April 29, 2014

Water Technical Unit (SEW)
US Environmental Protection Agency
5 Post Office Sq., Ste. 100
Mail Code 0E006-1
Boston, MA 02109

RE: NPDES Permit # MA0101877
Annual Report

Dear Sir or Madam:

USEPA issued the above referenced NPDES permit to the city of Chelsea, MA on April 11, 2003. According to the terms of the permit it then became effective on June 11, 2003. This permit was in effect for a period of five years. Renewal applications were submitted to the EPA/DEP.

Paragraph D of the NPDES Permit requires that an annual report be submitted on or before April 30th. This report will fulfill the parameters of that requirement.

Sincerely,

Jay Ash
City Manager

Cc: MADEP
1 Winter Street
Boston, MA 02108
Attn: Ms. Catherine Vakalopoulos

MADEP-NERO
205 A Lowell Street
Wilmington, MA 01887
Attn: Mr. Kevin Brander

CITY OF CHELSEA,
MASSACHUSETTS

COMBINED SEWER OVERFLOW
ANNUAL REPORT

IN ACCORDANCE WITH:
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM (NPDES)
PERMIT NO. MA0101877

APRIL 2014

CITY OF CHELSEA
MASSACHUSETTS

COMBINED SEWER OVERFLOW
CALENDAR YEAR 2013
ANNUAL REPORT

PREPARED BY:

R.H. WHITE CONSTRUCTION CO., INC.,
AUBURN, MA

WESTON & SAMPSON
PEABODY, MA

ADS ENVIRONMENTAL SERVICES,
MANCHESTER, NH

OVERVIEW

Under the jurisdiction of the National Pollutant Discharge Elimination System (NPDES) program, the U.S. Environmental Protection Agency (EPA) issued Permit No. MA0101877 to the City of Chelsea, Massachusetts on April 11, 2003. This permit was reissued on November 26, 2013. In accordance with the permit, the requirements of the Clean Water Act, and the requirements of the Massachusetts Clean Water Act, the City of Chelsea is authorized to discharge from four Combined Sewer Overflows (CSOs). The four CSO and the respective receiving waters are:

- CHE002 Located on Broadway and discharges to Boston Inner Harbor
- CHE003 Located on Winnisimmet Street and discharges to Chelsea River
- CHE004 Located on Pearl Street and discharges to Chelsea River
- CHE008 Located on Eastern Avenue and discharges to Chelsea River

A map indicating the location of each CSO was previously provided to you with the CSO Monitoring Plan, submitted September of 2003.

The latest NPDES permit became effective on February 1, 2014 and will be in effect for a period of five years. Part I.D of that permit requires that a report be submitted annually prior to April 30th and this report was prepared to fulfill that requirement.

ACTIVATION FREQUENCY AND DISCHARGE VOLUME

As previously reported in the CSO Monitoring Plan, Chelsea installed CSO metering and telemetry and placed it on line in July of 2003. Table 1, on the following page, presents a chronological list of activations at the four CSOs from January 1, 2013 through December 31, 2013. Estimated discharge volumes for the activations based on metering are also provided. As indicated in the table, CHE004 activated six times, though two of these activations occurred on the same day. CHE002, CHE003 and CHE008 did not activate during the reporting period. All activations were during wet weather events.

Chelsea has been working closely with the Massachusetts Water Resources Authority (MWRA) on comparison of activation data from city flow meters to that predicted by the MWRA's hydraulic model. To date, these two data sources have not correlated well for CHE004 and CHE008. During 2013, efforts included collection and review as-built drawings; full entry, inspection, and measurement of CSO regulator structures; and revision of the MWRA hydraulic model and as-built drawings based on findings. Findings were as follows:

- <u>CHE004</u>: Record drawings show the elevation of the weir is 108.33, which was confirmed in the field. The baffle dimensions and elevations in the record drawings also match those measured in the field.

- <u>CHE-008</u>: Record drawings indicate a weir elevation of 105. Field measurement of the weir elevation was 105.83. The baffle elevations are also different than the record drawings. The field measurements of the top of the baffle is elevation 107 and the bottom of the baffle is elevation 105. The record drawings for the baffle have elevations of 106 and 104, respectively. MWRA is updating Drawing C-031 of Contract 6263 Chelsea Branch Sewer Relief.

As part of these efforts, Chelsea attempted to correlate storm intensity with activation frequency and discharge volumes based on metering data collected to date; however, no correlation was identified. It is believed that CSO activations are influenced by tidal conditions. Since tide elevation impacts the fluid pressure required to open the CSO tidegates, the relationship between weir height, CSO regulator activation, and discharge volume is not simplistic. Chelsea will continue to gather data in an effort to draw conclusions as necessary to model and predict activation frequency and discharge volume.

PRECIPITATION DURING THE CALENDAR YEAR

Documentation for the total amount, peak intensity, and average intensity of each storm for the period from January 1, 2013 through December 31, 2013 is included in Appendix A. The tables indicate the date, the total rainfall recorded at our rain gauge in Chelsea, the total rainfall according to the National Weather Service, and the peak intensity and average intensity per quarter hour based on our Chelsea gauge. Detailed rainfall data for each storm event during the year is provided in Appendix B. The data is based on rainfall measured for a 24-hour period in 15-minute intervals. It also shows cumulative rainfall for each day.

TABLE 1
2013 Activation Frequency and Discharge Volume

Date	*CSO Activating*	*Quantity (gallons)*	*Duration (hours)*	*Rainfall (inches)*
08/09/13	004	23,000	0.25	1.42
09/01/13	004	21,000	1.25	0.86
09/13/13	004	NA*	0.25	NA*
09/13/13	004	5,500	0.25	1.08
11/27/13	004	100,000	0.75	2.58
12/29/13	004	107,000	2.25	1.23
Totals	**6 Activations**	**256,500**	**5.00**	**7.17**

* Unable to calculate due to lack of velocity.

STATUS OF IMPLEMENTATION WORK

The City of Chelsea is aggressively pursuing sewer separation and other infrastructure improvement projects that will reduce the quantity of stormwater discharged to its combined sewer system and CSO activation frequency and volume. The following projects have recently been completed or are currently on-going in Chelsea:

- Construction of sewer separation on a large section of Washington Avenue.
- Construction of sewer separation on portions of Heard Street, Maple Street, Sixth Street, and Spruce Street in coordination with a redevelopment project.
- Construction of sewer separation on John Avenue.
- Construction for replacement of the tidegate at CSO CHE004.

- Design of sewer and drainage improvements on portions of Spruce and Beech Streets, including jacking of a new drain under the railroad tracks to allow sewer separation in the upstream tributary area and rerouting of several catch basins from the sewer to drain.
- Public bidding for construction of sewer separation on Broadway, between Williams Street and Commandants Way, which will also include elimination of CSO CHE002.
- Design of sewer separation on Broadway, between City Hall and the Revere city line.

These projects are being funded through the City's Capital Improvement Plan, as well as various grant and loan programs.

NINE MINIMUM CONTROLS

With assistance from the MWRA, Chelsea has made the following progress toward implementation of the Nine Minimum Controls:

1. **Proper operation and regular maintenance programs for the sewer system and the combined sewer overflows.**

   Each CSO structure and tidegate is inspected at least twice each month, once during high tide and once during low tide. These bi-monthly inspections allow us to promptly identify and correct any problems that might increase CSO activation frequency or discharge volume and also problems that could allow tidal waters to surge back into the sewer system. Written reports are completed for each inspection, and indicate the date, time, structure number, and operating condition of the CSO and tide gate. Copies of the inspection reports are maintained on file at the Chelsea Water & Sewer Department. The required certification stating that the inspections have been completed is also submitted to both EPA and the Massachusetts Department of Environmental Protection (MADEP) annually by January 31st.

   Approximately 450 catch basins are cleaned each year. The spoils from these cleaning operations were previously containerized on site; however, during the period covered by this report, the disposal procedure was changed and spoils are now transported in our vacuum machine to disposal facilities in Somerville, MA and in Melrose, MA. We disposed of approximately 115.35 tons of spoils removed from the sewer and drainage systems.

2. **Maximum use of the collection system for storage.**

   Maximum storage during wet weather events is obtained by properly regulating flow through the Chelsea Head Works, through design and construction of the MWRA relief sewers and other sewer improvements, and by maintaining CSO regulator weirs at the highest elevation possible without sanitary sewer overflows. Proper sewer system maintenance also maximizes storage capacity, including the fact that known problems areas within the sewer system are inspected and, if necessary, cleaned prior to major storm events.

3. **Review and modification of the pretreatment program to assure CSO impacts are minimized.**

   The MWRA maintains a comprehensive industrial pretreatment program that monitors all of the industrial users discharging to the Chelsea sewer system. This program is regularly reviewed and updated as part of the Deer Island Treatment Plant NPDES discharge permit.

4. **Maximization of flow to the POTW for treatment.**

   Flow to the Deer Island Treatment Plant is maximized by proper regulation of flow through the Chelsea Head Works. In addition, ensuring adequate storage capacity as discussed above maximizes flow to the treatment plant.

5. **Prohibition of dry weather overflows from CSOs.**

   According to metering data, there were no dry weather discharges from any of the four CSOs during the 2013 monitoring period. Providing adequate capacity and ensuring structural integrity in the sewer system prevents dry weather overflows.

6. **Control of solid and floatable materials in CSOs.**

   Solid materials are controlled by the design and progressive installation of catch basins with minimum four-foot sumps and floatables control hoods, and through the proper operation and maintenance of sewer and drainage systems components as discussed above. Higher priority is also assigned to catch basins at lower elevations and cleaning is performed more frequently.

   Floatable materials are also controlled by the installation of underflow baffles in the CSO structures that maximize the amount of floatables transported to the Deer Island Treatment Plant for proper treatment and disposal. Baffles were installed at all four CSO structures by MWRA during construction of the Chelsea Trunk Sewer and the Chelsea Branch Sewer projects.

