

**NEWEA**

***Right to Know***

***Diving into Public Notification of CSO Activation in Greater New Haven, CT***

***CSO Wet Weather Committee Webinar  
June 24, 2020***

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Director of Engineering,  
GNHWPCA***





# Overview

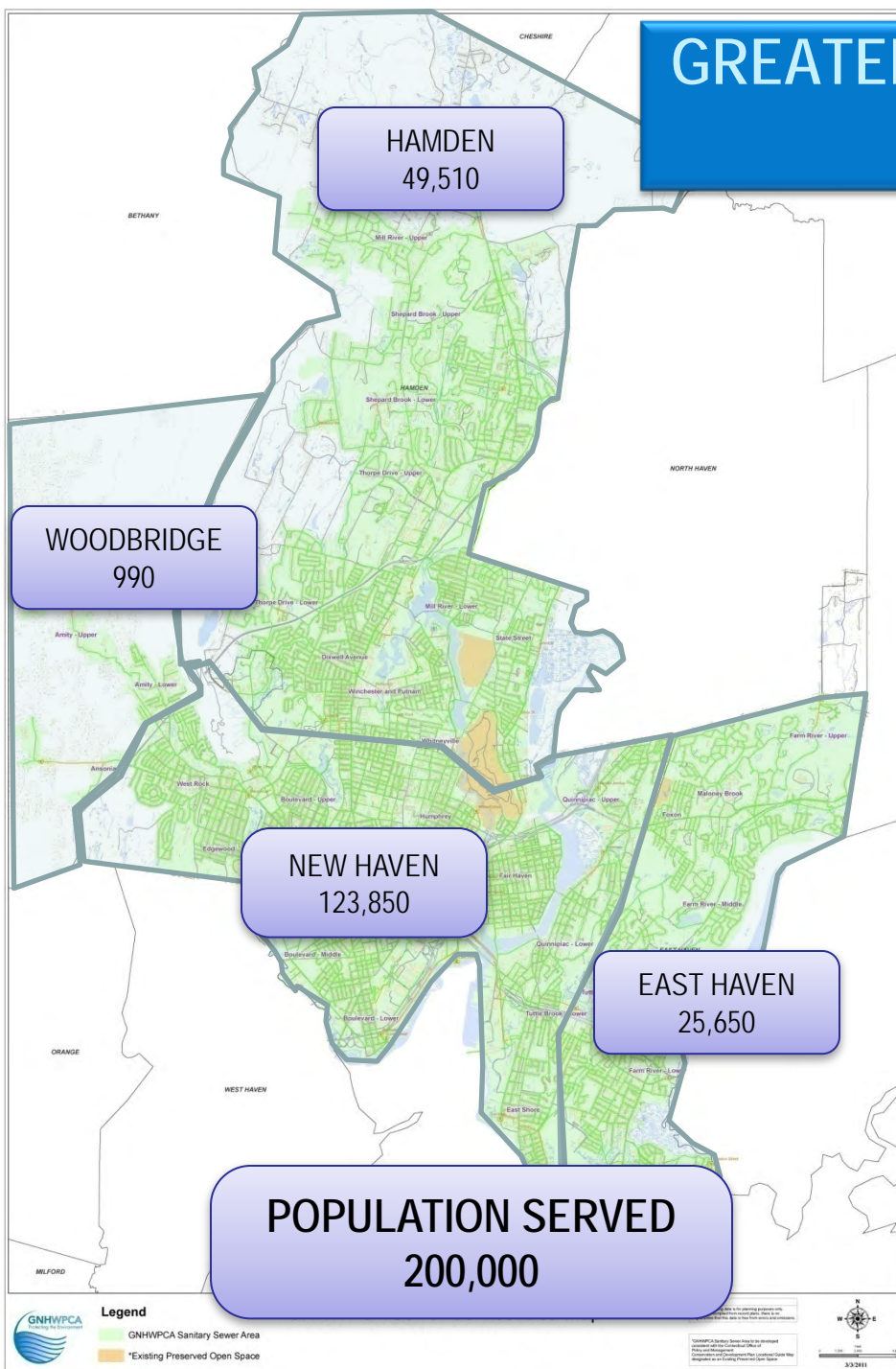


- 💧 **About the Authority**
- 💧 **Development of Methodology to adapt to CT Legislation**
  - 2013 and 2014 Right to Know Legislation – DEEP / GNHWPCA adapt
  - Evolution into the 2016 GNHWPCA NPDES Permit – S.O.P for Operators
  - Changes brought forth with 2018 Legislation – changes in S.O.P. for Operators
- 💧 **DEEP Right-to-Know 2018 Public Facing Map**





# GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY



REGIONAL AUTHORITY CREATED IN 2005  
SERVING FOUR MEMBER COMMUNITIES

550 MILES OF SEWERS

- INCLUDING 70 MILES OF COMBINED SEWERS  
(12.5%) IN NEW HAVEN

11 ACTIVE CSO OUTFALLS DISCHARGING TO:

- NEW HAVEN HARBOR (3)
- QUINNIPIAC RIVER (2)
- MILL RIVER (2)
- WEST RIVER (4)

5 MILLION GALLON CSO STORAGE TANK

EAST SHORE WATER POLLUTION ABATEMENT FACILITY  
(ESWPAF)

- 30 MGD - AVERAGE DAILY FLOW
- 60 MGD - SECONDARY DESIGN FLOW
- 100 MGD - WET WEATHER FLOW RECEIVING  
PRIMARY TREATMENT AND DISINFECTION

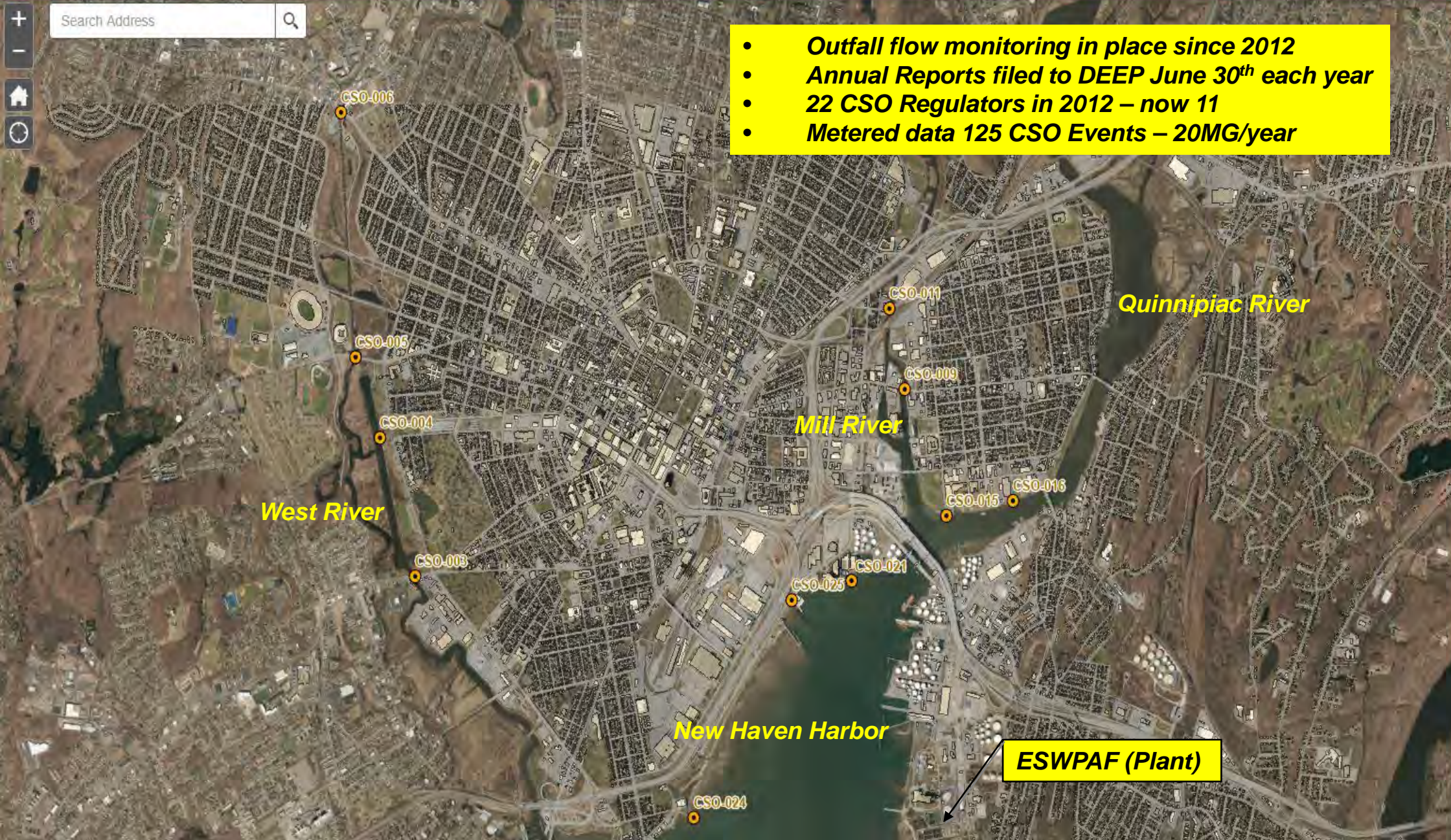
2016 CSO PROGRAM COST = \$433M  
COMPLETION YEAR 2036



