



Haverhill

Paul J. Jessel, Collection System Supervisor
Water/Wastewater Division
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April 28, 2009

United States Environmental Protection Agency
Office of Environmental Stewardship
1 Congress Street, Suite 1100 (SEW)
Boston, MA 02114-2023
Attn: Joy Hilton

Massachusetts Department of Environmental Protection
Northeast Regional Office
Bureau of Resource Protection
205B Lowell Street
Wilmington, MA 01887
Attn: Nihar Mohanty

Subject: City of Haverhill, MA NPDES Permit # **MA 0101621**
Combined Sewer Overflow Annual Report 2008

Dear Ms. Hilton and Mr. Mohanty:

In accordance with the City of Haverhill's NPDES Permit, we are providing this status report for the 2008 calendar year. Please note that throughout this report the items in *italic* are the requirements taken directly from the NPDES permit followed by the response.

Activation frequency and discharge volume for each CSO during the previous calendar year. The report shall include this information for each of the CSO discharge outfalls listed on attachment E.

EPA and DEP previously approved the City of Haverhill's SWMM computer model for simulating CSO activations. For details of the model, the reader should consult the report titled "SWMM Model Calibration and Evaluation of Existing Conditions" prepared by Camp Dresser & McKee (CDM) dated July 1998.

APPENDIX A: CSO SUMMARY CALANDER YEAR 2008 was prepared based on output from this SWMM model and includes estimates of CSO activations (including number of events, duration and volume discharge) during the 2008 calendar year. Note there were no predicted discharges from many of the CSOs listed in Appendix A.

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- a. *Precipitation during the previous year for each day, including total rainfall (express in inches), peak intensity (highest 15 minute sample multiplied by four to convert to inches per hour), and average intensity (the total rainfall for the storm event divided by the duration of the storm, expressed in inches per hour.)*
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Rain data is collected at the City of Haverhill Wastewater Treatment Plant using a RainWise, Inc., rain gage. The rain is measured in 15-minute intervals to within 0.01 inches. In order to keep track of each storm, peak and average intensities are recorded and calculated base on the daily rainfall, rather than from the entire storm duration. Most storm durations frequently start and stop more than once in a day. See **APPENDIX B: CALENDAR YEAR 2008 RAINFALL DATA**. The City received 53.2-inches of rainfall for calendar year 2008. The average rainfall amount is 45 inches.

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- b. *A certification, which states that the previous calendar's year's monthly inspections were conducted, results recorded, and records maintained.*
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I certify that the City of Haverhill inspects and maintains pertinent records from all CSOs at least monthly. The City of Haverhill actively maintains the CSO block testing program. This program consists of placing a small wooden block on each CSO weir attached to a cable. After every significant rainfall event, Collection System Division personnel visually check each block, record results, and notify downstream communities as appropriate. Block check results can be observed in **APPENDIX C: CALENDAR YEAR 2008 CSO BLOCK CHECK RESULTS**.

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- c. *A summary of modifications to the approved NMC programs which have been evaluated, and a description of those, which will be implemented during the upcoming year.*
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The City of Haverhill is currently minimizing CSO discharges to the maximum extent possible and in compliance with the Draft Nine Minimum Controls submitted to EPA in September 1996. The City has completed the CSO Phase I upgrades, which reduce CSO volume by 66 percent. This CSO mitigation has increase the wet weather capture to 97 percent. The City's nine minimum control measures submitted in 1996 do not need modification. Therefore, no implementation is plan or required.

In the first annual report submitted in accordance with this permit, the permittee shall submit a public notification plan to describe the measures actively being taken to meet NMC #9 (see NMC #9 in part I.C.1a.i.8), and an evaluation of future measures to enhance the public notification program, including the following;

- i. *Outfall sign visible from both water and land.*
 - ii. *Sign/Notices are where people may be using CSO-impacted waters for recreation such as swimming, boating, fishing, and places where the public may gain access to the water (e.g. boat put-in areas). The notice would include information on health risk posed by CSO and links for additional information on CSOs and water quality.*
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Public notification programs are intended to ensure that the public and community receives adequate information about CSOs including the locations of the outfalls, the magnitude of the discharges, and the affect on the receiving waters. The principal benefit of a notification program is to reduce the potential public health risk in affected areas and to increase public awareness of CSOs. Within 24-hours of a CSO occurrence an email notification is sent to Downstream Communities see **APPENDIX E: DOWNSTREAM COMMUNITIES**, which has the email notification list.

The City's Public Notification Program, (required by the NMC), consists of public education about CSO discharges and their impacts. "Real-Time" notification of the receiving water impacts or use restrictions during the activation of the CSO discharge is not feasible (due to its transient and intermittent occurrences). Accordingly, the City relies on a general education program and the City's official web site to keep the public aware of the possible health risks. The address below is the City's CSO web site.

http://www.ci.haverhill.ma.us/departments/water/waste_water/collection/index.htm

Signs have been installed at each CSO location in the City and will be maintained over the coming year. See **Appendix D: Work Order 35288** verifying that all CSO signage is posted.

iii. Review of the sewer system model to determine the threshold rain events, which normally will cause overflows.

The City has compiled all block test results and plotted these results with available Supervisory Control and Data Acquisition, (SCADA) influent flows. Further analysis shall be undertaken during this calendar year to arrive at a flow driven and minimum rainfall amount, which causes CSO activation.

The City has compiled all CSO activation from 2003 to 2008 along with, SCADA influent flow data, (influent flow beginning on April 19, 2007 7:00 PM). This information was compare to the existing block test data and plotted for each CSO. The following are the data points use to create each CSO graph; CSO activation; Rainfall in. /day; Peak intensity in. /hr.; influent flow. See **Appendix F: CSO Graphs from 2003 to 2008**. The City has established whenever the influent flow reaches 25 MGD then the Collection Division checks the CSO blocks.

iv. Quarterly postings on the permittee's website and links to other relevant web-sites which would give the locations of the CSOs, and associated health risks and estimate of CSO activations and volumes. The permittee shall update the CSO website within two(2) months of the effective date of the permit.

The City of Haverhill's CSO official web site is

http://www.ci.haverhill.ma.us/departments/water/waste_water/collection/index.htm

The SWMM model statistics from 2003 to 2008 are shown on the City web page on the following link:

http://www.ci.haverhill.ma.us/departments/water/waste_water/collection/cso1.html

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- v. *Annual press release and notification to interested individuals and groups on the progress of the CSO abatement work, also noting contacts for additional information on CSOs and water quality.*
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The City has contacted downstream communities and sent the 2008 SWMM model report. When other interested individuals are identified, this notification will be sent to them.

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- vi. *Notice to local health agents and other downstream public officials, including drinking water treatment plants (where appropriate), shellfish wardens, harbor masters, and the Massachusetts Division of Marine Fisheries (via FAX at 617-727-3337) or via telephone (978-282-0308 extension 160) within 24 hours of activation of CSOs. The permittee shall also notify the Massachusetts Divisions of Marine Fisheries by the same method if the treatment plant discharges effluent without disinfection. When City of Haverhill staff is unavailable to confirm an actual discharge from a CSO during a significant precipitation event, the permittee shall report the probable occurrence of a CSO discharge in the same manner. Subsequently, the occurrence of the CSO discharge event shall be confirmed or dispelled as staff becomes available. The planned notice distribution contact list shall be provided to EPA and DEP.*
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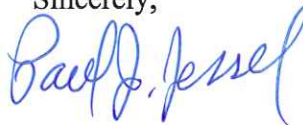
The public notification plan shall include a schedule for implementation of enhanced public notice measures.

APPENDIX E: DOWNSTREAM COMMUNITIES represents the lists the current emails addresses to be notified for Calendar 2009.

Your attention in this matter is greatly appreciated.

If you require additional information, please call me at 978-374-2382.

Sincerely,



Paul J. Jessel
Collection System Supervisor

cc: Mike Stankovich, DPW Director
Robert Ward, Deputy DPW Water/Wastewater
Fred Haffty WWTP Facility Manager

APPENDIX A: CSO SUMMARY 2008

NPDES#	STRUCNAME	fullname	events	volMG	hours
001	NLRS28WR	Bates Bridge	1	0.16	1.50
013	NLSIGTOF	Lower Siphon	5	25.46	18.74
021H	NMDH04W	Winter Street & Hale St	28	10.29	51.04
021A	NMESOF-D	Middle Siphon	17	9.78	34.13
021E	NMMSE3	Little River East	31	13.70	76.08
021D	NMNS01B	Little River West	14	0.79	27.01
024	NUSIGTOF	Upper Siphon	10	18.82	20.62
023	NUWS02WR	River Street	1	0.00	0.38
036	SLSB08WR	Ferry Street	11	1.07	14.63
035	SLSB10WR	South Main Street	21	2.92	47.61
034	SLSB12WR	Middlesex Street	13	19.40	270.74
033	SMSB01WR	South Prospect Street	10	0.69	18.76
032	SMSB03WR	Bradford Avenue	38	14.18	129.77
031	SUSB02WR	Front Street	13	5.29	29.23
025	NUMN04WR	Beach Street			
010	NLRS04WR	Boardman Street			
016	NLWS09WR	Fire Station			
019	NLWS13OF	Main Street - North			
022	NUWS09OF	Railroad Bridge			
037	NMBR02W	Broadway Regulator			
038	NMHI01W	High Street Regulator			
		Totals		122.55MG.	

APPENDIX B: CALENDAR YEAR 2008 RAINFALL DATA

Storm Date	Peak Hour Depth (inches)	Storm Depth (inches)	Duration (hours)	DAILY
				Average
	Intensity	Rain		Intensity
	(in/hr.)	Total (in)		(in/hr.)
1/1/2008	0.08	0.20	4.50	0.01
1/2/2008	0.04	0.05	1.25	0.01
1/5/2008	0.04	0.06	1.50	0.01
1/6/2008	0.04	0.17	4.25	0.01
1/7/2008	0.04	0.15	3.75	0.01
1/11/2008	0.44	1.12	8.00	0.04
1/15/2008	0.36	0.35	2.50	0.04
1/16/2008	0.04	0.01	0.25	0.01
1/18/2008	0.24	0.49	4.75	0.03
1/28/2008	0.16	0.14	2.00	0.02
1/30/2008	0.04	0.03	0.75	0.01
2/1/2008	0.40	1.00	7.25	0.03
2/2/2008	0.20	0.11	0.75	0.04
2/5/2008	0.40	0.73	6.25	0.03
2/6/2008	0.36	1.10	10.00	0.03
2/7/2008	0.24	0.20	1.25	0.04
2/9/2008	0.32	0.61	4.00	0.04
2/10/2008	0.24	0.18	1.75	0.03
2/13/2008	0.52	2.50	13.50	0.05
2/14/2008	0.04	0.01	0.25	0.01
2/15/2008	0.08	0.18	4.25	0.01
2/17/2008	0.04	0.02	0.50	0.01
2/18/2008	0.32	0.49	6.50	0.02
2/23/2008	0.52	0.50	1.50	0.08
2/24/2008	0.04	0.10	2.50	0.01
2/26/2008	0.32	0.50	2.75	0.05
2/27/2008	0.04	0.12	3.00	0.01
2/28/2008	0.04	0.06	1.50	0.01
3/1/2008	0.08	0.28	4.75	0.01
3/2/2008	0.04	0.01	0.25	0.01
3/3/2008	0.04	0.02	0.50	0.01
3/4/2008	0.16	0.53	7.25	0.02
3/5/2008	0.44	0.45	4.50	0.03
3/7/2008	0.16	0.21	4.25	0.02
3/8/2008	0.80	1.64	9.75	0.04

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Storm Date	Peak Hour Depth (inches)	Storm Depth (inches)	Duration (hours)	DAILY Average
3/12/2008	0.44	0.22	2.25	0.02
3/14/2008	0.04	0.03	0.75	0.01
3/15/2008	0.08	0.25	6.00	0.01
3/19/2008	0.12	0.55	10.00	0.01
3/20/2008	0.04	0.01	0.25	0.01
3/28/2008	0.16	0.71	9.50	0.02
3/29/2008	0.08	0.11	2.50	0.01
3/31/2008	0.04	0.12	3.00	0.01
4/1/2008	0.76	0.34	1.25	0.07
4/2/2008	0.04	0.01	0.25	0.01
4/4/2008	0.16	0.56	10.25	0.01
4/5/2008	0.12	0.10	1.75	0.01
4/6/2008	0.04	0.01	0.25	0.01
4/8/2008	0.04	0.01	0.25	0.01
4/11/2008	0.04	0.02	0.50	0.01
4/12/2008	0.28	0.35	4.75	0.02
4/27/2008	0.04	0.01	0.25	0.01
4/28/2008	0.36	1.04	10.75	0.02
4/29/2008	0.36	1.07	11.50	0.02
5/2/2008	0.04	0.05	1.25	0.01
5/3/2008	0.08	0.09	2.00	0.01
5/4/2008	0.32	0.45	4.00	0.03
5/8/2008	0.08	0.10	2.25	0.01
5/9/2008	0.04	0.10	2.50	0.01
5/16/2008	0.12	0.17	2.75	0.02
5/17/2008	0.08	0.18	3.75	0.01
5/18/2008	0.04	0.02	0.50	0.01
5/21/2008	0.04	0.07	1.75	0.01
5/27/2008	0.20	0.23	1.50	0.04
5/29/2008	0.28	0.09	0.50	0.05
5/31/2008	1.08	0.40	1.25	0.08
6/4/2008	0.08	0.36	8.00	0.01
6/5/2008	0.04	0.04	1.00	0.01
6/6/2008	0.44	0.31	3.00	0.03
6/7/2008	0.04	0.01	0.25	0.01
6/11/2008	0.08	0.06	1.00	0.02
6/15/2008	0.12	0.14	2.50	0.01
6/16/2008	0.12	0.11	1.75	0.02

APPENDIX B: CALENDAR YEAR 2008 RAINFALL DATA

Storm Date	Peak Hour Depth (inches)	Storm Depth (inches)	Duration (hours)	DAILY Average
6/20/2008	0.16	0.06	0.75	0.02
6/22/2008	0.12	0.07	1.25	0.01
6/23/2008	1.04	0.72	4.50	0.04
6/24/2008	0.16	0.12	1.50	0.02
6/25/2008	0.04	0.01	0.25	0.01
6/26/2008	0.04	0.01	0.25	0.01
6/27/2008	0.72	0.36	1.75	0.05
6/29/2008	0.80	0.45	1.25	0.09
6/30/2008	0.32	0.08	0.25	0.08
7/2/2008	0.08	0.03	0.50	0.02
7/3/2008	0.84	0.46	1.75	0.07
7/4/2008	0.28	0.58	5.00	0.03
7/9/2008	0.20	0.09	1.25	0.02
7/10/2008	0.08	0.04	0.75	0.01
7/19/2008	0.08	0.04	0.75	0.01
7/20/2008	0.96	0.62	2.00	0.08
7/21/2008	0.92	0.57	3.50	0.04
7/22/2008	0.04	0.04	1.00	0.01
7/23/2008	0.96	1.07	3.75	0.07
7/24/2008	1.84	2.81	10.75	0.07
7/27/2008	1.88	1.04	5.00	0.05
7/28/2008	0.04	0.01	0.25	0.01
7/31/2008	0.28	0.13	1.25	0.03
8/1/2008	0.08	0.02	0.25	0.02
8/2/2008	0.20	0.16	1.75	0.02
8/3/2008	0.76	0.35	2.00	0.04
8/4/2008	0.04	0.01	0.25	0.01
8/6/2008	0.84	0.87	5.00	0.04
8/7/2008	0.96	0.44	1.00	0.11
8/8/2008	0.28	0.46	4.00	0.03
8/10/2008	0.20	0.13	1.00	0.03
8/11/2008	1.16	0.64	3.25	0.05
8/12/2008	0.32	0.42	4.00	0.03
8/13/2008	0.04	0.01	0.25	0.01
8/14/2008	1.12	0.56	1.25	0.11
8/15/2008	0.12	0.15	2.50	0.02
8/16/2008	0.64	0.32	1.50	0.05
8/17/2008	0.04	0.01	0.25	0.01

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Storm Date	Peak Hour Depth (inches)	Storm Depth (inches)	Duration (hours)	DAILY Average
8/19/2008	0.20	0.09	1.00	0.02
9/6/2008	2.00	2.70	7.50	0.09
9/7/2008	0.88	0.94	5.25	0.04
9/9/2008	0.60	0.29	1.75	0.04
9/12/2008	0.04	0.06	1.50	0.01
9/13/2008	0.04	0.01	0.25	0.01
9/14/2008	0.08	0.17	3.00	0.01
9/21/2008	0.04	0.01	0.25	0.01
9/26/2008	0.52	1.66	11.75	0.04
9/27/2008	0.56	0.85	9.25	0.02
9/28/2008	0.28	0.49	8.25	0.01
9/29/2008	0.12	0.10	1.75	0.01
9/30/2008	0.04	0.02	0.50	0.01
10/1/2008	0.04	0.06	1.50	0.01
10/2/2008	0.16	0.10	1.50	0.02
10/6/2008	0.04	0.01	0.25	0.01
10/9/2008	0.28	0.21	2.25	0.02
10/16/2008	0.08	0.06	1.25	0.01
10/21/2008	0.08	0.09	2.00	0.01
10/22/2008	0.08	0.17	3.75	0.01
10/26/2008	1.32	1.15	5.00	0.06
10/28/2008	0.16	0.30	3.50	0.02
11/6/2008	0.40	1.13	10.00	0.03
11/7/2008	0.04	0.04	1.00	0.01
11/8/2008	0.12	0.06	1.00	0.02
11/9/2008	0.04	0.01	0.25	0.01
11/13/2008	0.04	0.04	1.00	0.01
11/14/2008	0.16	0.13	2.50	0.01
11/15/2008	0.24	0.24	3.50	0.02
11/16/2008	0.32	0.14	1.50	0.02
11/25/2008	0.28	1.42	15.00	0.02
11/28/2008	0.16	0.10	1.75	0.01
11/29/2008	0.04	0.01	0.25	0.01
11/30/2008	0.20	0.58	26.25	0.02
12/1/2008	0.08	0.29	5.75	0.01
12/2/2008	3.08	0.77	0.25	0.77
12/10/2008	0.32	0.41	2.00	0.05
12/11/2008	0.48	0.59	3.25	0.05

