the 2011 CSO NPDES Annual Report for Year 3 and every two years thereafter.

The City of Cambridge has three active rain gauges located throughout the City. Two meters are located near Fresh Pond. These gauges are the USGS gauge (USGS) at Fresh Pond and the Water Department Gauge. The Water Department gauge malfunctioned for the better part of the year and the data is considered inaccurate. The USGS gauge was active year round and is considered to be an accurate account of rainfall. The third meter is located on top of the Department of Public Works building (DPW). This meter was active from March to December. For the time period before March the USGS data will used to supplement the DPW data to achieve a full year of data.

After analyzing the data and reviewing it for any inconsistencies, the data was compared to the typical year rainfall in order to assess any similarities and differences in the rainfall. The data was then imputed into the City of Cambridge Infoworks model to compare the 2011 Combined Sewer System performance to the Long Term Control Plan performance by using the typical year rainfall data and the 2011 rainfall data.

The USGS meter will be used for all Infoworks model runs since it was operational all year.

The results of the rainfall analysis are presented in Appendix II.

Comparison of 2011 Rainfall to Typical Year

A comparison of the 2011 rainfall at the two locations and the typical year rain gauge is presented in Tables 2.3. The typical year total rainfall is 46.8 inches spread out through 93 storms. The USGS gauge at Fresh Pond recorded 113 storms that produce 50.36 inches of rain and the DPW gauge recorded 55.93 inches through 110 storms. The USGS and DPW gauges, recorded a higher volume of rainfall when compared to the typical year by 3.56 and 9.13 inches more respectively.

Table 2.3 Comparison of Frequency of Rainfall Events Selected Ranges of Total Rainfall, Typical Year Versus 2011

Table 2.3.1 Frequency Comparison by Volume

Conditions	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	93	49	14	16	8	6
Fresh Pond	50.36	113	63	14	20	14	2
DPW	55.93	110	55	18	17	16	4

Table 2.3.2 Frequency Comparison by Percentage of Storms

Conditions	Total Rainfall (inches)	Total Number of Storms	Number 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	93	52.69%	15.05%	17.20%	8.60%	6.45%
Fresh Pond	50.36	113	55.75%	12.39%	17.70%	12.39%	1.77%
DPW	55.93	110	50.00%	16.36%	15.45%	14.55%	3.64%

Table 2.3.3 Frequency Comparison of Total Rainfall Volume Distribution

Conditions	Total Rainfall (inches)	Total Number of Storms	Total Rainfall Volume of Storms				
			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	93	3.45	5.4	11.43	10.29	16.21
Fresh Pond	50.38	113	5.52	4.78	15.16	18.83	6.09
DPW	55.93	110	4.68	6.49	12.75	22.04	9.97

Table 2.3.4 Frequency Comparison of Total Rainfall Volume Distribution by Percentage

Conditions	Total Rainfall (inches)	Total Number of Storms	Number of Storms by Percentage of Total 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	93	7.37%	11.54%	24.42%	21.99%	34.64%
Fresh Pond	50.38	113	10.96%	9.49%	30.09%	37.38%	12.09%
DPW	55.93	110	8.36%	11.60%	22.80%	39.41%	17.83%

Tables 2.3 presents a comparison of storm frequency with a selected range of total precipitation for 2011 and the typical year. The USGS and DPW gauges recorded nearly 20% more storms when compared to the typical year. The typical year had 49 storms with a volume of 0.25 inches or less while the USGS had 63 and the DPW gauges had 55. Despite more of these storms being recorded, when reviewing the percentage and rainfall distribution of these storm occurrences, they align reasonably well with the typical year. For storms that produced a volume between 0.25 to 0.5 inches the USGS gauge record 14, the DPW gauge recorded 18 and the typical year had 14. When looking at the percentage and rainfall distribution the 2011 rainfall for this classification of storms is reasonably consistent with the typical year. The same can also be said for storms producing 0.5 to 1.0 inches of rainfall volume. For storms that record a volume of 1.0 inches and below for 2011 the total rainfall distribution for these storms and also the percentage of occurrence falls relatively close to the typical year.

For storms ranging from 1.0 to 2.0 inches the USGS and DPW were significantly higher than the typical year. When comparing the rainfall total for storms of this category the USGS and DPW gauges far exceed the typical year. Both gauges are nearly double the typical year when the percentages of rainfall for these storms are compared.

However for storms with a volume greater than 2.0 inches the USGS and DPW gauges were slightly lower than typical year in numbers of storms but when comparing volume of rainfall and percentage of rainfall the typical year is nearly double that of the USGS and DPW gauges.

When looking at the larger storm events and storms that had a volume of 1.0 inches or more, the three meters are comparable based on percentage of frequency and total storm volume distribution. The USGS and DPW gauges produced slightly more storms with this volume of rainfall when compared to the typical year but as discussed above the volume and percentage distribution remained fairly close for all three meters.

Table 2.4 presents storms that produce rainfall amounts above 2.0 inches for the USGS and DPW gauges as well as for the typical year.

TABLE 2.4 COMPARISON OF STORMS GREATER THAN 2 INCHES OF TOTAL RAINFALL, TYPICAL YEAR VERSUS 2011

RAIN GUAGE	STORM NO.	DATE	DURATION	TOTAL RAINFALL	AVERAGE INTENSITY	PEAK INTENSITY	STORM RECURRENCE INTERVAL
			(hours)	(inches)	(in/hr)	(in/hr)	(24-hour)
TYPICAL YEAR	87	12/11/1992	50.00	3.89	0.08	0.2	1Y
	59	8/15/1992	72.00	2.91	0.04	0.66	3M
	67	9/22/1992	23.00	2.76	0.12	0.65	1Y
	83	11/21/1992	84.00	2.39	0.03	0.31	3M
	41	5/31/1992	30.00	2.22	0.07	0.37	3M-6M
	69	10/9/1992	65.00	2.04	0.03	0.42	<3M
USGS GUAGE AT FRESH POND	80	8/27/2011	26.25	3.19	0.22	1.05	2-5YR
	108	12/7/2011	24.75	2.9	0.151	0.28	1-2YR
DPW GUAGE	78	8/27/2011	26.00	3.06	0.19	1.02	2-5YR
	71	8/9/2011	13.00	2.37	0.30	0.86	2YR
	105	12/7/2011	24.67	2.5	0.11	0.28	1-2YR
	95	10/19/2011	26.00	2.04	0.12	0.28	3M

TABLE 2.5 COMPARISON OF STORMS WITH PEAK INTENSITIES GREATER THAN 0.40 INCHES/HOUR, TYPICAL YEAR VERSUS 2011

RAIN GUAGE	STORM NO.	DATE	DURATION	TOTAL RAINFALL	AVERAGE INTENSITY	PEAK INTENSITY	STORM RECURRENCE INTERVAL
			(hours)	(inches)	(in/hr)	(in/hr)	(24-hour)
TYPICAL YEAR	74	10/23/1992	4	1.18	0.29	1.08	1-2Y
	57	8/11/1992	11	0.87	0.08	0.75	6M-1Y
	59	8/15/1992	72	2.91	0.04	0.66	3M-6M
	67	9/22/1992	23	2.76	0.12	0.65	3M-6M
	35	5/2/1992	7	1.14	0.16	0.63	3M-6M
	63	9/9/1992	1	0.57	0.57	0.57	3M
	61	9/3/1992	13	1.19	0.09	0.51	<3M
	42	6/5/1992	18	1.34	0.07	0.44	<3M
	69	10/9/1992	65	2.04	0.03	0.42	<3M
USGS GUAGE AT FRESH POND	80	8/27/2011	26.25	3.19	0.22	1.05	2-5YR
	73	8/8/2011	8.00	1.75	0.32	0.90	1YR
	71	8/7/2011	12.75	1.45	0.16	0.71	3M
	77	8/22/2011	3.75	0.52	0.42	0.51	3-6M
	106	11/30/2011	4.00	0.94	0.27	0.50	3M
	88	9/29/2011	18.25	1.17	0.23	0.43	<3M
	82	9/8/2011	8.25	1.32	0.23	0.40	3M
DPW GUAGE	78	8/27/2011	26.00	3.06	0.19	1.02	2-5YR
	71	8/9/2011	13.00	2.37	0.30	0.86	2YR
	86	9/29/2011	19.00	1.70	0.32	0.75	3M
	69	8/7/2011	13.00	1.41	0.14	0.69	3M
	74	8/19/2011	0.67	0.68	1.01	0.68	1YR
	103	11/30/2011	4.67	0.97	0.21	0.53	3M
	61	7/13/2011	1.33	0.72	0.54	0.41	3M
	47	6/11/2011	10.33	1.03	0.13	0.40	<3M

2.5 Combined Sewer Overflow Comparison

Under the City of Cambridge Combined Sewer Overflow Permit MA0101974 an analysis of the combined sewer overflows for the previous year against the typical year should be performed in Year 3 for the 2011 CSO NPDES Annual Report and every two years thereafter.

The City of Cambridge has a total of 12 combined sewer overflow outfall pipes located in 11 regulator structures, 6 regulator structures are located on the Alewife Brook and 5 located on the Charles River. For the 6 locations on the Alewife Brook all but one was active for the entire year. CAM 400 was permanently closed on March 31 of 2011. Of the

5 Charles River CSO's, 3 locations were active year round, while CAM 009 and CAM 011 are temporarily plugged.

. The activation volumes for the 2011 rainfall was based on actual recordings from the meters placed in the CSO regulatory structures and in some instances the Cambridge Infoworks model was used to supplement or further ascertain activation data for certain events as discussed in section 2.3. Due to ongoing construction, CAM 001 did not have a meter recording the overflows; the calibrated Infoworks model was used to determine the overflows for the structure.

2011 City of Cambridge Infoworks Model Update

- CAM 400 was closed on March 31, 2011. The outfall was blocked during construction so no activations occurred. For modeling purposes the system was closed for the entire year and shall remain that way.
- CAM 002 construction was completed and the new pipe configuration was added to the model.
- CAM 401A construction was completed and the new pipe and sewer underflow was added to the model.
- CAM 001 was under construction and a new weir configuration is in place. Due to constraints in the structure, metering equipment was not able to be placed. A meter was installed in January of 2012. CAM 001 will be shown as 2010 configuration until the structure can be calibrated.
- Revised Cottage Farm treatment facility
- Removed the 15-inch drain-line coming from the Belmont System.

As discussed under the Rainfall Characteristics, the rainfall that occurred during the 2011 year was similar in some respects to the typical year. Therefore 2011 CSO activations should be somewhat similar to the typical year. Table 2.6 shows a comparison of 2011 rainfall and the typical year rainfall on the current City of Cambridge combined sewer system and the Long Term Control Plan

Comparison of 2011 Conditions to Long Term CSO Control Plan

As discussed in the Rainfall Comparison section of this report the rainfall for 2011 was comparable with the typical year rainfall. Though the 2011 rainfall had more events and total rainfall, the percentage of storm frequency was fairly consistent with the typical year. When comparing the typical year to the 2011 rainfall, the individual storms rainfall characteristics, system configuration and performance issues must be considered. Though storms may have the same intensity it is important to bear in mind that the volume and temporal distribution of the event needs to be considered as well. Furthermore, when comparing computer model simulation results a whole variety of additional parameters need also be borne in mind, for example, the evapo-transpiration index, the ground wetness etc.

Table 2.6 SUMMARY OF 2011 AND TYPICAL YEAR MODEL SIMULATION RESULTS AND COMPARISON TO TYPICAL YEAR LONG TERM CSO CONTROL PLAN

	2011 RAINFALL UNDER 2011 SYSTEM CONDITIONS		TYPICAL-YEAR RAINFALL UNDER 2011 SYSTEM CONDITIONS		TYPICAL-YEAR RAINFALL W/ LONG TERM CSO CONTROL PLAN	
OUTFALL	ACTIVATION FREQUENCY	VOLUME	ACTIVATION FREQUENCY	VOLUME	ACTIVATION FREQUENCY	VOLUME
		(MG)		(MG)		(MG)
ALEWIFE BROOK						
CAM 001	3	0.11	1	0.01	5	0.19
CAM 002	10	1.87	6	0.87	4	0.69
CAM 004	12	13.9	10	10.89	TO BE CLOSED	N/A
CAM 400*	0	0	0	0	TO BE CLOSED	N/A
CAM 401A	3	2.71	8	2.34	5	1.61
CAM 401B	8	0.63	11	2.49	7	2.15
TOTAL	**36**	**19.22**	**36**	**16.60**	**21**	**4.64**
CHARLES RIVER						
CAM 005	2	0.38	5	0.61	3	0.84
CAM 007	2	0.63	1	0.02	1	0.03
CAM 009**	0	0	0	0	2	0.01
CAM 011**	0	0	0	0	0	0
CAM 017	2	0.11	0	0	1	0.45
TOTAL	**6**	**1.12**	**6**	**0.63**	**7**	**1.33**

*CAM 400 CLOSED ON MARCH 31, 2011

**TEMPORARILY PLUGGED

Alewife Brook

The total number of activations for the Alewife Brook was 36 activations with 19.22 million gallons of combined sewer for the 2011 rainfall. Under the typical year there would have been 36 activations producing 16.60 million gallons of combined sewer.

CAM 001

The Long Term CSO Control Plan (LTCP) indicates that CAM 001 will produce 5 activations with an overflow volume of 0.19 MG. The 2011 rainfall produced 3 total activations with a volume of 0.11 MG according to the Infoworks modeling software while the typical year rainfall on the 2011 system produced one activation that had a volume of 0.01 MG. CAM 001 pattern of activation occurs in conjunction with a high peak intensity storms.

CAM 002

The LTCP indicates that CAM 002 will activate 4 times with and volume of 0.69 MG of CSO overflows. The 2011 rainfall produced 10 overflows that had a total volume of 1.87 MG. The typical year rainfall on the 2011 system produced 6 activations that had a total volume of 0.87 MG. Though the number of activations and volumes are greater when comparing the 2011 system to the LTCP system it is important to note the configuration of the CAM 002 structure. The LTCP indicates that both CAM 002A and CAM 002B overflows open, while the current structure only has CAM 002A open. The LTCP plan also includes an underflow to the 60-inch MWRA pipe located under the Alewife Brook Parkway. This underflow will allow for more combined sewer to enter into the MWRA and not overflow into the Alewife Brook. The 2011 system condition has provided for this connection but it will remain closed as will the CAM 002B CSO until the CAM004 sewer separation project and the MWRA003 reconstruction project are completed. Today the regulator structure has an 18-inch outlet from the 29"x 33" MWRA relief pipe that conveys the combined sewer flow.

CAM 004

The LTCP requires that CAM 004 be closed. CAM004 remains the most active CSO along the Alewife Brook. The upstream and downstream conditions that contribute to activations in this system have remained unchanged in 2011.

Construction has begun on the proposed wetland and stormwater conveyance system associated with the sewer separation program proposed for the CAM004 area. The outfall project will be substantially complete by April 2013. It is expected that the first of three sewer separation projects upstream of the CSO will begin in August of 2012, and will be followed in each of the following two years by the remaining projects. The expectation being that the necessary sewer separation work will be finished in December of 2015. Figure 1 illustrates the three areas scheduled for sewer separation over the next three years.

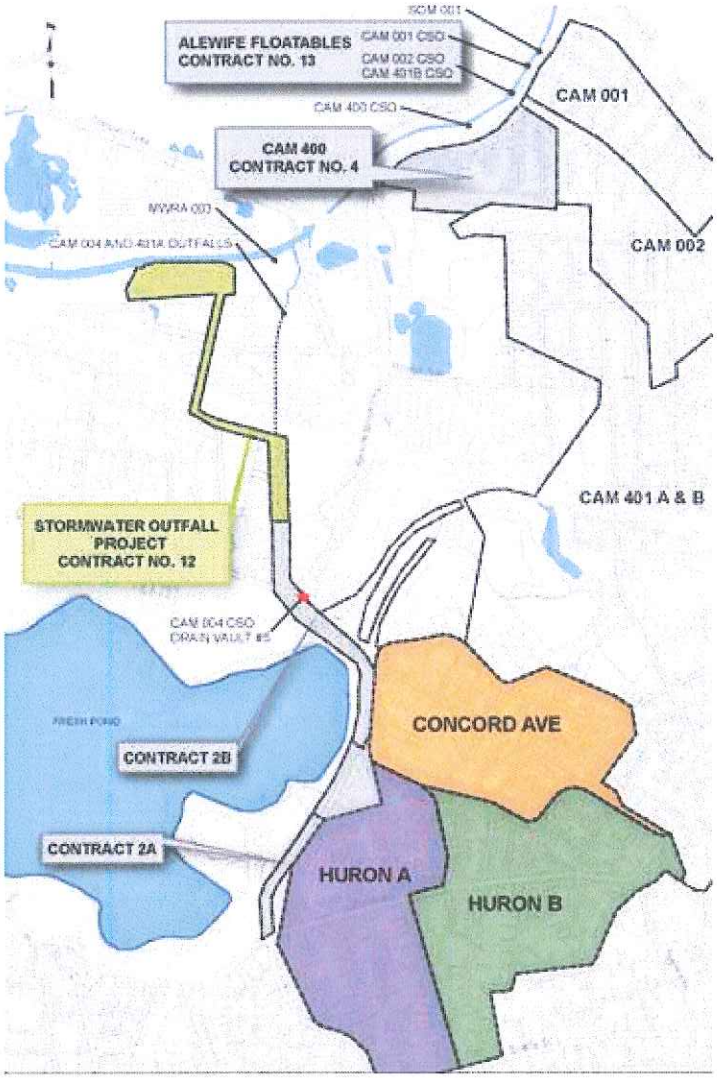

FIGURE 1 The CSO and Sewer Separation Projects in the Alewife Watershed of the City of Cambridge.