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- **Outfall flow monitoring in place since 2012**
- **Annual Reports filed to DEEP June 30<sup>th</sup> each year**
- **22 CSO Regulators in 2012 – now 11**
- **Metered data 125 CSO Events – 20MG/year**



**Layer List**

Layers

- Plan Review
- Sewer Manholes
- CIPP Sewer Mains
- Sewer
- Stormwater
- Customers
- Private Sewer Mains
- CSO Outfalls and Regulators
  - Active CSO Outfalls
  - Closed CSO Outfalls
  - Active Regulators
  - Closed Regulators
- GNHWPCA Planimetric
- Woodbridge Parcels
- GNHWPCA Topography
- Manhole Labels





## *Right to Know Legislation in Connecticut*

### 💧 2013 CSO Notification Policy

- On and after July 1, 2013, the Commissioner of Energy and Environmental Protection shall post, on the department's Internet web site, a map of the state indicating the combined sewer overflows anticipated to occur during certain storm events. The web site may include the following relevant information about the overflows: (1) Location, anticipated duration and extent; (2) reasonable public health, safety or environmental concerns; and (3) public safety precautions that should be taken.



# 2013 CSO Activation Table



## GNHWPCA CSO ACTIVATION TABLE

CSO Outfall Location No.	ADDRESS	Location Description	State Plane Coordinates		Town	Rainfall Threshold CSO Activation				
			X	Y		1" Rainfall	2" Rainfall	3" Rainfall	4" Rainfall	ACTIVE/CLOSED
005	DERBY AVE	E.G. Boulevard @ Derby Ave.	943,406.21	673,891.16	New Haven					ACTIVE
004	LEGION AVE	E.G. Boulevard @ Legion Ave.	944,017.88	672,131.94	New Haven					ACTIVE
003	ORANGE AVE	E. G. Boulevard @ Orange St.	944,891.13	669,104.00	New Haven					ACTIVE
002	ELLA T GRASSO BLVD	E.G. Boulevard @ Lambertson St.	947,562.31	666,128.88	New Haven					CLOSED
024	SEA ST	Boulevard Pump Station	951,861.75	663,815.75	New Haven					ACTIVE
006	WHALLEY AVE	Whalley Ave. @ Fitch St.	943,059.31	679,241.94	New Haven					ACTIVE
022	ALLEN PL	Allen Place	959,715.44	665,884.13	New Haven					CLOSED
020	CLIFTON ST	Clifton St. @ Quinnipiac Ave.	962,737.39	673,711.21	New Haven					ACTIVE
017	GRAND AVE	Grand Ave @ Front St.	961,934.88	673,414.00	New Haven					CLOSED
019	FRONT ST	Pine St. @ N. Frontage St.	962,273.63	674,917.06	New Haven					ACTIVE
018	FRONT ST	Lombard St. @ N. Frontage St.	962,346.50	676,077.75	New Haven					CLOSED
016	POPLAR ST	Poplar St. @ River St.	959,878.97	670,727.64	New Haven					ACTIVE
015	JAMES ST	James Street Siphon	958,199.75	670,431.94	New Haven					ACTIVE
009	GRAND AVE	Grand Ave. @ James St.	957,169.03	673,165.88	New Haven					ACTIVE
011	HUMPHREY ST	Humphrey St. @ I-91	956,784.13	674,929.88	New Haven					ACTIVE