APPENDIX B: CALENDAR YEAR 2008 RAINFALL DATA

Storm Date	Peak Hour Depth (inches)	Storm Depth (inches)	Duration (hours)	DAILY Average
12/13/2008	0.40	0.10	0.25	0.10
12/18/2008	0.48	0.48	3.25	0.04
12/24/2008	0.24	0.21	1.50	0.04
12/25/2008	0.08	0.07	1.25	0.01
12/27/2008	0.04	0.06	1.50	0.01
Totals:		<u>53.20 in.</u>	<u>483.25 hr.</u>	

APPENDIX C: CALENDAR YEAR 2008 CSO BLOCK CHECK RESULTS

		NPDES #	001	010	013	016	019	21D	21E	21D	21A	022	023	025	024	21H	038	038	21H	031	032	033	034	035	036
Date	Rainfall (in.)/day	Peak Intensity hr.	BATES	BOARDMAN	LOWER SIPHON	FIRE STATION	MAIN ST NORTH	LITTLE RIVER NORTH 12-INCH	LITTLE RIVER SOUTH 18- INCH	ORCHARD STREET	MIDDLE SIPHON	RAILROAD BRIDGE	266 RIVER STREET	BEACH STREET	UPPER SIPHON	WINTER ST	BROADWAY DIVERSIONAL	HIGH ST DIVERSIONAL	WINTER AND HALE	FRONT STREET	BRADFORD AVE	SOUTH PROSPECT	MIDDLESEX STREET	MAIN ST SOUTH	FERRY STREET
1/1/2008	0.20	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1/2/2008	0.05	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1/11/2008	1.12	0.44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1/15/2008	0.35	0.36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1/16/2008	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1/18/2008	0.49	0.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1/28/2008	0.14	0.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1/30/2008	0.03	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2/1/2008	1.00	0.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2/2/2008	0.11	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2/5/2008	0.73	0.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2/6/2008	1.10	0.36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2/7/2008	0.20	0.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2/9/2008	0.61	0.32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2/10/2008	0.18	0.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2/13/2008	2.50	0.52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2/14/2008	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2/17/2008	0.02	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2/18/2008	0.49	0.32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2/23/2008	0.50	0.52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2/26/2008			0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2/27/2008			0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3/10/2008			0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	0	1	0	1	0	0
3/28/2008	0.71	0.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3/29/2008	0.11	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3/31/2008	0.12	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4/1/2008	0.34	0.76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
4/2/2008	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4/4/2008	0.56	0.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4/5/2008	0.10	0.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4/6/2008	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4/7/2008			0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0
4/8/2008	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4/11/2008	0.02	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4/12/2008	0.35	0.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4/27/2008	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4/28/2008	1.04	0.36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4/29/2008	1.07	0.36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5/2/2008	0.05	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5/3/2008	0.09	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5/4/2008	0.45	0.32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5/8/2008	0.10	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5/9/2008	0.10	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5/16/2008	0.17	0.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2008	0.18	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5/18/2008	0.02	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5/21/2008	0.07	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5/27/2008	0.23	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

APPENDIX C: CALENDAR YEAR 2008 CSO BLOCK CHECK RESULTS																									
Date	Rainfall (in.)/day	NPDES # Peak Intensity hr.	001 BATES	010 BOARDMAN	013 LOWER SIPHON	016 FIRE STATION	019 MAIN ST NORTH	21D LITTLE RIVER NORTH 12-INCH	21E LITTLE RIVER SOUTH 18- INCH	21D ORCHARD STREET	21A MIDDLE SIPHON	022 RAILROAD BRIDGE	023 266 RIVER STREET	025 BEACH STREET	024 UPPER SIPHON	21H WINTER ST	038 BROADWAY DIVERSIONAL	038 HIGH ST DIVERSIONAL	21H WINTER AND HALE	031 FRONT STREET	032 BRADFORD AVE	033 SOUTH PROSPECT	034 MIDDLESEX STREET	035 MAIN ST SOUTH	036 FERRY STREET
5/29/2008	0.09	0.28	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
5/31/2008	0.40	1.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6/4/2008	0.36	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6/5/2008	0.04	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6/6/2008	0.31	0.44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6/7/2008	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6/11/2008	0.06	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6/15/2008	0.14	0.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6/16/2008	0.11	0.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6/20/2008	0.06	0.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6/22/2008	0.07	0.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6/23/2008	0.72	1.04	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	1	1	1	1	1
6/24/2008	0.12	0.16	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	0	1	1	0	0	0
6/25/2008	0.01	0.04	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
6/26/2008	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6/27/2008	0.36	0.72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6/29/2008	0.45	0.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6/30/2008	0.08	0.32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7/1/2008			1	0	1	0	0	1	1	1	1	1	1	0	1	0	0	0	1	1	1	1	1	1	0
7/2/2008	0.03	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7/3/2008	0.46	0.84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7/4/2008	0.58	0.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7/9/2008	0.09	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7/10/2008	0.04	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7/19/2008	0.04	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7/20/2008	0.62	0.96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7/21/2008	0.57	0.92	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	1	0	1	1	1	1	0
7/22/2008	0.04	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7/23/2008	1.07	0.96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7/24/2008	2.81	1.84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7/25/2008			0	0	1	0	0	1	1	1	1	1	0	0	0	0	0	0	1	0	1	1	1	1	0
7/27/2008	1.04	1.88	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7/28/2008	0.01	0.04	0	0	1	0	0	1	1	1	1	0	0	0	0	1	0	0	1	0	1	1	1	1	0
7/31/2008	0.13	0.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8/1/2008	0.02	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8/2/2008	0.16	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8/3/2008	0.35	0.76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8/4/2008	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8/6/2008	0.87	0.84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8/7/2008	0.44	0.96	0	0	1	1	0	1	1	1	0	1	0	0	1	1	1	1	1	0	1	1	1	1	0
8/8/2008	0.46	0.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8/10/2008	0.13	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8/11/2008	0.64	1.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

APPENDIX C: CALENDAR YEAR 2008 CSO BLOCK CHECK RESULTS																									
		NPDES #	001	010	013	016	019	21D	21E	21D	21A	022	023	025	024	21H	038	038	21H	031	032	033	034	035	036
Date	Rainfall (in.)/day	Peak Intensity hr.	BATES	BOARDMAN	LOWER SIPHON	FIRE STATION	MAIN ST NORTH	LITTLE RIVER NORTH 12-INCH	LITTLE RIVER SOUTH 18- INCH	ORCHARD STREET	MIDDLE SIPHON	RAILROAD BRIDGE	266 RIVER STREET	BEACH STREET	UPPER SIPHON	WINTER ST	BROADWAY DIVERSIONAL	HIGH ST DIVERSIONAL	WINTER AND HALE	FRONT STREET	BRADFORD AVE	SOUTH PROSPECT	MIDDLESEX STREET	MAIN ST SOUTH	FERRY STREET
8/12/2008	0.42	0.32	0	0	1	0	0	1	1	1	1	1	0	0	1	0	0	0	1	0	0	0	1	1	0
8/13/2008	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8/14/2008	0.56	1.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8/15/2008	0.15	0.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8/16/2008	0.32	0.64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8/17/2008	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8/18/2008			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8/19/2008	0.09	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10/1/2008	0.06	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10/2/2008	0.10	0.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10/6/2008	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10/9/2008	0.21	0.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#####	0.06	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#####	0.09	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#####	0.17	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#####	1.15	1.32	0	0	1	0	0	1	1	1	1	1	0	0	1	0	0	0	1	0	1	0	1	1	0
#####	0.30	0.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/6/2008	1.13	0.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/7/2008	0.04	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/8/2008	0.06	0.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10/9/2008	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#####			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#####	0.04	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#####	0.13	0.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#####	0.24	0.24	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
#####	0.14	0.32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#####	1.42	0.28	1	0	1	0	0	1	1	1	1	1	0	0	1	0	0	0	1	0	1	1	0	0	0
#####	0.10	0.16	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
#####	0.11	0.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
#####	0.58	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/1/08	0.29	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/2/08	0.77	3.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/11/08			0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	1	0	1	0	0	0	0
12/13/08	0.10	0.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/14/08			0	0	1	0	0	1	1	1	1	1	0	0	1	0	0	0	1	0	1	0	0	0	0
12/18/08	0.48	0.48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/24/08	0.21	0.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/25/08			0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0
12/27/08	0.06	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CSO Total:			2	0	8	1	0	16	17	19	14	11	1	0	6	2	1	1	18	1	13	8	10	6	0

35288

ANYTHING TO DO WITH CSO

Task No.	CSO	Request Date	1/ 2/2009
Tenant	CITY WIDE	Request Time	12:37:19
Assigned By	PJJ	Originator	PJJ
Assigned To	PAR	Telephone No.	
Scheduled Start Date	1/ 9/2009	Extension	
Scheduled Finish Date	1/ 9/2009	WO Type	PLANNED
Perform by Warranty	No	Completion Date	1/22/2009
Priority	2.00	Completion Time	08:40:23
Expense Class	LSTA		

Craft	Crew Size	Estimated Labor Hours
COLL-REG	4.00	10.00

CSO-MISC-WW994

Equipment No.	CSO-MISC-WW994	Easement	
Equipment Description	ALL COMBINE SEWER OVERFLOW	Easement Book/Page	
Serial No.		Map	993
Cost Center	308	User-defined Field 4	
General Ledger Code	000	Dimentional Info	
Department	44	Must Be Down No	
Location	WWTP	Down Time	
Sub-location 1	-	Estimated Down Time	
Sub-location 2	-		
Sub-location 3	-		
Reason for Outage			

Safety Notes**Comments**

CHECK ALL CSO IDENTIFICATION SIGNS. THERE ARE 15 OUTFALLS WITH IDENTIFYING SIGNAGE. ALL SIGNS ARE IN PLACE.

Equipment No.	Meter Name	Meter Reading

Item No.	Equipment No.	Description	Qty Required	Date Used	Qty Used	Total Unit Cost

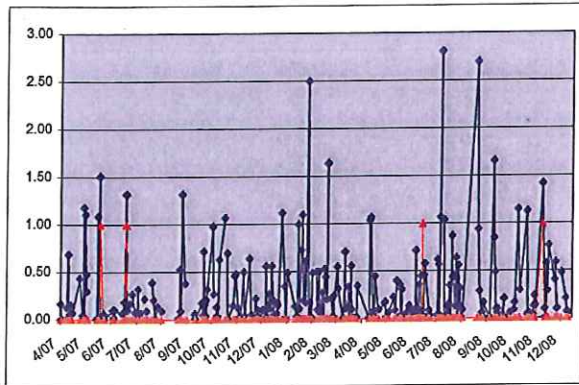
List extra parts and comments here

Employee Code	Equipment No.	Work Date	First Name	Last Name	Regular Hours	Overtime Hours
AM	CSO-MISC-WW994	1/ 9/2009	SAMUEL	MARINEZ	3.00	
	CSO-MISC-WW994	1/ 9/2009	PEDRO	ROSARIO	3.00	
DWS	CSO-MISC-WW994	1/22/2009	DAVID	SHAW	2.00	
JSR	CSO-MISC-WW994	1/22/2009	JOSEPH	REMMES	2.00	

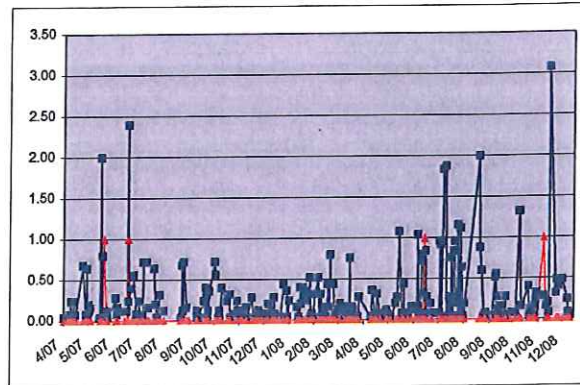
Appendix E: Downstream Notification

First Name	Last Name	Address	City	State	Postal Code	Tele #	DEPT	E-mail
Robert	Desmaris	62 Friend Street	Amesbury	MA	01913	1-978-388-8127	Engineering	rob@ci.amesbury.ma.us
Jeff	Mason		Amesbury	MA	01913	978-388-0853	Water System Manager	masonj@ci.amesbury.ma.us
Nihar	Mohanty	1 Winter Street	Boston	MA	02108-4746	1-978-694-3237	Mass DEP	nihar.mohanty@state.ma.us
Joy	Hilton	1 Congress St	Boston	MA	02203	(617) 918-1877	EPA Region I	hilton.joy@epa.gov
Robert	O'Hanley	183 Main Street	Groveland	MA	01834	(978) 372-3942	Board of Health	health@grovelandma.com
Thomas	Cusick	183 Main Street	Groveland	MA	01834	(978) 556-7200 x219	Water/Sewer	Tcusick@grovelandma.com
Bonnie	Dufresne	4 Summer Street	Haverhill	MA	01830	(978) 374-2325	Board of Health	bdufresne@cityofhaverhill.com
Michael	Vets	72 Coffin Avenue	Haverhill	MA	01830	(978) 374-2100	Harbor Master	vetsm@comcast.net
Fred	Haffty	40 South Porter Street	Haverhill	MA	01835	(978) 372-2382	Haverhill WWTP	fhaffty@haverhillwater.com
Mike	Stankovich	500 Primrose Street	Haverhill	MA	01830	(978) 374-2360	Haverhill DPW Director	mstankovich@haverhillwater.com
Philip	Ryan	40 South Porter Street	Haverhill	MA	01835	(978) 374-2383	Senior Collection Operator	pryan@haverhillwater.com
Tracie	Sales	600 Suffolk Street, Fifth Floor	Lowell	MA	01854	(978) 275-0120 X13	Merrimack River Watershed Council, Inc.	tsales@merrimack.org
Dan	Folding	10 W Main St	Merrimac	MA	01860	(978) 346-8311	Light & Water	danfolding@merrimacklightwater.com
Eileen	Hurley	2 School Street	Merrimac	MA	01860	978-346-4066	Board of Health	boh@townofmerrimac.com
Alba L.	Gouldthorpe	25 High Road	Newbury	MA	01951	(978) 499-3898	Board of Health	boardofhealth@townofnewbury.org
John	Morris	60 Pleasant Street	Newburyport	MA	01950	(978) 465-4410	Board of Health	imorris@cityofnewburyport.com
Ralph L	Steele	60 Pleasant Street	Newburyport	MA	01950	(978) 462-3746	Harbor Master	rsteale@cityofnewburyport.com
Jamie	Tuccolo	16A Perry Way	Newburyport	MA	01950	1-978-417-1223	Collection System Manager	ituccolo@cityofnewburyport.com
Joseph	Dugan		Newburyport	MA	01950	(978) 465-4461	Newburyport Wastewater Pl	jdugan@cityofnewburyport.com
Andrea	Brouchu	P.O. Box 5072	Salisbury	MA	01952	(978) 462-3430	Board of Health	abrochu@salisburyma.gov
Jeff	Ingalls	P.O. 5221	Salisbury	MA	01952	(978) 465-4058	Sewer Treatment Plant	saliswtp@localnet.com
Donald	Levesque	39 Lafayette Road	Salisbury	MA	01952	978-463-0656	Director Public Works	dlevesque@salisburyma.gov
Ray	Pike	5 Beach Road	Salisbury	MA	01952	978 499 0740	Harbor Master	harbormaster@salisburyma.gov
Paul	Sevigny	381 Main Street	West Newbury	MA	01985	(978) 363-1109	Board of Health	psevigny@town.west-newbury.ma.us
Jeff	Kennedy					978-465-3553 x320	North Shore Shellfish Project	shellfish.newburyport@state.ma.us
							N. Shore Shellfish Project	shellfish.newburyport@state.ma.us

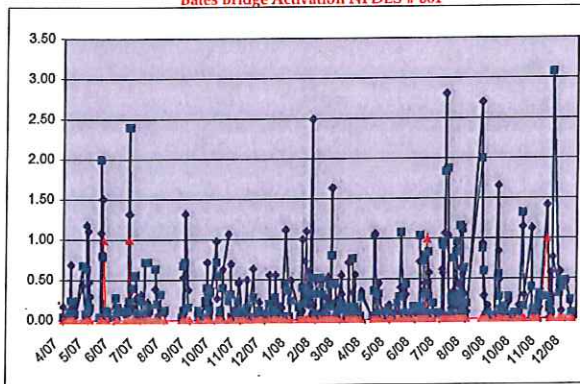
Rainfall (in.)/day
Bates Bridge Activation NPDES # 001



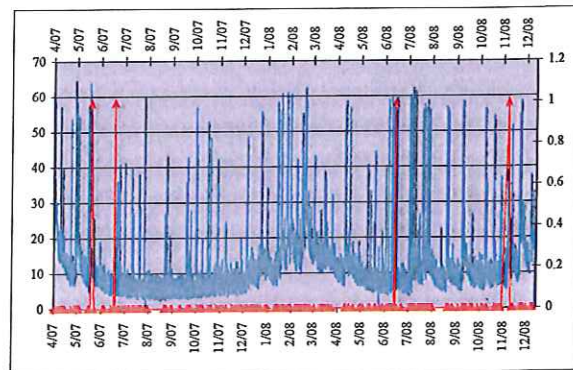
Peak Intensity/hr.
Bates Bridge Activation NPDES # 001