7. **Pollution prevention programs that focus on contaminant reduction activities.**

   The main component of Chelsea's pollution prevention program is regular street sweeping. Each street in Chelsea is swept twice each month between roughly March 1 and December 31. Parking is prohibited during sweeping to maximize its benefit. Curbside waste collection is also coordinated with sweeping such that sweeping follows scheduled trash pick up by one day. The street sweeping program has been in effect for many years.

   Chelsea maintains municipal trash receptacles strategically located throughout the city to reduce litter, which are emptied four times each week. The city owns a "Madvac" and vacuums litter that does accumulate on sidewalks and curb lines on a regular schedule. In addition, Chelsea initiated the "Keep Chelsea Beautiful Campaign" to reduce street litter. Information concerning the "Keep Chelsea Beautiful Campaign" has been disseminated to the public through various partnered organizations in the city.

   Chelsea has been stenciling catch basins throughout the city with "Don't Dump, Drains to River" signs to increase awareness and reduce pollutants discharged into catch basins, including those connected to the combined sewer system.

   Chelsea is in compliance with its NPDES Stormwater Phase 2 General Permit for Municipal Separate Storm Sewer Systems (MS4s), which in brief, is a regulation designed to reduce pollutants in stormwater through the implementation of structural and non-structural Best Management Practices (BMPs).

8. **Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts.**

The land along the receiving waters for the four Chelsea CSOs consists of primarily industrial maritime uses. There are no beaches. Chelsea has posted the required identification signs at each of the four permitted CSOs and has duplicated these signs in Spanish due to the large percentage of Spanish-speaking people within the city. In addition, Chelsea CSO information is available on the city's website.

In 2013, Chelsea notified the general public about CSO occurrences and impacts utilizing the public education document included in Appendix C. This notice was published on the city's website.

Chelsea has not performed any of its own CSO water quality monitoring to characterize CSO impacts and efficacy of CSO controls; however, the MWRA has performed water quality monitoring in these receiving waters and is expected to continue to do so. Chelsea is also in partnership with the EPA and the Mystic River Watershed Association, who regularly collect ambient water quality samples in the receiving waters surrounding Chelsea. Sampling data has indicated that elevated bacteria levels are present in the Chelsea and Island End rivers; however, to our knowledge, no direct correlation has been made to Chelsea CSO activations. Rather, efforts have been focused on suspected illicit connections to the drainage systems tributary to the stormwater outfalls discharging to these rivers.

SUMMARY AND CONCLUSIONS

With assistance from the MWRA, during this year, Chelsea has maintained compliance with the requirements of its NPDES permit and has made additional progress with respect to implementation of the Nine Minimum Controls. In future permit years, Chelsea will further our efforts to control and abate conventional, non-conventional, and toxic pollutants. In addition, Chelsea plans to persist with the design and construction of sewer separation projects to minimize CSO activation frequencies and discharge volumes. Chelsea continues to strive to reduce pollutants discharged to our receiving waters from both CSO and stormwater outfalls.

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APPENDIX A

PRECIPITATION DATA – STORM EVENTS

JANUARY 2013 PRECIPITATION				
Date	**Total Rainfall Chelsea Gauge (in.)**	**Total Rainfall National Weather Service (Boston)**	**Peak Intensity per quarter hour**	**Average Intensity per quarter hour**
01/04/13	0.04	0.00	0.01	0.01
01/11/13	0.12	0.12	0.03	0.01
01/12/13	0.03	0.01	0.01	0.01
01/16/13	0.08	0.37	0.02	0.02
01/17/13	0.40	0.00	0.08	0.08
FEBRUARY 2013 PRECIPITATION				
Date	**Total Rainfall Chelsea Gauge (in.)**	**Total Rainfall National Weather Service (Boston)**	**Peak Intensity per quarter hour**	**Average Intensity per quarter hour**
02/06/13	0.06	0.05	0.02	0.01
02/08/13	0.06	0.85	0.01	0.01
02/10/13	0.12	0.00	0.03	0.02
02/11/13	0.14	0.20	0.05	0.01
02/16/13	0.01	0.01	0.01	0.01
02/18/13	0.10	0.00	0.03	0.02
02/19/13	0.42	0.45	0.12	0.04
02/23/13	0.31	0.23	0.13	0.06
02/24/13	0.85	0.82	0.20	0.11
02/25/13	0.21	0.01	0.05	0.02
02/27/13	2.15	1.37	0.60	0.33
MARCH 2013 PRECIPITATION				
Date	**Total Rainfall Chelsea Gauge (in.)**	**Total Rainfall National Weather Service (Boston)**	**Peak Intensity per quarter hour**	**Average Intensity per quarter hour**
03/06/13	0.21	0.05	0.02	0.01
03/07/13	0.01	0.46	0.01	0.01
APRIL 2013 PRECIPITATION				
Date	**Total Rainfall Chelsea Gauge (in.)**	**Total Rainfall National Weather Service (Boston)**	**Peak Intensity per quarter hour**	**Average Intensity per quarter hour**
04/01/13	0.06	0.12	0.03	0.02
04/09/13	0.11	0.06	0.04	0.01
04/10/13	0.18	0.19	0.03	0.02
04/11/13	0.05	0.04	0.02	0.01
04/12/13	0.55	0.35	0.10	0.06
04/13/13	0.04	0.02	0.01	0.01
04/20/13	0.59	0.38	0.13	0.12
04/23/13	0.12	0.13	0.03	0.02
04/24/13	0.01	Undetermined	0.01	0.01
04/25/13	0.03	0.03	0.01	0.01
MAY 2013 PRECIPITATION				
Date	**Total Rainfall Chelsea Gauge (in.)**	**Total Rainfall National Weather Service (Boston)**	**Peak Intensity per quarter hour**	**Average Intensity per quarter hour**
05/08/13	0.08	0.37	0.08	0.08
05/09/13	0.98	0.61	0.20	0.01
05/10/13	0.04	0.06	0.02	0.01
05/11/13	0.03	0.02	0.01	0.01
05/12/13	0.07	0.04	0.01	0.01
05/19/13	0.16	0.17	0.03	0.01
05/20/13	0.06	0.04	0.01	0.01
05/21/13	0.04	0.01	0.04	0.04
05/22/13	0.07	0.05	0.01	0.01
05/23/13	0.06	0.05	0.02	0.01
05/24/13	1.00	0.57	0.23	0.03
05/25/13	0.36	0.34	0.06	0.02
05/26/13	0.05	0.05	0.00	0.01
05/29/14	1.02	0.84	0.25	0.06
JUNE 2013 PRECIPITATION				
Date	**Total Rainfall Chelsea Gauge (in.)**	**Total Rainfall National Weather Service (Boston)**	**Peak Intensity per quarter hour**	**Average Intensity per quarter hour**
06/03/13	0.40	0.71	0.05	0.02
06/07/13	3.42	3.07	0.29	0.01
06/08/13	0.81	0.54	0.08	0.03
06/10/13	0.74	0.88	0.09	0.03
06/11/13	2.05	1.38	0.27	0.04
06/12/13	0.08	0.07	0.01	0.01
06/13/13	0.70	0.72	0.05	0.04
06/14/13	1.40	1.02	0.06	0.03
06/17/13	0.36	0.43	0.17	0.03
06/18/13	0.50	0.63	0.09	0.05
06/19/13	0.02	0.00	0.02	0.02
06/24/13	0.18	0.33	0.03	0.01
06/26/13	0.13	0.04	0.06	0.03
06/27/13	0.02	0.03	0.01	0.01
06/28/13	0.51	0.45	0.21	0.04

JULY 2013 PRECIPITATION

Date	Total(in)	Total Rainfall National Weather Service (Boston)	Peak Intensity per quarter hour	Average Intensity per quarter hour
07/01/13	0.07	0.03	0.03	0.01
07/02/13	0.05	Undetermined	0.05	0.05
07/03/13	0.06	Undetermined	0.06	0.06
07/11/13	0.11	0.17	0.04	0.01
07/13/13	0.01	Undetermined	0.01	0.01
07/16/13	0.01	0.01	0.01	0.01
07/21/13	0.01	0.01	0.01	0.01
07/23/13	1.54	1.76	0.46	0.05
07/25/13	0.40	0.27	0.16	0.03
07/26/13	1.20	1.00	0.17	0.03
07/29/13	0.17	0.33	0.11	0.03

AUGUST 2013 PRECIPITATION

Date	Total(in)	Total Rainfall National Weather Service (Boston)	Peak Intensity per quarter hour	Average Intensity per quarter hour
08/02/13	0.28	0.13	0.08	0.02
08/04/13	0.07	Undetermined	0.07	0.07
08/08/13	0.02	0.07	0.01	0.01
08/09/13	1.42	1.62	0.15	0.04
08/27/13	0.01	0.01	0.01	0.01

SEPTEMBER 2013 PRECIPITATION

Date	Total(in)	Total Rainfall National Weather Service (Boston)	Peak Intensity per quarter hour	Average Intensity per quarter hour
09/01/13	0.86	0.38	0.51	0.03
09/02/13	0.17	0.38	0.11	0.02
09/05/13	0.07	0.09	0.03	0.01
09/10/13	0.08	0.03	0.04	0.01
09/12/13	0.88	0.57	0.29	0.10
09/13/13	0.20	0.39	0.04	0.01
09/22/13	0.37	0.37	0.13	0.03
09/29/13	0.01	0.00	0.01	0.01

