



***Thunderstorm Impacts on  
Wastewater System Operations***

July 17, 2019



# Thunderstorms

- Thunderstorms frequently occur in the afternoon and early evening during the late Spring and Summer months and their intensity and track are hard to predict





# Thunderstorm Staffing Preparations

Precautionary staffing necessary due to the unpredictable nature of thunderstorms

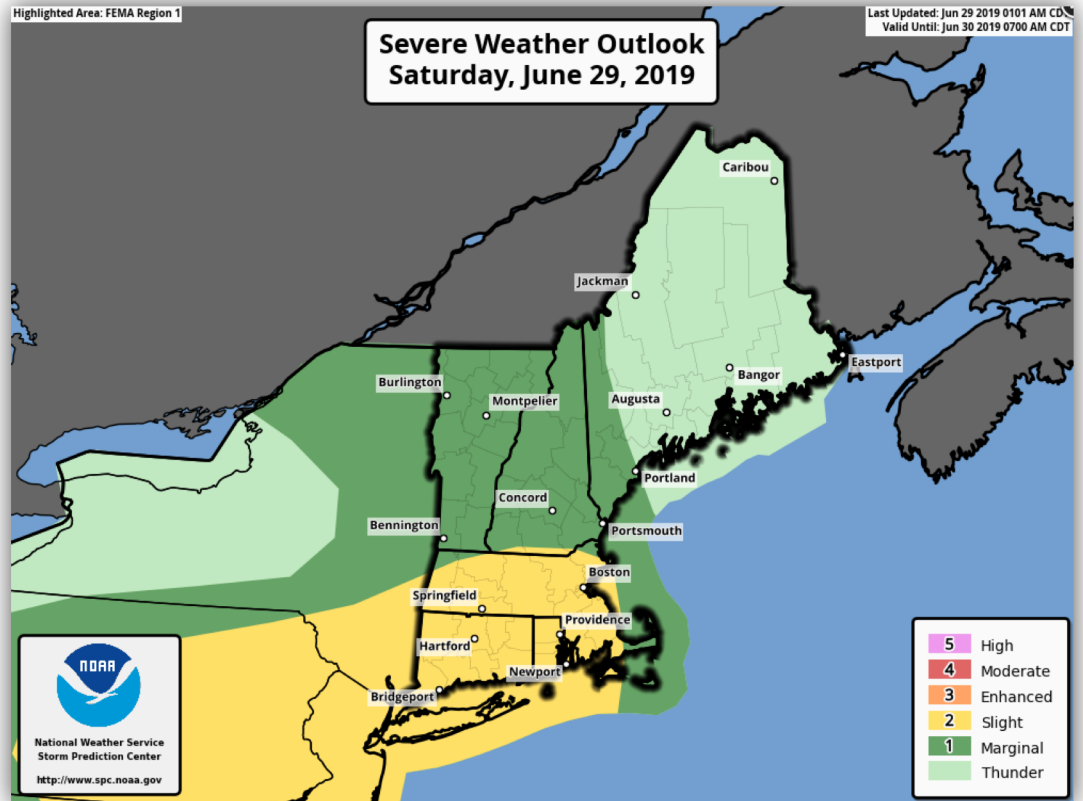
- Operations staff required at:
  - 3 CSO Treatment Facilities (Prison Point, Cottage Farm and Somerville Marginal)
  - 3 Northern Headworks (Chelsea Creek, Ward Street and Columbus Park)
  - 2 roving crews to respond to operational issues
- Maintenance staff stationed to address equipment issues in a timely manner at:
  - Chelsea Maintenance Facility, Chelsea Creek, Ward Street and Prison Point