Huron A	Construction will begin in August 2012.
Huron B	Construction will begin in August 2013.
Concord Ave	Construction will begin in August 2014.

CAM 401A

The 2011 rainfall produced 3 activation that resulted in a total of 2.71 MG in CSO volume at CAM401A. The typical year rainfall on the 2011 system produced 8 activations for a total of 2.34 MG. The LTCP shows CAM 401A activating 5 times with total overflow volume of 1.61 MG. CAM 401A is influenced greatly by the peak intensity of a storm. CAM 401A is also influenced by upstream and interceptor flow conditions that will change once CAM 004 is separated.

CAM 401B

Common Manhole 401B will experience 7 activations with a total volume of 2.15 MG according to the LTCP. The 2011 rainfall produced 8 activations that had a total volume of 0.63 MG. The typical year rainfall on the 2011 system had a total volume of 2.49 MG through 11 CSO overflows. CAM 401B currently has a 10-inch orifice plate on the underflow relief pipe to the MWRA system. This orifice is attached to an 18-inch pipe. The LTCP provides for this orifice being removed which will allow more flow into the 18-inch pipe and intern reduces the amount of CSO activation in the LTCP.

Charles River

For the CSO's that are located on the Charles River the 2011 rainfall produced a total of 6 releases. The releases were evenly distributed, 2 apiece for the active CSOs. The releases produced a total of 1.12 MG of combined sewer discharge. The storms that produced the overflows were August 8-9th and August 27th. Both events were large volume rainfall events with significant peak intensities.

CAM 005

The 2011 rainfall produced 2 activations with a volume of 0.38 MG, while the typical year rainfall produced 5 activations for a total of 0.61 MG. The LTCP computes CAM 005 activating 3 times with a volume of 0.84 MG. Below in Table 2.7 is a comparison of activations for the typical year rainfall and the 2011 rainfall on the 2011 City of Cambridge system.

Table 2.7 Comparison of Peak Intensity for Activations for Typical Year Rainfall and 2011 Rainfall on the 2011 system

Typical Year Rainfall

DATE	PEAK HOURLY INTENSITY
	(in/hr)
2-May	0.63
11-Aug	0.75
15-Aug	0.66
9-Sep	0.57
23-Oct	1.08

2011 Rainfall

DATE	PEAK HOURLY INTENSITY
	(in/hr)
8-Aug	0.90
27-Aug	1.05

CAM 007

The Long Term Control Plan computes CAM 007 activating once in the typical year with a CSO release volume of 0.03 MG. The 2011 rainfall produce 2 activations that had a

total release of 0.63 MG while the typical year rainfall on the 2011 system had 1 release for 0.02 MG. CAM 007, will overflow from a storm with a high hourly peak.

CAM 009 and CAM 011

Currently CAM 009 and CAM 011 are temporarily plugged. The LTCP shows both of these outfalls open. The City of Cambridge plans on keeping these outfalls closed until a more comprehensive study can be completed in this area.

The City anticipates beginning a more detailed modeling exercise in those areas most proximate to these outfalls during the coming year. The objective of this exercise is to better determine the extent to which these outfalls are of value to the lower lying area adjacent to Harvard University during significant storm events.

CAM 017

The LTCP indicates CAM 017 producing one activation with on overflow of 0.45 MG. The typical year rainfall did not produce an activation for the 2011 system while the 2011 rainfall produced 2 overflows with a volume of 0.11 MG. The 2 activations for the 2011 rainfall occurred during large high intensity events; the history of CAM 017 is that the large high intensity events produce overflows. Though there was one more event than the LTCP predicts the volume was much lower for the 2011 rainfall.

It is important to note that CAM 017 regulator structure will be undergoing a major construction project that will reconfigure the weir structure. Final drawings and specification documents are attached to this report.

The City has developed a comprehensive facilities plan for the area serviced by the CAM017 outfall. The plan provides for significant sewer separation projects and stormwater management facilities in the low lying areas around Central and Lafayette Square in the CAM017 area where sewer system backup and street flooding issues are chronic concerns for the community. One of the projects associated with this program is the construction of bending weir facilities at the regulator structure for CAM017 at the intersection of Land Boulevard and Binney Street. This project allows for the reduction of the hydraulic grade line in the upstream combined sewer system during extreme events but continues to control the system such that those events associated with the typical year will not produce CSO activations in excess of such prescribed by the Long Term Control plan.

The project further entails the inclusion of a new stormwater outfall adjacent to the CAM017 regulator structure. This new stormwater outfall is being built to service a sewer separation program on Binney Street immediately upstream of the CAM017 outfall. The expectation is that once the sewer separation project has been completed on Binney Street, CSO activations will be marginally reduced below those prescribed in the LTCP for the CAM017 regulator.

3.0 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 2011 CSO Annual Progress Report (available at http://www.mwra.com/cso/csoannualreports.htm), the CSO Control Plan for Alewife Brook includes four 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)

Contract 4 and Contract 13

Soon after work began , the City determined that technical and cost efficiencies could be gained by combining two of the projects – Interceptor Connection Relief and Floatables Control at CAM002 and CAM401B (Contract 4) and CAM400 Manhole Separation (Contract 13) – into one construction package, now referred to as Contract 4/13. The projects are located along and near the same stretch of Alewife Brook Parkway at the intersection with Massachusetts Avenue. The City issued the Notice to Proceed for Contract 4/13 on January 26, 2010, in accordance with the schedule for these projects MWRA and the City had proposed to EPA and DEP in September 2009.

On March 30, 2011, the City of Cambridge attained substantial completion of the CAM 400 common manhole separation project and the interceptor connection relief and floatable controls at CAM 002 and CAM 401B, and floatable control at CAM 001. The floatable control mechanisms were completed in October 2010.

Contract 12

The City issued a Limited Notice to Proceed on April 26, 2011 for the stormwater outfall and wetland Basin and a full Notice to Proceed on May 23, 2011. The contractor has completed the utility upgrades in the area of the wetland basin; these upgrades included an 8-inch gas line, 36-inch electrical bundle, three 4-inch telecommunication conduits and the City of Cambridge 10-inch water main and 12-inch sewer force main. The City's contractor has cleared the 3.4-acre area and began shaping the forbay area and the basin and the oxbow. The contractor also began work on the perimeter berm; french drain system, and the wetland basin outlet structure.

Another major component of Contract 12 is the construction of a new storm drain box culvert and associated structures that will convey separated stormwater from Contracts 8A, 8B and 9 to the wetland basin. The contractor completed sections of the box culvert work, including, sections under the MBTA's high speed commuter train tracks, a section on Fawcett Street and a section

behind 70 Fawcett Street. The contractor has also relocated watermains and sanitary sewers on 55 Wheeler Street. The contractor has also begun work on the specialized structure that will convey flow around the two MWRA Belmont relief pipes.

Construction is about 45% complete. Work is expected to continue through 2012 and will be substantially complete by April 2013, in compliance with Schedule 7.

Contracts 8A, 8B and 9

Contract 8A, 8B, and 9 are in the upstream residential neighborhoods within the CAM 004 catchment area conveying flow to the wetland basin that is being constructed in Contract 12. The City's design consultant submitted a comprehensive report, in December 2011, regarding the year long field investigation for these contracts. Home inspections have also been completed in the area and drains have been TV'ed and cleaned. Design work also commenced in 2011 and is current at 30% complete for Contract 8A. It is expected that construction associated with Contract 8A will begin in July/August 2012, and the design of Contract 8B will begin.

3.2 Project Schedule

Design and construction milestones for the Alewife Brook projects were added to Schedule Seven 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 City has developed 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 2011.	2013
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 design has begun in Contract 8A.	2015

4.0 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

CAMBRIDGE DPW RAIN GAUGE

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

2011 DAILY RAINFALL DATA

147 HAMPSHIRE STREET, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
1/1/2011	N/A	N/A	N/A
1/2/2011	N/A	N/A	N/A
1/3/2011	N/A	N/A	N/A
1/4/2011	N/A	N/A	N/A
1/5/2011	N/A	N/A	N/A
1/6/2011	N/A	N/A	N/A
1/7/2011	N/A	N/A	N/A
1/8/2011	N/A	N/A	N/A
1/9/2011	N/A	N/A	N/A
1/10/2011	N/A	N/A	N/A
1/11/2011	N/A	N/A	N/A
1/12/2011	N/A	N/A	N/A
1/13/2011	N/A	N/A	N/A
1/14/2011	N/A	N/A	N/A
1/15/2011	N/A	N/A	N/A
1/16/2011	N/A	N/A	N/A
1/17/2011	N/A	N/A	N/A
1/18/2011	N/A	N/A	N/A
1/19/2011	N/A	N/A	N/A
1/20/2011	N/A	N/A	N/A
1/21/2011	N/A	N/A	N/A
1/22/2011	N/A	N/A	N/A
1/23/2011	N/A	N/A	N/A
1/24/2011	N/A	N/A	N/A
1/25/2011	N/A	N/A	N/A
1/26/2011	N/A	N/A	N/A
1/27/2011	N/A	N/A	N/A
1/28/2011	N/A	N/A	N/A
1/29/2011	N/A	N/A	N/A
1/30/2011	N/A	N/A	N/A
1/31/2011	N/A	N/A	N/A
Jan-11	N/A		

Notes:

Rainfall data measured at Cambridge Department of Public Works

Rainfall was measured in twenty minute intervals

Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
147 HAMPSHIRE STREET, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
2/1/2011	N/A	N/A	N/A
2/2/2011	N/A	N/A	N/A
2/3/2011	N/A	N/A	N/A
2/4/2011	N/A	N/A	N/A
2/5/2011	N/A	N/A	N/A
2/6/2011	N/A	N/A	N/A
2/7/2011	N/A	N/A	N/A
2/8/2011	N/A	N/A	N/A
2/9/2011	N/A	N/A	N/A
2/10/2011	N/A	N/A	N/A
2/11/2011	N/A	N/A	N/A
2/12/2011	N/A	N/A	N/A
2/13/2011	N/A	N/A	N/A
2/14/2011	N/A	N/A	N/A
2/15/2011	N/A	N/A	N/A
2/16/2011	N/A	N/A	N/A
2/17/2011	N/A	N/A	N/A
2/18/2011	N/A	N/A	N/A
2/19/2011	N/A	N/A	N/A
2/20/2011	N/A	N/A	N/A
2/21/2011	N/A	N/A	N/A
2/22/2011	N/A	N/A	N/A
2/23/2011	N/A	N/A	N/A
2/24/2011	N/A	N/A	N/A
2/25/2011	N/A	N/A	N/A
2/26/2011	N/A	N/A	N/A
2/27/2011	N/A	N/A	N/A
2/28/2011	N/A	N/A	N/A
Feb-11	N/A		

Notes:
Rainfall data measured at Cambridge Department of Public Works
Rainfall was measured in twenty minute intervals
Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
147 HAMPSHIRE STREET, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
3/1/2011	N/A	N/A	N/A
3/2/2011	N/A	N/A	N/A
3/3/2011	N/A	N/A	N/A
3/4/2011	N/A	N/A	N/A
3/5/2011	N/A	N/A	N/A
3/6/2011	N/A	N/A	N/A
3/7/2011	N/A	N/A	N/A
3/8/2011	N/A	N/A	N/A
3/9/2011	N/A	N/A	N/A
3/10/2011	0.05	0.30	0.03
3/11/2011	0.54	0.25	0.17
3/12/2011	0.00	0.00	0.00
3/13/2011	0.00	0.00	0.00
3/14/2011	0.00	0.00	0.00
3/15/2011	0.00	0.00	0.00
3/16/2011	0.58	0.21	0.09
3/17/2011	0.00	0.00	0.00
3/18/2011	0.00	0.00	0.00
3/19/2011	0.00	0.00	0.00
3/20/2011	0.00	0.00	0.00
3/21/2011	0.31	0.07	0.04
3/22/2011	0.00	0.00	0.00
3/23/2011	0.00	0.00	0.00
3/24/2011	0.00	0.00	0.00
3/25/2011	0.00	0.00	0.00
3/26/2011	0.00	0.00	0.00
3/27/2011	0.00	0.00	0.00
3/28/2011	0.00	0.00	0.00
3/29/2011	0.00	0.00	0.00
3/30/2011	0.00	0.00	0.00
3/31/2011	0.21	0.08	0.21
Mar-11	1.69		

Notes:
Rainfall data measured at Cambridge Department of Public Works
Rainfall was measured in twenty minute intervals
Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
147 HAMPSHIRE STREET, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
4/1/2011	0.84	0.18	0.10
4/2/2011	0.00	0.00	0.00
4/3/2011	0.00	0.00	0.00
4/4/2011	0.39	0.21	0.08
4/5/2011	0.09	0.09	0.07
4/6/2011	0.00	0.00	0.00
4/7/2011	0.00	0.00	0.00
4/8/2011	0.00	0.00	0.00
4/9/2011	0.00	0.00	0.00
4/10/2011	0.00	0.00	0.00
4/11/2011	0.03	0.03	0.05
4/12/2011	0.06	0.06	0.02
4/13/2011	1.29	0.25	0.09
4/14/2011	0.01	0.01	0.03
4/15/2011	0.00	0.00	0.00
4/16/2011	0.04	0.03	0.03
4/17/2011	1.08	0.27	0.16
4/18/2011	0.00	0.00	0.00
4/19/2011	0.18	0.06	0.04
4/20/2011	0.00	0.00	0.00
4/21/2011	0.00	0.00	0.00
4/22/2011	0.00	0.00	0.00
4/23/2011	0.45	0.11	0.07
4/24/2011	0.03	0.03	0.01
4/25/2011	0.00	0.00	0.00
4/26/2011	0.00	0.00	0.00
4/27/2011	0.01	0.01	0.03
4/28/2011	0.03	0.03	0.03
4/29/2011	0.00	0.00	0.00
4/30/2011	0.00	0.00	0.00
Apr-11	4.53		

Notes:
Rainfall data measured at Cambridge Department of Public Works
Rainfall was measured in twenty minute intervals
Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
147 HAMPSHIRE STREET, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
5/1/2011	0.00	0.00	0.00
5/2/2011	0.00	0.00	0.00
5/3/2011	0.00	0.00	0.00
5/4/2011	0.42	0.18	0.08
5/5/2011	0.03	0.01	0.01
5/6/2011	0.00	0.00	0.00
5/7/2011	0.29	0.12	0.10
5/8/2011	0.00	0.00	0.00
5/9/2011	0.00	0.00	0.00
5/10/2011	0.00	0.00	0.00
5/11/2011	0.05	0.01	0.03
5/12/2011	0.00	0.00	0.00
5/13/2011	0.00	0.00	0.00
5/14/2011	0.02	0.02	0.06
5/15/2011	0.60	0.23	0.09
5/16/2011	0.54	0.26	0.14
5/17/2011	0.16	0.04	0.04
5/18/2011	0.12	0.07	0.06
5/19/2011	0.52	0.26	0.11
5/20/2011	0.01	0.01	0.03
5/21/2011	0.00	0.00	0.00
5/22/2011	0.00	0.00	0.00
5/23/2011	0.12	0.10	0.07
5/24/2011	0.06	0.05	0.05
5/25/2011	0.00	0.00	0.00
5/26/2011	0.00	0.00	0.00
5/27/2011	0.01	0.01	0.03
5/28/2011	0.00	0.00	0.00
5/29/2011	0.00	0.00	0.00
5/30/2011	0.00	0.00	0.00
5/31/2011	0.00	0.00	0.00
May-11	2.95		

Notes:
Rainfall data measured at Cambridge Department of Public Works
Rainfall was measured in twenty minute intervals
Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
147 HAMPSHIRE STREET, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
6/1/2011	0.49	0.32	0.29
6/2/2011	0	0	0
6/3/2011	0	0	0
6/4/2011	0	0	0
6/5/2011	0	0	0
6/6/2011	0	0	0
6/7/2011	0	0	0
6/8/2011	0	0	0
6/9/2011	0.67	0.2	0.12
6/10/2011	0	0.04	0
6/11/2011	0.75	0.4	0.15
6/12/2011	0.42	0.22	0.08
6/13/2011	0.02	0.01	0.03
6/14/2011	0.01	0.01	0.03
6/15/2011	0	0	0
6/16/2011	0	0	0
6/17/2011	0.07	0.07	0.07
6/18/2011	0.11	0.11	0.16
6/19/2011	0	0	0
6/20/2011	0	0	0
6/21/2011	0	0	0
6/22/2011	1.32	0.25	0.13
6/23/2011	0.32	0.26	0.06
6/24/2011	0.03	0.02	0.03
6/25/2011	0.4	0.18	0.11
6/26/2011	0.02	0.02	0.03
6/27/2011	0	0	0
6/28/2011	0	0	0
6/29/2011	0.08	0.08	0.24
6/30/2011	0	0	0
Jun-11	4.71		