OCTOBER 2013 PRECIPITATION

Date	Total Rainfall Chelsea Gauge (in.)	Total Rainfall National Weather Service (Boston)	Peak Intensity per quarter hour	Average Intensity per quarter hour
10/04/13	0.01	0.03	0.01	0.01
10/06/13	0.40	0.31	0.06	0.01
10/07/13	0.02	0.11	0.02	0.02
10/18/13	0.05	0.02	0.02	0.01
10/27/13	0.02	0.03	0.01	0.01
10/30/13	0.06	0.05	0.01	0.01
10/31/13	0.03	0.03	0.01	0.01

NOVEMBER 2013 PRECIPITATION

Date	Total Rainfall Chelsea Gauge (in.)	Total Rainfall National Weather Service (Boston)	Peak Intensity per quarter hour	Average Intensity per quarter hour
11/01/13	0.08	0.03	0.04	0.01
11/03/13	0.06	0.03	0.01	0.01
11/07/13	0.26	0.22	0.04	0.01
11/10/13	0.04	0.03	0.01	0.01
11/12/13	0.01	0.08	0.01	0.01

DECEMBER 2013 PRECIPITATION

Date	Total Rainfall Chelsea Gauge (in.)	Total Rainfall National Weather Service (Boston)	Peak Intensity per quarter hour	Average Intensity per quarter hour
NA	NA	NA	NA	NA

APPENDIX B

PRECIPITATION DATA – COMPREHENSIVE

Chelsea, Massachusetts
2013 Rain Gauge Data

Time Stamp	15-Minute Interval Rainfall (in)	Cumulative Rainfall (in)
1/4/2013 11:15	0.01	0.01
1/4/2013 11:30	0.01	0.02
1/4/2013 12:00	0.01	0.03
1/4/2013 12:30	0.01	0.04
1/11/2013 20:30	0.01	0.05
1/11/2013 20:45	0.02	0.07
1/11/2013 21:00	0.01	0.08
1/11/2013 21:15	0.01	0.09
1/11/2013 21:30	0.01	0.10
1/11/2013 22:00	0.01	0.11
1/11/2013 23:00	0.01	0.12
1/11/2013 23:15	0.02	0.14
1/11/2013 23:30	0.01	0.15
1/11/2013 23:45	0.01	0.16
1/12/2013 0:15	0.01	0.17
1/12/2013 23:15	0.01	0.18
1/16/2013 15:45	0.01	0.19
1/16/2013 21:00	0.01	0.20
1/16/2013 21:15	0.01	0.21
1/16/2013 21:45	0.01	0.22
1/16/2013 22:00	0.01	0.23
1/16/2013 22:30	0.01	0.24
1/16/2013 23:00	0.01	0.25
1/16/2013 23:15	0.01	0.26
1/17/2013 0:00	0.01	0.27
1/17/2013 0:30	0.01	0.28
1/17/2013 0:45	0.01	0.29
1/17/2013 1:15	0.01	0.30
1/17/2013 1:45	0.01	0.31
1/17/2013 7:30	0.01	0.32
1/17/2013 1:45	0.01	0.33
1/17/2013 7:30	0.01	0.34
1/17/2013 8:45	0.01	0.35
1/17/2013 9:00	0.02	0.37
1/17/2013 9:15	0.01	0.38
1/17/2013 9:45	0.01	0.39
1/17/2013 10:00	0.02	0.41
1/17/2013 10:15	0.01	0.42
1/17/2013 10:45	0.01	0.43
1/17/2013 11:00	0.03	0.46
1/17/2013 11:15	0.03	0.49
1/17/2013 11:30	0.03	0.52
1/17/2013 11:45	0.02	0.54
1/17/2013 12:00	0.04	0.58
1/17/2013 12:15	0.04	0.62
1/17/2013 12:30	0.03	0.65
1/17/2013 12:45	0.02	0.67
1/17/2013 13:45	0.01	0.68
2/6/2013 9:30	0.01	0.69
2/6/2013 9:45	0.02	0.71
2/6/2013 10:00	0.01	0.72
2/6/2013 10:30	0.01	0.73
2/6/2013 13:45	0.01	0.74
2/8/2013 11:00	0.01	0.75
2/8/2013 11:30	0.01	0.76

Time Stamp	15-Minute Interval Rainfall (in)	Cumulative Rainfall (in)
2/8/2013 11:45	0.01	0.77
2/8/2013 12:15	0.01	0.78
2/8/2013 12:30	0.01	0.79
2/8/2013 12:45	0.01	0.80
2/10/2013 13:30	0.01	0.81
2/10/2013 14:00	0.01	0.82
2/10/2013 14:15	0.03	0.85
2/10/2013 14:30	0.02	0.87
2/10/2013 14:45	0.02	0.89
2/10/2013 15:15	0.01	0.90
2/10/2013 15:30	0.01	0.91
2/10/2013 16:00	0.01	0.92
2/11/2013 10:00	0.01	0.93
2/11/2013 10:15	0.01	0.94
2/11/2013 10:45	0.03	0.97
2/11/2013 13:45	0.01	0.98
2/11/2013 14:15	0.01	0.99
2/11/2013 15:15	0.02	1.01
2/11/2013 15:30	0.01	1.02
2/11/2013 15:45	0.01	1.03
2/11/2013 16:15	0.02	1.05
2/11/2013 17:45	0.01	1.06
2/16/2013 9:30	0.01	1.07
2/18/2013 10:45	0.01	1.08
2/18/2013 11:00	0.01	1.09
2/18/2013 11:15	0.01	1.10
2/18/2013 11:30	0.02	1.12
2/18/2013 11:45	0.02	1.14
2/18/2013 12:00	0.02	1.16
2/18/2013 16:00	0.01	1.17
2/19/2013 18:30	0.01	1.18
2/19/2013 18:45	0.01	1.19
2/19/2013 19:00	0.02	1.21
2/19/2013 19:15	0.03	1.24
2/19/2013 19:30	0.03	1.27
2/19/2013 19:45	0.04	1.31
2/19/2013 20:00	0.03	1.34
2/19/2013 20:15	0.04	1.38
2/19/2013 20:30	0.03	1.41
2/19/2013 21:00	0.01	1.42
2/19/2013 21:15	0.01	1.43
2/19/2013 21:30	0.05	1.48
2/19/2013 21:45	0.03	1.51
2/19/2013 22:00	0.02	1.53
2/19/2013 22:15	0.02	1.55
2/19/2013 22:30	0.02	1.57
2/19/2013 22:45	0.01	1.58
2/19/2013 23:15	0.01	1.59
2/23/2013 18:15	0.01	1.60
2/23/2013 19:15	0.01	1.61
2/23/2013 19:30	0.01	1.62
2/23/2013 19:45	0.01	1.63
2/23/2013 20:00	0.01	1.64
2/23/2013 20:15	0.01	1.65
2/23/2013 20:30	0.01	1.66
2/23/2013 20:45	0.01	1.67
2/23/2013 21:30	0.01	1.68

Time Stamp	15-Minute Interval Rainfall (in)	Cumulative Rainfall (in)
2/23/2013 21:45	0.01	1.69
2/23/2013 22:00	0.03	1.72
2/23/2013 22:15	0.04	1.76
2/23/2013 22:30	0.03	1.79
2/23/2013 22:45	0.02	1.81
2/23/2013 23:00	0.05	1.86
2/23/2013 23:15	0.02	1.88
2/23/2013 23:30	0.01	1.89
2/23/2013 23:45	0.01	1.90
2/24/2013 0:15	0.01	1.91
2/24/2013 0:30	0.01	1.92
2/24/2013 1:15	0.01	1.93
2/24/2013 2:15	0.01	1.94
2/24/2013 2:30	0.02	1.96
2/24/2013 2:45	0.01	1.97
2/24/2013 3:00	0.02	1.99
2/24/2013 3:15	0.01	2.00
2/24/2013 3:45	0.01	2.01
2/24/2013 4:00	0.01	2.02
2/24/2013 4:15	0.02	2.04
2/24/2013 4:30	0.01	2.05
2/24/2013 4:45	0.01	2.06
2/24/2013 5:00	0.02	2.08
2/24/2013 5:15	0.02	2.10
2/24/2013 5:30	0.02	2.12
2/24/2013 5:45	0.02	2.14
2/24/2013 6:00	0.05	2.19
2/24/2013 6:15	0.04	2.23
2/24/2013 6:30	0.02	2.25
2/24/2013 6:45	0.03	2.28
2/24/2013 7:00	0.02	2.30
2/24/2013 7:15	0.04	2.34
2/24/2013 7:30	0.02	2.36
2/24/2013 7:45	0.02	2.38
2/24/2013 8:00	0.02	2.40
2/24/2013 8:15	0.03	2.43
2/24/2013 8:30	0.02	2.45
2/24/2013 8:45	0.03	2.48
2/24/2013 9:00	0.02	2.50
2/24/2013 9:15	0.02	2.52
2/24/2013 9:30	0.02	2.54
2/24/2013 9:45	0.03	2.57
2/24/2013 10:00	0.02	2.59
2/24/2013 10:30	0.01	2.60
2/24/2013 12:45	0.01	2.61
2/24/2013 13:00	0.01	2.62
2/24/2013 13:15	0.02	2.64
2/24/2013 13:30	0.01	2.65
2/24/2013 13:45	0.01	2.66
2/24/2013 14:15	0.01	2.67
2/24/2013 15:00	0.02	2.69
2/24/2013 15:15	0.02	2.71
2/24/2013 15:30	0.01	2.72
2/24/2013 15:45	0.01	2.73
2/24/2013 16:00	0.01	2.74
2/24/2013 16:15	0.01	2.75
2/25/2013 10:30	0.01	2.76