Rainfall (in.)/day
Peak Intensity/hr.
Bates Bridge Activation NPDES # 001

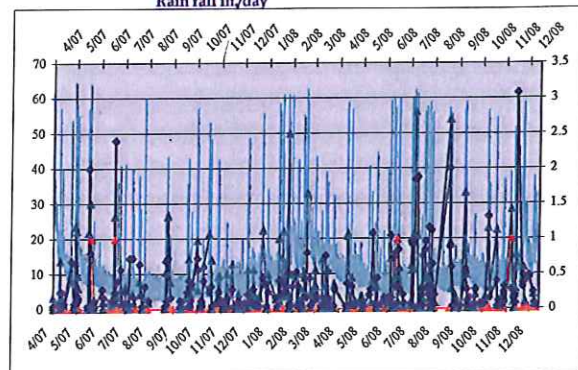
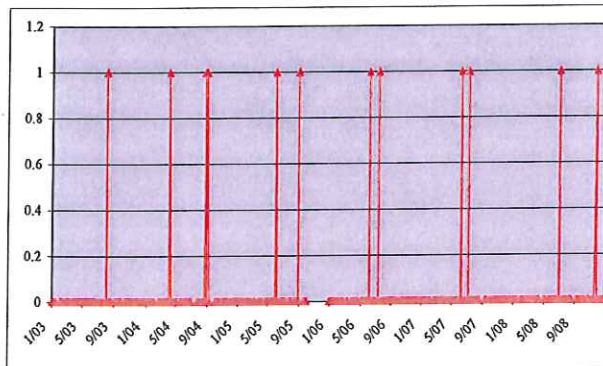


Influent MGD
Bates Bridge Activation NPDES # 001

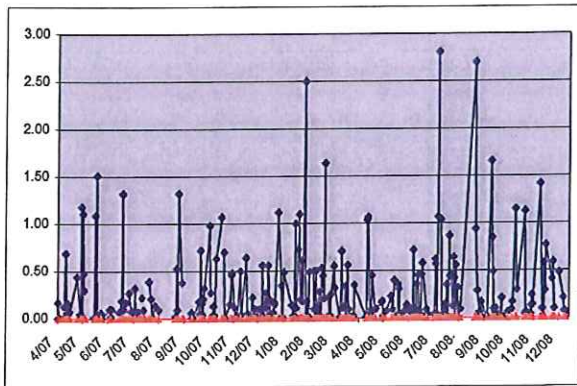


Bates Bridge Activation NPDES # 001

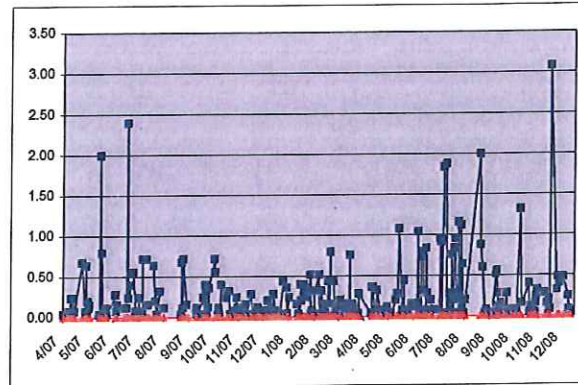
Influent MGD
Peak Intensity/hr.
Rain fall in/day
Bates Bridge Activation NPDES # 001



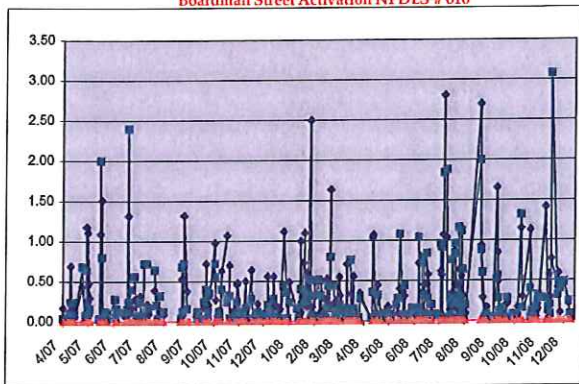
Rainfall (in./day)
Boardman Street Activation NPDES # 010



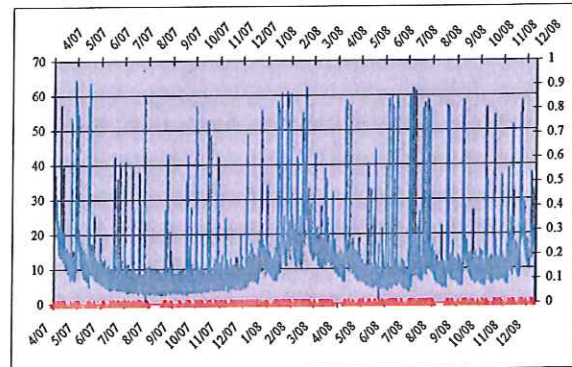
Peak Intensity/hr.
Boardman Street Activation NPDES # 010



Rainfall (in./day)
Peak Intensity/hr.
Boardman Street Activation NPDES # 010

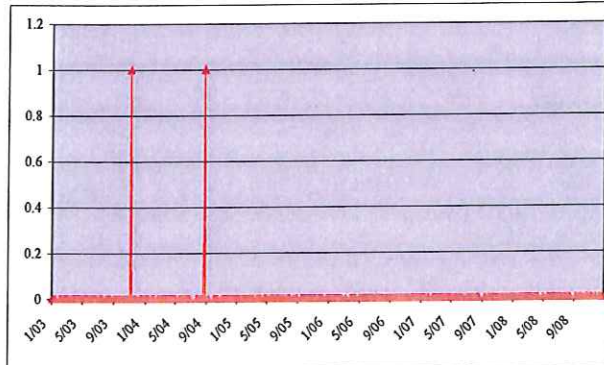
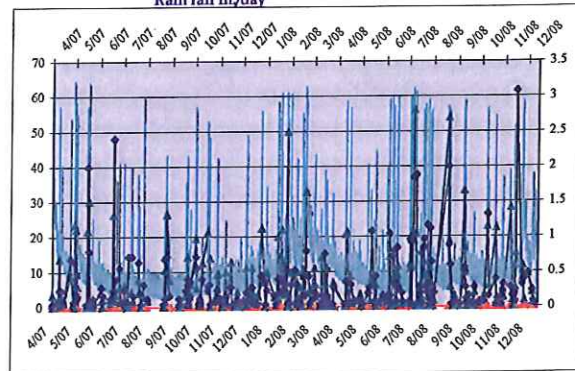


Influent MGD
Boardman Street Activation NPDES # 010

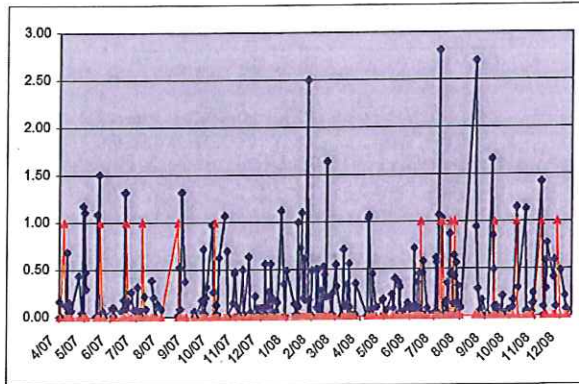


Boardman Street Activation NPDES # 010

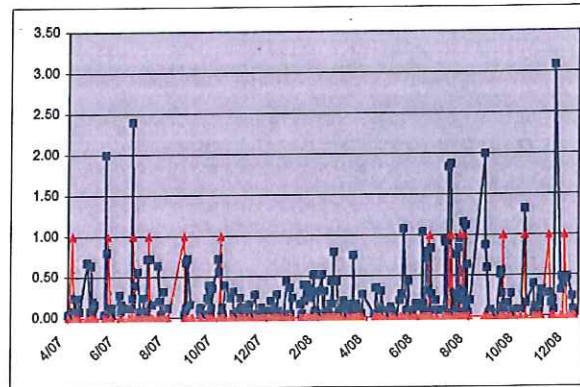
Influent MGD
Peak Intensity/hr.
Rain fall in./day
Boardman Street Activation NPDES # 010



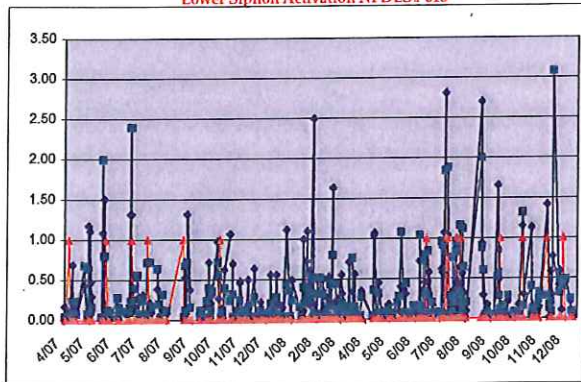
Rainfall (in./day)
Lower Siphon Activation NPDES# 013



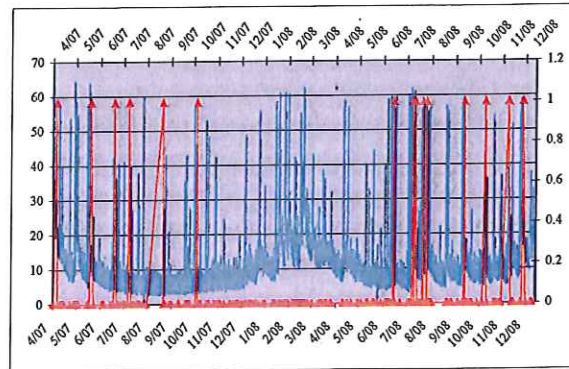
Peak Intensity/hr.
Lower Siphon Activation NPDES# 013



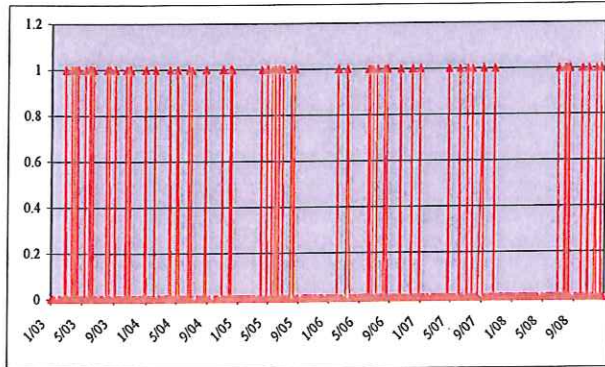
Rainfall (in./day)
Peak Intensity/hr.
Lower Siphon Activation NPDES# 013



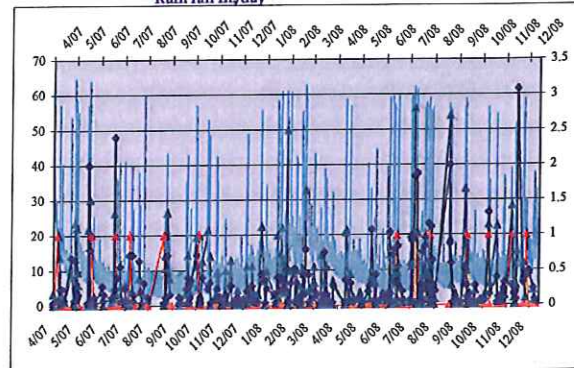
Influent MGD
Lower Siphon Activation NPDES# 013



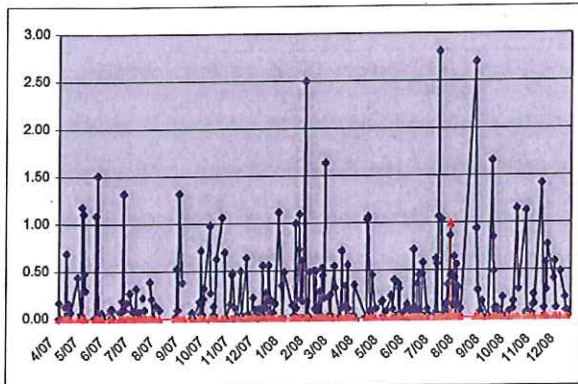
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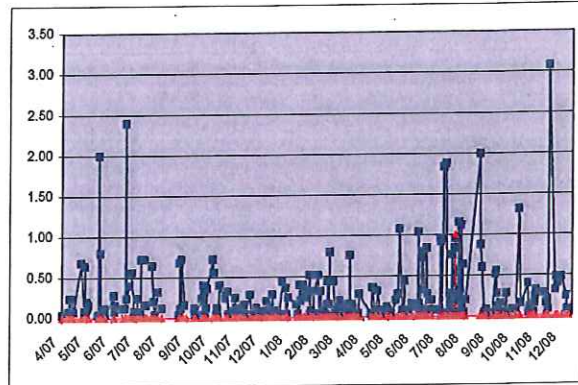
Influent MGD
Peak Intensity/hr.
Lower Siphon Activation NPDES# 013
Rain fall in./day



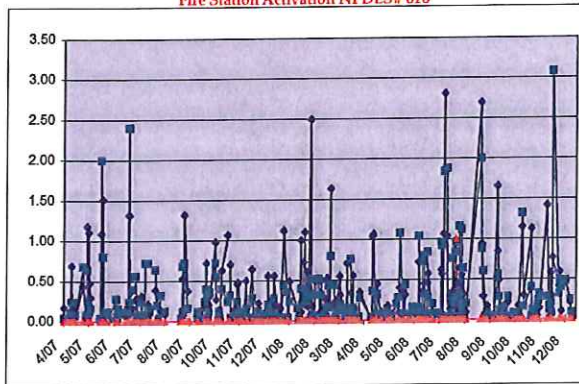
Rainfall (in./day)
Fire Station Activation NPDES# 016



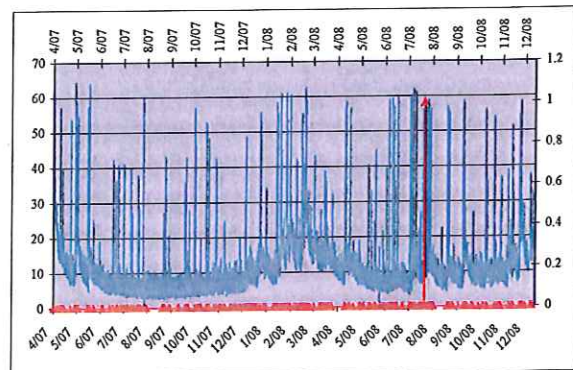
Peak Intensity/hr.
Fire Station Activation NPDES# 016



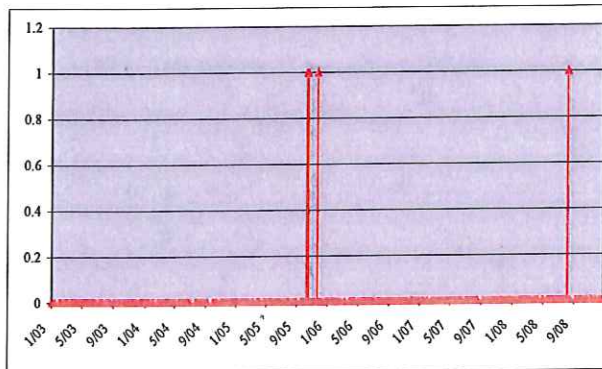
Rainfall (in./day)
Peak Intensity/hr.
Fire Station Activation NPDES# 016



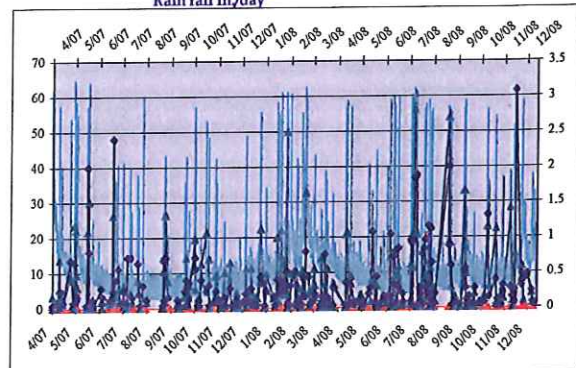
Influent MGD
Fire Station Activation NPDES# 016



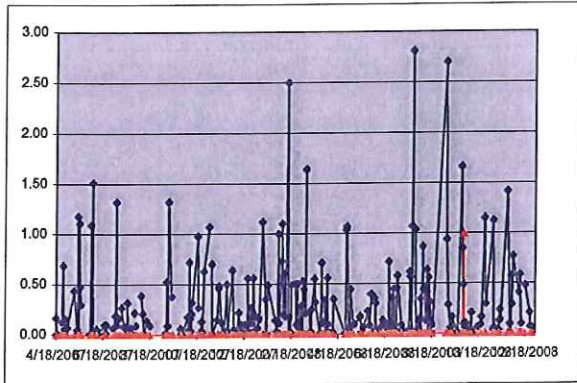
Fire Station Activation NPDES# 016



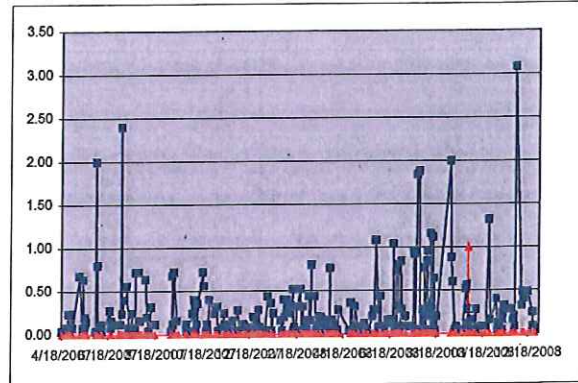
Influent MGD
Peak Intensity/hr.
Rain fall in./day
Fire Station Activation NPDES# 016



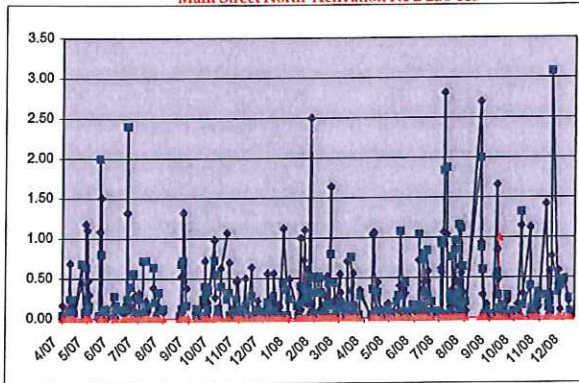
Rainfall (in./day)
Main Street North Activation NPDES# 019