Notes:
Rainfall data measured at Cambridge Department of Public Works
Rainfall was measured in twenty minute intervals
Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
147 HAMPSHIRE STREET, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
7/1/2011	0.00	0.00	0.00
7/2/2011	0.00	0.00	0.00
7/3/2011	0.05	0.04	0.05
7/4/2011	0.00	0.00	0.00
7/5/2011	0.00	0.00	0.00
7/6/2011	0.01	0.01	0.03
7/7/2011	0.00	0.00	0.00
7/8/2011	0.23	0.13	0.07
7/9/2011	0.23	0.12	0.06
7/10/2011	0.00	0.00	0.00
7/11/2011	0.00	0.00	0.00
7/12/2011	0.00	0.00	0.00
7/13/2011	0.42	0.41	0.32
7/14/2011	0.38	0.20	0.14
7/15/2011	0.00	0.00	0.00
7/16/2011	0.00	0.00	0.00
7/17/2011	0.00	0.00	0.00
7/18/2011	0.00	0.00	0.00
7/19/2011	0.00	0.00	0.00
7/20/2011	0.00	0.00	0.00
7/21/2011	0.00	0.00	0.00
7/22/2011	0.00	0.00	0.00
7/23/2011	0.18	0.18	0.27
7/24/2011	0.02	0.02	0.03
7/25/2011	0.17	0.09	0.06
7/26/2011	0.02	0.02	0.06
7/27/2011	0.00	0.00	0.00
7/28/2011	0.00	0.00	0.00
7/29/2011	0.15	0.09	0.06
7/30/2011	0.01	0.07	0.03
7/31/2011	0.00	0.00	0.00
Jul-11	1.87		

Notes:
Rainfall data measured at Cambridge Department of Public Works
Rainfall was measured in twenty minute intervals
Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
147 HAMPSHIRE STREET, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
8/1/2011	0.00	0.00	0.00
8/2/2011	0.60	0.33	0.18
8/3/2011	0.00	0.00	0.00
8/4/2011	0.00	0.00	0.00
8/5/2011	0.00	0.00	0.00
8/6/2011	0.00	0.00	0.00
8/7/2011	1.41	0.69	0.14
8/8/2011	0.59	0.38	0.25
8/9/2011	1.11	0.86	0.22
8/10/2011	1.26	0.91	0.42
8/11/2011	0.00	0.00	0.00
8/12/2011	0.00	0.00	0.00
8/13/2011	0.00	0.00	0.00
8/14/2011	0.02	0.02	0.03
8/15/2011	1.45	0.26	0.09
8/16/2011	0.01	0.01	0.03
8/17/2011	0.00	0.00	0.00
8/18/2011	0.00	0.00	0.00
8/19/2011	0.68	0.68	1.01
8/20/2011	0.00	0.00	0.00
8/21/2011	0.06	0.06	0.09
8/22/2011	0.39	0.39	0.39
8/23/2011	0.00	0.00	0.00
8/24/2011	0.00	0.00	0.00
8/25/2011	0.00	0.00	0.00
8/26/2011	0.06	0.05	0.05
8/27/2011	1.76	1.02	0.21
8/28/2011	1.30	0.45	0.16
8/29/2011	0.00	0.00	0.00
8/30/2011	0.00	0.00	0.00
8/31/2011	0.00	0.00	0.00
Aug-11	10.70		

Notes:
Rainfall data measured at Cambridge Department of Public Works
Rainfall was measured in twenty minute intervals
Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
147 HAMPSHIRE STREET, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
9/1/2011	0.00	0.00	0.00
9/2/2011	0.00	0.00	0.00
9/3/2011	0.00	0.00	0.00
9/4/2011	0.00	0.00	0.00
9/5/2011	0.00	0.00	0.00
9/6/2011	0.80	0.21	0.08
9/7/2011	0.59	0.16	0.09
9/8/2011	1.31	0.42	0.22
9/9/2011	0.01	0.01	0.01
9/10/2011	0.00	0.00	0.00
9/11/2011	0.00	0.00	0.00
9/12/2011	0.00	0.00	0.00
9/13/2011	0.00	0.00	0.00
9/14/2011	0.00	0.00	0.00
9/15/2011	0.17	0.16	0.13
9/16/2011	0.00	0.00	0.00
9/17/2011	0.00	0.00	0.00
9/18/2011	0.00	0.00	0.00
9/19/2011	0.00	0.00	0.00
9/20/2011	0.14	0.07	0.05
9/21/2011	0.00	0.00	0.00
9/22/2011	0.17	0.14	0.10
9/23/2011	0.55	0.19	0.10
9/24/2011	0.68	0.32	0.16
9/25/2011	0.00	0.00	0.00
9/26/2011	0.00	0.00	0.00
9/27/2011	0.00	0.00	0.00
9/28/2011	0.00	0.00	0.00
9/29/2011	1.70	0.75	0.32
9/30/2011	0.00	0.00	0.00
Sep-11	6.12		

Notes:
Rainfall data measured at Cambridge Department of Public Works
Rainfall was measured in twenty minute intervals
Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
147 HAMPSHIRE STREET, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
10/1/2011	0.59	0.27	0.12
10/2/2011	0.03	0.03	0.05
10/3/2011	0.03	0.02	0.045
10/4/2011	1	0.36	0.13
10/5/2011	0.01	0.01	0.03
10/6/2011	0	0	0
10/7/2011	0	0	0
10/8/2011	0	0	0
10/9/2011	0	0	0
10/10/2011	0	0	0
10/11/2011	0	0	0
10/12/2011	0.03	0.03	0.05
10/13/2011	1.26	0.33	0.108
10/14/2011	0.79	0.3	0.13
10/15/2011	0	0	0
10/16/2011	0	0	0
10/17/2011	0	0	0
10/18/2011	0.01	0.01	0.03
10/19/2011	1.51	0.24	0.12
10/20/2011	0.53	0.28	0.11
10/21/2011	0	0	0
10/22/2011	0	0	0
10/23/2011	0	0	0
10/24/2011	0	0	0
10/25/2011	0	0	0
10/26/2011	0.03	0.01	0.03
10/27/2011	1.12	0.12	0.07
10/28/2011	0	0.01	0
10/29/2011	0.63	0.15	0.08
10/30/2011	0.68	0.2	0.09
10/31/2011	0	0	0
Oct-11	8.25		

Notes:
Rainfall data measured at Cambridge Department of Public Works
Rainfall was measured in twenty minute intervals
Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
147 HAMPSHIRE STREET, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
11/1/2011	0	0	0
11/2/2011	0	0	0
11/3/2011	0	0	0
11/4/2011	0	0	0
11/5/2011	0	0	0
11/6/2011	0	0	0
11/7/2011	0	0	0
11/8/2011	0	0	0
11/9/2011	0	0	0
11/10/2011	0.92	0.26	0.12
11/11/2011	0	0	0
11/12/2011	0	0	0
11/13/2011	0	0	0
11/14/2011	0	0	0
11/15/2011	0	0	0
11/16/2011	0.84	0.23	0.11
11/17/2011	0.14	0.04	0.03
11/18/2011	0	0	0
11/19/2011	0	0	0
11/20/2011	0	0	0
11/21/2011	0	0	0
11/22/2011	0.06	0.06	0.09
11/23/2011	1.65	0.27	0.18
11/24/2011	0	0	0
11/25/2011	0	0	0
11/26/2011	0	0	0
11/27/2011	0	0	0
11/28/2011	0	0	0
11/29/2011	0	0	0
11/30/2011	0.97	0.53	0.21
Nov-11	4.58		

Notes:
Rainfall data measured at Cambridge Department of Public Works
Rainfall was measured in twenty minute intervals
Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
147 HAMPSHIRE STREET, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
12/1/2011	0	0	0
12/2/2011	0	0	0
12/3/2011	0	0	0
12/4/2011	0	0	0
12/5/2011	0	0	0
12/6/2011	0.08	0.05	0.05
12/7/2011	1.57	0.21	0.09
12/8/2011	0.93	0.28	0.17
12/9/2011	0	0	0
12/10/2011	0	0	0
12/11/2011	0	0	0
12/12/2011	0	0	0
12/13/2011	0	0	0
12/14/2011	0	0	0
12/15/2011	0.03	0.03	0.04
12/16/2011	0	0	0
12/17/2011	0	0	0
12/18/2011	0	0	0
12/19/2011	0	0	0
12/20/2011	0	0	0
12/21/2011	0.06	0.02	0.04
12/22/2011	0.27	0.25	0.16
12/23/2011	0.62	0.17	0.09
12/24/2011	0	0	0
12/25/2011	0.02	0.01	0.03
12/26/2011	0	0	0
12/27/2011	0.18	0.08	0.06
12/28/2011	0.02	0.02	0.03
12/29/2011	0	0	0
12/30/2011	0	0	0
12/31/2011	0	0	0
Dec-11	3.78		

Notes:
Rainfall data measured at Cambridge Department of Public Works
Rainfall was measured in twenty minute intervals
Shaded Data denotes CSO discharge.

USGS RAIN GAUGE AT FRESH POND

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
FRESH POND PARKWAY, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
1/1/2011	0	0	0
1/2/2011	0.08	0.03	0.05
1/3/2011	0.02	0.02	0.08
1/4/2011	0	0	0
1/5/2011	0	0	0
1/6/2011	0	0	0
1/7/2011	0	0	0
1/8/2011	0	0	0
1/9/2011	0.01	0.01	0.04
1/10/2011	0	0	0
1/11/2011	0	0	0
1/12/2011	0.13	0.05	0.052
1/13/2011	0	0	0
1/14/2011	0	0	0
1/15/2011	0	0	0
1/16/2011	0	0	0
1/17/2011	0	0	0
1/18/2011	0	0	0
1/19/2011	0	0	0
1/20/2011	0	0	0
1/21/2011	0	0	0
1/22/2011	0	0	0
1/23/2011	0	0	0
1/24/2011	0	0	0
1/25/2011	0	0	0
1/26/2011	0.03	0.01	0.01
1/27/2011	0.18	0.06	0.01
1/28/2011	0.02	0.01	0.04
1/29/2011	0	0	0
1/30/2011	0	0	0
1/31/2011	0	0	0
Jan-11	0.47		

Notes:
Rainfall data measured at USGS at Fresh Pond Parkway gauge
Rainfall was measured in fifteen minute intervals
Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
FRESH POND PARKWAY, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
2/1/2011	0.31	0.05	0.04
2/2/2011	0.84	0.31	0.13
2/3/2011	0.00	0.00	0.00
2/4/2011	0.00	0.00	0.00
2/5/2011	0.25	0.14	0.08
2/6/2011	0.00	0.00	0.00
2/7/2011	0.02	0.02	0.04
2/8/2011	0.29	0.07	0.05
2/9/2011	0.00	0.00	0.00
2/10/2011	0.00	0.00	0.00
2/11/2011	0.00	0.00	0.00
2/12/2011	0.00	0.00	0.00
2/13/2011	0.00	0.00	0.00
2/14/2011	0.00	0.00	0.00
2/15/2011	0.00	0.00	0.00
2/16/2011	0.00	0.00	0.00
2/17/2011	0.00	0.00	0.00
2/18/2011	0.08	0.08	0.08
2/19/2011	0.00	0.00	0.00
2/20/2011	0.00	0.00	0.00
2/21/2011	0.00	0.00	0.00
2/22/2011	0.00	0.00	0.00
2/23/2011	0.00	0.00	0.00
2/24/2011	0.00	0.00	0.00
2/25/2011	1.58	0.28	0.11
2/26/2011	0.00	0.00	0.00
2/27/2011	0.02	0.01	0.04
2/28/2011	1.05	0.36	0.11
Feb-11	4.44		

Notes:
Rainfall data measured at USGS at Fresh Pond Parkway gauge
Rainfall was measured in fifteen minute intervals
Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
FRESH POND PARKWAY, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
3/1/2011	0.00	0.00	0.00
3/2/2011	0.00	0.00	0.00
3/3/2011	0.00	0.00	0.00
3/4/2011	0.00	0.00	0.00
3/5/2011	0.00	0.00	0.00
3/6/2011	0.08	0.07	0.08
3/7/2011	0.63	0.20	0.12
3/8/2011	0.00	0.00	0.00
3/9/2011	0.00	0.00	0.00
3/10/2011	0.04	0.02	0.04
3/11/2011	0.52	0.25	0.11
3/12/2011	0.00	0.00	0.00
3/13/2011	0.00	0.00	0.00
3/14/2011	0.00	0.00	0.00
3/15/2011	0.00	0.00	0.00
3/16/2011	0.56	0.22	0.10
3/17/2011	0.00	0.00	0.00
3/18/2011	0.00	0.00	0.00
3/19/2011	0.00	0.00	0.00
3/20/2011	0.00	0.00	0.00
3/21/2011	0.25	0.06	0.05
3/22/2011	0.00	0.00	0.00
3/23/2011	0.00	0.00	0.00
3/24/2011	0.00	0.00	0.00
3/25/2011	0.00	0.00	0.00
3/26/2011	0.00	0.00	0.00
3/27/2011	0.00	0.00	0.00
3/28/2011	0.00	0.00	0.00
3/29/2011	0.00	0.00	0.00
3/30/2011	0.00	0.00	0.00
3/31/2011	0.18	0.07	0.06
Mar-11	2.26		

Notes:
Rainfall data measured at USGS at Fresh Pond Parkway gauge
Rainfall was measured in fifteen minute intervals
Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
FRESH POND PARKWAY, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
4/1/2011	0.67	0.08	0.06
4/2/2011	0.00	0.00	0.00
4/3/2011	0.00	0.00	0.00
4/4/2011	0.42	0.20	0.10
4/5/2011	0.08	0.05	0.08
4/6/2011	0.00	0.00	0.00
4/7/2011	0.00	0.00	0.00
4/8/2011	0.00	0.00	0.00
4/9/2011	0.00	0.00	0.00
4/10/2011	0.00	0.00	0.00
4/11/2011	0.04	0.04	0.05
4/12/2011	0.08	0.07	0.06
4/13/2011	1.29	0.28	0.11
4/14/2011	0.01	0.01	0.04
4/15/2011	0.00	0.00	0.00
4/16/2011	0.06	0.05	0.05
4/17/2011	1.17	0.32	0.18
4/18/2011	0.00	0.00	0.00
4/19/2011	0.19	0.07	0.05
4/20/2011	0.00	0.00	0.00
4/21/2011	0.00	0.00	0.00
4/22/2011	0.00	0.00	0.00
4/23/2011	0.45	0.10	0.07
4/24/2011	0.02	0.02	0.04
4/25/2011	0.01	0.01	0.04
4/26/2011	0.00	0.00	0.00
4/27/2011	0.02	0.01	0.04
4/28/2011	0.02	0.02	0.08
4/29/2011	0.00	0.00	0.00
4/30/2011	0.00	0.00	0.00
Apr-11	4.53		

Notes:
Rainfall data measured at USGS at Fresh Pond Parkway gauge
Rainfall was measured in fifteen minute intervals
Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
FRESH POND PARKWAY, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
5/1/2011	0.00	0.00	0.00
5/2/2011	0.00	0.00	0.00
5/3/2011	0.00	0.00	0.00
5/4/2011	0.38	0.15	0.09
5/5/2011	0.03	0.03	0.04
5/6/2011	0.00	0.00	0.00
5/7/2011	0.25	0.09	0.08
5/8/2011	0.00	0.00	0.00
5/9/2011	0.00	0.00	0.00
5/10/2011	0.01	0.01	0.04
5/11/2011	0.02	0.01	0.04
5/12/2011	0.00	0.00	0.00
5/13/2011	0.00	0.00	0.00
5/14/2011	0.01	0.01	0.04
5/15/2011	0.55	0.17	0.09
5/16/2011	0.44	0.28	0.05
5/17/2011	0.16	0.05	0.06
5/18/2011	0.08	0.03	0.05
5/19/2011	0.49	0.28	0.13
5/20/2011	0.00	0.00	0.00
5/21/2011	0.00	0.00	0.00
5/22/2011	0.00	0.00	0.00
5/23/2011	0.10	0.07	0.06
5/24/2011	0.04	0.03	0.05
5/25/2011	0.00	0.00	0.00
5/26/2011	0.00	0.00	0.00
5/27/2011	0.00	0.00	0.00
5/28/2011	0.01	0.01	0.04
5/29/2011	0.00	0.00	0.00
5/30/2011	0.00	0.00	0.00
5/31/2011	0.00	0.00	0.00
May-11	2.57		

Notes:
Rainfall data measured at USGS at Fresh Pond Parkway gauge
Rainfall was measured in fifteen minute intervals
Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
FRESH POND PARKWAY, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
6/1/2011	0.32	0.25	0.21
6/2/2011	0.00	0.00	0.00
6/3/2011	0.00	0.00	0.00
6/4/2011	0.00	0.00	0.00
6/5/2011	0.00	0.00	0.00
6/6/2011	0.00	0.00	0.00
6/7/2011	0.00	0.00	0.00
6/8/2011	0.00	0.00	0.00
6/9/2011	0.57	0.20	0.10
6/10/2011	0.00	0.00	0.00
6/11/2011	0.63	0.31	0.15
6/12/2011	0.27	0.20	0.06
6/13/2011	0.04	0.01	0.04
6/14/2011	0.01	0.01	0.01
6/15/2011	0.00	0.00	0.00
6/16/2011	0.00	0.00	0.00
6/17/2011	0.09	0.08	0.07
6/18/2011	0.19	0.19	0.25
6/19/2011	0.00	0.00	0.00
6/20/2011	0.00	0.00	0.00
6/21/2011	0.00	0.00	0.00
6/22/2011	1.24	0.21	0.14
6/23/2011	0.35	0.29	0.09
6/24/2011	0.03	0.01	0.04
6/25/2011	0.36	0.21	0.14
6/26/2011	0.02	0.02	0.04
6/27/2011	0.00	0.00	0.00
6/28/2011	0.00	0.00	0.00
6/29/2011	0.11	0.11	0.15
6/30/2011	0.00	0.00	0.00
Jun-11	4.23		