Time Stamp	15-Minute Interval Rainfall (in)	Cumulative Rainfall (in)
2/25/2013 10:45	0.09	2.85
2/25/2013 11:00	0.06	2.91
2/25/2013 11:15	0.04	2.95
2/25/2013 11:30	0.01	2.96
2/27/2013 1:15	0.01	2.97
2/27/2013 3:15	0.02	2.99
2/27/2013 3:30	0.02	3.01
2/27/2013 3:45	0.02	3.03
2/27/2013 4:00	0.02	3.05
2/27/2013 4:15	0.06	3.11
2/27/2013 4:30	0.08	3.19
2/27/2013 4:45	0.03	3.22
2/27/2013 5:00	0.04	3.26
2/27/2013 5:15	0.02	3.28
2/27/2013 5:30	0.01	3.29
2/27/2013 5:45	0.02	3.31
2/27/2013 6:15	0.01	3.32
2/27/2013 6:30	0.02	3.34
2/27/2013 6:45	0.01	3.35
2/27/2013 7:00	0.01	3.36
2/27/2013 7:15	0.01	3.37
2/27/2013 7:30	0.02	3.39
2/27/2013 7:45	0.03	3.42
2/27/2013 8:00	0.02	3.44
2/27/2013 8:15	0.02	3.46
2/27/2013 8:30	0.01	3.47
2/27/2013 8:45	0.04	3.51
2/27/2013 9:00	0.06	3.57
2/27/2013 9:15	0.02	3.59
2/27/2013 9:30	0.03	3.62
2/27/2013 9:45	0.04	3.66
2/27/2013 10:00	0.02	3.68
2/27/2013 10:15	0.01	3.69
2/27/2013 10:30	0.01	3.70
2/27/2013 10:45	0.01	3.71
2/27/2013 11:00	0.01	3.72
2/27/2013 11:15	0.01	3.73
2/27/2013 11:30	0.01	3.74
2/27/2013 11:45	0.01	3.75
2/27/2013 12:00	0.01	3.76
2/27/2013 12:15	0.02	3.78
2/27/2013 12:30	0.01	3.79
2/27/2013 12:45	0.01	3.80
2/27/2013 13:00	0.04	3.84
2/27/2013 13:15	0.05	3.89
2/27/2013 13:30	0.04	3.93
2/27/2013 13:45	0.05	3.98
2/27/2013 14:00	0.04	4.02
2/27/2013 14:15	0.05	4.07
2/27/2013 14:30	0.06	4.13
2/27/2013 14:45	0.04	4.17
2/27/2013 15:00	0.02	4.19
2/27/2013 15:15	0.05	4.24
2/27/2013 15:30	0.09	4.33
2/27/2013 15:45	0.12	4.45
2/27/2013 16:00	0.04	4.49
2/27/2013 16:15	0.05	4.54

Time Stamp	15-Minute Interval Rainfall (in)	Cumulative Rainfall (in)
2/27/2013 16:30	0.06	4.60
2/27/2013 16:45	0.04	4.64
2/27/2013 17:00	0.03	4.67
2/27/2013 17:15	0.04	4.71
2/27/2013 17:30	0.01	4.72
2/27/2013 17:45	0.05	4.77
2/27/2013 18:00	0.04	4.81
2/27/2013 18:15	0.03	4.84
2/27/2013 18:30	0.04	4.88
2/27/2013 18:45	0.03	4.91
2/27/2013 19:00	0.03	4.94
2/27/2013 19:15	0.01	4.95
2/27/2013 19:30	0.02	4.97
2/27/2013 19:45	0.02	4.99
2/27/2013 20:00	0.02	5.01
2/27/2013 20:15	0.02	5.03
2/27/2013 20:30	0.02	5.05
2/27/2013 20:45	0.02	5.07
2/27/2013 21:00	0.01	5.08
2/27/2013 21:15	0.01	5.09
2/27/2013 21:30	0.01	5.10
2/27/2013 23:00	0.01	5.11
3/6/2013 2:30	0.01	5.12
3/6/2013 4:00	0.01	5.13
3/6/2013 4:30	0.01	5.14
3/6/2013 6:00	0.01	5.15
3/6/2013 7:00	0.01	5.16
3/6/2013 12:15	0.01	5.17
3/6/2013 13:15	0.01	5.18
3/6/2013 14:00	0.01	5.19
3/6/2013 15:15	0.01	5.20
3/6/2013 16:00	0.01	5.21
3/6/2013 16:15	0.02	5.23
3/6/2013 16:45	0.01	5.24
3/6/2013 17:30	0.02	5.26
3/6/2013 17:45	0.01	5.27
3/6/2013 18:00	0.01	5.28
3/6/2013 19:15	0.01	5.29
3/6/2013 20:00	0.01	5.30
3/6/2013 20:30	0.01	5.31
3/6/2013 22:15	0.01	5.32
3/7/2013 3:30	0.01	5.33
4/1/2013 16:45	0.01	5.34
4/1/2013 17:00	0.04	5.38
4/1/2013 17:15	0.01	5.39
4/9/2013 5:30	0.07	5.46
4/9/2013 5:45	0.02	5.48
4/9/2013 6:15	0.01	5.49
4/9/2013 10:30	0.01	5.50
4/10/2013 3:30	0.02	5.52
4/10/2013 3:45	0.02	5.54
4/10/2013 19:15	0.01	5.55
4/10/2013 19:45	0.01	5.56
4/10/2013 20:15	0.02	5.58
4/10/2013 20:30	0.04	5.62
4/10/2013 20:45	0.06	5.68
4/11/2013 0:00	0.01	5.69

Time Stamp	15-Minute Interval Rainfall (in)	Cumulative Rainfall (in)
4/11/2013 0:15	0.01	5.70
4/11/2013 1:45	0.02	5.72
4/11/2013 2:15	0.01	5.73
4/12/2013 0:15	0.01	5.74
4/12/2013 2:15	0.02	5.76
4/12/2013 2:45	0.01	5.77
4/12/2013 3:45	0.01	5.78
4/12/2013 4:00	0.01	5.79
4/12/2013 6:00	0.01	5.80
4/12/2013 11:15	0.01	5.81
4/12/2013 12:00	0.03	5.84
4/12/2013 12:15	0.05	5.89
4/12/2013 12:30	0.02	5.91
4/12/2013 12:45	0.04	5.95
4/12/2013 13:00	0.06	6.01
4/12/2013 13:15	0.03	6.04
4/12/2013 13:30	0.03	6.07
4/12/2013 13:45	0.02	6.09
4/12/2013 14:00	0.01	6.10
4/12/2013 14:15	0.01	6.11
4/12/2013 14:30	0.01	6.12
4/12/2013 14:45	0.02	6.14
4/12/2013 15:00	0.03	6.17
4/12/2013 15:30	0.01	6.18
4/12/2013 17:30	0.01	6.19
4/12/2013 17:45	0.01	6.20
4/12/2013 18:00	0.02	6.22
4/12/2013 18:15	0.01	6.23
4/12/2013 18:45	0.01	6.24
4/12/2013 19:00	0.01	6.25
4/12/2013 19:30	0.01	6.26
4/12/2013 20:15	0.01	6.27
4/12/2013 21:15	0.01	6.28
4/13/2013 3:15	0.01	6.29
4/13/2013 3:45	0.02	6.31
4/13/2013 5:00	0.01	6.32
4/20/2013 0:45	0.02	6.34
4/20/2013 1:00	0.01	6.35
4/20/2013 1:30	0.01	6.36
4/20/2013 1:45	0.04	6.40
4/20/2013 2:00	0.02	6.42
4/20/2013 2:15	0.02	6.44
4/20/2013 2:30	0.01	6.45
4/20/2013 3:00	0.01	6.46
4/20/2013 4:00	0.02	6.48
4/20/2013 4:15	0.03	6.51
4/20/2013 4:30	0.05	6.56
4/20/2013 5:00	0.01	6.57
4/20/2013 5:15	0.04	6.61
4/20/2013 5:30	0.04	6.65
4/20/2013 5:45	0.02	6.67
4/20/2013 6:00	0.05	6.72
4/20/2013 6:15	0.03	6.75
4/20/2013 6:30	0.02	6.77
4/20/2013 6:45	0.02	6.79
4/20/2013 7:00	0.02	6.81
4/20/2013 7:15	0.03	6.84

Time Stamp	15-Minute Interval Rainfall (in)	Cumulative Rainfall (in)
4/20/2013 7:30	0.03	6.87
4/20/2013 7:45	0.01	6.88
4/20/2013 8:00	0.02	6.90
4/20/2013 8:15	0.01	6.91
4/23/2013 7:15	0.01	6.92
4/23/2013 8:15	0.01	6.93
4/23/2013 16:15	0.01	6.94
4/23/2013 16:45	0.01	6.95
4/23/2013 17:00	0.01	6.96
4/23/2013 17:30	0.01	6.97
4/23/2013 18:15	0.01	6.98
4/23/2013 19:15	0.01	6.99
4/23/2013 20:00	0.01	7.00
4/23/2013 20:15	0.01	7.01
4/23/2013 21:00	0.01	7.02
4/23/2013 23:00	0.01	7.03
4/24/2013 0:30	0.01	7.04
4/25/2013 4:45	0.01	7.05
4/25/2013 5:15	0.01	7.06
4/25/2013 6:00	0.01	7.07
5/8/2013 23:45	0.08	7.15
5/9/2013 0:00	0.20	7.35
5/9/2013 0:15	0.01	7.36
5/9/2013 0:45	0.01	7.37
5/9/2013 1:15	0.01	7.38
5/9/2013 1:45	0.01	7.39
5/9/2013 6:00	0.01	7.40
5/9/2013 12:30	0.01	7.41
5/9/2013 13:00	0.06	7.47
5/9/2013 13:15	0.05	7.52
5/9/2013 13:30	0.02	7.54
5/9/2013 17:15	0.07	7.61
5/9/2013 17:30	0.06	7.67
5/9/2013 17:45	0.37	8.04
5/9/2013 18:00	0.02	8.06
5/9/2013 18:15	0.02	8.08
5/9/2013 18:30	0.04	8.12
5/9/2013 21:30	0.01	8.13
5/10/2013 0:45	0.02	8.15
5/10/2013 1:15	0.01	8.16
5/10/2013 1:30	0.01	8.17
5/11/2013 6:00	0.01	8.18
5/11/2013 6:15	0.01	8.19
5/11/2013 19:00	0.01	8.20
5/12/2013 6:45	0.01	8.21
5/12/2013 7:15	0.01	8.22
5/12/2013 7:45	0.01	8.23
5/12/2013 8:00	0.01	8.24
5/12/2013 8:30	0.01	8.25
5/12/2013 9:45	0.01	8.26
5/12/2013 10:00	0.01	8.27
5/19/2013 19:00	0.01	8.28
5/19/2013 20:45	0.01	8.29
5/19/2013 21:30	0.01	8.30
5/19/2013 22:00	0.02	8.32
5/19/2013 22:15	0.01	8.33
5/19/2013 22:30	0.02	8.35