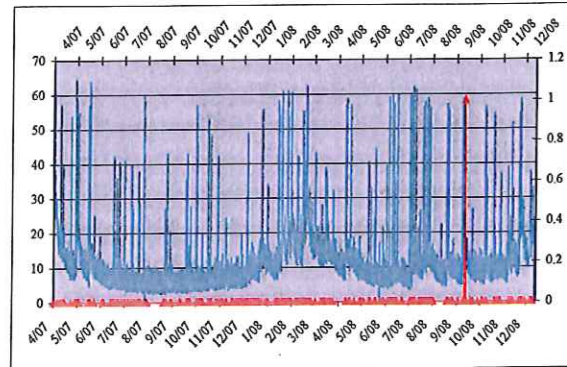
Peak Intensity/hr.
Main Street North Activation NPDES# 019



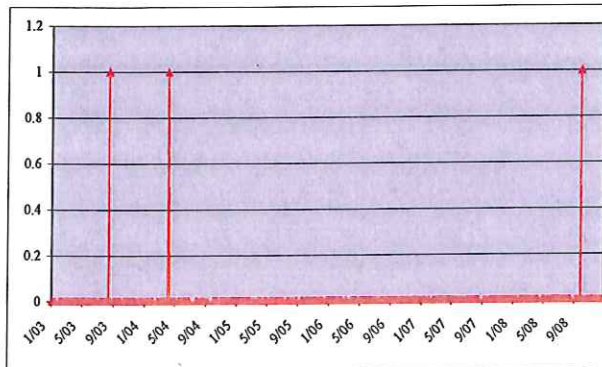
Rainfall (in./day)
Peak Intensity/hr.
Main Street North Activation NPDES# 019



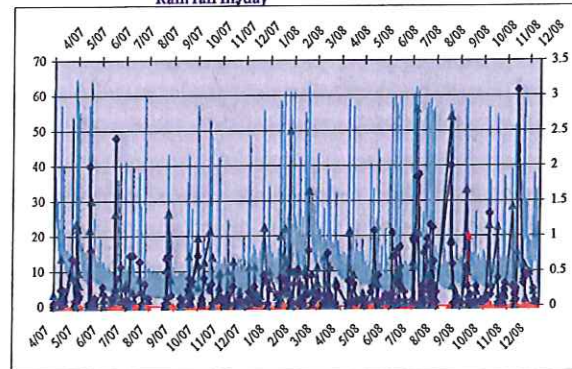
Influent MGD
Main Street North Activation NPDES# 019



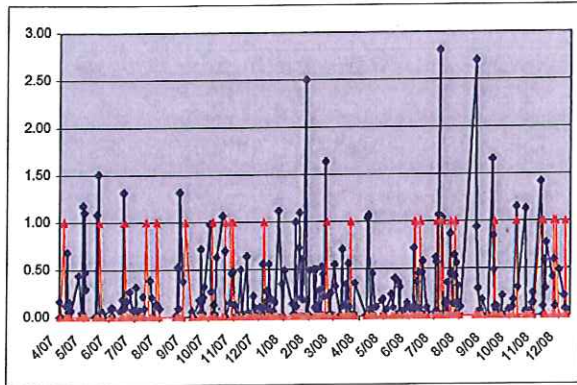
Main Street North Activation NPDES# 019



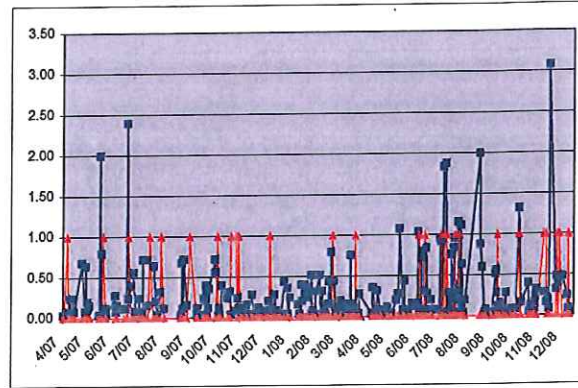
Influent MGD
Peak Intensity/hr.
Main Street North Activation NPDES# 019
Rain fall in/day



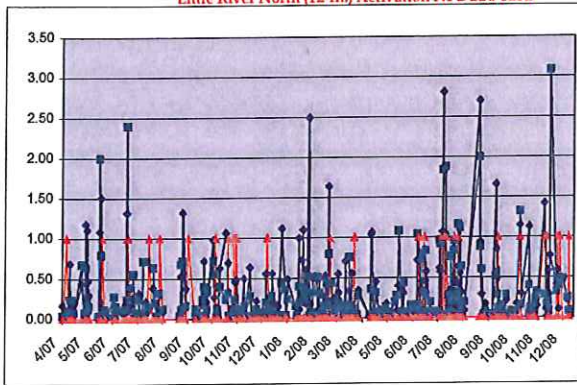
Rainfall (in./day)
Little River North (12-in.) Activation NPDES# 021D



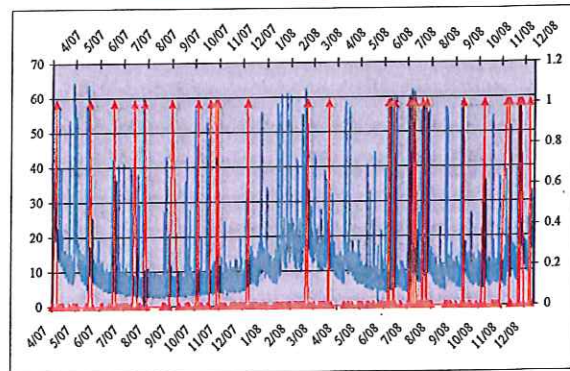
Peak Intensity/hr.
Little River North (12-in.) Activation NPDES# 021D



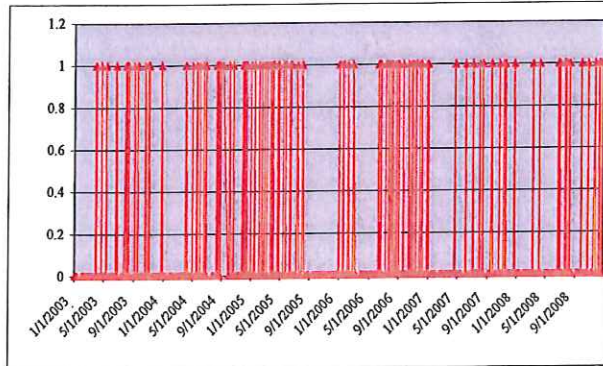
Rainfall (in./day)
Peak Intensity/hr.
Little River North (12-in.) Activation NPDES# 021D



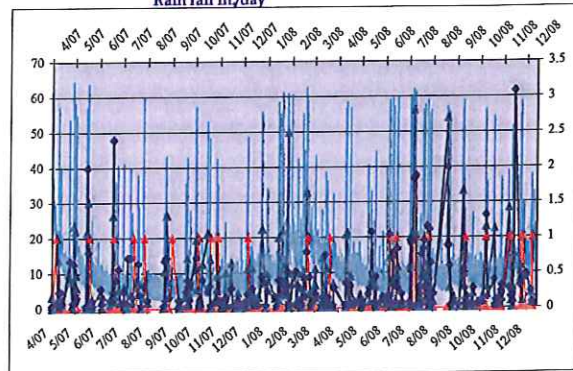
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Little River North (12-in.) Activation NPDES# 021D



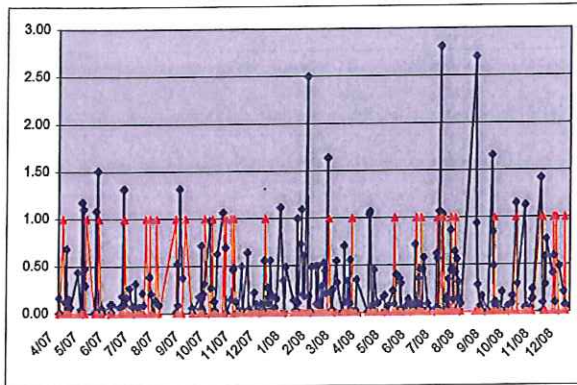
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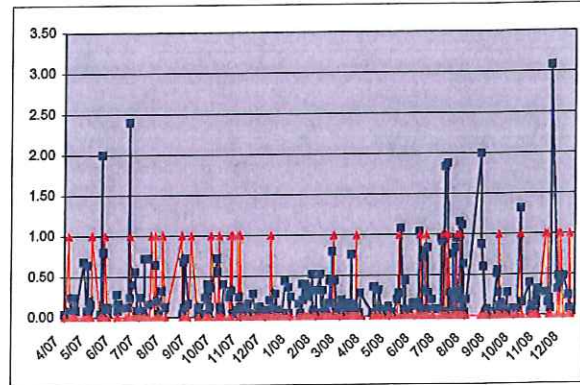
Influent MGD
Peak Intensity/hr.
Little River North (12-in.) Activation NPDES# 021D
Rain fall in./day



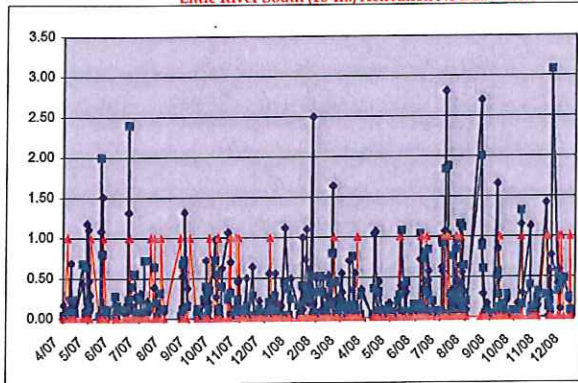
Rainfall (in./day)
Little River South (18-in.) Activation NPDES# 021E



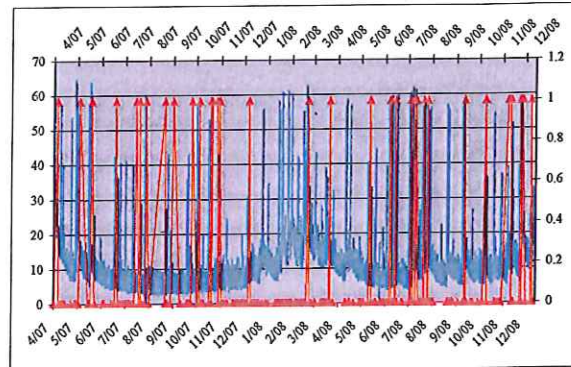
Peak Intensity/hr.
Little River South (18-in.) Activation NPDES# 021E



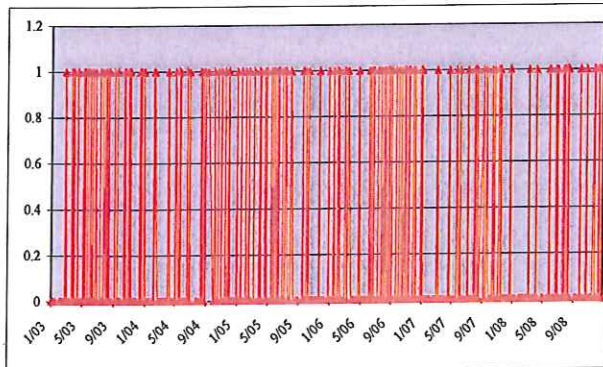
Rainfall (in./day)
Peak Intensity/hr.
Little River South (18-in.) Activation NPDES# 021E



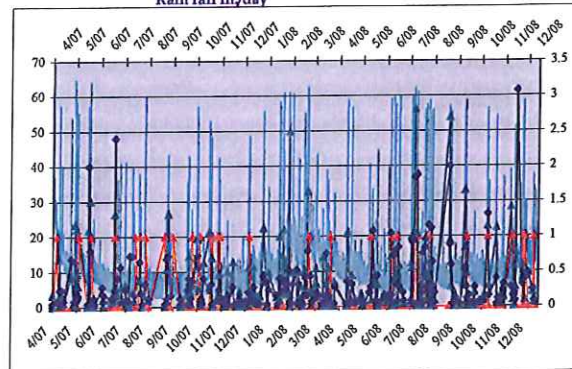
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Little River South (18-in.) Activation NPDES# 021E



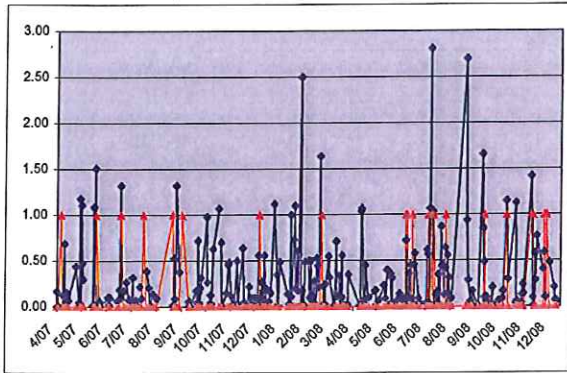
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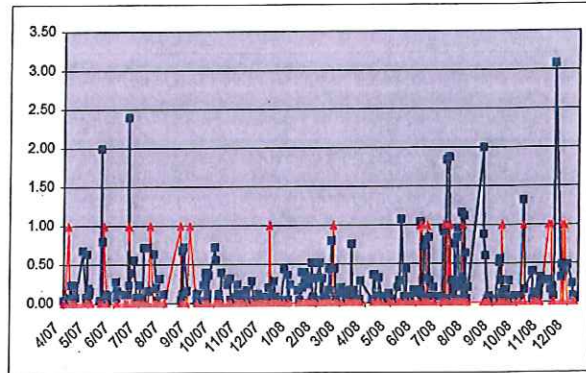
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Peak Intensity/hr.
Little River South (18-in.) Activation NPDES# 021E
Rain fall in/day



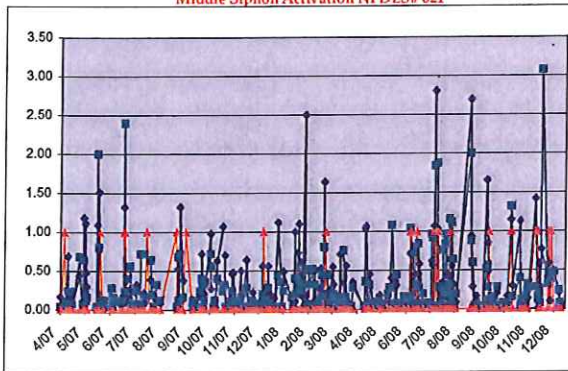
Rainfall (in./day)
Middle Siphon Activation NPDES# 021



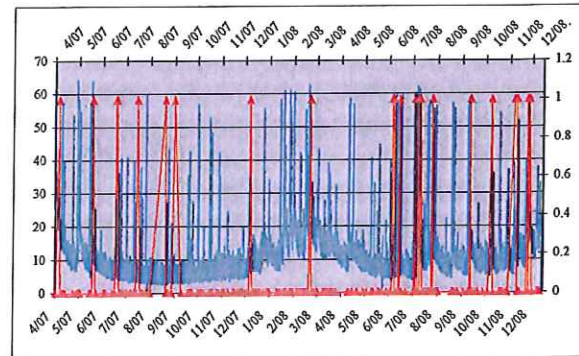
Peak Intensity/hr.
Middle Siphon Activation NPDES# 021



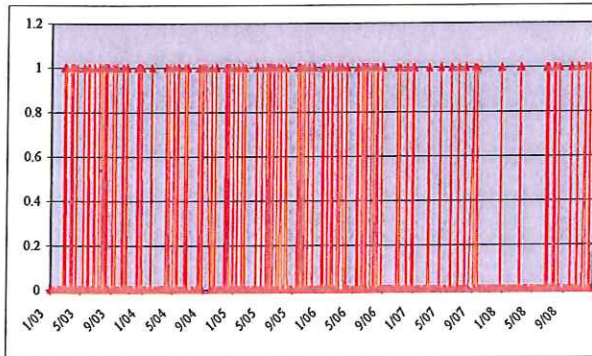
Rainfall (in./day)
Peak Intensity/hr.
Middle Siphon Activation NPDES# 021



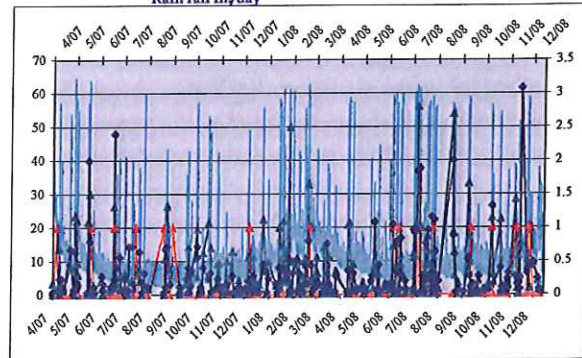
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Middle Siphon Activation NPDES# 021



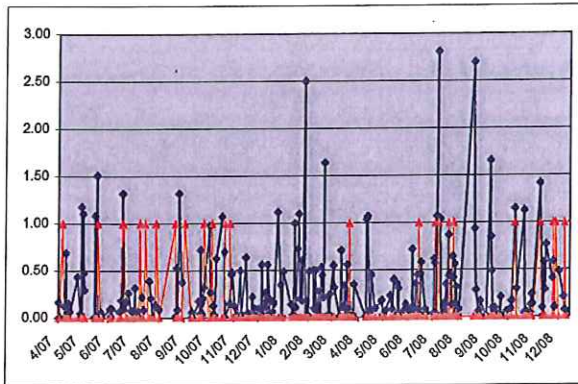
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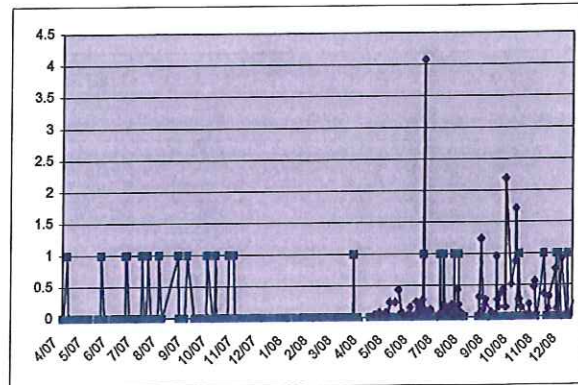
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Peak Intensity/hr.
Middle Siphon Activation NPDES# 021
Rain fall in./day