Notes:
Rainfall data measured at USGS at Fresh Pond Parkway gauge
Rainfall was measured in fifteen minute intervals
Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
FRESH POND PARKWAY, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
7/1/2011	0.00	0.00	0.00
7/2/2011	0.00	0.00	0.00
7/3/2011	0.00	0.00	0.00
7/4/2011	0.00	0.00	0.00
7/5/2011	0.00	0.00	0.00
7/6/2011	0.13	0.11	0.13
7/7/2011	0.00	0.00	0.00
7/8/2011	0.15	0.07	0.06
7/9/2011	0.21	0.08	0.08
7/10/2011	0.00	0.00	0.00
7/11/2011	0.00	0.00	0.00
7/12/2011	0.00	0.00	0.00
7/13/2011	0.34	0.32	0.23
7/14/2011	0.30	0.25	0.17
7/15/2011	0.00	0.00	0.00
7/16/2011	0.00	0.00	0.00
7/17/2011	0.00	0.00	0.00
7/18/2011	0.00	0.00	0.00
7/19/2011	0.00	0.00	0.00
7/20/2011	0.00	0.00	0.00
7/21/2011	0.00	0.00	0.00
7/22/2011	0.00	0.00	0.00
7/23/2011	0.17	0.17	0.23
7/24/2011	0.03	0.03	0.04
7/25/2011	0.19	0.10	0.06
7/26/2011	0.03	0.03	0.12
7/27/2011	0.00	0.00	0.00
7/28/2011	0.00	0.00	0.00
7/29/2011	0.12	0.06	0.06
7/30/2011	0.01	0.07	0.04
7/31/2011	0.00	0.00	0.00
Jul-11	1.68		

Notes:
Rainfall data measured at USGS at Fresh Pond Parkway gauge
Rainfall was measured in fifteen minute intervals
Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
FRESH POND PARKWAY, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
8/1/2011	0.00	0.00	0.00
8/2/2011	0.60	0.31	0.22
8/3/2011	0.00	0.00	0.00
8/4/2011	0.00	0.00	0.00
8/5/2011	0.00	0.00	0.00
8/6/2011	0.00	0.00	0.00
8/7/2011	1.45	0.71	0.16
8/8/2011	0.56	0.34	0.28
8/9/2011	1.12	0.90	0.34
8/10/2011	0.63	0.53	0.28
8/11/2011	0.00	0.00	0.00
8/12/2011	0.00	0.00	0.00
8/13/2011	0.00	0.00	0.00
8/14/2011	0.04	0.03	0.05
8/15/2011	1.18	0.24	0.09
8/16/2011	0.01	0.01	0.04
8/17/2011	0.00	0.00	0.00
8/18/2011	0.00	0.00	0.00
8/19/2011	0.15	0.14	0.15
8/20/2011	0.00	0.00	0.00
8/21/2011	0.00	0.00	0.00
8/22/2011	0.52	0.51	0.42
8/23/2011	0.00	0.00	0.00
8/24/2011	0.00	0.00	0.00
8/25/2011	0.01	0.01	0.04
8/26/2011	0.06	0.06	0.06
8/27/2011	1.72	1.05	0.26
8/28/2011	1.47	0.54	0.19
8/29/2011	0.00	0.00	0.00
8/30/2011	0.00	0.00	0.00
8/31/2011	0.00	0.00	0.00
Aug-11	9.52		

Notes:
Rainfall data measured at USGS at Fresh Pond Parkway gauge
Rainfall was measured in fifteen minute intervals
Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
FRESH POND PARKWAY, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
9/1/2011	0.00	0.00	0.00
9/2/2011	0.00	0.00	0.00
9/3/2011	0.00	0.00	0.00
9/4/2011	0.00	0.00	0.00
9/5/2011	0.00	0.00	0.00
9/6/2011	0.77	0.22	0.08
9/7/2011	0.39	0.11	0.06
9/8/2011	1.32	0.40	0.23
9/9/2011	0.00	0.00	0.00
9/10/2011	0.00	0.00	0.00
9/11/2011	0.00	0.00	0.00
9/12/2011	0.00	0.00	0.00
9/13/2011	0.00	0.00	0.00
9/14/2011	0.00	0.00	0.00
9/15/2011	0.05	0.04	0.07
9/16/2011	0.00	0.00	0.00
9/17/2011	0.00	0.00	0.00
9/18/2011	0.00	0.00	0.00
9/19/2011	0.00	0.00	0.00
9/20/2011	0.13	0.07	0.05
9/21/2011	0.00	0.00	0.00
9/22/2011	0.12	0.07	0.07
9/23/2011	0.34	0.22	0.10
9/24/2011	0.58	0.22	0.15
9/25/2011	0.00	0.00	0.00
9/26/2011	0.00	0.00	0.00
9/27/2011	0.00	0.00	0.00
9/28/2011	0.00	0.00	0.00
9/29/2011	1.17	0.43	0.23
9/30/2011	0.00	0.00	0.00
Sep-11	4.87		

Notes:
Rainfall data measured at USGS at Fresh Pond Parkway gauge
Rainfall was measured in fifteen minute intervals
Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
FRESH POND PARKWAY, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
10/1/2011	0.77	0.26	0.18
10/2/2011	0.03	0.03	0.06
10/3/2011	0.04	0.02	0.04
10/4/2011	0.9	0.30	0.14
10/5/2011	0.01	0.01	0.04
10/6/2011	0	0.00	0.00
10/7/2011	0	0.00	0.00
10/8/2011	0	0.00	0.00
10/9/2011	0	0.00	0.00
10/10/2011	0	0.00	0.00
10/11/2011	0	0.00	0.00
10/12/2011	0	0.01	0.03
10/13/2011	0.96	0.28	0.11
10/14/2011	1.04	0.38	0.16
10/15/2011	0	0.00	0.00
10/16/2011	0	0.00	0.00
10/17/2011	0.01	0.01	0.04
10/18/2011	0	0.00	0.00
10/19/2011	1.22	0.18	0.12
10/20/2011	0.44	0.12	0.10
10/21/2011	0	0.00	0.00
10/22/2011	0	0.00	0.00
10/23/2011	0	0.00	0.00
10/24/2011	0	0.00	0.00
10/25/2011	0.01	0.01	0.04
10/26/2011	0.03	0.01	0.04
10/27/2011	0.94	0.09	0.07
10/28/2011	0	0.01	0.03
10/29/2011	0.77	0.09	0.08
10/30/2011	0.13	0.04	0.04
10/31/2011	0	0.00	0.00
Oct-11	7.30		

Notes:
Rainfall data measured at USGS at Fresh Pond Parkway gauge
Rainfall was measured in fifteen minute intervals
Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
FRESH POND PARKWAY, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
11/1/2011	0	0.00	0.00
11/2/2011	0	0.00	0.00
11/3/2011	0	0.00	0.00
11/4/2011	0	0.00	0.00
11/5/2011	0	0.00	0.00
11/6/2011	0	0.00	0.00
11/7/2011	0	0.00	0.00
11/8/2011	0	0.00	0.00
11/9/2011	0	0.00	0.00
11/10/2011	0.92	0.23	0.12
11/11/2011	0.01	0.01	0.04
11/12/2011	0	0.00	0.00
11/13/2011	0	0.00	0.00
11/14/2011	0	0.00	0.00
11/15/2011	0	0.00	0.00
11/16/2011	0.73	0.18	0.11
11/17/2011	0.09	0.02	0.04
11/18/2011	0	0.00	0.00
11/19/2011	0	0.00	0.00
11/20/2011	0	0.00	0.00
11/21/2011	0	0.00	0.00
11/22/2011	0.04	0.04	0.08
11/23/2011	1.33	0.16	0.14
11/24/2011	0	0.00	0.00
11/25/2011	0	0.00	0.00
11/26/2011	0	0.00	0.00
11/27/2011	0	0.00	0.00
11/28/2011	0	0.00	0.00
11/29/2011	0	0.00	0.00
11/30/2011	0.94	0.40	0.27
Nov-11	4.06		

Notes:
Rainfall data measured at USGS at Fresh Pond Parkway gauge
Rainfall was measured in fifteen minute intervals
Shaded Data denotes CSO discharge.

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS
2011 DAILY RAINFALL DATA
FRESH POND PARKWAY, CAMBRIDGE, MA

Date	Daily Rainfall (in.)	Maximum Intensity (in./hr)	Average Intensity (in./hr)
12/1/2011	0.00	0.00	0.00
12/2/2011	0.00	0.00	0.00
12/3/2011	0.00	0.00	0.00
12/4/2011	0.00	0.00	0.00
12/5/2011	0.00	0.00	0.00
12/6/2011	0.20	0.05	0.05
12/7/2011	1.97	0.18	0.14
12/8/2011	0.91	0.24	0.19
12/9/2011	0.00	0.00	0.00
12/10/2011	0.00	0.00	0.00
12/11/2011	0.00	0.00	0.00
12/12/2011	0.00	0.00	0.00
12/13/2011	0.00	0.00	0.00
12/14/2011	0.00	0.00	0.00
12/15/2011	0.09	0.04	0.05
12/16/2011	0.00	0.00	0.00
12/17/2011	0.00	0.00	0.00
12/18/2011	0.00	0.00	0.00
12/19/2011	0.00	0.00	0.00
12/20/2011	0.00	0.00	0.00
12/21/2011	0.07	0.03	0.05
12/22/2011	0.20	0.18	0.16
12/23/2011	0.75	0.16	0.12
12/24/2011	0.00	0.00	0.00
12/25/2011	0.00	0.00	0.00
12/26/2011	0.00	0.00	0.00
12/27/2011	0.21	0.08	0.08
12/28/2011	0.03	0.03	0.06
12/29/2011	0.00	0.00	0.00
12/30/2011	0.00	0.00	0.00
12/31/2011	0.00	0.00	0.00
Dec-11	4.43		

Notes:
Rainfall data measured at USGS at Fresh Pond Parkway gauge
Rainfall was measured in fifteen minute intervals
Shaded Data denotes CSO discharge.

CAMBRIDGE DPW RAIN GAUGE

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS-DPW RAIN GAUGE
2011 STORM FREQUANCY ANALYSIS
147 HAMPSHIRE STREET, CAMBRIDGE, MA

ID	Beginning Date	Beginning Time	Ending Date	Ending Time	Inter-event duration	Rainfall Duration	Storm Duration	Total Rainfall	Average Intensity	Peak Intensity	Frequency
1	1/2/2011	6:15	1/3/2011	13:45	31.00	1.25	32.25	0.10	0.08	0.04	<3M
2	1/9/2011	6:30	1/9/2011	7:00	0.00	0.25	0.25	0.01	0.04	0.01	<3M
3	1/12/2011	1:30	1/12/2011	10:45	6.25	2.75	9.00	0.13	0.05	0.06	<3M
4	1/26/2011	18:45	1/27/2011	9:15	6.75	4.00	10.75	0.21	0.05	0.06	<3M
5	1/28/2011	11:30	1/28/2011	14:30	2.50	0.50	3.00	0.02	0.04	0.01	<3M
6	2/1/2011	8:45	2/1/2011	18:15	2.25	7.00	9.25	0.31	0.04	0.05	<3M
7	2/2/2011	2:00	2/2/2011	13:00	4.75	6.25	11.00	0.84	0.13	0.31	<3M
8	2/5/2011	16:30	2/6/2011	0:00	3.25	4.25	7.50	0.25	0.06	0.14	<3M
9	2/7/2011	23:15	2/8/2011	12:45	4.50	6.75	11.25	0.31	0.05	0.07	<3M
10	2/18/2011	20:15	2/18/2011	21:15	0.00	1.00	1.00	0.08	0.08	0.08	<3M
11	2/25/2011	0:30	2/26/2011	23:30	9.00	14.00	23.00	1.58	0.11	0.28	<3M
12	2/27/2011	7:00	2/27/2011	9:15	1.75	0.50	2.25	0.02	0.04	0.01	<3M
13	2/28/2011	9:45	2/28/2011	21:00	2.00	9.25	11.25	1.05	0.11	0.36	<3M
14	3/6/2011	21:15	3/7/2011	7:15	2.00	6.00	8.00	0.71	0.12	0.2	<3M
15	3/10/2011	22:15	3/11/2011	5:45	4.75	2.75	7.50	0.12	0.04	0.03	<3M
16	3/11/2011	9:30	3/11/2011	13:15	0.75	4.00	4.75	0.44	0.11	0.25	<3M
17	3/16/2011	8:00	3/16/2011	13:20	0.00	5.67	5.67	1.71	0.30	0.21	<3M
18	3/21/2011	11:40	3/21/2011	22:00	3.33	7.33	10.66	0.31	0.04	0.07	<3M
19	3/31/2011	18:00	4/1/2011	1:00	3.33	4.00	7.33	0.23	0.06	0.08	<3M
20	4/1/2011	8:40	4/1/2011	21:00	4.33	8.33	12.66	0.82	0.10	0.18	<3M
21	4/4/2011	11:00	4/4/2011	17:40	2.33	4.67	7.00	0.39	0.08	0.21	<3M
22	4/5/2011	13:40	4/5/2011	15:40	1.00	1.33	2.33	0.09	0.07	0.06	<3M
23	4/11/2011	0:20	4/11/2011	0:40	0.00	0.67	0.67	0.04	0.06	0.03	<3M
24	4/12/2011	23:00	4/14/2011	0:40	10.67	15.33	26.00	1.36	0.09	0.25	<3M
25	4/16/2011	21:20	4/17/2011	6:40	1.67	8.00	9.67	1.12	0.14	0.27	<3M
26	4/19/2011	11:20	4/19/2011	23:40	7.67	5.00	12.67	0.18	0.04	0.06	<3M
27	4/23/2011	6:00	4/23/2011	16:00	3.33	7.00	10.33	0.45	0.06	0.11	<3M
28	4/24/2011	2:00	4/24/2011	2:40	0.00	1.00	1.00	0.03	0.03	0.03	<3M
29	4/27/2011	1:40	4/27/2011	1:40	0.00	0.33	0.33	0.01	0.03	0.01	<3M
30	4/28/2011	16:00	4/28/2011	17:20	0.67	1.00	1.67	0.03	0.03	0.02	<3M
31	5/4/2011	13:00	5/5/2011	1:00	6.00	6.33	12.33	0.44	0.07	0.18	<3M
32	5/5/2011	16:40	5/5/2011	16:40	0.00	0.33	0.33	0.01	0.03	0.01	<3M
33	5/7/2011	6:00	5/7/2011	18:20	9.67	3.00	12.67	0.29	0.10	0.12	<3M
34	5/11/2011	0:20	5/11/2011	12:20	10.67	1.67	12.34	0.05	0.03	0.01	<3M
35	5/14/2011	20:40	5/15/2011	15:20	12.00	7.00	19.00	0.60	0.09	0.23	<3M

36	5/15/2011	22:20	5/16/2011	22:20	2.00	2.67	4.67	0.34	0.13	0.26	<3M
37	5/16/2011	15:20	5/17/2011	2:20	8.67	2.67	11.34	0.25	0.09	0.13	<3M
38	5/17/2011	9:00	5/18/2011	9:20	20.67	4.00	24.67	0.16	0.04	0.04	<3M
39	5/18/2011	18:00	5/19/2011	5:20	8.00	3.67	11.67	0.44	0.12	0.26	<3M
40	5/19/2011	12:00	5/20/2011	7:00	16.33	3.00	19.33	0.18	0.06	0.11	<3M
41	5/23/2011	6:40	5/23/2011	8:00	0.00	1.67	1.67	0.12	0.07	0.1	<3M
42	5/24/2011	1:40	5/24/2011	2:40	0.00	1.33	1.33	0.06	0.05	0.05	<3M
43	5/27/2011	9:20	5/27/2011	9:20	0.00	0.33	0.33	0.01	0.03	0.01	<3M
44	6/1/2011	9:00	6/1/2011	21:40	11.33	1.67	13.00	0.49	0.29	0.32	<3M
45	6/9/2011	6:20	6/9/2011	23:20	11.67	5.67	17.34	0.67	0.12	0.17	<3M
46	6/11/2011	8:40	6/11/2011	13:20	3.00	2.00	5.00	0.14	0.07	0.08	<3M
47	6/11/2011	21:00	6/12/2011	7:00	2.33	8.00	10.33	1.03	0.13	0.4	<3M
48	6/13/2011	4:00	6/13/2011	5:00	0.67	0.67	1.34	0.02	0.03	0.01	<3M
49	6/14/2011	7:20	6/14/2011	7:20	0.00	0.33	0.33	0.01	0.03	0.01	<3M
50	6/17/2011	10:00	6/17/2011	10:40	0.00	1.00	1.00	0.07	0.07	0.07	<3M
51	6/18/2011	15:00	6/18/2011	15:20	0.00	0.67	0.67	0.11	0.16	0.11	<3M
52	6/22/2011	12:40	6/23/2011	6:20	5.33	12.67	18.00	1.50	0.12	0.26	3M
53	6/23/2011	14:20	6/24/2011	7:00	13.67	3.33	17.00	0.17	0.05	0.09	<3M
54	6/25/2011	1:00	6/25/2011	8:20	5.67	2.00	7.67	0.20	0.10	0.17	<3M
55	6/25/2011	21:40	6/26/2011	0:20	0.67	2.33	3.00	0.22	0.09	0.18	<3M
56	6/29/2011	3:20	6/29/2011	3:20	0.00	0.33	0.33	0.08	0.24	0.08	<3M
57	7/3/2011	15:00	7/3/2011	16:00	0.33	1.00	1.33	0.05	0.05	0.04	<3M
58	7/6/2011	21:20	7/6/2011	21:20	0.00	0.33	0.33	0.01	0.03	0.01	<3M
59	7/8/2011	7:20	7/8/2011	10:00	0.67	2.33	3.00	0.19	0.08	0.13	<3M
60	7/8/2011	20:00	7/9/2011	5:20	5.00	4.67	9.67	0.27	0.06	0.12	<3M
61	7/13/2011	16:40	7/13/2011	17:40	0.00	1.33	1.33	0.72	0.54	0.41	3M
62	7/14/2011	0:40	7/14/2011	3:00	0.00	2.67	2.67	0.38	0.14	0.2	<3M
63	7/23/2011	9:00	7/23/2011	9:20	0.00	0.67	0.67	0.18	0.27	0.18	<3M
64	7/24/2011	7:20	7/24/2011	7:40	0.00	0.67	0.67	0.02	0.03	0.02	<3M
65	7/25/2011	17:00	7/25/2011	20:20	0.67	3.00	3.67	0.17	0.06	0.09	<3M
66	7/26/2011	18:00	7/26/2011	18:00	0.00	0.33	0.33	0.02	0.06	0.02	<3M
67	7/29/2011	21:20	7/30/2011	0:00	0.33	2.67	3.00	0.02	0.01	0.09	<3M
68	8/2/2011	16:20	8/2/2011	20:00	0.67	3.33	4.00	0.60	0.18	0.33	<3M
69	8/7/2011	2:20	8/7/2011	15:00	2.67	10.33	13.00	1.41	0.14	0.69	3M
70	8/8/2011	4:00	8/8/2011	17:40	11.67	2.33	14.00	0.59	0.25	0.38	<3M
71	8/9/2011	18:40	8/10/2011	17:20	5.00	8.00	13.00	2.37	0.30	0.86	2YR
72	8/14/2011	7:20	8/14/2011	8:00	0.33	0.67	1.00	0.02	0.03	0.02	<3M
73	8/15/2011	4:00	8/16/2011	0:00	3.67	16.67	20.34	1.46	0.09	0.26	<3M
74	8/19/2011	15:20	8/19/2011	15:40	0.00	0.67	0.67	0.68	1.01	0.68	1YR
75	8/21/2011	12:20	8/21/2011	12:20	0.00	0.33	0.33	0.06	0.18	0.06	<3M
76	8/22/2011	2:20	8/22/2011	3:00	0.00	1.00	1.00	0.39	0.39	0.39	<3M