Time Stamp	15-Minute Interval Rainfall (in)	Cumulative Rainfall (in)
5/19/2013 22:45	0.01	8.36
5/19/2013 23:00	0.03	8.39
5/19/2013 23:15	0.01	8.40
5/19/2013 23:30	0.01	8.41
5/19/2013 23:45	0.02	8.43
5/20/2013 0:00	0.01	8.44
5/20/2013 0:30	0.01	8.45
5/20/2013 1:15	0.01	8.46
5/20/2013 1:30	0.01	8.47
5/20/2013 1:45	0.01	8.48
5/20/2013 2:45	0.01	8.49
5/21/2013 19:30	0.04	8.53
5/22/2013 0:45	0.01	8.54
5/22/2013 1:00	0.01	8.55
5/22/2013 1:45	0.01	8.56
5/22/2013 4:30	0.01	8.57
5/22/2013 4:45	0.01	8.58
5/22/2013 6:15	0.01	8.59
5/22/2013 23:00	0.01	8.60
5/23/2013 4:45	0.01	8.61
5/23/2013 22:30	0.01	8.62
5/23/2013 22:45	0.01	8.63
5/23/2013 23:00	0.01	8.64
5/23/2013 23:45	0.02	8.66
5/24/2013 0:00	0.01	8.67
5/24/2013 1:00	0.01	8.68
5/24/2013 1:15	0.01	8.69
5/24/2013 1:30	0.02	8.71
5/24/2013 2:00	0.01	8.72
5/24/2013 2:15	0.03	8.75
5/24/2013 2:30	0.04	8.79
5/24/2013 2:45	0.01	8.80
5/24/2013 3:00	0.01	8.81
5/24/2013 3:15	0.04	8.85
5/24/2013 3:30	0.02	8.87
5/24/2013 3:45	0.02	8.89
5/24/2013 4:15	0.02	8.91
5/24/2013 9:45	0.01	8.92
5/24/2013 12:30	0.01	8.93
5/24/2013 13:00	0.01	8.94
5/24/2013 17:30	0.03	8.97
5/24/2013 17:45	0.07	9.04
5/24/2013 18:00	0.15	9.19
5/24/2013 18:15	0.23	9.42
5/24/2013 18:30	0.09	9.51
5/24/2013 18:45	0.01	9.52
5/24/2013 19:00	0.01	9.53
5/24/2013 19:15	0.01	9.54
5/24/2013 19:45	0.02	9.56
5/24/2013 20:00	0.03	9.59
5/24/2013 20:15	0.02	9.61
5/24/2013 20:30	0.01	9.62
5/24/2013 20:45	0.01	9.63
5/24/2013 21:15	0.01	9.64
5/24/2013 22:30	0.01	9.65
5/24/2013 23:45	0.01	9.66
5/25/2013 0:15	0.01	9.67

Time Stamp	15-Minute Interval Rainfall (in)	Cumulative Rainfall (in)
5/25/2013 0:45	0.01	9.68
5/25/2013 1:00	0.01	9.69
5/25/2013 1:45	0.02	9.71
5/25/2013 2:00	0.06	9.77
5/25/2013 2:15	0.01	9.78
5/25/2013 2:30	0.01	9.79
5/25/2013 2:45	0.01	9.80
5/25/2013 3:00	0.02	9.82
5/25/2013 3:15	0.03	9.85
5/25/2013 3:30	0.05	9.90
5/25/2013 3:45	0.03	9.93
5/25/2013 4:00	0.01	9.94
5/25/2013 4:30	0.01	9.95
5/25/2013 6:00	0.01	9.96
5/25/2013 6:30	0.01	9.97
5/25/2013 12:15	0.01	9.98
5/25/2013 14:45	0.01	9.99
5/25/2013 15:00	0.01	10.00
5/25/2013 16:00	0.01	10.01
5/25/2013 20:30	0.01	10.02
5/26/2013 4:15	0.01	10.03
5/26/2013 4:30	0.01	10.04
5/26/2013 4:45	0.01	10.05
5/26/2013 6:15	0.01	10.06
5/26/2013 8:30	0.01	10.07
5/29/2013 4:30	0.01	10.08
5/29/2013 4:45	0.01	10.09
5/29/2013 5:00	0.01	10.10
5/29/2013 5:15	0.03	10.13
5/29/2013 5:30	0.04	10.17
5/29/2013 5:45	0.05	10.22
5/29/2013 6:00	0.04	10.26
5/29/2013 6:15	0.04	10.30
5/29/2013 6:30	0.04	10.34
5/29/2013 6:45	0.01	10.35
5/29/2013 7:00	0.02	10.37
5/29/2013 8:00	0.01	10.38
5/29/2013 9:15	0.01	10.39
5/29/2013 9:30	0.06	10.45
5/29/2013 22:15	0.01	10.46
5/29/2013 22:30	0.25	10.71
5/29/2013 22:45	0.08	10.79
5/29/2013 23:00	0.16	10.95
5/29/2013 23:15	0.07	11.02
5/29/2013 23:30	0.07	11.09
6/3/2013 6:45	0.01	11.10
6/3/2013 7:30	0.02	11.12
6/3/2013 7:45	0.01	11.13
6/3/2013 8:00	0.01	11.14
6/3/2013 8:15	0.05	11.19
6/3/2013 8:30	0.05	11.24
6/3/2013 8:45	0.04	11.28
6/3/2013 9:00	0.01	11.29
6/3/2013 9:30	0.01	11.30
6/3/2013 10:00	0.01	11.31
6/3/2013 10:15	0.03	11.34
6/3/2013 10:30	0.03	11.37

Time Stamp	15-Minute Interval Rainfall (in)	Cumulative Rainfall (in)
6/3/2013 11:00	0.01	11.38
6/3/2013 11:15	0.01	11.39
6/3/2013 11:30	0.01	11.40
6/3/2013 11:45	0.02	11.42
6/3/2013 12:00	0.03	11.45
6/3/2013 12:15	0.03	11.48
6/3/2013 14:30	0.01	11.49
6/7/2013 0:30	0.01	11.50
6/7/2013 0:45	0.01	11.51
6/7/2013 1:00	0.01	11.52
6/7/2013 1:30	0.01	11.53
6/7/2013 7:30	0.01	11.54
6/7/2013 7:45	0.02	11.56
6/7/2013 8:00	0.03	11.59
6/7/2013 8:15	0.02	11.61
6/7/2013 8:30	0.02	11.63
6/7/2013 8:45	0.01	11.64
6/7/2013 9:00	0.02	11.66
6/7/2013 9:15	0.02	11.68
6/7/2013 9:30	0.02	11.70
6/7/2013 9:45	0.01	11.71
6/7/2013 10:00	0.01	11.72
6/7/2013 10:15	0.01	11.73
6/7/2013 10:30	0.01	11.74
6/7/2013 10:45	0.01	11.75
6/7/2013 11:00	0.04	11.79
6/7/2013 11:15	0.03	11.82
6/7/2013 11:30	0.03	11.85
6/7/2013 11:45	0.03	11.88
6/7/2013 12:00	0.01	11.89
6/7/2013 12:15	0.01	11.90
6/7/2013 12:30	0.02	11.92
6/7/2013 12:45	0.01	11.93
6/7/2013 13:00	0.02	11.95
6/7/2013 13:15	0.03	11.98
6/7/2013 13:30	0.01	11.99
6/7/2013 13:45	0.01	12.00
6/7/2013 14:15	0.01	12.01
6/7/2013 14:30	0.02	12.03
6/7/2013 14:45	0.02	12.05
6/7/2013 15:00	0.02	12.07
6/7/2013 15:15	0.04	12.11
6/7/2013 15:30	0.04	12.15
6/7/2013 15:45	0.09	12.24
6/7/2013 16:00	0.10	12.34
6/7/2013 16:15	0.06	12.40
6/7/2013 16:30	0.06	12.46
6/7/2013 16:45	0.10	12.56
6/7/2013 17:00	0.09	12.65
6/7/2013 17:15	0.03	12.68
6/7/2013 17:30	0.02	12.70
6/7/2013 17:45	0.02	12.72
6/7/2013 18:00	0.06	12.78
6/7/2013 18:15	0.07	12.85
6/7/2013 18:30	0.08	12.93
6/7/2013 18:45	0.07	13.00
6/7/2013 19:00	0.04	13.04