021	LONG WHARF DR	East St. Pump Station	955,825.75	668,986.44	New Haven					ACTIVE
012	MITCHELL DR	Mitchell Drive East off Nicoll St.	957,341.67	678,440.16	New Haven					ACTIVE
013	E ROCK RD	Everit St. @ East Rock Road	956,290.13	681,147.00	New Haven					ACTIVE
008	SHERMAN PKY	Munson St @ Orchard St.	948,453.13	679,034.44	New Haven					ACTIVE
027	IVES PL	East St. @ Ives St.	956,619.37	672,054.37	New Haven					CLOSED
029	BARNES AVE	Barnes St. PS	964,347.75	679,947.06	New Haven					CLOSED
030	QUINNIPIAC AVE	Quinnipiac Ave. PS	964,802.44	676,191.25	New Haven					CLOSED
035	WOODWARD AVE	Woodward PS (Fort Hale PS)	958,284.75	659,277.25	New Haven					CLOSED
007	MUNSON ST	Munson St @ Canal St.	950,638.88	677,913.19	New Haven					CLOSED
010	EAST ST	East St. @ I-91	956,875.92	675,542.35	New Haven					ACTIVE
014	TRUMBULL ST	Trumbull St. @ Orange St.	953,642.44	674,315.44	New Haven					ACTIVE
034	TEMPLE ST	Temple St. @ George St.	950,912.88	671,650.19	New Haven					ACTIVE
026	HUMPHREY ST	Humphrey St. PS	956,548.69	674,948.31	New Haven					ACTIVE
025	STATE ST	State and Union PS	952,099.69	670,602.69	New Haven					ACTIVE
028	MITCHELL DR	Mitchell Pump Station	957,341.67	678,440.16	New Haven					ACTIVE
031	FRONTAGE RD	Frontage St. @ Davenport	949,723.00	671,677.13	New Haven					CLOSED
032	PORTSEA ST	Portsea St. @ Liberty St.	950,407.00	669,174.00	New Haven					ACTIVE
033	CARLISLE ST	Carlisle St. @ Liberty St.	950,449.19	668,921.00	New Haven					CLOSED
023	FRANKLIN ST	Franklin, Chestnut & Water	954,578.07	670,470.82	New Haven					CLOSED



# *Right to Know Legislation in Connecticut*



## 💧 2014 CSO Notification Policy

- On and after July 1, 2014, the Commissioner of Energy and Environmental Protection shall post, on the department's Internet web site, notice of unanticipated sewage spills and waters of the state that have chronic and persistent sewage contamination that represents a threat to public health, as determined by the Commissioner of Energy and Environmental Protection in consultation with the Commissioner of Public Health. Any notice posted pursuant to this subsection may contain the following relevant information as best determined from the reported sewage spill incident: (A) The estimated volume of discharge; (B) the level of treatment of the discharge; (C) the date and time the incident occurred; (D) the location of the discharge; (E) the estimated or actual time the discharge ceased; (F) the geographic area impacted by the discharge; (G) the steps taken to contain the discharge; (H) reasonable public health, safety or welfare concerns or environmental concerns; and (I) public safety precautions that should be taken.