77	8/26/2011	0:00	8/26/2011	1:00	0.00	1.33	1.33	0.06	0.05	0.05	<3M
78	8/27/2011	13:40	8/28/2011	15:00	9.67	16.33	26.00	3.06	0.19	1.02	2-5YR
79	9/6/2011	3:40	9/7/2011	20:20	24.67	16.67	41.34	1.39	0.08	0.21	<3M
80	9/8/2011	1:00	9/8/2011	10:40	4.00	6.00	10.00	1.31	0.22	0.33	3-6M
81	9/15/2011	13:40	9/15/2011	19:40	5.00	1.33	6.33	0.17	0.13	0.16	<3M
82	9/20/2011	10:40	9/20/2011	19:00	5.33	2.67	8.00	0.13	0.05	0.07	<3M
83	9/22/2011	5:20	9/22/2011	15:40	9.00	1.67	10.67	0.17	0.10	0.14	<3M
84	9/23/2011	15:20	9/23/2011	22:00	1.67	5.33	7.00	0.41	0.08	0.19	<3M
85	9/23/2011	23:40	9/24/2011	4:20	0.33	4.67	5.00	0.82	0.18	0.32	<3M
86	9/29/2011	1:00	9/29/2011	19:40	13.67	5.33	19.00	1.70	0.32	0.75	3M
87	10/1/2011	0:20	10/1/2011	20:40	16.67	5.00	21.67	0.59	0.12	0.27	<3M
88	10/2/2011	6:20	10/2/2011	6:40	0.00	0.67	0.67	0.03	0.04	0.03	<3M
89	10/3/2011	7:40	10/3/2011	7:40	0.00	0.33	0.33	0.10	0.30	0.1	<3M
90	10/3/2011	20:40	10/4/2011	6:20	0.67	5.00	5.67	0.91	0.18	0.36	<3M
91	10/4/2011	15:20	10/5/2011	15:20	5.67	3.33	9.00	0.10	0.03	0.03	<3M
92	10/12/2011	23:00	10/13/2011	13:00	2.67	11.67	14.34	1.28	0.11	0.33	<3M
93	10/13/2011	23:20	10/14/2011	21:40	16.33	6.33	22.66	0.80	0.13	0.3	<3M
94	10/17/2011	1:20	10/17/2011	1:20	0.00	0.33	0.33	0.01	0.03	0.01	<3M
95	10/19/2011	9:20	10/20/2011	11:00	9.33	16.67	26.00	2.04	0.12	0.28	3M
96	10/26/2011	11:20	10/26/2011	11:40	2.67	1.00	3.67	0.03	0.03	0.01	<3M
97	10/27/2011	5:20	10/27/2011	23:40	2.67	16.00	18.67	1.12	0.07	0.12	<3M
98	10/29/2011	13:40	10/30/2011	12:00	7.67	15.00	22.67	1.31	0.09	0.2	<3M
99	11/10/2011	12:00	11/10/2011	20:00	0.67	7.67	8.34	0.92	0.12	0.26	<3M
100	11/16/2011	14:00	11/17/2011	3:00	4.00	9.33	13.33	0.89	0.10	0.23	<3M
101	11/17/2011	14:40	11/17/2011	20:00	3.33	2.33	5.66	0.09	0.04	0.04	<3M
102	11/22/2011	23:20	11/23/2011	9:00	0.00	10.00	10.00	1.71	0.17	0.27	3-6M
103	11/30/2011	0:00	11/30/2011	4:20	0.00	4.67	4.67	0.97	0.21	0.53	3M
104	12/6/2011	10:40	12/6/2011	19:40	7.67	1.67	9.34	0.08	0.05	0.05	<3M
105	12/7/2011	4:40	12/8/2011	5:00	2.67	22.00	24.67	2.50	0.11	0.28	1-2YR
106	12/15/2011	19:00	12/15/2011	19:20	0.00	0.67	0.67	0.03	0.04	0.03	<3M
107	12/21/2011	13:20	12/22/2011	1:20	9.00	3.33	12.33	0.33	0.10	0.25	<3M
108	12/23/2011	0:20	12/23/2011	8:20	1.67	6.67	8.34	0.62	0.09	0.17	<3M
109	12/25/2011	21:40	12/25/2011	22:40	0.67	0.67	1.34	0.01	0.01	0.01	<3M
110	12/27/2011	19:40	12/28/2011	1:00	2.00	3.67	5.67	0.02	0.01	0.08	<3M

USGS RAIN GAUGE AT FRESH POND

CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS-USGS RAIN GAUGE
2011 STORM FREQUANCY ANALYSIS
FRESH POND PARKWAY, CAMBRIDGE, MA

ID	Beginning Date	Beginning Time	Ending Date	Ending Time	Inter-event duration	Rainfall Duration	Storm Duration	Total Rainfall	Average Intensity	Peak Intensity	Frequency
1	1/2/2011	6:15	1/3/2011	13:45	31.00	1.25	32.25	0.10	0.080	0.04	<3M
2	1/9/2011	6:30	1/9/2011	7:00	0.00	0.25	0.25	0.01	0.040	0.01	<3M
3	1/12/2011	1:30	1/12/2011	10:45	6.25	2.75	9.00	0.13	0.047	0.06	<3M
4	1/26/2011	18:45	1/27/2011	9:15	6.75	4.00	10.75	0.21	0.053	0.06	<3M
5	1/28/2011	11:30	1/28/2011	14:30	2.50	0.50	3.00	0.02	0.040	0.01	<3M
6	2/1/2011	8:45	2/1/2011	18:15	2.25	7.00	9.25	0.31	0.044	0.05	<3M
7	2/2/2011	2:00	2/2/2011	13:00	4.75	6.25	11.00	0.84	0.134	0.31	<3M
8	2/5/2011	16:30	2/6/2011	0:00	3.25	4.25	7.50	0.25	0.059	0.14	<3M
9	2/7/2011	23:15	2/8/2011	12:45	4.50	6.75	11.25	0.31	0.046	0.07	<3M
10	2/18/2011	20:15	2/18/2011	21:15	0.00	1.00	1.00	0.08	0.080	0.08	<3M
11	2/25/2011	0:30	2/26/2011	23:30	9.00	14.00	23.00	1.58	0.113	0.28	<3M
12	2/27/2011	7:00	2/27/2011	9:15	1.75	0.50	2.25	0.02	0.040	0.01	<3M
13	2/28/2011	9:45	2/28/2011	21:00	2.00	9.25	11.25	1.05	0.114	0.36	<3M
14	3/6/2011	21:15	3/7/2011	7:15	2.00	6.00	8.00	0.71	0.118	0.2	<3M
15	3/10/2011	22:15	3/11/2011	5:45	4.75	2.75	7.50	0.12	0.044	0.03	<3M
16	3/11/2011	9:30	3/11/2011	13:15	0.75	4.00	4.75	0.44	0.110	0.25	<3M
17	3/16/2011	9:15	3/16/2011	15:00	0.25	5.50	5.75	0.56	0.102	0.22	<3M
18	3/21/2011	11:45	3/21/2011	20:45	3.50	4.50	8.00	0.25	0.056	0.06	<3M
19	3/31/2011	18:30	4/1/2011	15:15	6.25	14.00	20.25	0.81	0.058	0.08	<3M
20	4/1/2011	19:30	4/1/2011	21:30	1.00	1.00	2.00	0.04	0.040	0.03	<3M
21	4/4/2011	11:15	4/4/2011	18:00	2.50	4.25	6.75	0.42	0.099	0.2	<3M
22	4/5/2011	13:45	4/5/2011	16:15	1.50	1.00	2.50	0.08	0.080	0.05	<3M
23	4/11/2011	0:30	4/11/2011	1:30	0.25	0.75	1.00	0.04	0.053	0.04	<3M
24	4/12/2011	22:30	4/14/2011	1:00	12.50	13.75	26.25	1.38	0.100	0.28	<3M
25	4/16/2011	21:30	4/17/2011	7:00	1.75	7.75	9.50	1.23	0.159	0.32	3M
26	4/19/2011	11:00	4/20/2011	0:00	10	4.00	14.00	0.19	0.048	0.07	<3M
27	4/23/2011	6:15	4/23/2011	17:30	5.75	6.50	12.25	0.45	0.069	0.1	<3M
28	4/25/2011	2:30	4/25/2011	3:00	0	0.50	0.50	0.02	0.040	0.02	<3M
29	4/26/2011	14:45	4/26/2011	15:00	0	0.25	0.25	0.01	0.040	0.01	<3M
30	4/27/2011	1:15	4/27/2011	1:30	0	0.25	0.25	0.01	0.040	0.01	<3M
31	4/27/2011	23:45	4/28/2011	0:00	0	0.25	0.25	0.01	0.040	0.01	<3M
32	4/28/2011	17:30	4/28/2011	17:45	0	0.25	0.25	0.02	0.080	0.02	<3M
33	5/4/2011	13:15	5/4/2011	22:45	5.25	4.25	9.50	0.38	0.089	0.15	<3M
34	5/5/2011	16:45	5/5/2011	17:15	0	0.5	0.50	0.03	0.060	0.03	<3M
35	5/7/2011	5:45	5/7/2011	19:00	10	3.25	13.25	0.25	0.077	0.09	<3M

36	5/10/2011	21:15	5/10/2011	21:30	0	0.25	0.25	0.01	0.040	0.01	<3M
37	5/11/2011	3:45	5/11/2011	13:15	9	0.5	9.50	0.02	0.040	0.01	<3M
38	5/14/2011	21:00	5/14/2011	21:15	0	0.25	0.25	0.01	0.040	0.01	<3M
39	5/15/2011	2:15	5/16/2011	5:30	19	9.25	28.25	0.88	0.095	0.28	<3M
40	5/16/2011	16:15	5/16/2011	20:00	3	0.75	3.75	0.11	0.147	0.08	<3M
41	5/17/2011	9:00	5/18/2011	9:30	21	3.5	24.50	0.19	0.054	0.05	<3M
42	5/18/2011	18:15	5/19/2011	5:45	9.25	3.25	12.50	0.42	0.129	0.28	<3M
43	5/19/2011	13:15	5/19/2011	22:15	7.5	1.5	9.00	0.12	0.080	0.08	<3M
44	5/23/2011	6:45	5/23/2011	8:45	0.25	1.75	2.00	0.10	0.057	0.07	<3M
45	5/24/2011	1:45	5/24/2011	3:00	0.5	0.75	1.25	0.04	0.053	0.03	<3M
46	5/28/2011	13:30	5/28/2011	13:45	0	0.25	0.25	0.01	0.040	0.01	<3M
47	6/1/2011	9:00	6/1/2011	22:00	11.25	1.5	12.75	0.32	0.213	0.25	<3M
48	6/9/2011	6:30	6/9/2011	20:30	11.25	4.75	16.00	0.57	0.120	0.21	<3M
49	6/11/2011	9:00	6/11/2011	13:15	2.75	1.5	4.25	0.14	0.093	0.08	<3M
50	6/11/2011	21:15	6/12/2011	7:30	3.25	7	10.25	0.76	0.109	0.31	<3M
51	6/13/2011	13:00	6/13/2011	7:15	2.25	1	3.25	0.04	0.040	0.01	<3M
52	6/14/2011	8:00	6/14/2011	8:15	0	0.25	0.25	0.01	0.040	0.01	<3M
53	6/17/2011	10:15	6/17/2011	13:15	1.75	1.25	3.00	0.09	0.072	0.08	<3M
54	6/18/2011	15:15	6/18/2011	16:15	0.25	0.75	1.00	0.19	0.253	0.19	<3M
55	6/22/2011	12:45	6/23/2011	7:45	7.5	11.5	19.00	1.48	0.129	0.29	3M
56	6/23/2011	14:45	6/24/2011	5:30	12.5	2.25	14.75	0.13	0.058	0.08	<3M
57	6/24/2011	23:15	6/25/2011	8:45	8	1.5	9.50	0.23	0.153	0.21	<3M
58	6/25/2011	22:00	6/26/2011	0:30	0.75	1.75	2.50	0.16	0.091	0.13	<3M
59	6/29/2011	3:30	6/29/2011	4:15	0	0.75	0.75	0.11	0.147	0.11	<3M
60	7/6/2011	21:15	7/6/2011	22:30	0.25	1	1.25	0.13	0.130	0.11	<3M
61	7/8/2011	7:30	7/8/2011	21:00	10.75	2.5	13.25	0.15	0.060	0.07	<3M
62	7/9/2011	0:00	7/9/2011	5:45	2.25	3.5	5.75	0.21	0.060	0.08	<3M
63	7/13/2011	16:45	7/13/2011	20:30	2.25	1.5	3.75	0.34	0.227	0.32	<3M
64	7/14/2011	1:15	7/14/2011	3:45	0.75	1.75	2.50	0.30	0.171	0.25	<3M
65	7/23/2011	9:00	7/23/2011	9:45	0	0.75	0.75	0.17	0.227	0.17	<3M
66	7/24/2011	7:30	7/24/2011	8:15	0	0.75	0.75	0.03	0.040	0.03	<3M
67	7/25/2011	17:00	7/25/2011	20:45	0.75	3	3.75	0.19	0.063	0.1	<3M
68	7/26/2011	18:15	7/26/2011	18:30	0	0.25	0.25	0.03	0.120	0.03	<3M
69	7/29/2011	21:30	7/30/2011	0:15	0.75	2	2.75	0.13	0.065	0.07	<3M
70	8/2/2011	16:45	8/2/2011	20:30	1	2.75	3.75	0.60	0.218	0.31	<3M
71	8/7/2011	2:30	8/7/2011	15:30	3.75	9	12.75	1.45	0.161	0.71	3M
72	8/8/2011	4:15	8/8/2011	18:00	11.5	2	13.50	0.56	0.280	0.34	<3M
73	8/9/2011	19:00	8/10/2011	3:00	2.5	5.5	8.00	1.75	0.318	0.9	1YR
74	8/14/2011	7:00	8/9/2011	16:00	8	0.75	8.75	0.04	0.053	0.04	<3M
75	8/15/2011	3:30	8/16/2011	3:15	10.25	13.5	23.75	1.19	0.088	0.24	<3M
76	8/19/2011	15:30	8/19/2011	20:15	3.75	1	4.75	0.15	0.150	0.14	<3M