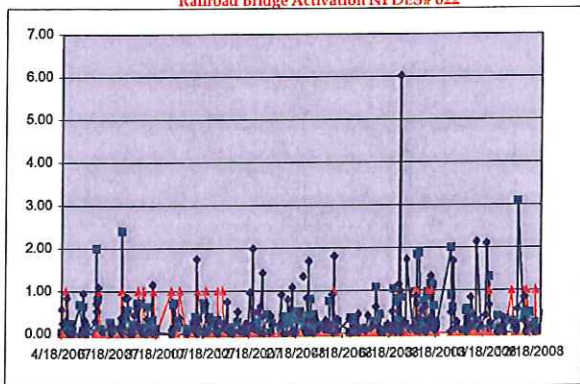
Rainfall (in./day)
 Railroad Bridge Activation NPDES# 022



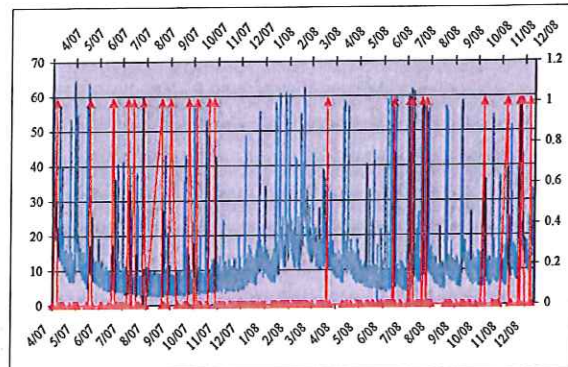
Peak Intensity/hr.
 Railroad Bridge Activation NPDES# 022



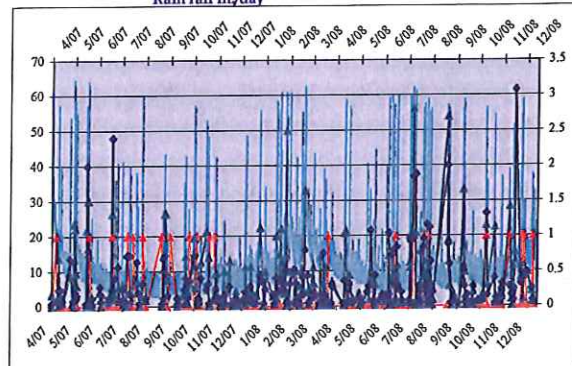
Rainfall (in./day)
 Peak Intensity/hr.
 Railroad Bridge Activation NPDES# 022



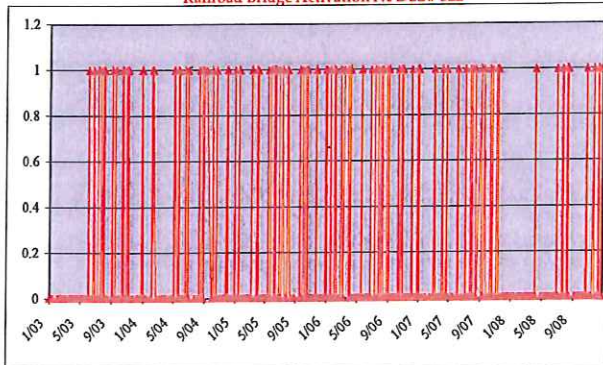
Influent MGD
 Railroad Bridge Activation NPDES# 022



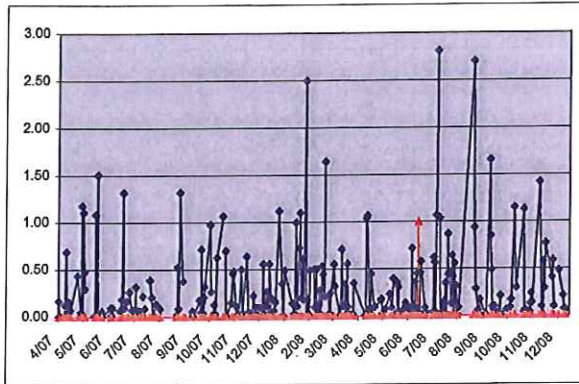
Influent MGD
 Railroad Bridge Activation NPDES# 022
 Rain fall in./day



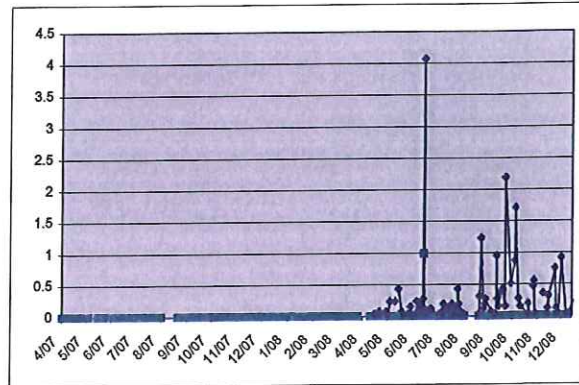
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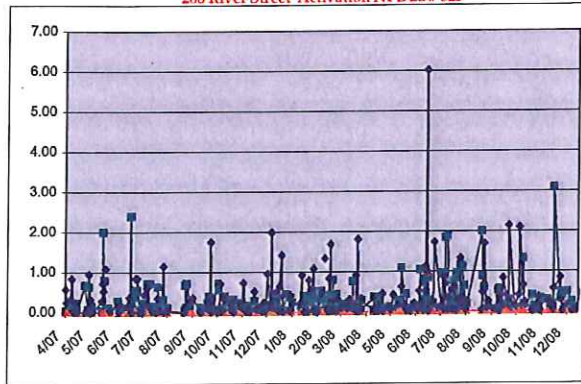
Rainfall (in./day)
266 River Street Activation NPDES# 023



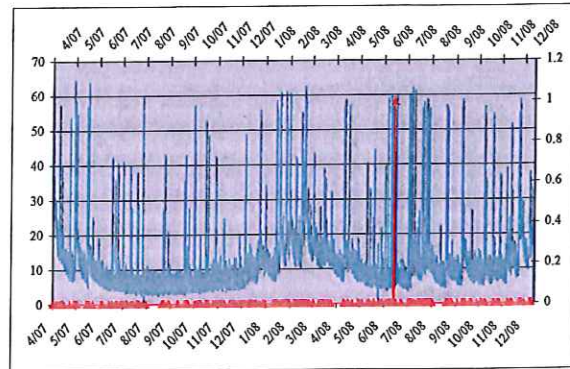
Peak Intensity/hr.
266 River Street Activation NPDES# 023



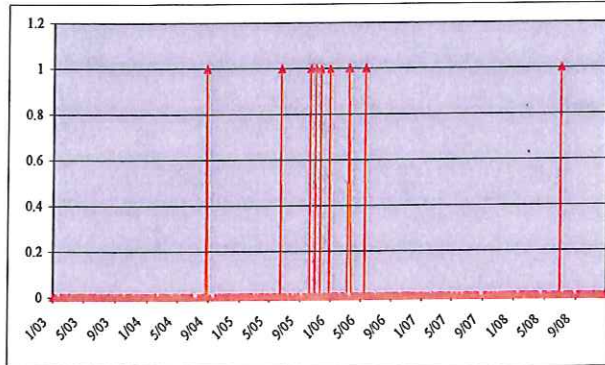
Rainfall (in./day)
Peak Intensity/hr.
266 River Street Activation NPDES# 023



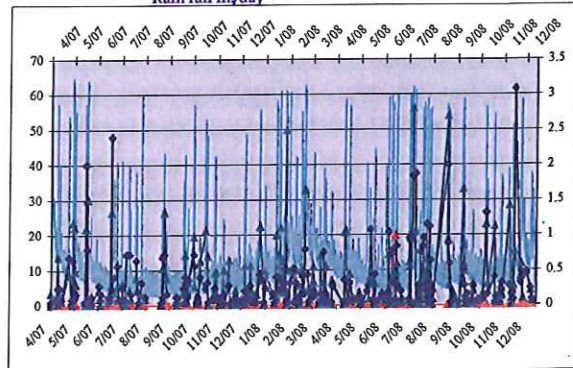
Influent MGD
266 River Street Activation NPDES# 023



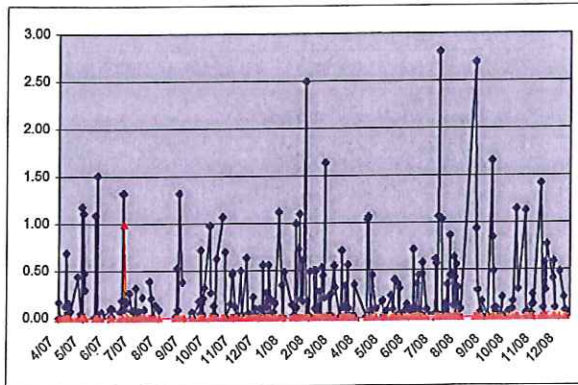
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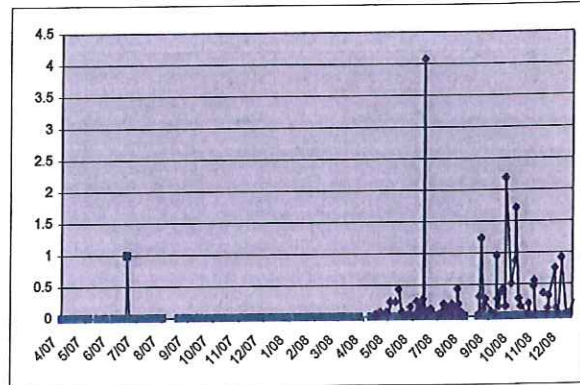
Influent MGD
266 River Street Activation NPDES# 023
Rain fall in./day



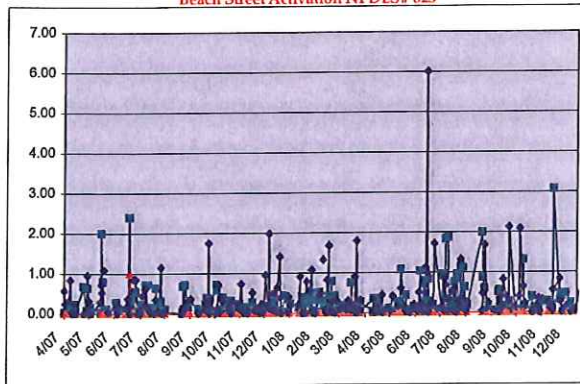
Rainfall (in./day)
Beach Street Activation NPDES# 025



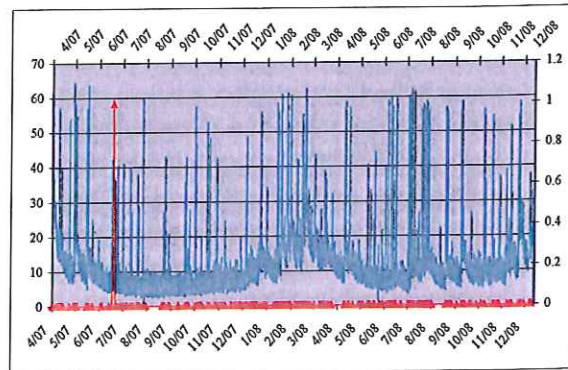
Peak Intensity/hr.
Beach Street Activation NPDES# 025



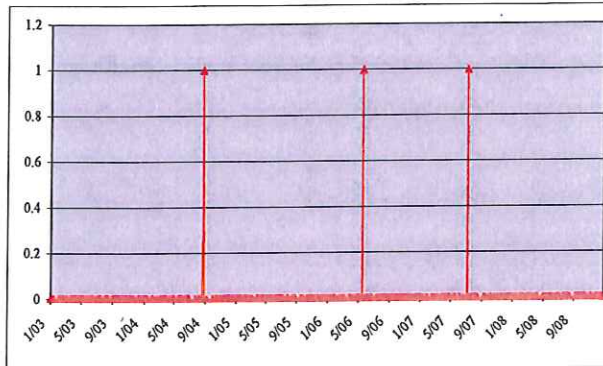
Rainfall (in./day)
Peak Intensity/hr.
Beach Street Activation NPDES# 025



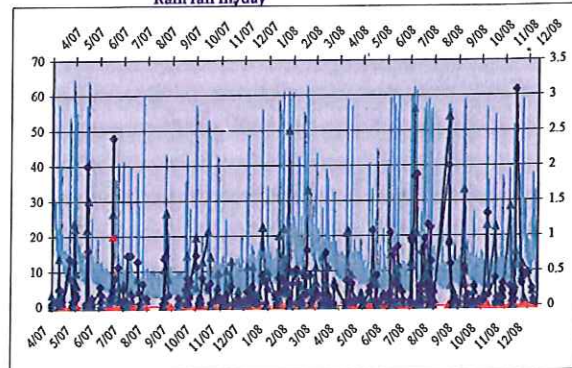
Influent MGD
Beach Street Activation NPDES# 025



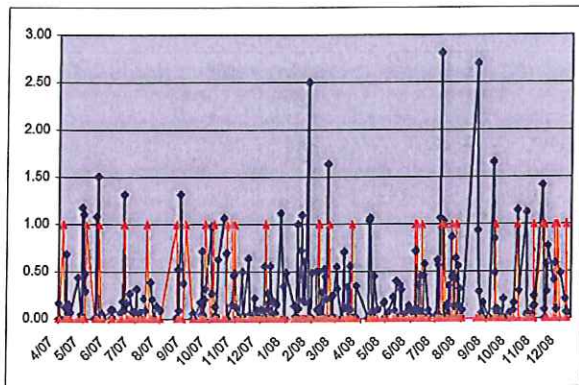
Beach Street Activation NPDES# 025



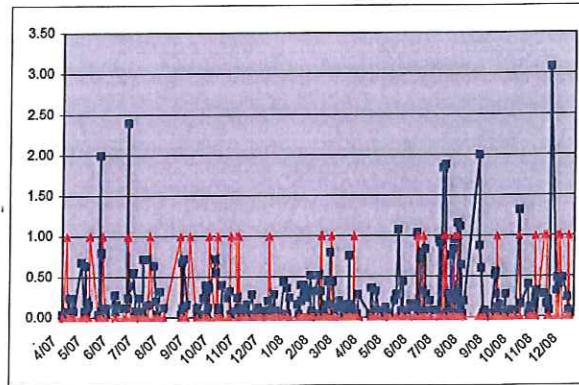
Influent MGD
Beach Street Activation NPDES# 025
Rain fall in/day



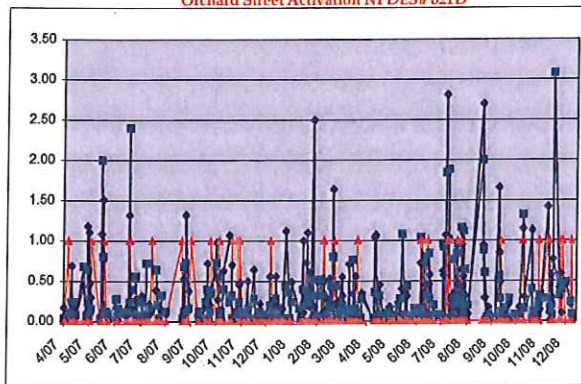
Rainfall (in./day)
Orchard Street Activation NPDES# 021D



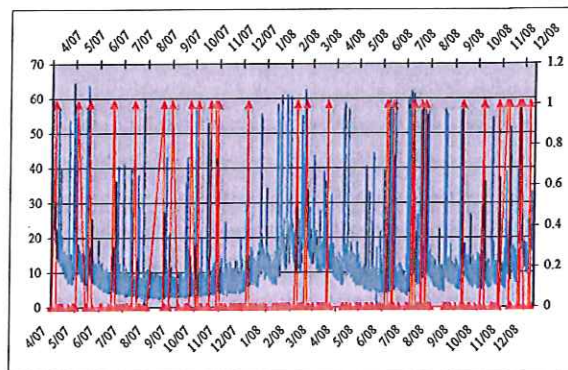
Peak Intensity/hr.
Orchard Street Activation NPDES# 021D



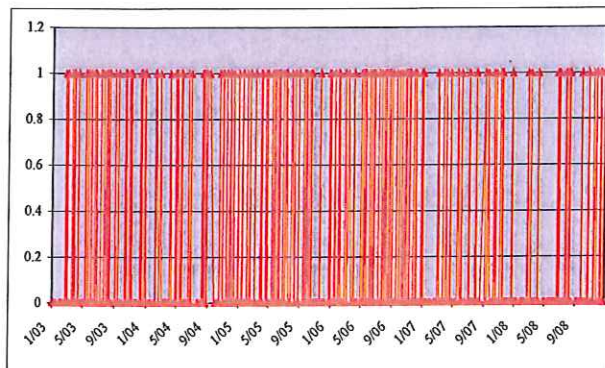
Rainfall (in./day)
Peak Intensity/hr.
Orchard Street Activation NPDES# 021D



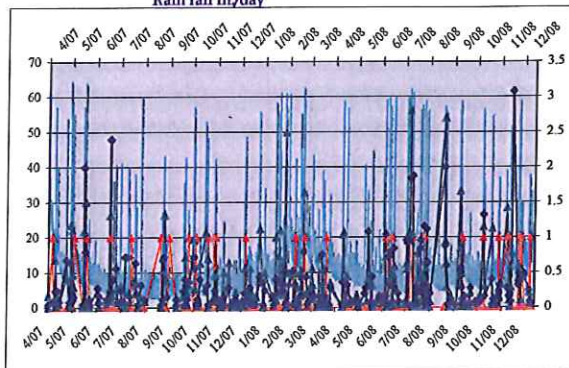
Influent MGD
Orchard Street Activation NPDES# 021D