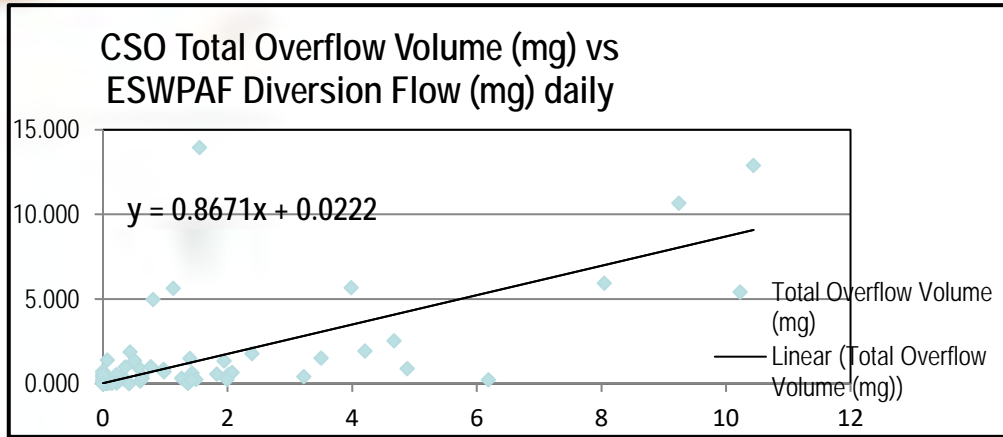
# *Developing an SOP for 2-hour CSO Discharge Email Report*

- ◆ Reviewed DMR and CSO Flow Monitoring Data from August 2014 through January 2016 to identify a relationship DMR data and Actual CSO Flow Monitoring events
  - ESWPAF Daily Rainfall
  - ESWPAF Maximum Daily Flow
  - ESWPAF Total Daily Flow
  - ESWPAF Diversion Flow
  
- ◆ Found a relationship between ESWPAF Maximum Daily Flow and CSO Flow Monitoring actual CSO events
  - Total CSO events between August 2014 through January 2016 – 42 CSO events
  - CSO events between August 2014 through January 2016 when ESWPAF Maximum Daily Flow exceeded 60 MGD - 39 CSO events (93%)
  - CSO events between August 2014 through January 2016 when ESWPAF Maximum Daily Flow were less than 60 MGD - 3 CSO events (7%)
  
- ◆ **RESULT:** Operations Desk personnel complete the Initial CSO Discharge Report within two hours of ESWPAF Flows reaching 60 MGD