# Severe Weather Outlook for June 29, 2019

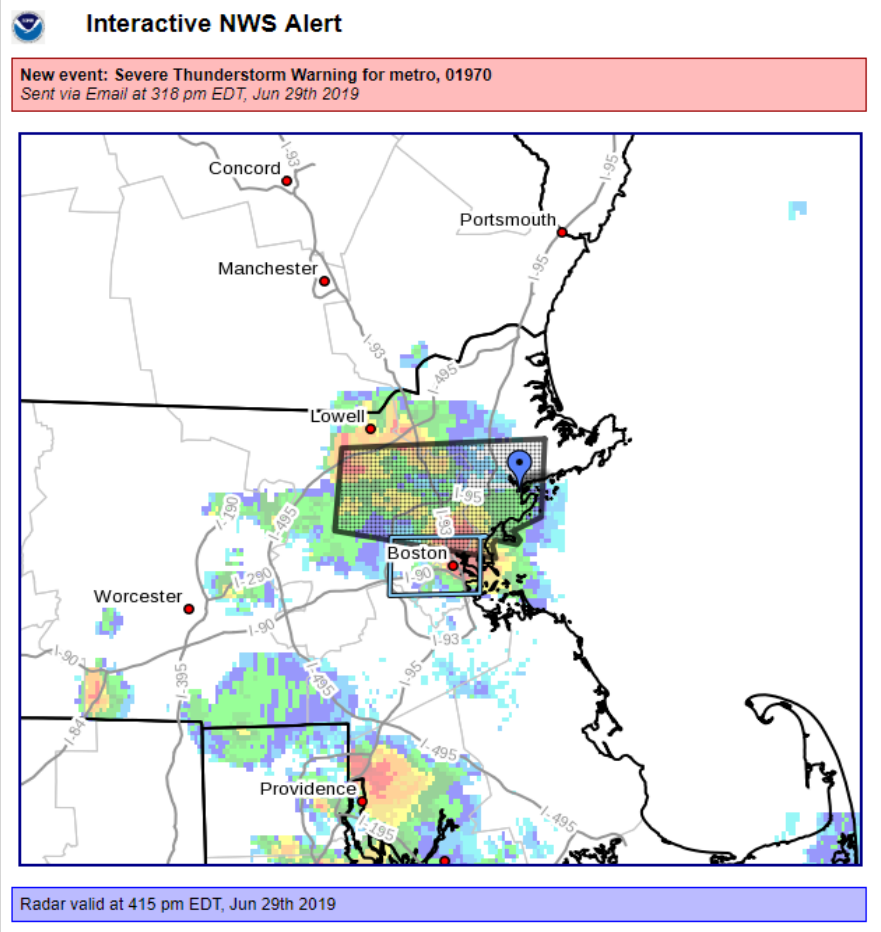
## National Weather Service Forecast:

- Thunderstorms and showers
- Chance of rain 60%





# Severe Thunderstorm Warning for Boston for Saturday June 29, 2019



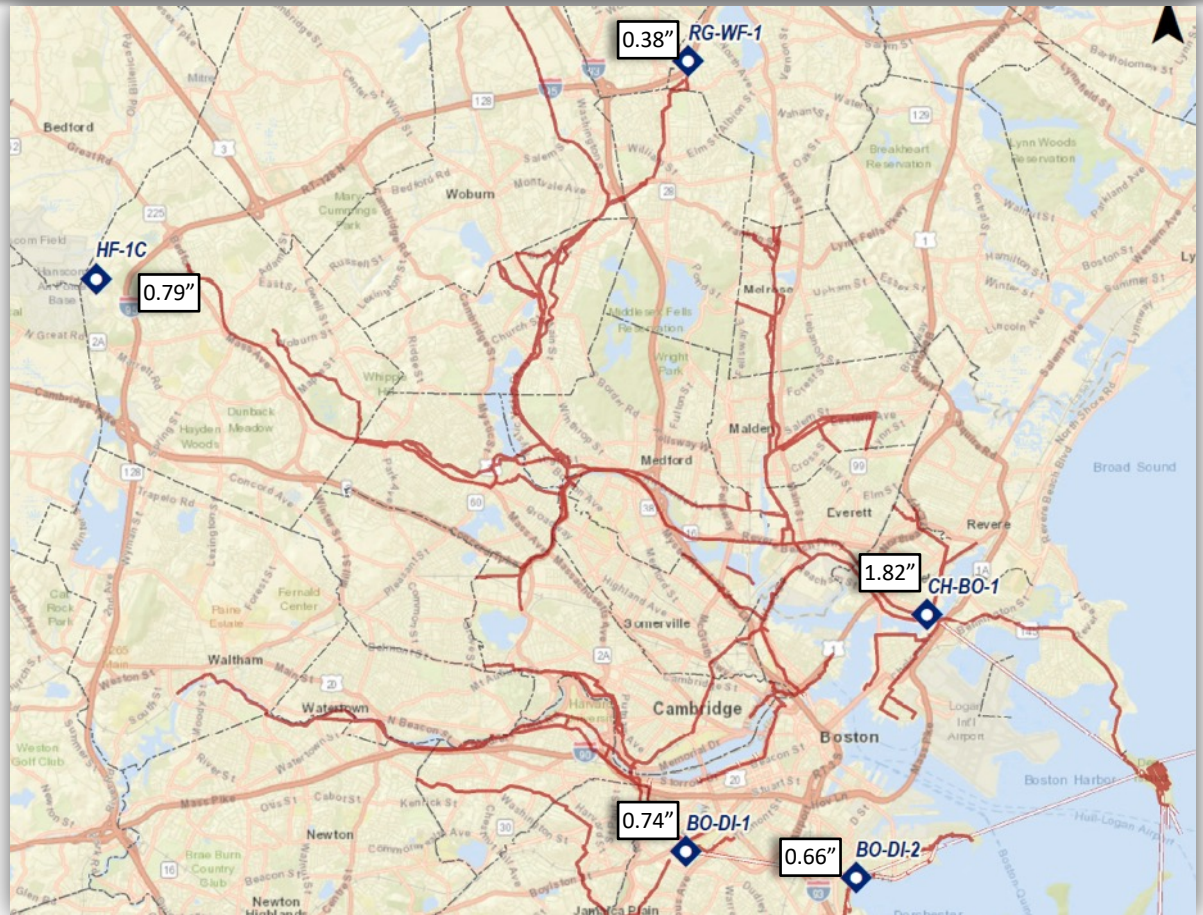


# Rainfall Totals for June 29, 2019

## JUNE 29<sup>th</sup> THUNDERSTORM

### Measured Area Rainfall:

Hayes PS:	0.38 inches
Columbus Pk HW:	0.66 inches
Ward Street HW:	0.74 inches
Hanscom:	0.79 inches
Chelsea Creek HW:	1.82 inches



❖ Chelsea Admin Building Rain Gauge registered an instantaneous rainfall rate of 12.26 in/hr at 4:30 pm