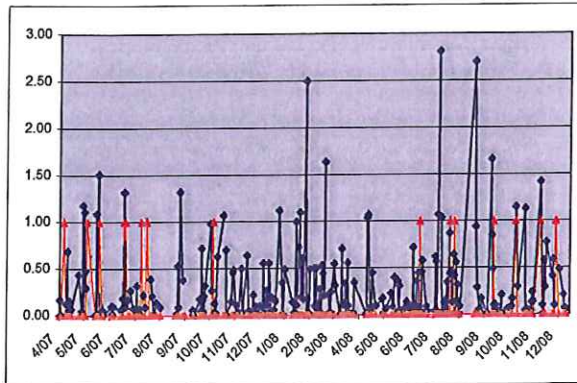
Orchard Street Activation NPDES# 021D



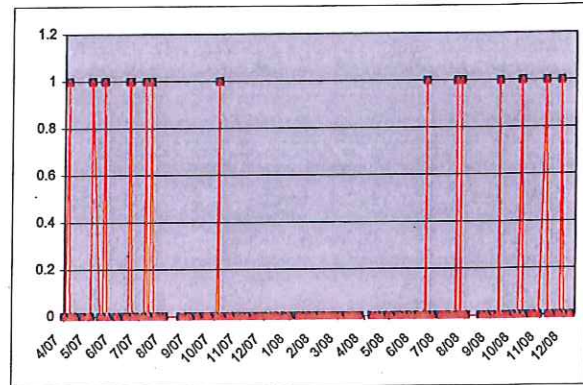
Influent MGD
Orchard Street Activation NPDES# 021D
Rain fall in/day



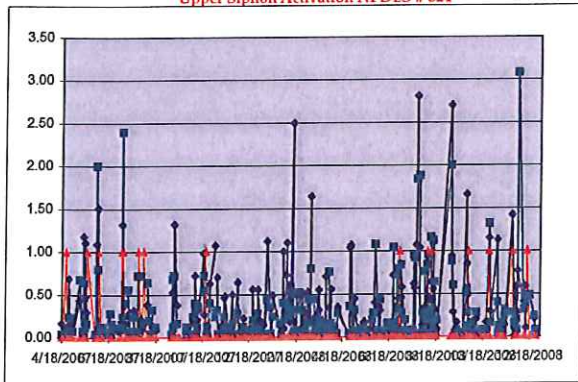
Rainfall (in./day)
Upper Siphon Activation NPDES # 024



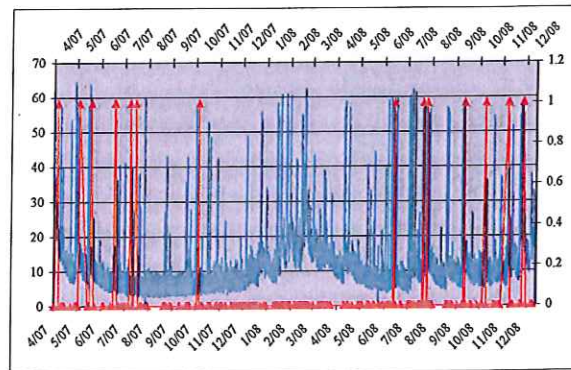
Peak Intensity/hr.
Upper Siphon Activation NPDES # 024



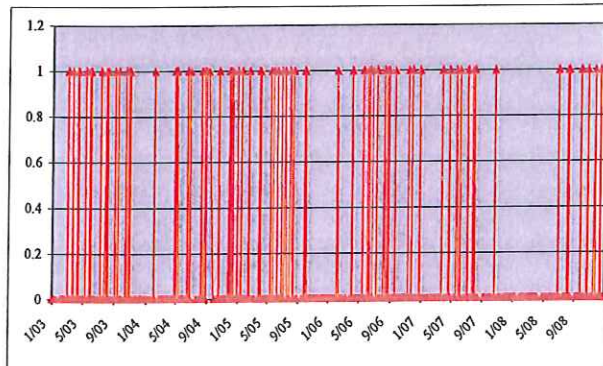
Rainfall (in./day)
Peak Intensity/hr.
Upper Siphon Activation NPDES # 024



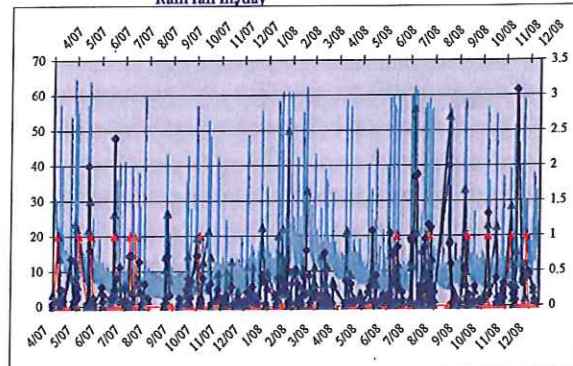
Influent MGD
Upper Siphon Activation NPDES # 024



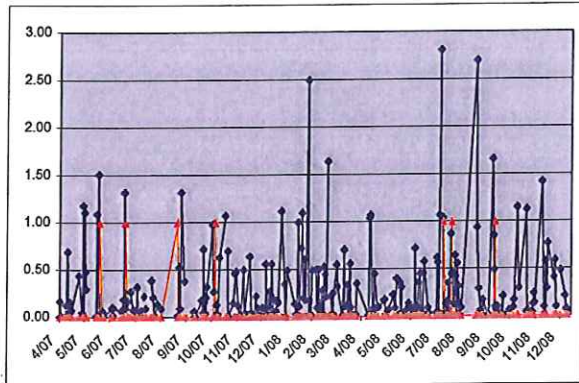
Upper Siphon Activation NPDES # 024



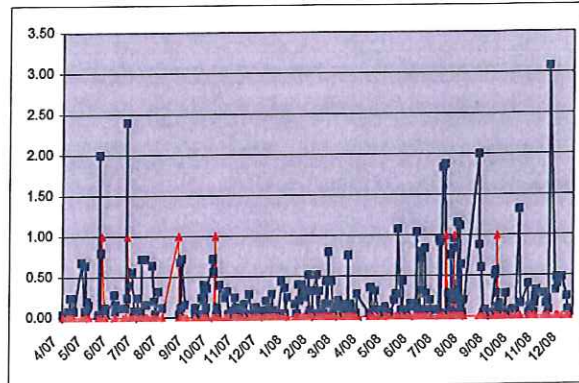
Influent MGD
Peak Intensity/hr.
Upper Siphon Activation NPDES # 024
Rain fall in./day



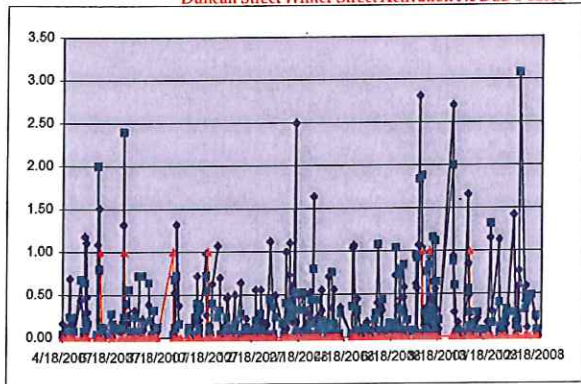
Rainfall (in./day)
Duncan Street Winter Street Activation NPDES # 021H



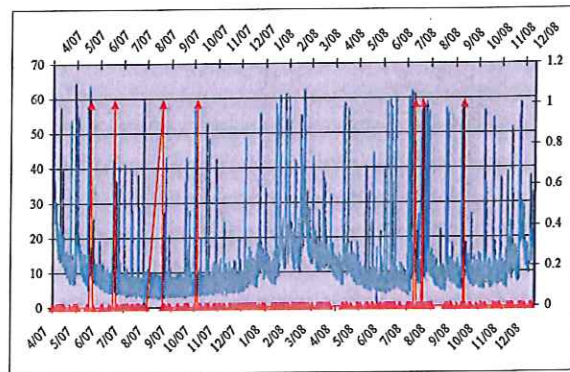
Peak Intensity/hr.
Duncan Street Winter Street Activation NPDES # 021H



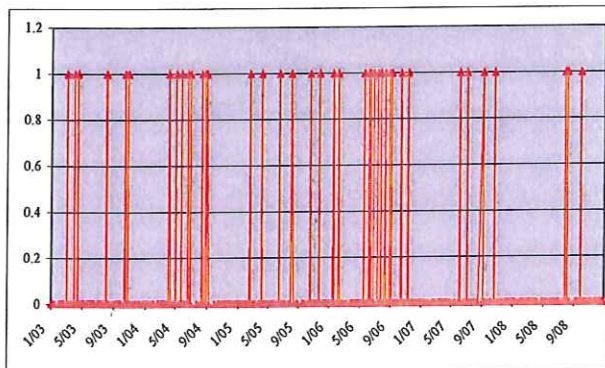
Rainfall (in./day)
Peak Intensity/hr.
Duncan Street Winter Street Activation NPDES # 021H



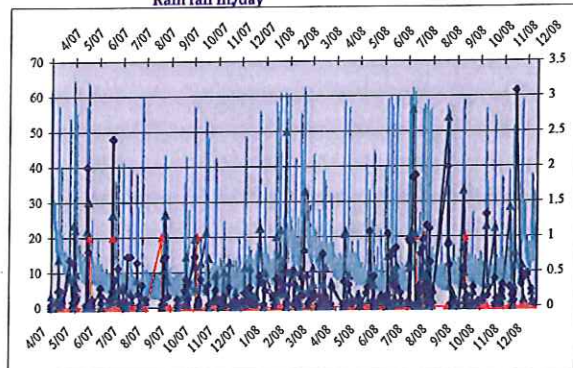
Influent MGD
Duncan Street Winter Street Activation NPDES # 021H



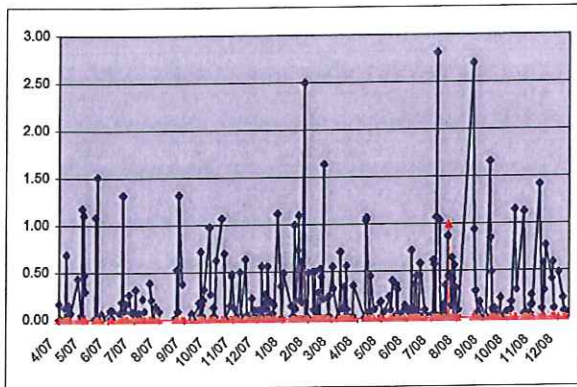
Duncan Street Winter Street Activation NPDES # 021H



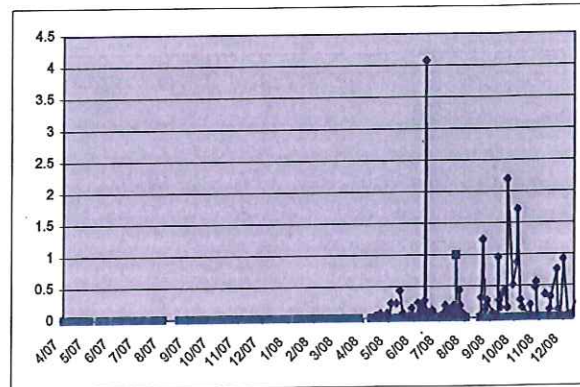
Influent MGD
Duncan Street Winter Street Activation NPDES # 021H
Rain fall in./day



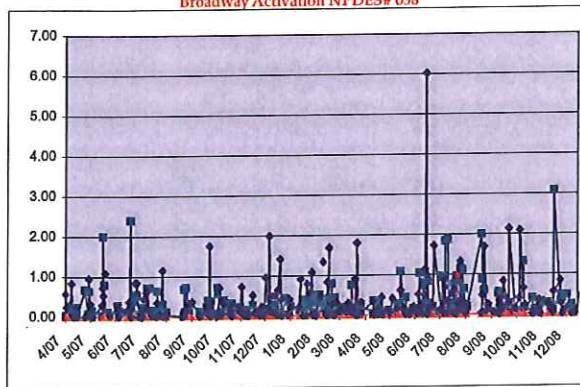
Rainfall (in./day)
Broadway Activation NPDES# 038



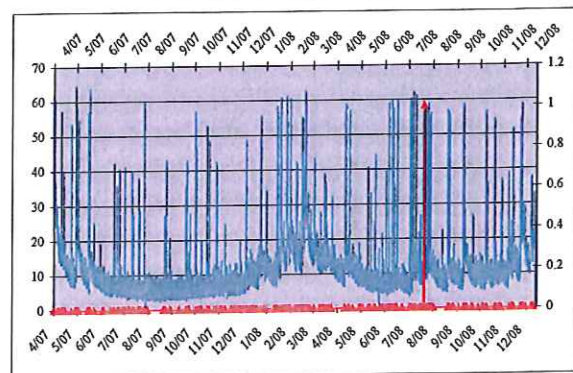
Peak Intensity/hr.
Broadway Activation NPDES# 038



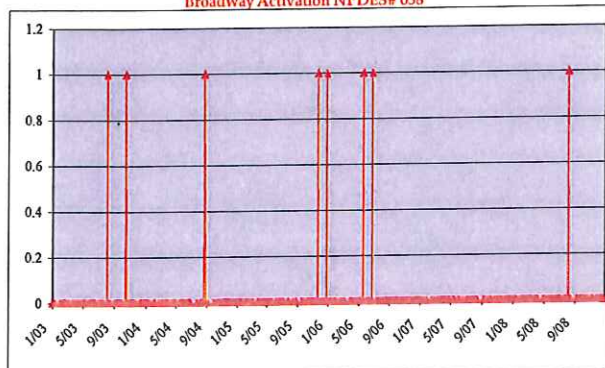
Rainfall (in./day)
Peak Intensity/hr.
Broadway Activation NPDES# 038



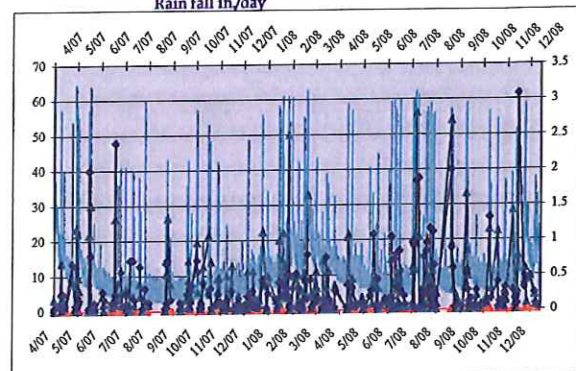
Influent MGD
Broadway Activation NPDES# 038



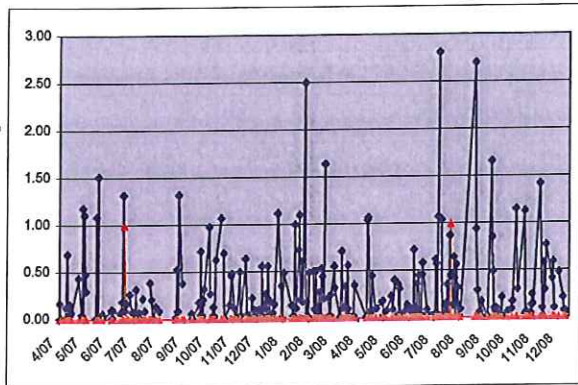
Broadway Activation NPDES# 038



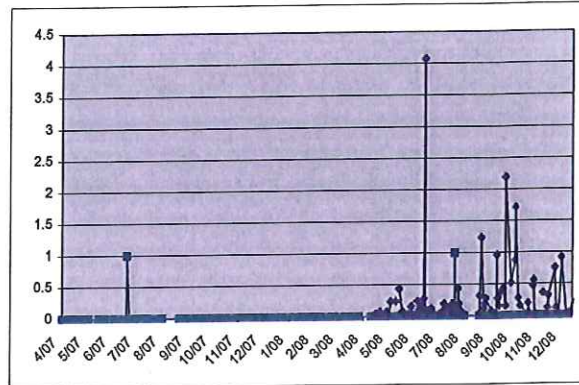
Influent MGD
Broadway Activation NPDES# 038
Rain fall in/day



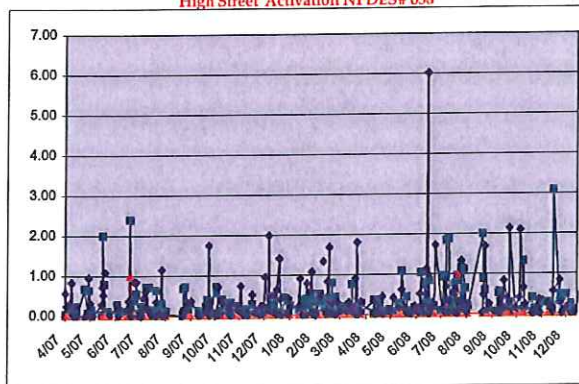
Rainfall (in.)/day
High Street Activation NPDES# 038



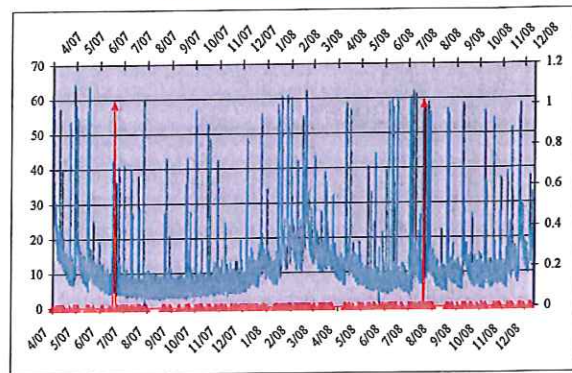
Peak Intensity/hr.
High Street Activation NPDES# 038