77	8/22/2011	2:30	8/22/2011	6:15	2.5	1.25	3.75	0.52	0.416	0.51	3-6M
78	8/25/2011	15:30	8/25/2011	15:45	0	0.25	0.25	0.01	0.040	0.01	<3M
79	8/26/2011	0:00	8/26/2011	1:00	0	1	1.00	0.06	0.06	0.06	<3M
80	8/27/2011	14:15	8/28/2011	16:45	11.75	14.5	26.25	3.19	0.220	1.05	2-5YR
81	9/6/2011	3:00	9/7/2011	21:15	26.75	15.5	42.25	1.16	0.075	0.22	<3M
82	9/8/2011	3:00	9/8/2011	11:15	2.5	5.75	8.25	1.32	0.230	0.4	3M
83	9/15/2011	14:15	9/15/2011	20:00	5	0.75	5.75	0.05	0.067	0.04	<3M
84	9/20/2011	10:45	9/20/2011	14:45	1.5	2.5	4.00	0.13	0.052	0.09	<3M
85	9/22/2011	5:30	9/22/2011	13:00	5.75	1.75	7.50	0.12	0.069	0.07	<3M
86	9/23/2011	16:00	9/23/2011	22:15	2.5	3.75	6.25	0.34	0.091	0.22	<3M
87	9/24/2011	0:00	9/24/2011	5:00	1	4	5.00	0.58	0.145	0.22	<3M
88	9/29/2011	1:15	9/29/2011	19:30	13.25	5	18.25	1.17	0.234	0.43	<3M
89	10/1/2011	0:45	10/1/2011	21:30	16.5	4.25	20.75	0.77	0.181	0.26	<3M
90	10/2/2011	6:45	10/2/2011	7:15	0	0.5	0.50	0.03	0.060	0.03	<3M
91	10/3/2011	7:45	10/3/2011	8:30	0.25	0.5	0.75	0.02	0.040	0.02	<3M
92	10/3/2011	21:00	10/4/2011	5:45	4	4.75	8.75	0.81	0.171	0.34	<3M
93	10/4/2011	16:15	10/5/2011	0:15	5.75	2.25	8.00	0.12	0.053	0.05	<3M
94	10/13/2011	0:00	10/13/2011	13:30	4.5	9	13.50	0.96	0.107	0.34	<3M
95	10/14/2011	2:15	10/14/2011	22:00	13.5	6.25	19.75	1.04	0.166	0.33	<3M
96	10/16/2011	13:45	10/16/2011	14:00	0	0.25	0.25	0.01	0.040	0.01	<3M
97	10/19/2011	9:45	10/20/2011	11:30	11	14.5	25.50	1.66	0.114	0.23	<3M
98	10/25/2011	2:45	10/25/2011	3:00	0	0.25	0.25	0.01	0.040	0.01	<3M
99	10/26/2011	8:45	10/26/2011	12:00	2.5	0.75	3.25	0.03	0.040	0.01	<3M
100	10/27/2011	5:45	10/27/2011	23:30	3.75	14	17.75	0.94	0.067	0.12	<3M
101	10/29/2011	14:00	10/30/2011	7:00	4	13	17.00	0.90	0.069	0.11	<3M
102	11/10/2011	12:00	11/11/2011	2:15	6.5	7.75	14.25	0.93	0.120	0.29	<3M
103	11/16/2011	14:30	11/17/2011	3:15	5.25	7.5	12.75	0.77	0.103	0.2	<3M
104	11/17/2011	15:15	11/17/2011	22:30	6	1.25	7.25	0.05	0.040	0.02	<3M
105	11/22/2011	23:30	11/23/2011	10:45	1.25	10.25	11.50	1.37	0.134	0.22	<3M
106	11/30/2011	0:15	11/30/2011	4:15	0.5	3.5	4.00	0.94	0.269	0.5	3M
107	12/6/2011	10:45	12/7/2011	0:00	9	4.25	13.25	0.20	0.047	0.05	<3M
108	12/7/2011	4:30	12/8/2011	5:15	5.5	19.25	24.75	2.90	0.151	0.28	1-2YR
109	12/15/2011	19:00	12/15/2011	23:00	2.25	1.75	4.00	0.09	0.051	0.05	<3M
110	12/21/2011	13:30	12/21/2011	16:00	1	1.5	2.50	0.07	0.047	0.03	<3M
111	12/22/2011	0:15	12/22/2011	1:45	0.25	1.25	1.50	0.20	0.160	0.18	<3M
112	12/23/2011	0:30	12/23/2011	8:45	2	6.25	8.25	0.75	0.120	0.17	<3M
113	12/27/2011	19:45	12/28/2011	1:15	2.5	3	5.50	0.24	0.080	0.09	<3M

APPENDIX II

January 2011 Daily Rainfall and Combined Sewer Overflows

				Alewife Brook						Charles River			
January	Rain Gauges			CAM 001	CAM 002	CAM 401B	CAM 400	CAM 004	401A	CAM 005	CAM 007	CAM 017	Total
	DPW 147 Hampshire Street	Water Dept. Fresh Pond	USGS Fresh Pond	Foch St. @ Alewife Alewife Brook	Mass Ave. @ Alewife Alewife Brook	Columbus @ Mass Ave. Alewife Brook	Harrison St. @ Alewife Alewife Brook	Concord Ave @ Rotary Alewife Brook	Sherman St. Alewife Brook	Lowell St. @ Mt. Auburn St Charles River	Hawthorne St. @ Memorial Dr. Charles River	Edwin Land Blvd. @ Binney St. Charles River	
	(in)	(in)	(in)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	**(GPD)**
1			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
2			0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
3			0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
4			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
5			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
6			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
7			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
8			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
9			0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
10			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
11			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
12			0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
13			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
14			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
15	Rain Gauge	Rain Gauge	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
16	Removed	Removed for	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
17	for Winter	Winter	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
18			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
19			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
20			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
21			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
22			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
23			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
24			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
25			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
26			0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
27			0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
28			0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
29			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
30			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
31			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Total			0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**

Alewife Brook outfall CAM002B is temporarily plugged
Charles River outfalls CAM009 and CAM011 are temporarily plugged

February 2011 Daily Rainfall and Combined Sewer Overflows

				Alewife Brook						Charles River			
February	Rain Gauges			CAM 001	CAM 002	CAM 401B	CAM 400	CAM 004	401A	CAM 005	CAM 007	CAM 017	Total
	DPW 147 Hampshire Street	Water Dept. Fresh Pond	USGS Fresh Pond	Foch St. @ Alewife Alewife Brook	Mass Ave. @ Alewife Alewife Brook	Columbus @ Mass Ave. Alewife Brook	Harrison St. @ Alewife Alewife Brook	Concord Ave @ Rotary Alewife Brook	Sherman St. Alewife Brook	Lowell St. @ Mt. Auburn St Charles River	Hawthorne St. @ Memorial Dr. Charles River	Edwin Land Blvd. @ Binney St. Charles River	
	(in)	(in)	(in)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	**(GPD)**
1			0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
2			0.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
3			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
4			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
5			0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
6			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
7			0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
8			0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
9			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
10			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
11			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
12			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
13			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
14			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
15	Rain Gauge	Rain Gauge	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
16	Removed	Removed for	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
17	for Winter	Winter	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
18			0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
19			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
20			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
21			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
22			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
23			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
24			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
25			1.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
26			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
27			0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
28			1.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
													0.00
													0.00
													0.00
Total			4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**

Alewife Brook outfall CAM002B is temporarily plugged
Charles River outfalls CAM009 and CAM011 are temporarily plugged

March 2011 Daily Rainfall and Combined Sewer Overflows

				Alewife Brook						Charles River			
March	Rain Gauges			CAM 001	CAM 002	CAM 401B	CAM 400	CAM 004	401A	CAM 005	CAM 007	CAM 017	Total
	DPW 147 Hampshire Street	Water Dept. Fresh Pond	USGS Fresh Pond	Foch St. @ Alewife Alewife Brook	Mass Ave. @ Alewife Alewife Brook	Columbus @ Mass Ave. Alewife Brook	Harrison St. @ Alewife Alewife Brook	Concord Ave @ Rotary Alewife Brook	Sherman St. Alewife Brook	Lowell St. @ Mt. Auburn St Charles River	Hawthorne St. @ Memorial Dr. Charles River	Edwin Land Blvd. @ Binney St. Charles River	
	(in)	(in)	(in)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	**(GPD)**
1	Rain Gauge Removed for Winter	Rain Gauge Removed for Winter	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
2			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
3			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
4			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
5			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
6			0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
7			0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
8			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
9			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
10	0.05		0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
11	0.54		0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
12	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
13	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
14	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
15	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
16	0.58		0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
17	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
18	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
19	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
20	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
21	0.31	0.31	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
31	0.21	0.12	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Total	1.69	0.43	2.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**

Alewife Brook outfall CAM002B is temporarily plugged
Charles River outfalls CAM009 and CAM011 are temporarily plugged

April 2011 Daily Rainfall and Combined Sewer Overflows

				Alewife Brook						Charles River			
April	Rain Gauges			CAM 001	CAM 002	CAM 401B	CAM 400	CAM 004	401A	CAM 005	CAM 007	CAM 017	Total
	DPW 147 Hampshire Street	Water Dept. Fresh Pond	USGS Fresh Pond	Foch St. @ Alewife Alewife Brook	Mass Ave. @ Alewife Alewife Brook	Columbus @ Mass Ave. Alewife Brook	Harrison St. @ Alewife Alewife Brook	Concord Ave @ Rotary Alewife Brook	Sherman St. Alewife Brook	Lowell St. @ Mt. Auburn St Charles River	Hawthorne St. @ Memorial Dr. Charles River	Edwin Land Blvd. @ Binney St. Charles River	
	(in)	(in)	(in)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	**(GPD)**
1	0.84	1.07	0.67	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
2	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
3	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
4	0.39	0.47	0.42	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
5	0.09	0.10	0.08	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
6	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
7	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
8	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
9	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
10	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
11	0.03	0.04	0.04	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
12	0.06	0.10	0.08	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
13	1.29	1.50	1.29	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
14	0.01	0.01	0.01	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
15	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
16	0.04	0.06	0.06	0.00	0.00	0.00	Closed	0.00	0.00	0.00	0.00	0.00	**0.00**
17	1.08	1.36	1.17	0.00	0.00	0.00		209,470.00	0.00	0.00	0.00	0.00	**209,470.00**
18	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
19	0.18	0.21	0.19	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
20	0.00	0.01	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
21	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
22	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
23	0.45	0.51	0.45	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
24	0.03	0.02	0.02	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
25	0.00	0.00	0.01	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
26	0.00	0.01	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
27	0.01	0.02	0.02	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
28	0.03	0.02	0.02	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
29	0.00	no data	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
30	0.00	no data	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
													0.00
Total	4.53	5.51	4.53	0.00	0.00	0.00		209,470.00	0.00	0.00	0.00	0.00	**209,470.00**

Alewife Brook outfall CAM002B is temporarily plugged
Charles River outfalls CAM009 and CAM011 are temporarily plugged
CAM 400 Permanently closed on March 31, 2011

May 2011 Daily Rainfall and Combined Sewer Overflows

				Alewife Brook						Charles River			
May	Rain Gauges			CAM 001	CAM 002	CAM 401B	CAM 400	CAM 004	401A	CAM 005	CAM 007	CAM 017	Total
	DPW 147 Hampshire Street	Water Dept. Fresh Pond	USGS Fresh Pond	Foch St. @ Alewife Alewife Brook	Mass Ave. @ Alewife Alewife Brook	Columbus @ Mass Ave. Alewife Brook	Harrison St. @ Alewife Alewife Brook	Concord Ave @ Rotary Alewife Brook	Sherman St. Alewife Brook	Lowell St. @ Mt. Auburn St Charles River	Hawthorne St. @ Memorial Dr. Charles River	Edwin Land Blvd. @ Binney St. Charles River	
	(in)	(in)	(in)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	**(GPD)**
1	0.00	no data	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
2	0.00	no data	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
3	0.00	no data	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
4	0.42	0.49	0.38	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
5	0.03	0.03	0.03	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
6	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
7	0.29	0.29	0.25	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
8	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
9	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
10	0.00	0.01	0.01	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
11	0.05	0.03	0.02	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
12	0.00	0.01	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
13	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
14	0.02	0.01	0.01	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
15	0.60	0.67	0.55	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
16	0.54	0.54	0.44	0.00	0.00	0.00	Closed	0.00	0.00	0.00	0.00	0.00	**0.00**
17	0.16	0.21	0.16	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
18	0.12	0.10	0.08	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
19	0.52	0.59	0.49	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
20	0.01	0.01	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
21	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
22	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
23	0.12	0.11	0.10	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
24	0.06	0.05	0.04	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
25	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
26	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
27	0.01	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
28	0.00	0.01	0.01	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
29	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
30	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
31	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
Total	2.95	3.16	2.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**

Alewife Brook outfall CAM002B is temporarily plugged
Charles River outfalls CAM009 and CAM011 are temporarily plugged
CAM 400 Permanently closed on March 31, 2011

June 2011 Daily Rainfall and Combined Sewer Overflows

June	Rain Gauges			Alewife Brook						Charles River			Total
				CAM 001	CAM 002	CAM 401B	CAM 400	CAM 004	401A	CAM 005	CAM 007	CAM 017	
	DPW 147 Hampshire Street	Water Dept. Fresh Pond	USGS Fresh Pond	Foch St. @ Alewife Alewife Brook	Mass Ave. @ Alewife Alewife Brook	Columbus @ Mass Ave. Alewife Brook	Harrison St. @ Alewife Alewife Brook	Concord Ave @ Rotary Alewife Brook	Sherman St. Alewife Brook	Lowell St. @ Mt. Auburn St Charles River	Hawthorne St. @ Memorial Dr. Charles River	Edwin Land Blvd. @ Binney St. Charles River	
	(in)	(in)	(in)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	**(GPD)**
1	0.49	0.37	0.32	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
2	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
3	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
4	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
5	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
6	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
7	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
8	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
9	0.67	0.72	0.57	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
10	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
11	0.75	0.72	0.63	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
12	0.42	0.33	0.27	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
13	0.02	0.05	0.04	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
14	0.01	0.01	0.01	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
15	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
16	0.00	0.00	0.00	0.00	0.00	0.00	Closed	0.00	0.00	0.00	0.00	0.00	**0.00**
17	0.07	0.08	0.09	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
18	0.11	0.23	0.19	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
19	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
20	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
21	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
22	1.32	1.50	1.24	0.00	0.00	3,841.37		0.00	0.00	0.00	0.00	0.00	**3,841.37**
23	0.32	0.33	0.35	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
24	0.03	0.02	0.03	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
25	0.40	0.45	0.36	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
26	0.02	0.02	0.02	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
27	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
28	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	-87.68	0.00	**-87.68**
29	0.08	0.11	0.11	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
30	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
Total	4.71	4.94	4.23	0.00	0.00	3,841.37	0.00	0.00	0.00	0.00	-87.68	0.00	**3,753.69**

Alewife Brook outfall CAM002B is temporarily plugged
Charles River outfalls CAM009 and CAM011 are temporarily plugged
CAM 400 Permanently closed on March 31, 2011

July 2011 Daily Rainfall and Combined Sewer Overflows

				Alewife Brook						Charles River			
July	Rain Gauges			CAM 001	CAM 002	CAM 401B	CAM 400	CAM 004	401A	CAM 005	CAM 007	CAM 017	Total
	DPW 147 Hampshire Street	Water Dept. Fresh Pond	USGS Fresh Pond	Foch St. @ Alewife Alewife Brook	Mass Ave. @ Alewife Alewife Brook	Columbus @ Mass Ave. Alewife Brook	Harrison St. @ Alewife Alewife Brook	Concord Ave @ Rotary Alewife Brook	Sherman St. Alewife Brook	Lowell St. @ Mt. Auburn St Charles River	Hawthorne St. @ Memorial Dr. Charles River	Edwin Land Blvd. @ Binney St. Charles River	
	(in)	(in)	(in)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	**(GPD)**
1	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
2	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
3	0.05	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
4	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	-518.71	0.00	**-518.71**
5	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	-704.25	0.00	**-704.25**
6	0.01	0.15	0.13	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
7	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
8	0.23	0.18	0.15	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
9	0.23	0.26	0.21	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
10	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
11	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
12	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
13	0.42	0.42	0.34	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
14	0.38	0.4	0.3	0.00	25,248.84	0.00		0.00	0.00	0.00	0.00	0.00	**25,248.84**
15	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
16	0	0	0	0.00	0.00	0.00	Closed	0.00	0.00	0.00	0.00	0.00	**0.00**
17	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
18	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
19	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
20	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
21	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
22	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
23	0.18	0.19	0.17	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
24	0.02	0.04	0.03	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
25	0.17	0.2	0.19	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
26	0.02	0.03	0.03	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
27	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
28	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
29	0.15	0.14	0.12	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
30	0.01	0.01	0.01	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
31	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
Total	1.87	2.02	1.68	0.00	25,248.84	0.00	0.00	0.00	0.00	0.00	-1,222.96	0.00	**24,025.88**

Alewife Brook outfall CAM002B is temporarily plugged
Charles River outfalls CAM009 and CAM011 are temporarily plugged
CAM 400 Permanently closed on March 31, 2011