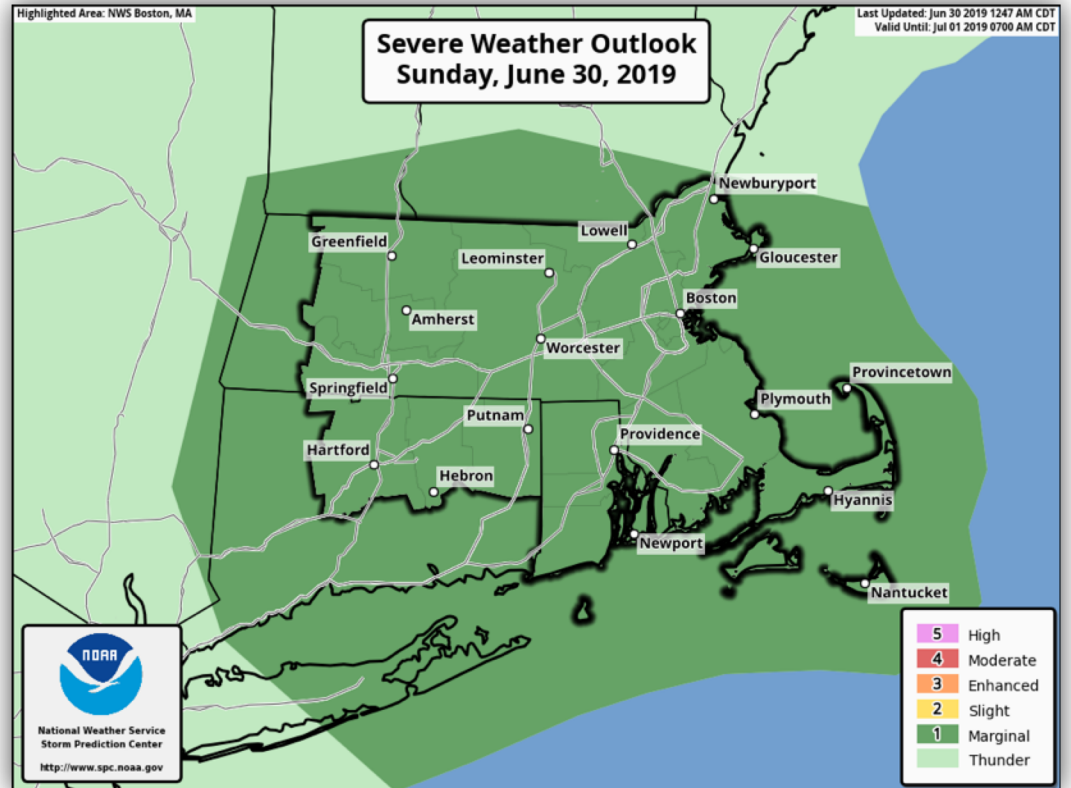




# Severe Weather Outlook for Sunday, June 30, 2019

## National Weather Service Forecast:

- Thunderstorms and showers
- Chance of rain 80%





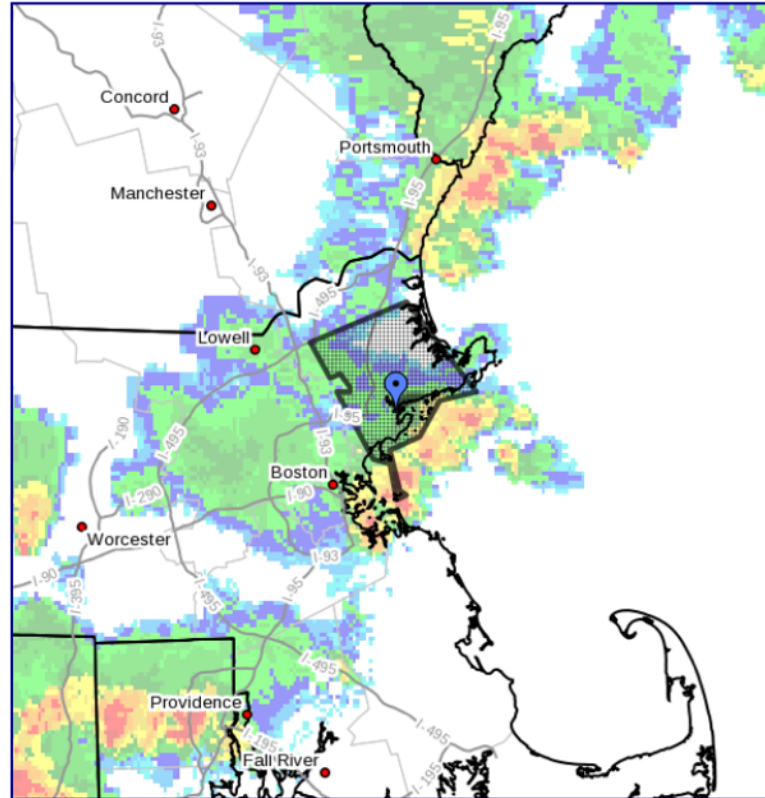
# Severe Thunderstorm Warning for Sunday, June 30, 2019