Time Stamp	15-Minute Interval Rainfall (in)	Cumulative Rainfall (in)
6/7/2013 19:15	0.04	13.08
6/7/2013 19:30	0.07	13.15
6/7/2013 19:45	0.09	13.24
6/7/2013 20:00	0.04	13.28
6/7/2013 20:15	0.04	13.32
6/7/2013 20:30	0.07	13.39
6/7/2013 20:45	0.11	13.50
6/7/2013 21:00	0.19	13.69
6/7/2013 21:15	0.28	13.97
6/7/2013 21:30	0.29	14.26
6/7/2013 21:45	0.26	14.52
6/7/2013 22:00	0.10	14.62
6/7/2013 22:15	0.05	14.67
6/7/2013 22:30	0.04	14.71
6/7/2013 22:45	0.02	14.73
6/7/2013 23:00	0.03	14.76
6/7/2013 23:15	0.09	14.85
6/7/2013 23:30	0.04	14.89
6/7/2013 23:45	0.02	14.91
6/8/2013 0:00	0.05	14.96
6/8/2013 0:15	0.01	14.97
6/8/2013 0:30	0.01	14.98
6/8/2013 0:45	0.05	15.03
6/8/2013 1:00	0.05	15.08
6/8/2013 1:15	0.07	15.15
6/8/2013 1:30	0.07	15.22
6/8/2013 1:45	0.01	15.23
6/8/2013 2:00	0.02	15.25
6/8/2013 2:15	0.08	15.33
6/8/2013 2:30	0.06	15.39
6/8/2013 3:00	0.04	15.43
6/8/2013 3:15	0.04	15.47
6/8/2013 3:45	0.04	15.51
6/8/2013 4:00	0.05	15.56
6/8/2013 4:15	0.02	15.58
6/8/2013 4:45	0.01	15.59
6/8/2013 5:30	0.02	15.61
6/8/2013 5:45	0.07	15.68
6/8/2013 6:00	0.02	15.70
6/8/2013 6:15	0.01	15.71
6/8/2013 7:00	0.01	15.72
6/10/2013 18:15	0.01	15.73
6/10/2013 19:00	0.02	15.75
6/10/2013 19:15	0.02	15.77
6/10/2013 19:30	0.02	15.79
6/10/2013 19:45	0.02	15.81
6/10/2013 20:00	0.02	15.83
6/10/2013 20:15	0.01	15.84
6/10/2013 20:30	0.03	15.87
6/10/2013 20:45	0.02	15.89
6/10/2013 21:00	0.01	15.90
6/10/2013 21:15	0.02	15.92
6/10/2013 21:30	0.02	15.94
6/10/2013 21:45	0.01	15.95
6/10/2013 22:00	0.03	15.98
6/10/2013 22:15	0.13	16.11
6/10/2013 22:30	0.07	16.18

Time Stamp	15-Minute Interval Rainfall (in)	Cumulative Rainfall (in)
6/10/2013 22:45	0.05	16.23
6/10/2013 23:00	0.03	16.26
6/10/2013 23:15	0.07	16.33
6/10/2013 23:30	0.04	16.37
6/10/2013 23:45	0.09	16.46
6/11/2013 0:00	0.04	16.50
6/11/2013 0:15	0.03	16.53
6/11/2013 0:30	0.06	16.59
6/11/2013 0:45	0.02	16.61
6/11/2013 1:00	0.01	16.62
6/11/2013 1:15	0.01	16.63
6/11/2013 1:30	0.02	16.65
6/11/2013 1:45	0.07	16.72
6/11/2013 2:00	0.08	16.80
6/11/2013 2:15	0.01	16.81
6/11/2013 2:30	0.02	16.83
6/11/2013 2:45	0.06	16.89
6/11/2013 3:00	0.09	16.98
6/11/2013 3:15	0.15	17.13
6/11/2013 3:30	0.04	17.17
6/11/2013 4:00	0.10	17.27
6/11/2013 4:15	0.04	17.31
6/11/2013 4:30	0.04	17.35
6/11/2013 4:45	0.03	17.38
6/11/2013 5:00	0.01	17.39
6/11/2013 5:15	0.04	17.43
6/11/2013 5:30	0.16	17.59
6/11/2013 5:45	0.04	17.63
6/11/2013 6:15	0.01	17.64
6/11/2013 6:45	0.04	17.68
6/11/2013 7:00	0.06	17.74
6/11/2013 7:15	0.03	17.77
6/11/2013 7:45	0.01	17.78
6/11/2013 18:30	0.01	17.79
6/11/2013 18:45	0.07	17.86
6/11/2013 19:00	0.06	17.92
6/11/2013 19:15	0.06	17.98
6/11/2013 19:30	0.03	18.01
6/11/2013 19:45	0.14	18.15
6/11/2013 20:00	0.27	18.42
6/11/2013 20:15	0.03	18.45
6/11/2013 20:30	0.01	18.46
6/11/2013 20:45	0.02	18.48
6/11/2013 21:00	0.02	18.50
6/11/2013 21:15	0.01	18.51
6/12/2013 1:00	0.01	18.52
6/12/2013 1:30	0.01	18.53
6/12/2013 2:30	0.01	18.54
6/12/2013 4:00	0.01	18.55
6/12/2013 4:45	0.01	18.56
6/12/2013 5:30	0.01	18.57
6/12/2013 7:30	0.01	18.58
6/12/2013 18:30	0.01	18.59
6/13/2013 13:00	0.01	18.60
6/13/2013 13:30	0.01	18.61
6/13/2013 13:45	0.02	18.63
6/13/2013 14:00	0.02	18.65

Time Stamp	15-Minute Interval Rainfall (in)	Cumulative Rainfall (in)
6/13/2013 14:15	0.01	18.66
6/13/2013 14:30	0.03	18.69
6/13/2013 14:45	0.03	18.72
6/13/2013 15:00	0.04	18.76
6/13/2013 15:15	0.04	18.80
6/13/2013 15:30	0.02	18.82
6/13/2013 15:45	0.01	18.83
6/13/2013 16:00	0.03	18.86
6/13/2013 18:30	0.02	18.88
6/13/2013 18:45	0.03	18.91
6/13/2013 19:00	0.02	18.93
6/13/2013 19:15	0.01	18.94
6/13/2013 19:30	0.02	18.96
6/13/2013 19:45	0.01	18.97
6/13/2013 20:00	0.02	18.99
6/13/2013 20:15	0.02	19.01
6/13/2013 20:30	0.02	19.03
6/13/2013 21:15	0.01	19.04
6/13/2013 21:30	0.01	19.05
6/13/2013 21:45	0.01	19.06
6/13/2013 22:00	0.01	19.07
6/13/2013 22:15	0.03	19.10
6/13/2013 22:30	0.03	19.13
6/13/2013 22:45	0.02	19.15
6/13/2013 23:00	0.03	19.18
6/13/2013 23:15	0.03	19.21
6/13/2013 23:30	0.05	19.26
6/13/2013 23:45	0.03	19.29
6/14/2013 0:00	0.04	19.33
6/14/2013 0:15	0.04	19.37
6/14/2013 0:30	0.05	19.42
6/14/2013 0:45	0.04	19.46
6/14/2013 1:00	0.06	19.52
6/14/2013 1:15	0.04	19.56
6/14/2013 1:30	0.05	19.61
6/14/2013 1:45	0.06	19.67
6/14/2013 2:00	0.04	19.71
6/14/2013 2:15	0.06	19.77
6/14/2013 2:30	0.04	19.81
6/14/2013 2:45	0.04	19.85
6/14/2013 3:00	0.03	19.88
6/14/2013 3:15	0.04	19.92
6/14/2013 3:30	0.05	19.97
6/14/2013 3:45	0.05	20.02
6/14/2013 4:00	0.04	20.06
6/14/2013 4:15	0.02	20.08
6/14/2013 4:30	0.03	20.11
6/14/2013 4:45	0.02	20.13
6/14/2013 5:00	0.03	20.16
6/14/2013 5:15	0.03	20.19
6/14/2013 5:30	0.03	20.22
6/14/2013 5:45	0.05	20.27
6/14/2013 6:00	0.03	20.30
6/14/2013 6:15	0.04	20.34
6/14/2013 6:30	0.02	20.36
6/14/2013 6:45	0.05	20.41
6/14/2013 7:00	0.05	20.46

Time Stamp	15-Minute Interval Rainfall (in)	Cumulative Rainfall (in)
6/14/2013 7:15	0.05	20.51
6/14/2013 7:30	0.04	20.55
6/14/2013 7:45	0.04	20.59
6/14/2013 8:00	0.02	20.61
6/14/2013 8:15	0.02	20.63
6/14/2013 8:30	0.04	20.67
6/14/2013 8:45	0.01	20.68
6/14/2013 9:00	0.01	20.69
6/17/2013 16:45	0.03	20.72
6/17/2013 17:00	0.01	20.73
6/17/2013 17:15	0.01	20.74
6/17/2013 17:30	0.01	20.75
6/17/2013 17:45	0.17	20.92
6/17/2013 18:00	0.04	20.96
6/17/2013 18:15	0.01	20.97
6/17/2013 18:30	0.02	20.99
6/17/2013 18:45	0.03	21.02
6/17/2013 19:00	0.02	21.04
6/17/2013 19:15	0.01	21.05
6/18/2013 14:45	0.03	21.08
6/18/2013 15:00	0.05	21.13
6/18/2013 15:15	0.06	21.19
6/18/2013 15:30	0.07	21.26
6/18/2013 15:45	0.07	21.33
6/18/2013 16:00	0.09	21.42
6/18/2013 16:15	0.08	21.50
6/18/2013 16:30	0.03	21.53
6/18/2013 16:45	0.02	21.55
6/19/2013 0:00	0.02	21.57
6/24/2013 20:30	0.02	21.59
6/24/2013 20:45	0.03	21.62
6/24/2013 21:00	0.02	21.64
6/24/2013 21:15	0.01	21.65
6/24/2013 21:30	0.01	21.66
6/24/2013 21:45	0.02	21.68
6/24/2013 22:00	0.02	21.70
6/24/2013 22:15	0.03	21.73
6/24/2013 22:30	0.01	21.74
6/24/2013 22:45	0.01	21.75
6/26/2013 17:45	0.03	21.78
6/26/2013 18:00	0.06	21.84
6/26/2013 18:15	0.04	21.88
6/27/2013 4:00	0.01	21.89
6/27/2013 16:45	0.01	21.90
6/28/2013 1:30	0.01	21.91
6/28/2013 2:00	0.01	21.92
6/28/2013 2:15	0.17	22.09
6/28/2013 2:30	0.21	22.30
6/28/2013 2:45	0.04	22.34
6/28/2013 3:00	0.01	22.35
6/28/2013 4:45	0.01	22.36
6/28/2013 5:00	0.01	22.37
6/28/2013 5:30	0.01	22.38
6/28/2013 7:30	0.02	22.40
6/28/2013 7:45	0.01	22.41
7/1/2013 0:00	0.03	22.44
7/1/2013 1:00	0.01	22.45