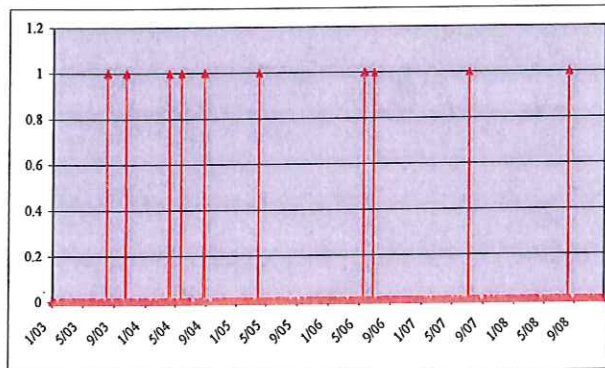
Rainfall (in.)/day
Peak Intensity/hr.
High Street Activation NPDES# 038



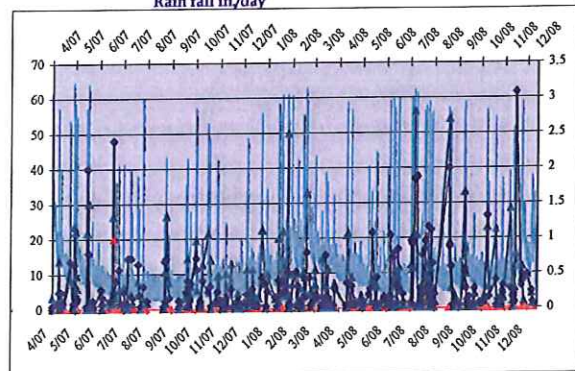
Influent MGD
High Street Activation NPDES# 038



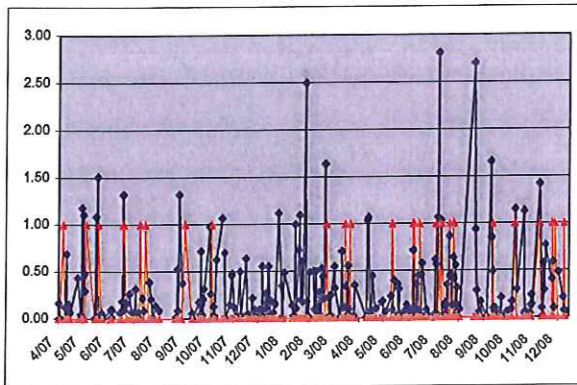
High Street Activation NPDES# 038



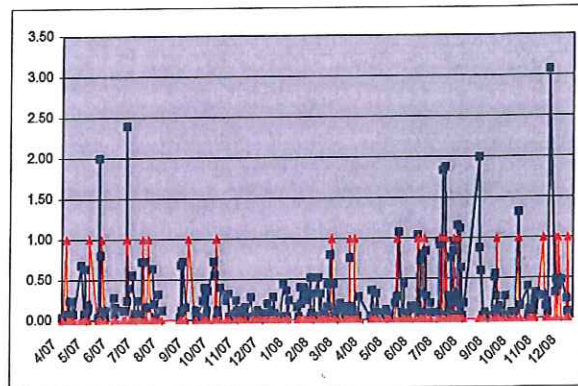
Influent MGD
Peak Intensity/hr.
High Street Activation NPDES# 038
Rain fall in/day



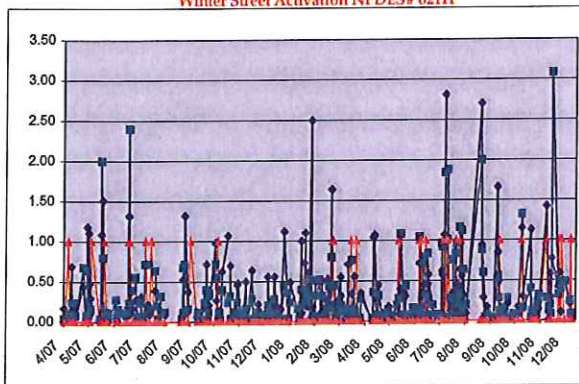
Rainfall (in./day)
Winter Street Activation NPDES# 021H



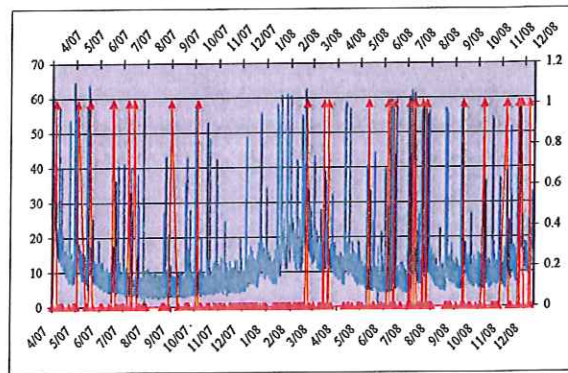
Peak Intensity/hr.
Winter Street Activation NPDES# 021H



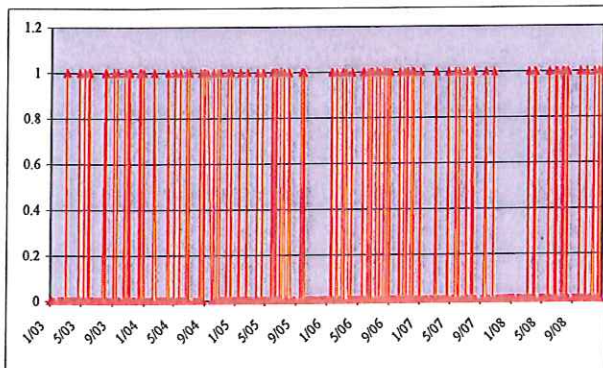
Rainfall (in./day)
Peak Intensity/hr.
Winter Street Activation NPDES# 021H



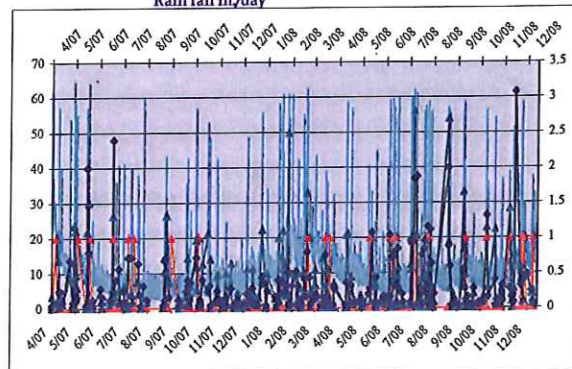
Influent MGD
Winter Street Activation NPDES# 021H



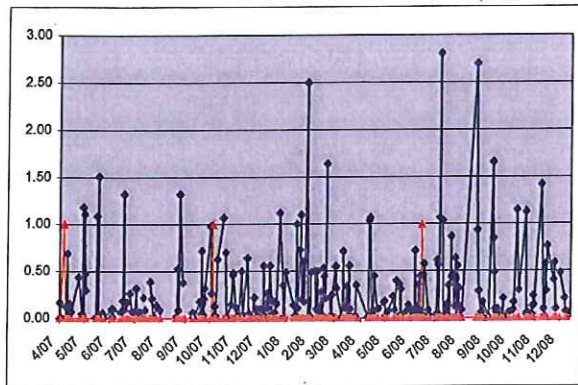
Winter Street Activation NPDES# 021H



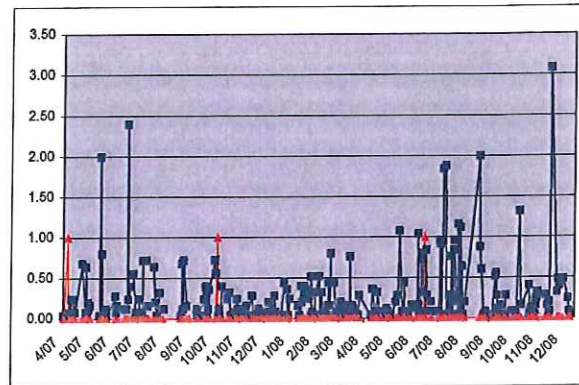
Influent MGD
Peak Intensity/hr.
Winter Street Activation NPDES# 021H
Rain fall in./day



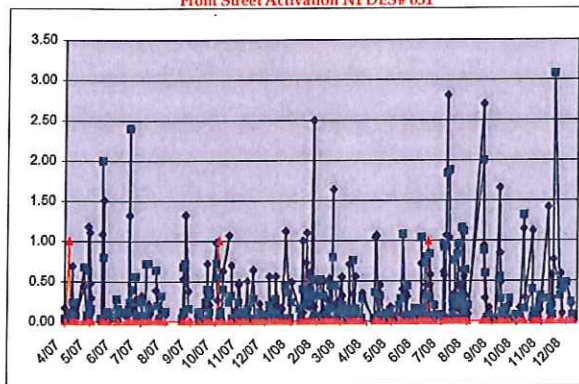
Rainfall (in./day)
Front Street Activation NPDES# 031



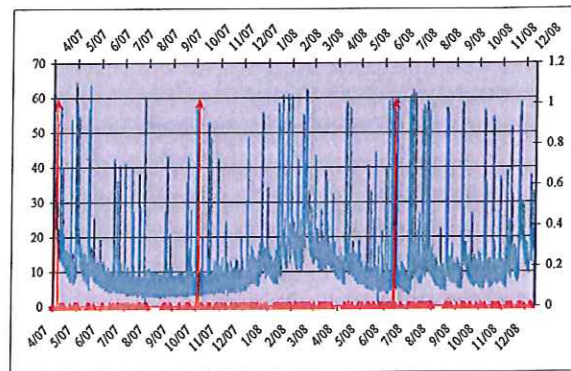
Peak Intensity/hr.
Front Street Activation NPDES# 031



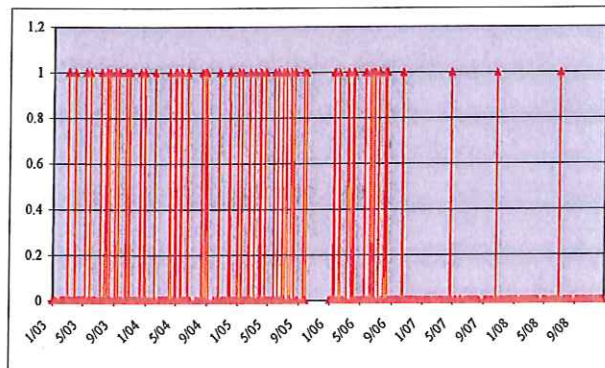
Rainfall (in./day)
Peak Intensity/hr.
Front Street Activation NPDES# 031



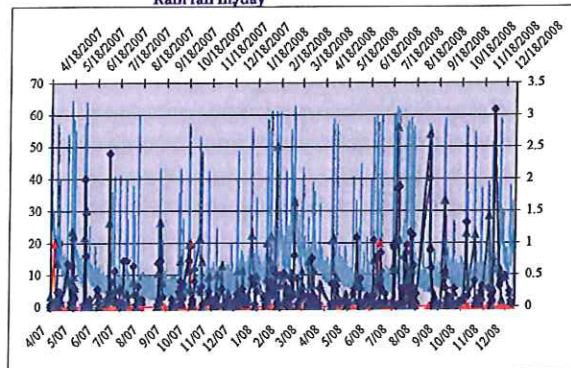
Influent MGD
Front Street Activation NPDES# 031



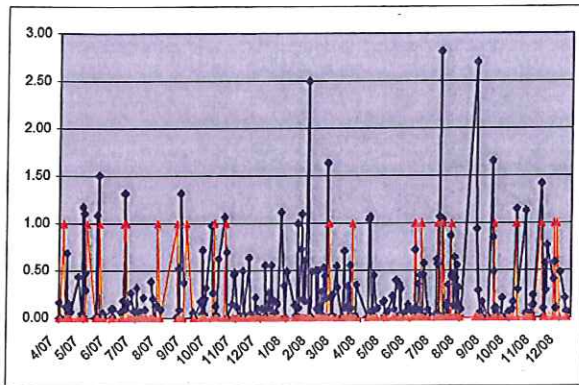
Front Street Activation NPDES# 031



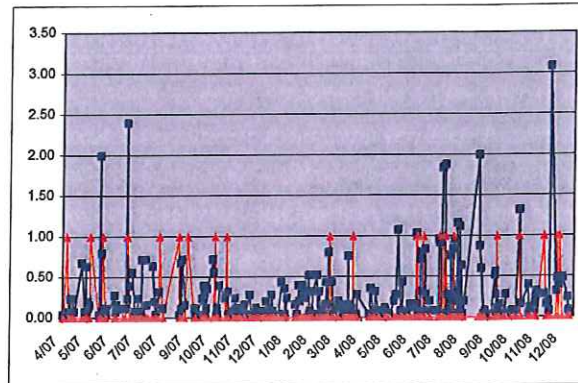
Influent MGD
Peak Intensity/hr.
Front Street Activation NPDES# 031
Rain fall in/day



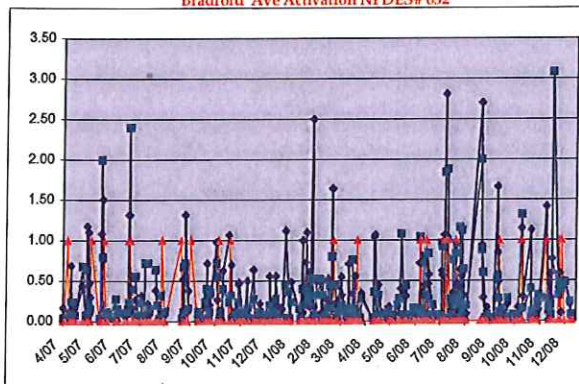
Rainfall (in./day)
Bradford Ave Activation NPDES# 032



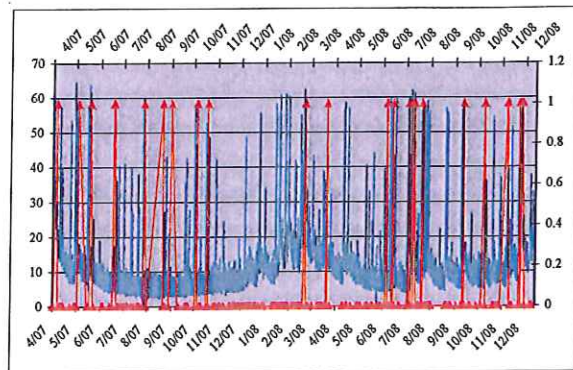
Peak Intensity/hr.
Bradford Ave Activation NPDES# 032



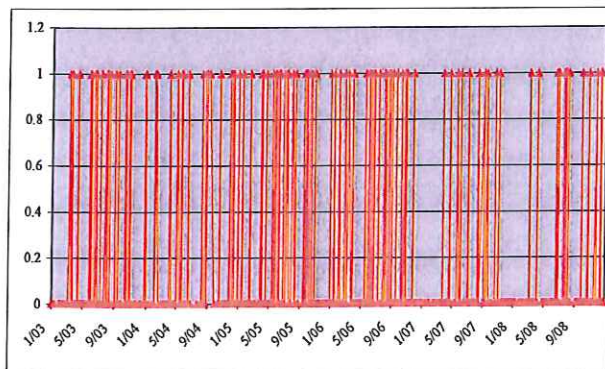
Rainfall (in./day)
Peak Intensity/hr.
Bradford Ave Activation NPDES# 032



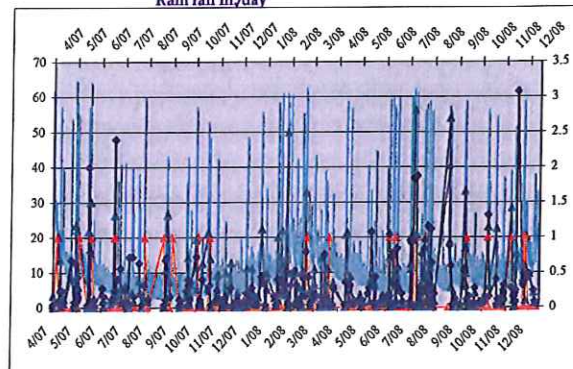
Influent MGD
Bradford Ave Activation NPDES# 032



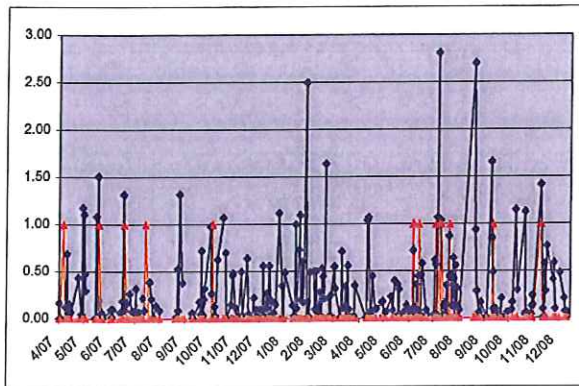
Bradford Ave Activation NPDES# 032



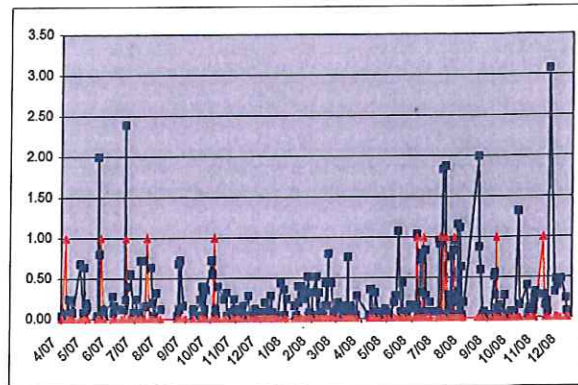
Influent MGD
Peak Intensity/hr.
Bradford Ave Activation NPDES# 032
Rain fall in./day