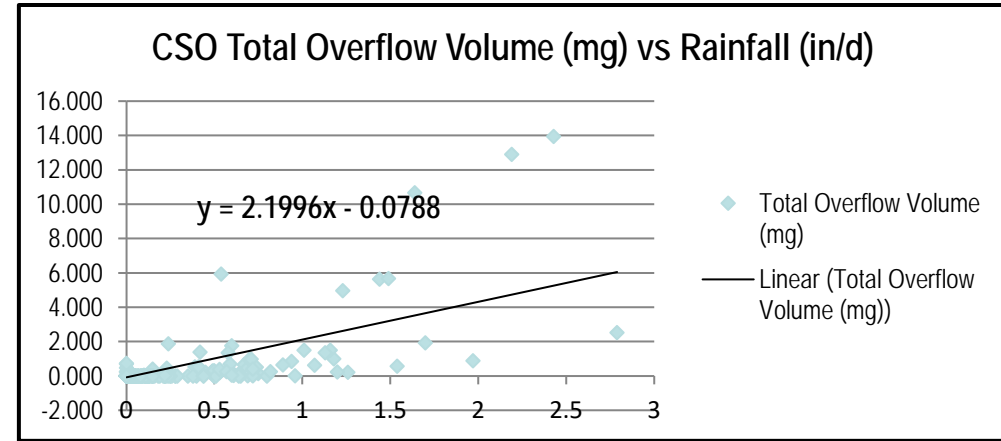


# Developing SOP for 5-day Written Report

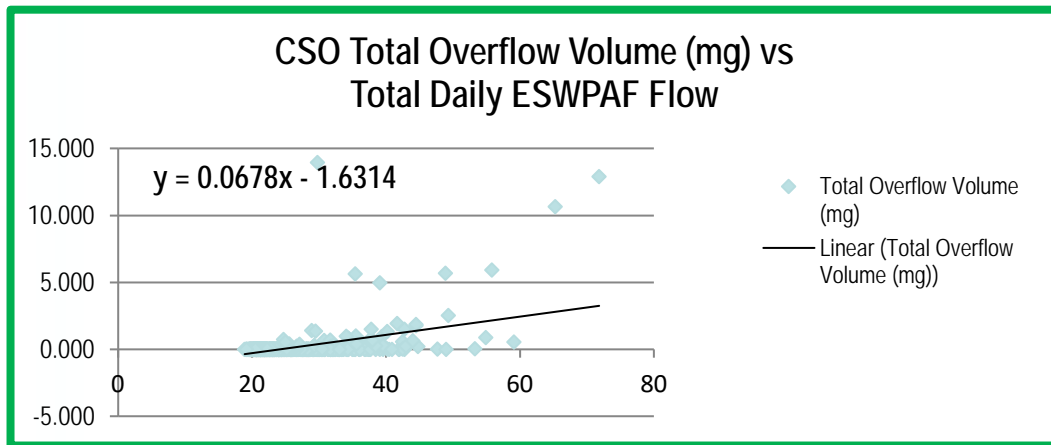
## Flow Predicting using DMR and Flow Monitoring over 1-year Period (August 2014 – July 2015)



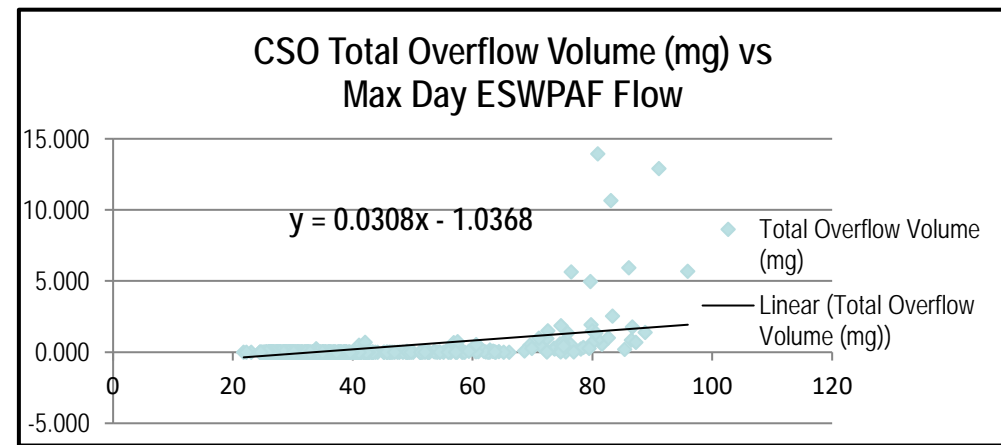
**Predicted CSO volume of 33.855 MG vs. actual CSO volume of 21.856 MG**