August 2011 Daily Rainfall and Combined Sewer Overflows

				Alewife Brook						Charles River			
August	Rain Gauges			CAM 001	CAM 002	CAM 401B	CAM 400	CAM 004	401A	CAM 005	CAM 007	CAM 017	Total
	DPW 147 Hampshire Street	Water Dept. Fresh Pond	USGS Fresh Pond	Foch St. @ Alewife Alewife Brook	Mass Ave. @ Alewife Alewife Brook	Columbus @ Mass Ave. Alewife Brook	Harrison St. @ Alewife Alewife Brook	Concord Ave @ Rotary Alewife Brook	Sherman St. Alewife Brook	Lowell St. @ Mt. Auburn St Charles River	Hawthorne St. @ Memorial Dr. Charles River	Edwin Land Blvd. @ Binney St. Charles River	
	(in)	(in)	(in)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	**(GPD)**
1	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
2	0.6	0.7	0.6	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
3	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
4	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
5	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
6	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
7	1.41	1.69	1.45	910.00	156,180.54	49,943.48		1,590,870.00	205,681.94	0.00	0.00	0.00	**2,003,585.96**
8	0.59	0.59	0.56	0.00	0.00	0.00		11,290.00	0.00	0.00	0.00	0.00	**11,290.00**
9	1.11	1.31	1.12	42,480.00	422,037.58	97,198.82		1,190,340.00	1,148,313.70	204,843.37	32,227.70	0.00	**3,137,441.17**
10	1.26	1.04	0.63	7,170.00	357,335.75	180,133.80		2,239,300.00	674,082.40	99,162.08	457,404.98	94,701.76	**4,109,290.76**
11	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
12	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
13	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
14	0.02	0.03	0.04	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
15	1.45	1.47	1.18	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
16	0.01	0.01	0.01	0.00	0.00	0.00	Closed	0.00	0.00	0.00	0.00	0.00	**0.00**
17	0	0.01	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
18	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
19	0.68	0.16	0.15	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
20	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
21	0.06	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
22	0.39	0.6	0.52	0.00	96,963.97	0.00		299,670.00	0.00	0.00	0.00	0.00	**396,633.97**
23	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
24	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
25	0	0.01	0.01	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
26	0.06	0.06	0.06	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
27	1.76	1.96	1.72	58,900.00	576,917.37	136,392.81		2,488,280.00	686,080.54	73,009.49	139,377.11	10,392.86	**4,169,350.19**
28	1.3	1.71	1.47	0.00	65,029.09	28,481.03		1,601,990.00	0.00	0.00	0.00	0.00	**1,695,500.12**
29	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
30	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
31	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
Total	10.70	11.35	9.52	109,460.00	1,674,464.31	492,149.94	0.00	9,421,740.00	2,714,158.58	377,014.94	629,009.79	105,094.62	**15,523,092.17**

Alewife Brook outfall CAM002B is temporarily plugged
Charles River outfalls CAM009 and CAM011 are temporarily plugged
CAM 400 Permanently closed on March 31, 2011

September 2011 Daily Rainfall and Combined Sewer Overflows

				Alewife Brook						Charles River			
September	Rain Gauges			CAM 001	CAM 002	CAM 401B	CAM 400	CAM 004	401A	CAM 005	CAM 007	CAM 017	Total
	DPW 147 Hampshire Street	Water Dept. Fresh Pond	USGS Fresh Pond	Foch St. @ Alewife Alewife Brook	Mass Ave. @ Alewife Alewife Brook	Columbus @ Mass Ave. Alewife Brook	Harrison St. @ Alewife Alewife Brook	Concord Ave @ Rotary Alewife Brook	Sherman St. Alewife Brook	Lowell St. @ Mt. Auburn St Charles River	Hawthorne St. @ Memorial Dr. Charles River	Edwin Land Blvd. @ Binney St. Charles River	
	(in)	(in)	(in)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	**(GPD)**
1	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
2	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
3	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
4	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	-137.21	0.00	**-137.21**
5	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
6	0.8	0.99	0.77	0.00	0.00	0.00		0.00	0.00	0.00	-3,535.02	0.00	**-3,535.02**
7	0.59	0.5	0.39	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
8	1.31	1.61	1.32	0.00	76,434.94	66,242.79		2,195,340.00	0.00	0.00	-23,772.07	0.00	**2,314,245.66**
9	0.01	0	0	0.00	0.00	0.00		0.00	0.00	0.00	-29.22	0.00	**-29.22**
10	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	-1,392.31	0.00	**-1,392.31**
11	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	-164.68	0.00	**-164.68**
12	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	-34.44	0.00	**-34.44**
13	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
14	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
15	0.17	0.06	0.05	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
16	0	0	0	0.00	0.00	0.00	Closed	0.00	0.00	0.00	0.00	0.00	**0.00**
17	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
18	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
19	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
20	0.14	0.14	0.13	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
21	0	0.01	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
22	0.17	0.12	0.12	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
23	0.55	0.46	0.34	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
24	0.68	0.63	0.58	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
25	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
26	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
27	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	-34,338.73	0.00	**-34,338.73**
28	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
29	1.7	1.35	1.17	0.00	47,309.35	0.00		108,370.00	0.00	0.00	0.00	0.00	**155,679.35**
30	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
													0.00
Total	6.12	5.87	4.87	0.00	123,744.29	66,242.79	0.00	2,303,710.00	0.00	0.00	-63,403.68	0.00	**2,430,293.41**

Alewife Brook outfall CAM002B is temporarily plugged
Charles River outfalls CAM009 and CAM011 are temporarily plugged
CAM 400 Permanently closed on March 31, 2011

October 2011 Daily Rainfall and Combined Sewer Overflows

				Alewife Brook						Charles River			
October	Rain Gauges			CAM 001	CAM 002	CAM 401B	CAM 400	CAM 004	401A	CAM 005	CAM 007	CAM 017	**Total**
	DPW 147 Hampshire Street	Water Dept. Fresh Pond	USGS Fresh Pond	Foch St. @ Alewife Alewife Brook	Mass Ave. @ Alewife Alewife Brook	Columbus @ Mass Ave. Alewife Brook	Harrison St. @ Alewife Alewife Brook	Concord Ave @ Rotary Alewife Brook	Sherman St. Alewife Brook	Lowell St. @ Mt. Auburn St Charles River	Hawthorne St. @ Memorial Dr. Charles River	Edwin Land Blvd. @ Binney St. Charles River	
	(in)	(in)	(in)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	**(GPD)**
1	0.59	0.91	0.77	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
2	0.03	0.04	0.03	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
3	0.03	0.05	0.04	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
4	1	1.14	0.9	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
5	0.01	0.01	0.01	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
6	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
7	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
8	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
9	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
10	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
11	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
12	0.03	0.01	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
13	1.26	1.18	0.96	0.00	4,309.96	0.00		560.00	0.00	0.00	0.00	0.00	**4,869.96**
14	0.79	1.2	1.04	0.00	0.00	0.00		65,100.00	0.00	0.00	0.00	0.00	**65,100.00**
15	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
16	0	0	0	0.00	0.00	0.00	Closed	0.00	0.00	0.00	0.00	0.00	**0.00**
17	0.01	0.01	0.01	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
18	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
19	1.51	1.61	1.22	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
20	0.53	0.61	0.44	0.00	0.00	0.00		0.00	0.00	0.00	-137.21	0.00	**0.00**
21	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
22	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
23	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
24	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
25	0	0.01	0.01	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
26	0.03	0.04	0.03	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
27	1.12	1.22	0.94	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
28	0	0.01	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
29	0.63	0.76	0.77	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
30	0.68	0.72	0.13	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
31	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
Total	8.25	9.53	7.30	0.00	4,309.96	0.00	0.00	65,660.00	0.00	0.00	0.00	0.00	**69,969.96**

Alewife Brook outfall CAM002B is temporarily plugged
Charles River outfalls CAM009 and CAM011 are temporarily plugged
CAM 400 Permanently closed on March 31, 2011

November 2011 Daily Rainfall and Combined Sewer Overflows

				Alewife Brook						Charles River			
November	Rain Gauges			CAM 001	CAM 002	CAM 401B	CAM 400	CAM 004	401A	CAM 005	CAM 007	CAM 017	**Total**
	DPW 147 Hampshire Street	Water Dept. Fresh Pond	USGS Fresh Pond	Foch St. @ Alewife Alewife Brook	Mass Ave. @ Alewife Alewife Brook	Columbus @ Mass Ave. Alewife Brook	Harrison St. @ Alewife Alewife Brook	Concord Ave @ Rotary Alewife Brook	Sherman St. Alewife Brook	Lowell St. @ Mt. Auburn St Charles River	Hawthorne St. @ Memorial Dr. Charles River	Edwin Land Blvd. @ Binney St. Charles River	
	(in)	(in)	(in)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	**(GPD)**
1	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	-28,169.33	0.00	**-28,169.33**
2	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	-64,668.21	0.00	**-64,668.21**
3	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	-97,364.19	0.00	**-97,364.19**
4	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	-43,294.31	0.00	**-43,294.31**
5	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	-15,789.06	0.00	**-15,789.06**
6	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	-2,729.00	0.00	**-2,729.00**
7	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	-4,793.20	0.00	**-4,793.20**
8	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	-32,528.07	0.00	**-32,528.07**
9	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
10	0.92	1.07	0.92	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
11	0	0	0.01	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
12	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
13	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
14	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
15	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
16	0.84	0.87	0.73	0.00	0.00	0.00	Closed	0.00	0.00	0.00	0.00	0.00	**0.00**
17	0.14	0.09	0.09	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
18	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
19	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
20	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
21	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
22	0.06	0.07	0.04	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
23	1.65	1.67	1.33	0.00	0.00	598.59		0.00	0.00	0.00	-24,181.65	0.00	**0.00**
24	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
25	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
26	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
27	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
28	0	0	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
29	0	0.01	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
30	0.97	1.09	0.94	0.00	44,713.85	27,996.64		745,900.00	0.00	0.00	0.00	0.00	**818,610.49**
											0.00		**0.00**
Total	4.58	4.87	4.06	0.00	44,713.85	28,595.23	0.00	745,900.00	0.00	0.00	-313,517.02	0.00	**505,692.06**

Alewife Brook outfall CAM002B is temporarily plugged
Charles River outfalls CAM009 and CAM011 are temporarily plugged
CAM 400 Permanently closed on March 31, 2011

December 2011 Daily Rainfall and Combined Sewer Overflows

				Alewife Brook						Charles River			
December	Rain Gauges			CAM 001	CAM 002	CAM 401B	CAM 400	CAM 004	401A	CAM 005	CAM 007	CAM 017	Total
	DPW 147 Hampshire Street	Water Dept. Fresh Pond	USGS Fresh Pond	Foch St. @ Alewife Alewife Brook	Mass Ave. @ Alewife Alewife Brook	Columbus @ Mass Ave. Alewife Brook	Harrison St. @ Alewife Alewife Brook	Concord Ave @ Rotary Alewife Brook	Sherman St. Alewife Brook	Lowell St. @ Mt. Auburn St Charles River	Hawthorne St. @ Memorial Dr. Charles River	Edwin Land Blvd. @ Binney St. Charles River	
	(in)	(in)	(in)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	**(GPD)**
1	0	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
2	0	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
3	0	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
4	0	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
5	0	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
6	0.08	0.09	0.20	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
7	1.57	1.72	1.97	0.00	0.00	0.00		1,106,170.00	0.00	0.00	0.00	0.00	**1,106,170.00**
8	0.93	1.05	0.91	0.00	0.00	35,287.59		0.00	0.00	0.00	0.00	0.00	**35,287.59**
9	0	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
10	0	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
11	0	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
12	0	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
13	0	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
14	0	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
15	0.03	0.05	0.09	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
16	0	0	0.00	0.00	0.00	0.00	Closed	0.00	0.00	0.00	0.00	0.00	**0.00**
17	0	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
18	0	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
19	0	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
20	0	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
21	0.06	0.06	0.07	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
22	0.27	0.25	0.20	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
23	0.62	0.72	0.75	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
24	0	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
25	0.02	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
26	0	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
27	0.18	0.23	0.21	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
28	0.02	0.02	0.03	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
29	0	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
30	0	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
31	0	0.01	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**0.00**
Total	3.78	4.20	4.43	0.00	0.00	35,287.59	0.00	1,106,170.00	0.00	0.00	0.00	0.00	**1,141,457.59**

Alewife Brook outfall CAM002B is temporarily plugged
Charles River outfalls CAM009 and CAM011 are temporarily plugged
CAM 400 Permanently closed on March 31, 2011

Month	Rain Gauges			Alewife Brook						Charles River			Total
	DPW 147 Hampshire Street	Water Dept. Fresh Pond	USGS Fresh Pond	CAM 001 Foch St. @ Alewife Alewife Brook	CAM 002 Mass Ave. @ Alewife Alewife Brook	CAM 401B Columbus @ Mass Ave. Alewife Brook	CAM 400 Harrison St. @ Alewife Alewife Brook	CAM 004 Concord Ave @ Rotary Alewife Brook	401A Sherman St. Alewife Brook	CAM 005 Lowell St. @ Mt. Auburn St Charles River	CAM 007 Hawthorne St. @ Memorial Dr. Charles River	CAM 017 Edwin Land Blvd. @ Binney St. Charles River	
	(in)	(in)	(in)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)
January	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
February	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
March	1.69	0.43	2.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
April	4.53	5.51	4.53	0.00	0.00	0.00		209,470.00	0.00	0.00	0.00	0.00	209,470.00
May	2.95	3.16	2.57	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00
June	4.71	4.94	4.23	0.00	0.00	3,841.37		0.00	0.00	0.00	-87.68	0.00	3,841.37
July	1.87	2.02	1.68	0.00	25,248.84	0.00		0.00	0.00	0.00	-1,222.96	0.00	25,248.84
August	10.70	11.35	9.52	109,460.00	1,674,464.31	492,149.94	CLOSED	9,421,740.00	2,714,158.58	377,014.94	629,009.79	105,094.62	15,523,092.17
September	6.12	5.87	4.87	0.00	123,744.29	66,242.79		2,303,710.00	0.00	0.00	-63,403.68	0.00	2,493,697.08
October	8.25	9.53	7.30	0.00	4,309.96	0.00		65,660.00	0.00	0.00	0.00	0.00	69,969.96
November	4.58	4.87	4.06	0.00	44,713.85	28,595.23		745,900.00	0.00	0.00	-313,517.02	0.00	819,209.08
December	3.78	4.20	4.43	0.00	0.00	35,287.59		1,106,170.00	0.00	0.00	0.00	0.00	1,141,457.59
Total	49.18	51.88	50.36	109,460.00	1,872,481.24	626,116.92	0.00	13,852,650.00	2,714,158.58	377,014.94	629,009.79	105,094.62	**20,285,986.09**

APPENDIX III

City of Cambridge Monthly Combined Sewer Overflow Inspection Form

	CAM 001	CAM 002A/B	CAM 401B	CAM 400	CAM 004	CAM 401A	CAM 005	CAM 007*	CAM 009	CAM 011	CAM 017
Event Year 2011	FOCH ST. @ ALEWIFE ALEWIFE BROOK	MASS AVE. @ ALEWIFE ALEWIFE BROOK	COLUMBUS @ MASS AVE. ALEWIFE BROOK	HARRISON ST. @ ALEWIFE ALEWIFE BROOK	CONCORD AVE. @ ROTARY ALEWIFE BROOK	SHERMAN ST. ALEWIFE BROOK	LOWELL ST. & MT AUBURN ST. CHARLES RIVER	HAWTHORNE ST. @ MEMORIAL DR. CHARLES RIVER	OLD MURRAY ST. @ MEMORIAL DR. CHARLES RIVER	PLYMPTON ST. @ MEMORIAL DR. CHARLES RIVER	EDWIN LAND BLVD. @ BINNEY ST. CHARLES RIVER
Date of Inspection											
Is CSO Operating Satisfactorily (Yes or No)											
If No, What was the problem							Outfall pipe needs to be cleaned of sediment				
Date of maintenance to fix problem											
Was problem corrected (Yes or No)											
Is Weir Wall present (Yes or No)	Yes	Yes	Yes	NO	Yes	Yes	Yes	Yes			Yes
Condition of Weir Wall (Good, Fair, or Poor)	Good	Good	Good		Good	Good	Good	Good			Good
Material of Weir Wall (Wood, Concrete, or Metal)	Brick	Stainless steel	None		Wood	Stainless steel	Wood	Concrete			Concrete and Plywood
Is CSO sign present (Yes or No)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes
Is CSO meter present (Yes or No)	No	Yes	Yes		Yes	Yes	Yes	Yes			Yes
Is meter operating Properly (Yes or No)		Yes	Yes		Yes	Yes	Yes	Yes			Yes
Does meter need maintence (Yes or No)		No	No		No	No	No	No			No
If Yes, what type of maintenance is needed											
Date of maintenance to fix problem											

City of Cambridge Monthly Combined Sewer Overflow Inspection Form

	CAM 001	CAM 002A/B	CAM 401B	CAM 400	CAM 004	CAM 401A	CAM 005	CAM 007*	CAM 009	CAM 011	CAM 017
Event Year 2011 January - February	FOCH ST. @ ALEWIFE ALEWIFE BROOK	MASS AVE. @ ALEWIFE ALEWIFE BROOK	COLUMBUS @ MASS AVE. ALEWIFE BROOK	HARRISON ST. @ ALEWIFE ALEWIFE BROOK	CONCORD AVE. @ ROTARY ALEWIFE BROOK	SHERMAN ST. ALEWIFE BROOK	LOWELL ST. & MT AUBURN ST. CHARLES RIVER	HAWTHORNE ST. @ MEMORIAL DR. CHARLES RIVER	OLD MURRAY ST. @ MEMORIAL DR. CHARLES RIVER	PLYMPTON ST. @ MEMORIAL DR. CHARLES RIVER	EDWIN LAND BLVD. @ BINNEY ST. CHARLES RIVER
Date of Inspection	2/22/2011	2/22/2011	2/22/2011	2/22/2011	3/2/2011	2/22/2011	3/1/2011	3/1/2011			3/1/2011
Is CSO Operating Satisfactorily (Yes or No)	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Closed	Closed	Yes
If No, What was the problem		Outfall pipe rehabilitated by CIPP lining Nov 1, 2010					Outfall pipe needs to be cleaned of sediment				
Date of maintenance to fix problem											
Was problem corrected (Yes or No)											
Is Weir Wall present (Yes or No)	Yes		Yes	Yes	Yes	Yes	Yes	Yes			Yes
Condition of Weir Wall (Good, Fair, or Poor)	Good		Good	Good	Good	Good	Good	Good			Good
Material of Weir Wall (Wood, Concrete, or Metal)	Brick		Concrete	Concrete	Wood	Stainless Steel	Wood	Concrete			Concrete
Is CSO sign present (Yes or No)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes
Is CSO meter present (Yes or No)	No	No	Yes	Yes	Yes	Yes	Yes	Yes			Yes
Is meter operating Properly (Yes or No)			Yes	Yes	Yes	Yes	Yes	Yes			Yes
Does meter need maintence (Yes or No)											
If Yes, what type of maintenance is needed											
Date of maintenance to fix problem											
		New regulator structure CAM 002A/B completed Oct 1, 2010	New regulator structure CAM 401B completed Oct 1, 2010								