Time Stamp	15-Minute Interval Rainfall (in)	Cumulative Rainfall (in)
7/1/2013 1:15	0.01	22.46
7/1/2013 2:00	0.01	22.47
7/1/2013 18:30	0.01	22.48
7/2/2013 18:30	0.05	22.53
7/3/2013 15:15	0.06	22.59
7/11/2013 9:45	0.01	22.60
7/11/2013 10:00	0.01	22.61
7/11/2013 10:15	0.01	22.62
7/11/2013 10:30	0.01	22.63
7/11/2013 10:45	0.04	22.67
7/11/2013 11:00	0.02	22.69
7/11/2013 11:15	0.01	22.70
7/13/2013 20:30	0.01	22.71
7/16/2013 18:30	0.01	22.72
7/21/2013 18:00	0.01	22.73
7/23/2013 5:00	0.01	22.74
7/23/2013 5:45	0.01	22.75
7/23/2013 6:00	0.01	22.76
7/23/2013 6:15	0.03	22.79
7/23/2013 6:30	0.02	22.81
7/23/2013 6:45	0.02	22.83
7/23/2013 7:00	0.01	22.84
7/23/2013 7:15	0.01	22.85
7/23/2013 7:30	0.01	22.86
7/23/2013 7:45	0.01	22.87
7/23/2013 8:00	0.03	22.90
7/23/2013 8:15	0.01	22.91
7/23/2013 8:30	0.02	22.93
7/23/2013 9:00	0.01	22.94
7/23/2013 12:45	0.08	23.02
7/23/2013 13:00	0.46	23.48
7/23/2013 13:15	0.06	23.54
7/23/2013 13:30	0.10	23.64
7/23/2013 13:45	0.01	23.65
7/23/2013 14:15	0.16	23.81
7/23/2013 14:30	0.07	23.88
7/23/2013 14:45	0.04	23.92
7/23/2013 16:00	0.01	23.93
7/23/2013 16:30	0.04	23.97
7/23/2013 16:45	0.18	24.15
7/23/2013 17:00	0.10	24.25
7/23/2013 17:30	0.02	24.27
7/25/2013 15:45	0.02	24.29
7/25/2013 16:00	0.04	24.33
7/25/2013 16:15	0.16	24.49
7/25/2013 16:30	0.05	24.54
7/25/2013 16:45	0.05	24.59
7/25/2013 17:00	0.03	24.62
7/25/2013 17:30	0.02	24.64
7/25/2013 17:45	0.01	24.65
7/25/2013 19:00	0.01	24.66
7/25/2013 19:30	0.01	24.67
7/26/2013 2:00	0.01	24.68
7/26/2013 2:30	0.01	24.69
7/26/2013 2:45	0.01	24.70
7/26/2013 3:00	0.01	24.71
7/26/2013 3:30	0.02	24.73

Time Stamp	15-Minute Interval Rainfall (in)	Cumulative Rainfall (in)
7/26/2013 3:45	0.03	24.76
7/26/2013 4:00	0.09	24.85
7/26/2013 4:15	0.17	25.02
7/26/2013 4:30	0.09	25.11
7/26/2013 4:45	0.11	25.22
7/26/2013 5:00	0.06	25.28
7/26/2013 5:15	0.05	25.33
7/26/2013 5:30	0.02	25.35
7/26/2013 5:45	0.01	25.36
7/26/2013 6:00	0.01	25.37
7/26/2013 6:15	0.02	25.39
7/26/2013 6:30	0.01	25.40
7/26/2013 6:45	0.01	25.41
7/26/2013 7:00	0.02	25.43
7/26/2013 7:15	0.04	25.47
7/26/2013 7:30	0.03	25.50
7/26/2013 8:00	0.01	25.51
7/26/2013 8:45	0.02	25.53
7/26/2013 9:00	0.01	25.54
7/26/2013 9:30	0.02	25.56
7/26/2013 9:45	0.01	25.57
7/26/2013 10:00	0.01	25.58
7/26/2013 18:00	0.03	25.61
7/26/2013 18:15	0.04	25.65
7/26/2013 18:30	0.03	25.68
7/26/2013 18:45	0.02	25.70
7/26/2013 19:00	0.02	25.72
7/26/2013 19:15	0.05	25.77
7/26/2013 19:30	0.05	25.82
7/26/2013 19:45	0.04	25.86
7/26/2013 20:15	0.01	25.87
7/29/2013 17:00	0.04	25.91
7/29/2013 17:15	0.01	25.92
7/29/2013 21:00	0.11	26.03
7/29/2013 21:15	0.01	26.04
8/2/2013 5:15	0.08	26.12
8/2/2013 5:30	0.04	26.16
8/2/2013 5:45	0.01	26.17
8/2/2013 7:00	0.05	26.22
8/2/2013 7:15	0.02	26.24
8/2/2013 7:30	0.01	26.25
8/2/2013 7:45	0.03	26.28
8/2/2013 8:00	0.02	26.30
8/2/2013 8:15	0.01	26.31
8/2/2013 8:30	0.01	26.32
8/4/2013 17:45	0.07	26.39
8/8/2013 6:45	0.01	26.40
8/8/2013 7:15	0.01	26.41
8/9/2013 8:30	0.01	26.42
8/9/2013 9:00	0.02	26.44
8/9/2013 9:15	0.01	26.45
8/9/2013 9:30	0.01	26.46
8/9/2013 9:45	0.02	26.48
8/9/2013 10:00	0.01	26.49
8/9/2013 10:15	0.01	26.50
8/9/2013 10:30	0.02	26.52
8/9/2013 10:45	0.01	26.53

Time Stamp	15-Minute Interval Rainfall (in)	Cumulative Rainfall (in)
8/9/2013 11:00	0.02	26.55
8/9/2013 11:30	0.02	26.57
8/9/2013 11:45	0.03	26.60
8/9/2013 12:00	0.12	26.72
8/9/2013 12:15	0.13	26.85
8/9/2013 12:30	0.10	26.95
8/9/2013 12:45	0.10	27.05
8/9/2013 13:00	0.04	27.09
8/9/2013 13:15	0.02	27.11
8/9/2013 13:30	0.03	27.14
8/9/2013 13:45	0.04	27.18
8/9/2013 14:00	0.07	27.25
8/9/2013 14:15	0.08	27.33
8/9/2013 14:30	0.08	27.41
8/9/2013 14:45	0.15	27.56
8/9/2013 15:00	0.11	27.67
8/9/2013 15:15	0.07	27.74
8/9/2013 15:30	0.01	27.75
8/9/2013 16:45	0.01	27.76
8/9/2013 17:00	0.01	27.77
8/9/2013 17:15	0.02	27.79
8/9/2013 17:30	0.03	27.82
8/9/2013 18:00	0.01	27.83
8/27/2013 3:45	0.01	27.84
9/1/2013 9:15	0.51	28.35
9/1/2013 9:30	0.11	28.46
9/1/2013 10:00	0.01	28.47
9/1/2013 10:45	0.06	28.53
9/1/2013 11:00	0.08	28.61
9/1/2013 11:15	0.01	28.62
9/1/2013 12:00	0.05	28.67
9/1/2013 12:15	0.02	28.69
9/1/2013 12:30	0.01	28.70
9/2/2013 7:00	0.01	28.71
9/2/2013 13:45	0.01	28.72
9/2/2013 14:00	0.11	28.83
9/2/2013 22:15	0.01	28.84
9/2/2013 22:30	0.02	28.86
9/2/2013 22:45	0.01	28.87
9/5/2013 8:15	0.01	28.88
9/5/2013 8:45	0.01	28.89
9/5/2013 9:00	0.03	28.92
9/5/2013 9:15	0.01	28.93
9/5/2013 9:30	0.01	28.94
9/10/2013 12:15	0.02	28.96
9/10/2013 12:30	0.04	29.00
9/10/2013 12:45	0.01	29.01
9/10/2013 13:30	0.01	29.02
9/12/2013 22:00	0.01	29.03
9/12/2013 22:15	0.10	29.13
9/12/2013 22:30	0.06	29.19
9/12/2013 22:45	0.14	29.33
9/12/2013 23:00	0.18	29.51
9/12/2013 23:15	0.29	29.80
9/12/2013 23:30	0.06	29.86
9/12/2013 23:45	0.04	29.90
9/13/2013 0:00	0.02	29.92