**Predicted CSO volume of 51.337 MG vs. actual CSO volume of 21.856 MG**



**Predicted CSO volume of 22.942 MG vs. actual CSO volume of 21.856 MG**



**Predicted CSO volume of 37.066 MG vs. actual CSO volume of 21.856 MG**

# 5 Day Report Volume // Duration Estimator



GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY					
NPDES PERMIT CT0100366 - SECTION 9 (D) (2)					
UPDATED 6/17/20					
NPDES CSO STRUCTURE	ESTIMATED CSO EVENT DATE	ESTIMATED CSO VOLUME (GALLONS)	ESTIMATED CSO DURATION (HOURS)	CSO RECEIVING WATER	ESWPAF TOTAL DAILY FLOW (MGD)
#003	4/30/2020	12,420	0.23	West River	45.00
#004	4/30/2020	2,970	0.05	West River	45.00
#005	4/30/2020	990	0.03	West River	45.00
#006	4/30/2020	0	0.00	West River	45.00
		<b>16,380</b>		<b>West River</b>	
#009	4/30/2020	29,610	0.58	Mill River	45.00
#011	4/30/2020	103,680	0.49	Mill River	45.00
		<b>133,290</b>		<b>Mill River</b>	
#015	4/30/2020	90,000	1.99	Quinnipiac River	45.00
#016	4/30/2020	393,390	2.27	Quinnipiac River	45.00
		<b>483,390</b>		<b>Quinnipiac River</b>	
#021	4/30/2020	200,475	0.81	New Haven Harbor	45.00
#024	4/30/2020	16,065	0.10	New Haven Harbor	45.00
#025	4/30/2020	0	0.00	New Haven Harbor	45.00
		<b>216,540</b>		<b>New Haven Harbor</b>	
<b>TOTAL</b>		<b>849600</b>			



# 2016 5-day Report

GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY  
NPDES PERMIT CT0100366 – SECTION 9 (D) (2)  
FOLLOW-UP CSO DISCHARGE WRITTEN REPORT

DATE: 3/29/2016

CSO Coordinator  
State of Connecticut  
Department of Energy and Environmental Protection  
Bureau of Water Protection and Land Reuse, Planning and Standards Division  
Municipal Facilities Section  
79 Elm Street  
Hartford, CT 06106-5127

State of Connecticut  
Department of Agriculture  
Aquaculture Division  
P.O. Box 97  
Milford, CT 06460

In accordance with Section 9 (D) (2) of our NPDES Permit CT0100366, we are submitting this follow-up CSO discharge written report. A significant precipitation event caused peak flows at the East Shore Water Pollution Abatement Facility in New Haven to exceed 60 million gallons per day on the date and time listed below:

DATE: 3/28/2016

TIME: 0730 hrs

Tables 1 includes the date, duration and total rainfall of the precipitation event, as well as the rainfall totals and return frequencies for the 15 minute, one hour, two hour and six hour time intervals.

Based on historical data from our CSO Flow Monitoring Program and our updated Hydraulic Model, it is likely that we are experienced CSOs at the CSO outfalls in New Haven included on the Table 2 during this significant precipitation event. Table 2 includes the NPDES CSO outfall designation, the estimated CSO event date, the estimated CSO volume and duration, and the CSO receiving water impacted by the discharge. Based on water quality sampling data presented in our approved CSO Long Term Control Plan, the event mean concentration for fecal coliform during a CSO event is 1X10E6 colonies per 100 milliliters. All of our CSO regulators are either fixed weirs or pipes. None of our regulators contain any mechanical parts. We complete monthly inspections of all of our CSO regulators and CSO outfalls in accordance with Section 9 (A) (13) of our NPDES Permit CT0100366.

GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY  
NPDES PERMIT CT0100366 - SECTION 9 (D) (2)

TABLE 1

PRECIPITATION EVENT DATE	3/28/2016
PRECIPITATION EVENT DURATION (HOURS)	9.67
PRECIPITATION EVENT TOTAL RAINFALL (INCHES)	0.80

TIME INTERVAL	RAINFALL (INCHES)	RETURN FREQUENCY
Peak 15 minute	0.10	< 1 month
Peak hour	0.20	< 1 month
Peak 2 hour	0.31	< 1 month
Peak 6 hour	0.68	1 month

GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY  
NPDES PERMIT CT0100366 - SECTION 9 (D) (2)