City of Cambridge Monthly Combined Sewer Overflow Inspection Form

Event Year 2011 March/April	CAM 001 FOCH ST. @ ALEWIFE ALEWIFE BROOK	CAM 002A/B MASS AVE. @ ALEWIFE ALEWIFE BROOK	CAM 401B COLUMBUS @ MASS AVE. ALEWIFE BROOK	CAM 400 HARRISON ST. @ ALEWIFE ALEWIFE BROOK	CAM 004 CONCORD AVE. @ ROTARY ALEWIFE BROOK	CAM 401A SHERMAN ST. ALEWIFE BROOK	CAM 005 LOWELL ST. & MT AUBURN ST. CHARLES RIVER	CAM 007* HAWTHORNE ST. @ MEMORIAL DR. CHARLES RIVER	CAM 009 OLD MURRAY ST. @ MEMORIAL DR. CHARLES RIVER	CAM 011 PLYMPTON ST. @ MEMORIAL DR. CHARLES RIVER	CAM 017 EDWIN LAND BLVD. @ BINNEY ST. CHARLES RIVER
Date of Inspection	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/7/2011	4/6/2011	4/6/2011	4/6/2011			4/6/2011
Is CSO Operating Satisfactorily (Yes or No)	Yes		Yes	Closed	Yes	Yes	Yes	Yes	Closed	Closed	Yes
If No, What was the problem		Both outfall pipes rehabilitated by CIPP lining Nov 1, 2010					Outfall pipe needs to be cleaned of sediment				
Date of maintenance to fix problem											
Was problem corrected (Yes or No)											
Is Weir Wall present (Yes or No)	Yes		Yes		Yes	Yes	Yes	Yes			Yes
Condition of Weir Wall (Good, Fair, or Poor)	Good **		Good		Good	Good	Good	Good			Good
Material of Weir Wall (Wood, Concrete, or Metal)	Brick		Concrete		Wood	Stainless Steel	Wood	Concrete			Concrete
Is CSO sign present (Yes or No)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes
Is CSO meter present (Yes or No)	No **	No	Yes	No	Yes	Yes	Yes	Yes			Yes
Is meter operating Properly (Yes or No)			Yes		Yes	Yes	Yes	Yes			Yes
Does meter need maintence (Yes or No)											
If Yes, what type of maintenance is needed											
Date of maintenance to fix problem											
		New regulator structure CAM 002A/B completed Oct 1, 2010	New regulator structure CAM 401B completed Oct 1, 2010	CSO Closed on 3/31/2011							

** CAM 001 DPW plans to install a new manhole for the housing of metering equipment during August 2011.

City of Cambridge Monthly Combined Sewer Overflow Inspection Form

	CAM 001	CAM 002A/B	CAM 401B	CAM 400	CAM 004	CAM 401A	CAM 005	CAM 007*	CAM 009	CAM 011	CAM 017
Event Year 2011 May	FOCH ST. @ ALEWIFE ALEWIFE BROOK	MASS AVE. @ ALEWIFE ALEWIFE BROOK	COLUMBUS @ MASS AVE. ALEWIFE BROOK	HARRISON ST. @ ALEWIFE ALEWIFE BROOK	CONCORD AVE. @ ROTARY ALEWIFE BROOK	SHERMAN ST. ALEWIFE BROOK	LOWELL ST. & MT AUBURN ST. CHARLES RIVER	HAWTHORNE ST. @ MEMORIAL DR. CHARLES RIVER	OLD MURRAY ST. @ MEMORIAL DR. CHARLES RIVER	PLYMPTON ST. @ MEMORIAL DR. CHARLES RIVER	EDWIN LAND BLVD. @ BINNEY ST. CHARLES RIVER
Date of Inspection	5/31/2011	5/31/2011	5/31/2011		5/31/2011	5/31/2011	5/31/2011	5/31/2011	5/31/2011	5/31/2011	5/31/2011
Is CSO Operating Satisfactorily (Yes or No)	yes	yes	yes	Closed	yes	yes	yes	yes	Closed	Closed	yes
If No, What was the problem							Outfall pipe needs to be cleaned of sediment				
Date of maintenance to fix problem											
Was problem corrected (Yes or No)											
Is Weir Wall present (Yes or No)	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes			Yes
Condition of Weir Wall (Good, Fair, or Poor)	Good	Good	Good		Good	Good	Good	Good			Good
Material of Weir Wall (Wood, Concrete, or Metal)	Brick	stainless steel	None		Wood	stainless steel	Wood	Concrete			Concrete and Plywood
Is CSO sign present (Yes or No)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes
Is CSO meter present (Yes or No)	No	Yes	Yes	No	Yes	Yes	Yes	Yes			Yes
Is meter operating Properly (Yes or No)											
Does meter need maintence (Yes or No)											
If Yes, what type of maintenance is needed											
Date of maintenance to fix problem											
		Meter reinstalled 5/3/11									Plywood added to top of weir on 5/17/11

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	CAM 001	CAM 002A/B	CAM 401B	CAM 400	CAM 004	CAM 401A	CAM 005	CAM 007*	CAM 009	CAM 011	CAM 017
Event Year 2011 June	FOCH ST. @ ALEWIFE ALEWIFE BROOK	MASS AVE. @ ALEWIFE ALEWIFE BROOK	COLUMBUS @ MASS AVE. ALEWIFE BROOK	HARRISON ST. @ ALEWIFE ALEWIFE BROOK	CONCORD AVE. @ ROTARY ALEWIFE BROOK	SHERMAN ST. ALEWIFE BROOK	LOWELL ST. & MT AUBURN ST. CHARLES RIVER	HAWTHORNE ST. @ MEMORIAL DR. CHARLES RIVER	OLD MURRAY ST. @ MEMORIAL DR. CHARLES RIVER	PLYMPTON ST. @ MEMORIAL DR. CHARLES RIVER	EDWIN LAND BLVD. @ BINNEY ST. CHARLES RIVER
Date of Inspection	6/30/2011	6/30/2011	6/30/2011	6/30/2011		6/30/2011	6/30/2011	6/30/2011	6/30/2011	6/30/2011	6/30/2011
Is CSO Operating Satisfactorily (Yes or No)	yes	yes	yes	Closed	Closed	yes	yes	yes	Closed	Closed	yes
If No, What was the problem							Outfall pipe needs to be cleaned of sediment				
Date of maintenance to fix problem											
Was problem corrected (Yes or No)											
Is Weir Wall present (Yes or No)	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes			Yes
Condition of Weir Wall (Good, Fair, or Poor)	Good	Good	Good	Good		Good	Good	Good			Good
Material of Weir Wall (Wood, Concrete, or Metal)	Brick	stainless steel	None	Concrete		stainless steel	Wood	Concrete			Concrete and Plywood
Is CSO sign present (Yes or No)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes
Is CSO meter present (Yes or No)	No	Yes	Yes	Yes	No	Yes	Yes	Yes			Yes
Is meter operating Properly (Yes or No)		Yes	Yes			Yes	Yes	Yes			Yes
Does meter need maintence (Yes or No)		No	No			No	No	No			No
If Yes, what type of maintenance is needed											
Date of maintenance to fix problem											

City of Cambridge Monthly Combined Sewer Overflow Inspection Form

	CAM 001	CAM 002A/B	CAM 401B	CAM 400	CAM 004	CAM 401A	CAM 005	CAM 007*	CAM 009	CAM 011	CAM 017
Event Year 2011 July	FOCH ST. @ ALEWIFE ALEWIFE BROOK	MASS AVE. @ ALEWIFE ALEWIFE BROOK	COLUMBUS @ MASS AVE. ALEWIFE BROOK	HARRISON ST. @ ALEWIFE ALEWIFE BROOK	CONCORD AVE. @ ROTARY ALEWIFE BROOK	SHERMAN ST. ALEWIFE BROOK	LOWELL ST. & MT AUBURN ST. CHARLES RIVER	HAWTHORNE ST. @ MEMORIAL DR. CHARLES RIVER	OLD MURRAY ST. @ MEMORIAL DR. CHARLES RIVER	PLYMPTON ST. @ MEMORIAL DR. CHARLES RIVER	EDWIN LAND BLVD. @ BINNEY ST. CHARLES RIVER
Date of Inspection	7/27/2011	7/27/2011	7/27/2011		7/27/2011	7/27/2011	7/27/2011	7/27/2011			7/27/2011
Is CSO Operating Satisfactorily (Yes or No)	yes	yes	yes	Closed	yes	yes	yes	yes	Closed	Closed	yes
If No, What was the problem							Outfall pipe needs to be cleaned of sediment				
Date of maintenance to fix problem											
Was problem corrected (Yes or No)											
Is Weir Wall present (Yes or No)	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes			Yes
Condition of Weir Wall (Good, Fair, or Poor)	Good	Good	Good		Good	Good	Good	Good			Good
Material of Weir Wall (Wood, Concrete, or Metal)	Brick	Stainless steel	None		Wood	Stainless steel	Wood	Concrete			Concrete and Plywood
Is CSO sign present (Yes or No)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes
Is CSO meter present (Yes or No)	No	Yes	Yes	No	Yes	Yes	Yes	Yes			Yes
Is meter operating Properly (Yes or No)		Yes	Yes		Yes	Yes	Yes	Yes			Yes
Does meter need maintence (Yes or No)		No	No		No	No	No	No			No
If Yes, what type of maintenance is needed											
Date of maintenance to fix problem											

City of Cambridge Monthly Combined Sewer Overflow Inspection Form

	CAM 001	CAM 002A/B	CAM 401B	CAM 400	CAM 004	CAM 401A	CAM 005	CAM 007*	CAM 009	CAM 011	CAM 017
Event Year 2011 August	**FOCH ST. @ ALEWIFE** ALEWIFE BROOK	**MASS AVE. @ ALEWIFE** ALEWIFE BROOK	**COLUMBUS @ MASS AVE.** ALEWIFE BROOK	**HARRISON ST. @ ALEWIFE** ALEWIFE BROOK	**CONCORD AVE. @ ROTARY** ALEWIFE BROOK	**SHERMAN ST.** ALEWIFE BROOK	**LOWELL ST. & MT AUBURN ST.** CHARLES RIVER	**HAWTHORNE ST. @ MEMORIAL DR.** CHARLES RIVER	**OLD MURRAY ST. @ MEMORIAL DR.** CHARLES RIVER	**PLYMPTON ST. @ MEMORIAL DR.** CHARLES RIVER	**EDWIN LAND BLVD. @ BINNEY ST.** CHARLES RIVER
Date of Inspection	8/29/2011	8/29/2011	8/29/2011		8/29/2011	8/29/2011	8/30/2011	8/30/2011			8/29/2011
Is CSO Operating Satisfactorily (Yes or No)	yes	yes	yes	Closed	yes	yes	yes	yes	Closed	Closed	yes
If No, What was the problem							Outfall pipe needs to be cleaned of sediment				
Date of maintenance to fix problem											
Was problem corrected (Yes or No)											
Is Weir Wall present (Yes or No)	Yes	Yes	Yes	NO	Yes	Yes	Yes	Yes			Yes
Condition of Weir Wall (Good, Fair, or Poor)	Good	Good	Good		Good	Good	Good	Good			Good
Material of Weir Wall (Wood, Concrete, or Metal)	Brick	Stainless steel	None		Wood	Stainless steel	Wood	Concrete			Concrete and Plywood
Is CSO sign present (Yes or No)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes
Is CSO meter present (Yes or No)	No	Yes	Yes		Yes	Yes	Yes	Yes			Yes
Is meter operating Properly (Yes or No)	See note below	Yes	Yes		Yes	Yes	Yes	Yes			Yes
Does meter need maintence (Yes or No)		No	No		No	No	No	No			No
If Yes, what type of maintenance is needed											
Date of maintenance to fix problem											

CAM001 Meter has been temporarily removed due to construction at the regulator

City of Cambridge Monthly Combined Sewer Overflow Inspection Form

	CAM 001	CAM 002A/B	CAM 401B	CAM 400	CAM 004	CAM 401A	CAM 005	CAM 007*	CAM 009	CAM 011	CAM 017
Event Year 2011 September	**FOCH ST. @ ALEWIFE** ALEWIFE BROOK	**MASS AVE. @ ALEWIFE** ALEWIFE BROOK	**COLUMBUS @ MASS AVE.** ALEWIFE BROOK	**HARRISON ST. @ ALEWIFE** ALEWIFE BROOK	**CONCORD AVE. @ ROTARY** ALEWIFE BROOK	**SHERMAN ST.** ALEWIFE BROOK	**LOWELL ST. & MT AUBURN ST.** CHARLES RIVER	**HAWTHORNE ST. @ MEMORIAL DR.** CHARLES RIVER	**OLD MURRAY ST. @ MEMORIAL DR.** CHARLES RIVER	**PLYMPTON ST. @ MEMORIAL DR.** CHARLES RIVER	**EDWIN LAND BLVD. @ BINNEY ST.** CHARLES RIVER
Date of Inspection	9/28/2011	9/28/2011	9/28/2011		8/29/2011	9/28/2011	9/28/2011	9/29/2011			9/29/2011
Is CSO Operating Satisfactorily (Yes or No)	yes	yes	yes	Closed	yes	yes	yes	yes	Closed	Closed	yes
If No, What was the problem							Outfall pipe needs to be cleaned of sediment				
Date of maintenance to fix problem											
Was problem corrected (Yes or No)											
Is Weir Wall present (Yes or No)	Yes	Yes	Yes	NO	Yes	Yes	Yes	Yes			Yes
Condition of Weir Wall (Good, Fair, or Poor)	Good	Good	Good		Good	Good	Good	Good			Good
Material of Weir Wall (Wood, Concrete, or Metal)	Brick	Stainless steel	None		Wood	Stainless steel	Wood	Concrete			Concrete and Plywood
Is CSO sign present (Yes or No)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes
Is CSO meter present (Yes or No)	No	Yes	Yes		Yes	Yes	Yes	Yes			Yes
Is meter operating Properly (Yes or No)	See note below	Yes	Yes		Yes	Yes	Yes	Yes			Yes
Does meter need maintence (Yes or No)		No	No		No	No	No	No			No
If Yes, what type of maintenance is needed											
Date of maintenance to fix problem											

CAM001 Meter has been temporarily removed due to construction at the regulator

City of Cambridge Monthly Combined Sewer Overflow Inspection Form

	CAM 001	CAM 002A/B	CAM 401B	CAM 400	CAM 004	CAM 401A	CAM 005	CAM 007*	CAM 009	CAM 011	CAM 017
Event Year 2011 December	FOCH ST. @ ALEWIFE ALEWIFE BROOK	MASS AVE. @ ALEWIFE ALEWIFE BROOK	COLUMBUS @ MASS AVE. ALEWIFE BROOK	HARRISON ST. @ ALEWIFE ALEWIFE BROOK	CONCORD AVE. @ ROTARY ALEWIFE BROOK	SHERMAN ST. ALEWIFE BROOK	LOWELL ST. & MT AUBURN ST. CHARLES RIVER	HAWTHORNE ST. @ MEMORIAL DR. CHARLES RIVER	OLD MURRAY ST. @ MEMORIAL DR. CHARLES RIVER	PLYMPTON ST. @ MEMORIAL DR. CHARLES RIVER	EDWIN LAND BLVD. @ BINNEY ST. CHARLES RIVER
Date of Inspection	12/1/2011	12/1/2011	12/1/2011		12/1/2011	12/1/2011	12/2/2011	12/2/2011			12/2/2011
Is CSO Operating Satisfactorily (Yes or No)	yes	yes	yes	Closed	yes	yes	yes	yes	Closed	Closed	yes
If No, What was the problem							Outfall pipe needs to be cleaned of sediment				
Date of maintenance to fix problem											
Was problem corrected (Yes or No)											
Is Weir Wall present (Yes or No)	Yes	Yes	Yes	NO	Yes	Yes	Yes	Yes			Yes
Condition of Weir Wall (Good, Fair, or Poor)	Good	Good	Good		Good	Good	Good	Good			Good
Material of Weir Wall (Wood, Concrete, or Metal)	Brick	Stainless steel	None		Wood	Stainless steel	Wood	Concrete			Concrete and Plywood
Is CSO sign present (Yes or No)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes
Is CSO meter present (Yes or No)	No	Yes	Yes		Yes	Yes	Yes	Yes			Yes
Is meter operating Properly (Yes or No)	See note below	Yes	Yes		Yes	Yes	Yes	Yes			Yes
Does meter need maintence (Yes or No)		No	No		No	No	No	No			No
If Yes, what type of maintenance is needed											
Date of maintenance to fix problem											

CAM001 Meter has been temporarily removed due to construction at the regulator

APPENDIX IV