Time Stamp	15-Minute Interval Rainfall (in)	Cumulative Rainfall (in)
9/13/2013 0:30	0.01	29.93
9/13/2013 7:00	0.01	29.94
9/13/2013 7:15	0.01	29.95
9/13/2013 7:45	0.01	29.96
9/13/2013 8:00	0.01	29.97
9/13/2013 8:15	0.02	29.99
9/13/2013 15:45	0.03	30.02
9/13/2013 16:45	0.03	30.05
9/13/2013 17:00	0.04	30.09
9/13/2013 17:45	0.01	30.10
9/22/2013 2:00	0.01	30.11
9/22/2013 5:45	0.05	30.16
9/22/2013 6:00	0.03	30.19
9/22/2013 6:15	0.07	30.26
9/22/2013 6:30	0.13	30.39
9/22/2013 6:45	0.02	30.41
9/22/2013 7:00	0.01	30.42
9/22/2013 7:15	0.01	30.43
9/22/2013 7:30	0.01	30.44
9/22/2013 7:45	0.02	30.46
9/22/2013 8:00	0.01	30.47
9/29/2013 8:45	0.01	30.48
10/6/2013 1:30	0.01	30.49
10/6/2013 1:45	0.02	30.51
10/6/2013 2:00	0.01	30.52
10/6/2013 7:30	0.01	30.53
10/6/2013 7:45	0.02	30.55
10/6/2013 8:00	0.02	30.57
10/6/2013 8:15	0.02	30.59
10/6/2013 8:30	0.02	30.61
10/6/2013 8:45	0.01	30.62
10/6/2013 9:00	0.01	30.63
10/6/2013 10:00	0.01	30.64
10/6/2013 10:15	0.06	30.70
10/6/2013 10:30	0.01	30.71
10/6/2013 13:45	0.01	30.72
10/6/2013 14:00	0.01	30.73
10/6/2013 14:15	0.01	30.74
10/6/2013 14:45	0.01	30.75
10/6/2013 15:00	0.02	30.77
10/6/2013 15:15	0.01	30.78
10/6/2013 15:45	0.01	30.79
10/6/2013 16:00	0.02	30.81
10/6/2013 16:15	0.05	30.86
10/6/2013 16:30	0.01	30.87
10/6/2013 17:15	0.01	30.88
10/7/2013 9:45	0.02	30.90
10/18/2013 0:00	0.01	30.91
10/18/2013 0:15	0.02	30.93
10/18/2013 0:45	0.01	30.94
10/18/2013 2:30	0.01	30.95
10/27/2013 4:45	0.01	30.96
10/27/2013 5:45	0.01	30.97
10/30/2013 10:15	0.01	30.98
10/30/2013 10:30	0.01	30.99
10/30/2013 11:00	0.01	31.00
10/30/2013 11:15	0.01	31.01

Time Stamp	15-Minute Interval Rainfall (in)	Cumulative Rainfall (in)
10/30/2013 11:30	0.01	31.02
10/30/2013 12:15	0.01	31.03
10/31/2013 22:30	0.01	31.04
10/31/2013 23:00	0.01	31.05
10/31/2013 23:15	0.01	31.06
11/1/2013 1:15	0.02	31.08
11/1/2013 1:30	0.01	31.09
11/1/2013 12:00	0.01	31.10
11/1/2013 12:15	0.04	31.14
11/3/2013 7:45	0.01	31.15
11/3/2013 8:30	0.01	31.16
11/3/2013 9:15	0.01	31.17
11/3/2013 9:45	0.01	31.18
11/3/2013 10:00	0.01	31.19
11/3/2013 18:15	0.01	31.20
11/7/2013 12:00	0.01	31.21
11/7/2013 12:15	0.02	31.23
11/7/2013 12:30	0.02	31.25
11/7/2013 12:45	0.03	31.28
11/7/2013 13:00	0.02	31.30
11/7/2013 13:15	0.02	31.32
11/7/2013 13:30	0.02	31.34
11/7/2013 13:45	0.02	31.36
11/7/2013 14:00	0.04	31.40
11/7/2013 14:15	0.01	31.41
11/7/2013 15:45	0.01	31.42
11/7/2013 16:00	0.01	31.43
11/7/2013 16:45	0.01	31.44
11/7/2013 17:00	0.02	31.46
11/10/2013 4:30	0.01	31.47
11/10/2013 4:45	0.01	31.48
11/10/2013 5:15	0.01	31.49
11/10/2013 5:45	0.01	31.50
11/12/2013 3:30	0.01	31.51
11/12/2013 4:00	0.01	31.52
11/12/2013 4:15	0.01	31.53
11/12/2013 4:45	0.01	31.54
11/12/2013 5:00	0.01	31.55
11/12/2013 5:45	0.01	31.56
11/12/2013 6:15	0.01	31.57
11/12/2013 6:30	0.01	31.58
11/12/2013 6:45	0.01	31.59
11/12/2013 7:15	0.01	31.60

APPENDIX C

PUBLIC NOTIFICATION

Public Nofication

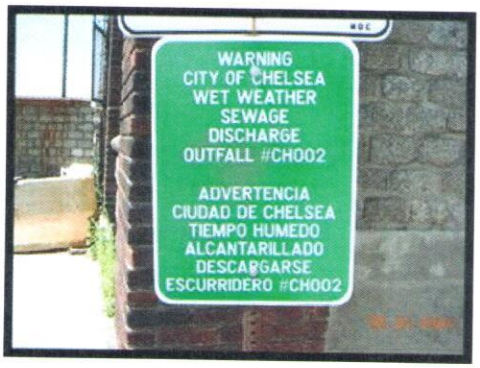
City of Chelsea Combined Sewer Overflows

The United States Environmental Protection Agency (USEPA) issued National Pollutant Discharge Elimination System (NPDES) Permit #MA101877 to the city of Chelsea, MA on April 11, 2003. According to the terms of the permit it then became effective on June 11, 2003. This permit is in effect for a period of five years. In accordance with this permit, the requirements of the Clean Water Act and the requirements of the Massachusetts Clean Water Act, the city of Chelsea is authorized to discharge from four Combined Sewer Overflows (CSO). The four CSOs and the respective receiving waters are:

CHE002	Located on Broadway and discharges to Boston Inner Harbor
CHE003	Located on Winnisimmet Street and discharges to Chelsea River
CHE004	Located on Pearl Street and discharges to Chelsea River
CHE008	Located on Eastern Avenue and discharges to Chelsea River

Each location is indicated by a sign. The signs are easily visible from the street.

Dry weather discharges are never allowed. If a dry weather discharge were to occur, the city of Chelsea is obligated to report the incident to the USEPA and the Massachusetts Department of Environmental Protection (MADEP). The CHE-003 & CHE-008 outfalls also have separate storm drains connected them. Storm Water Flows can be seen occurring at both these outfalls when they are not acting as Combined Sewer Overflows.



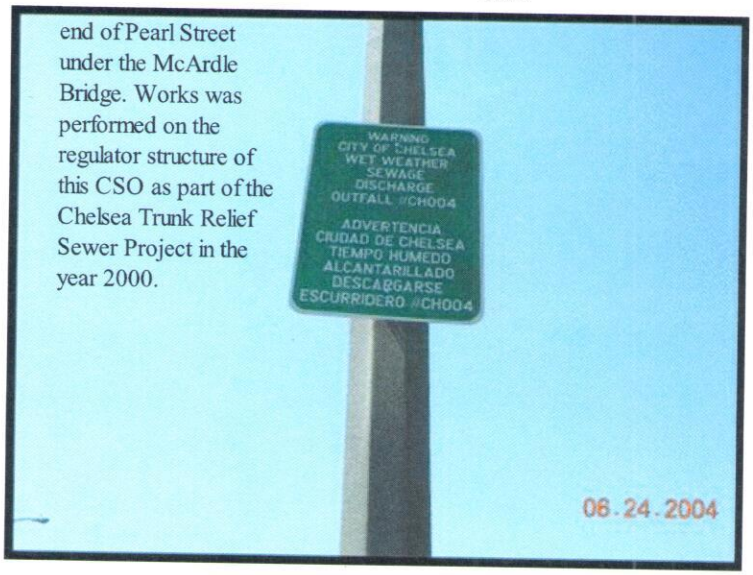
CSO CHE-002 is located at the southerly end of Broadway by the Chelsea Yacht Club. This CSO was completely rebuilt by P. Gioioso & Sons under contract to the MWRA as part of the Chelsea Trunk Relief Sewer Project in the year 2000.

The new conduit replaced one of the oldest pipes in the City. The old pipe was a wooden box culvert.

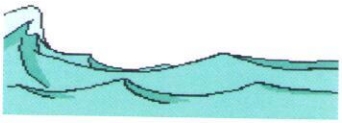
CSO CHE-003 is located at the southerly end of Winnisimmet Street under the piers of the shipyard. This CSO was completely rebuilt by P. Gioioso & Sons under contract to the MWRA as part of the Chelsea Trunk Relief Sewer Project in the year 2000.

CSO CHE-004 is located at the southerly

end of Pearl Street under the McArdle Bridge. Works was performed on the regulator structure of this CSO as part of the Chelsea Trunk Relief Sewer Project in the year 2000.



CSO CHE-008 is located on the Chelsea River on the water side of the Gulf Bulk Oil Storage Terminal on Eastern Avenue. The regulator structure for this CSO was rebuilt and the outfall pipe relined by Modern Continental under contract to the MWRA as part of the Chelsea Branch Sewer Rehabilitation and Relief Project in the year 2000.

Approximately seventy percent of the city of Chelsea's sewer system is a combined system. In a combined system both stormwater and wastewater are carried in the same conduit. During dry weather periods wastewater is conveyed through the city of Chelsea's sewer system to the Massachusetts Water Resources Authority (MWRA) system and then to Deer Island for treatment. During periods of heavy rain, dependent on the intensity of the rain and the tide elevation, the combined flow of stormwater and heavily diluted wastewater is permitted to and may overflow at the above locations. By discharge overflows through the CSOs, backups of flows into area homes and businesses are prevented.

The City of Chelsea is in the process of separating Combined Sewers into Separated Storm and Sanitary Sewers throughout the City. In as much as 75% of the City of Chelsea is comprised of combined sewers, this process will take many years and a substantial amount of capital investment. The results of separation will result in both cleaner waterways and a reduced cost for the transportation and treatment of sewer flows from the City of Chelsea.