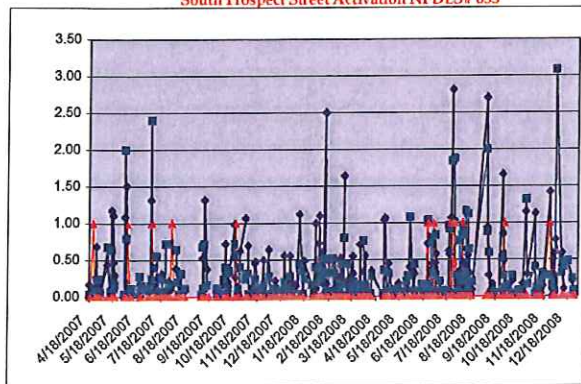
Rainfall (in./day)
South Prospect Street Activation NPDES# 033



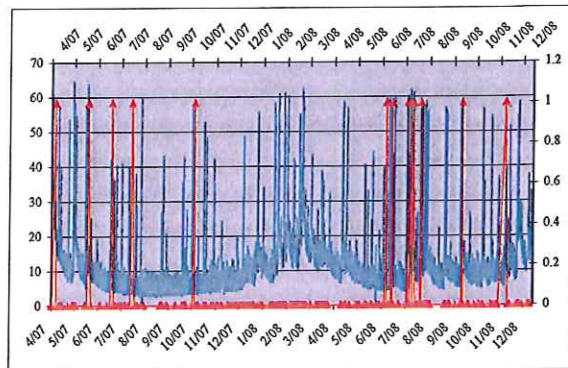
Peak Intensity/hr.
South Prospect Street Activation NPDES# 033



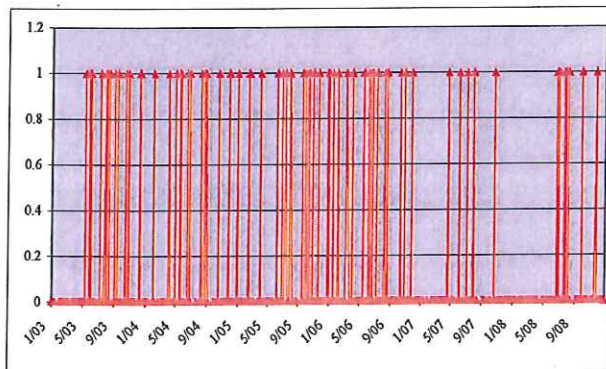
Rainfall (in./day)
Peak Intensity/hr.
South Prospect Street Activation NPDES# 033



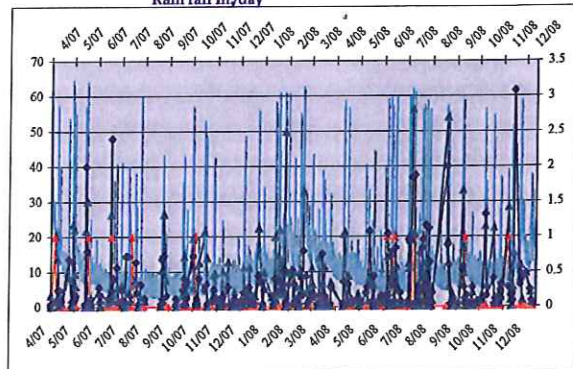
Influent MGD
South Prospect Street Activation NPDES# 033



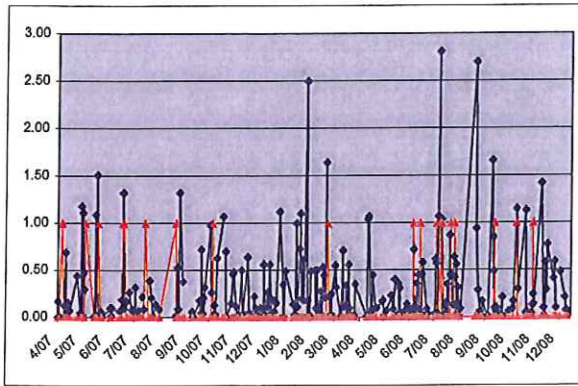
South Prospect Street Activation NPDES# 033



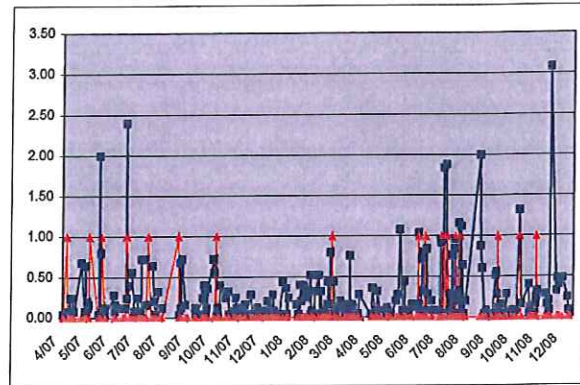
Influent MGD
Peak Intensity/hr.
Rain fall in./day
South Prospect Street Activation NPDES# 033



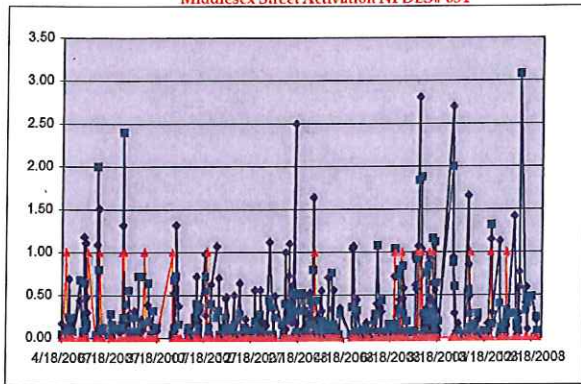
Rainfall (in./day)
Middlesex Street Activation NPDES# 034



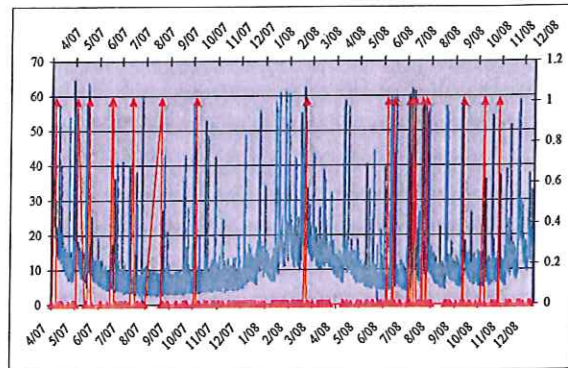
Peak Intensity/hr.
Middlesex Street Activation NPDES# 034



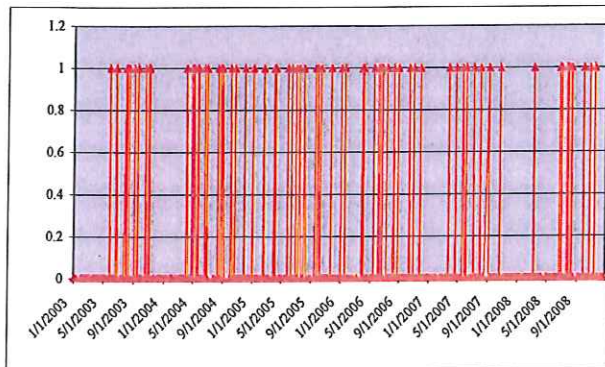
Rainfall (in./day)
Peak Intensity/hr.
Middlesex Street Activation NPDES# 034



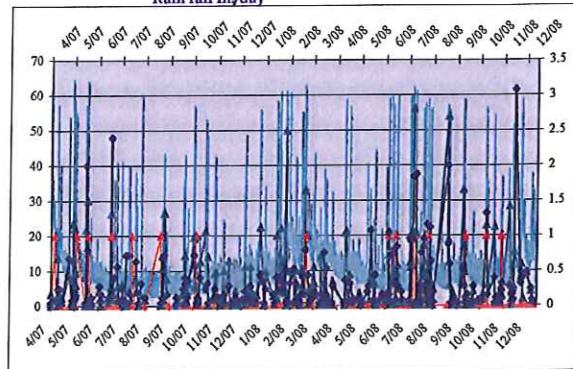
Influent MGD
Middlesex Street Activation NPDES# 034



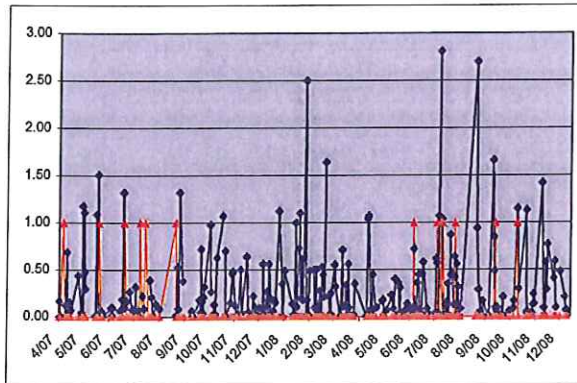
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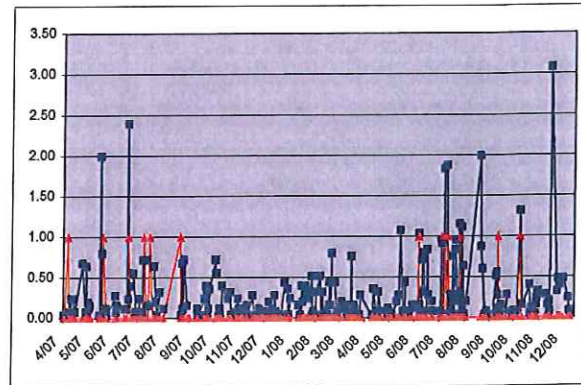
Influent MGD
Peak Intensity/hr.
Middlesex Street Activation NPDES# 034
Rain fall in./day



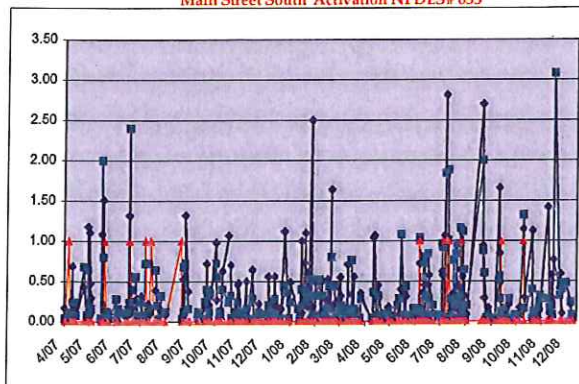
Rainfall (in./day)
Main Street South Activation NPDES# 035



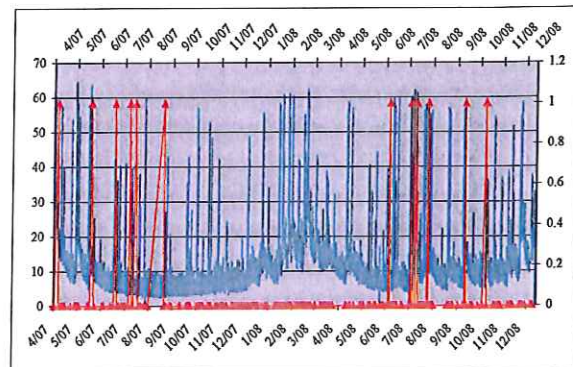
Peak Intensity/hr.
Main Street South Activation NPDES# 035



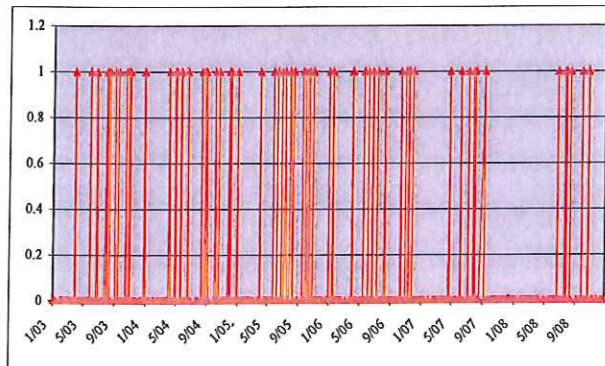
Rainfall (in./day)
Peak Intensity/hr.
Main Street South Activation NPDES# 035



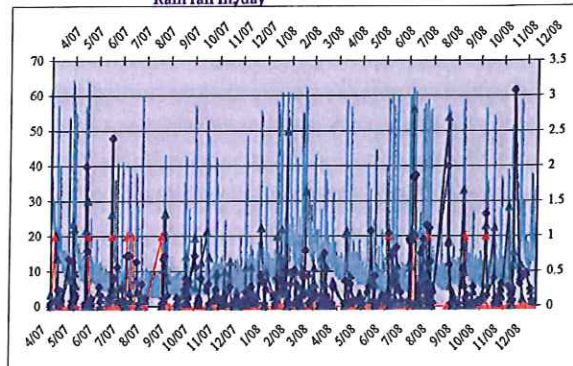
Influent MGD
Main Street South Activation NPDES# 035



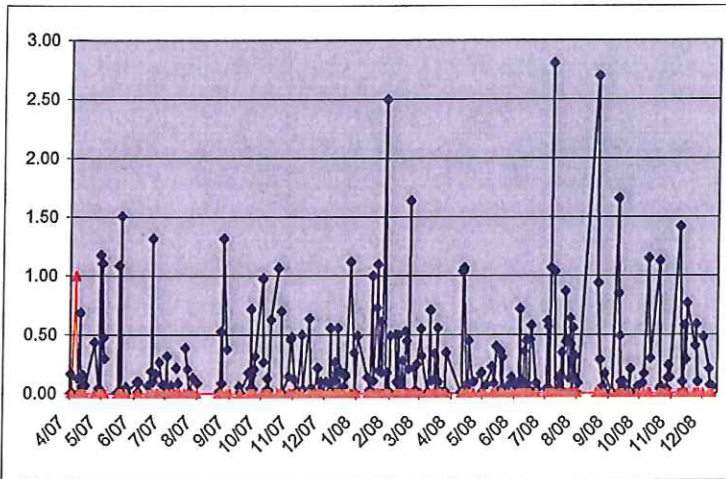
Main Street South Activation NPDES# 035



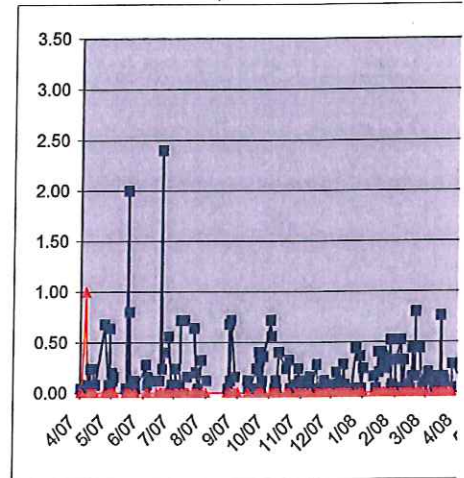
Influent MGD
Peak Intensity/hr.
Main Street South Activation NPDES# 035
Rain fall in./day



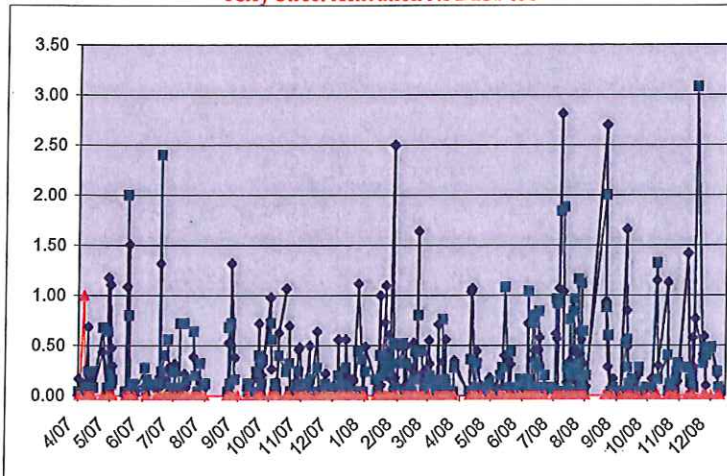
Rainfall (in.)/day
Ferry Street Activation NPDES# 036



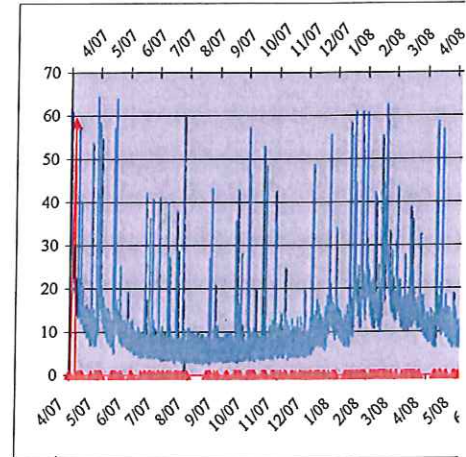
Peak Intensity/hr.
Ferry Street Activation NPDE



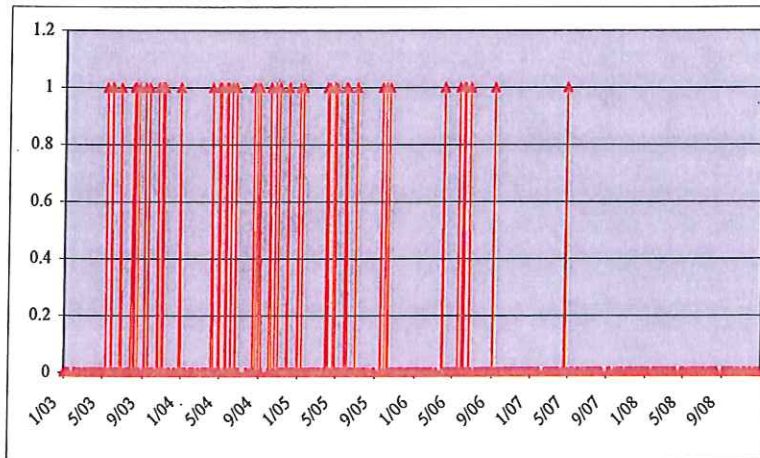
Rainfall (in.)/day
Peak Intensity/hr.
Ferry Street Activation NPDES# 036



Influent MGD
Ferry Street Activation NPDE



Ferry Street Activation NPDES# 036



Influent MGD
Ferry Street Activation NPDE
Rain fall in./day