TABLE 2

NPDES CSO STRUCTURE	ESTIMATED CSO EVENT DATE	3/28/2016		CSO RECEIVING WATER
		ESTIMATED CSO VOLUME (GALLONS)	ESTIMATED CSO DURATION (HOURS)	
#003	3/28/2016	106,430	5.51	West River
#004	3/28/2016	154,140	3.54	West River
#005	3/28/2016	40,370	0.53	West River
#006	3/28/2016	179,830	2.31	West River
#009	3/28/2016	14,680	2.86	Mill River
#011	3/28/2016	201,850	1.88	Mill River
#012	3/28/2016	0	0.00	Mill River
#015	3/28/2016	117,440	2.77	Quinnipiac River
#016	3/28/2016	249,560	3.44	Quinnipiac River
#019	3/28/2016	0	0.00	Quinnipiac River
#020	3/28/2016	0	0.00	Quinnipiac River
#021	3/28/2016	616,560	2.84	New Haven Harbor
#024	3/28/2016	433,060	3.69	New Haven Harbor
#025	3/28/2016	117,440	1.71	New Haven Harbor



## *Right to Know Legislation in Connecticut*



### 💧 2018 CSO Notification Policy

- On and after July 1, 2018, not later than two hours after becoming aware of any sewage spill, the operator of a sewage treatment plant or collection system shall submit an electronic report to the Department of Energy and Environmental Protection.
- On and after July 1, 2018, not later than two hours after becoming aware of any sewage spill that exceeds five thousand gallons or that is anticipated to exceed five thousand gallons, the operator of a sewage treatment plant or collection system shall notify the chief elected official of the municipality where the sewage spill occurred. As soon as practicable after receiving any such notification, such municipality shall inform the public and downstream public officials, as appropriate.



# 2018 DEEP Web Portal - Operator View



## CSO Two Hour Report Form

### Instructions:

- Use this form to enter the required information for a two hour report of a wet weather combined sewer overflow. If this is NOT a wet weather combined sewer overflow, use the [Bypass / Two Hour Report Form](#).
- Documents or images may be attached to the report before submitting it.
- Use the map view to define the location of the CSO event. The location can be found by searching for an address, searching by CSO name or using the map pan and zoom tools.

Use the [CSO Five Day Report](#) application to report estimated volumes released and complete the CSO report.

### 1. Enter Information

#### Reporting Municipality or Utility: (required)

Greater New Haven WPCA

#### Town where event occurred: (required)

Select...

#### Submitted by: (required)

#### Email address: (required)

#### Phone number: (required)

#### Regulator name of designator:

Select...

#### Estimated Quantity/Volume of CSO

Select...

#### Name of receiving water body

Select...

#### Date and time regulator activated (required)

June 16, 2020 1:30 PM

#### Date and time regulator ceased

June 16, 2020 1:31 PM

#### Notes

Please attach additional documents or photographs.

Select File

MAP INSTRUCTIONS: After choosing the location, select an area outside the map to continue.

## 2-hour notification

## 5-day report

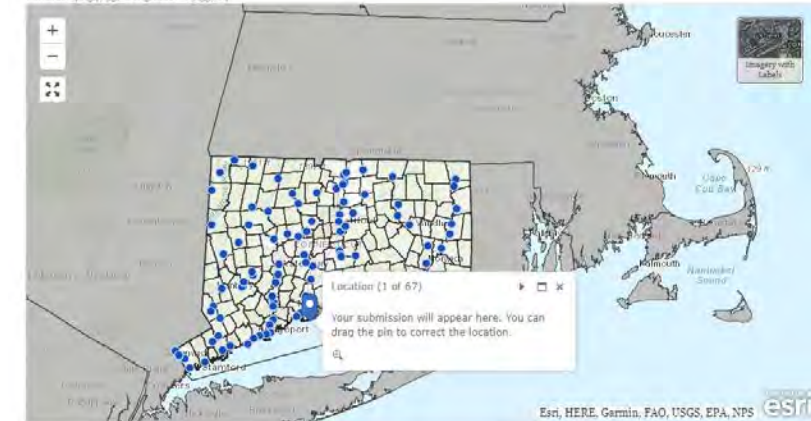
### 2. Select Location

Specify the location for this entry by clicking/tapping the map or by using one of the following options.

Search Lat/Lon:

Find address or place

Latitude: 41.54793, Longitude: -89.55784



### 3. Complete Form

Add this information to the map.

Submit Report