## Interactive NWS Alert

**New event: Severe Thunderstorm Warning for 01970**

*Sent via Email at 235 pm EDT, Jun 30th 2019*





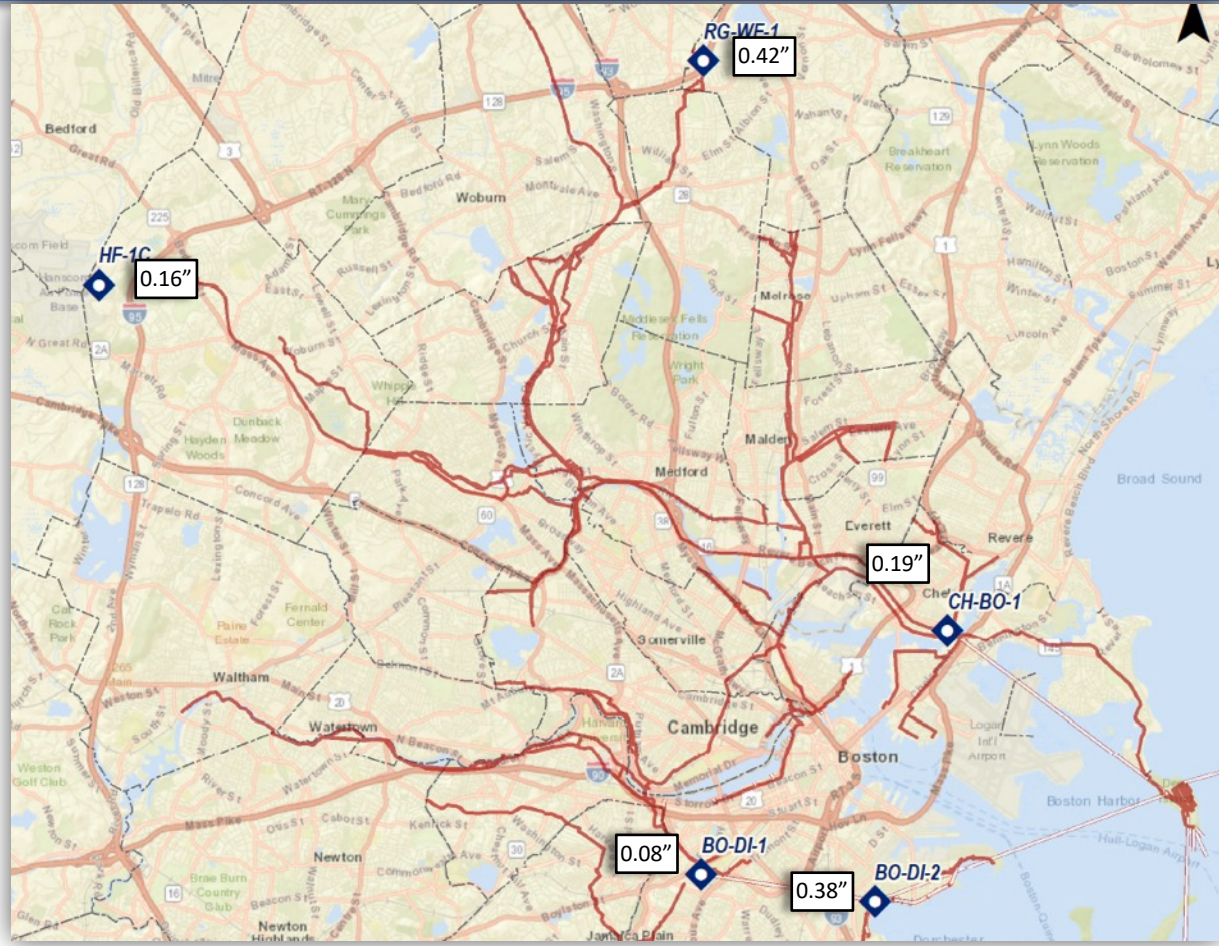


# Rainfall Totals for Sunday, June 30, 2019

## JUNE 30<sup>th</sup> THUNDERSTORM

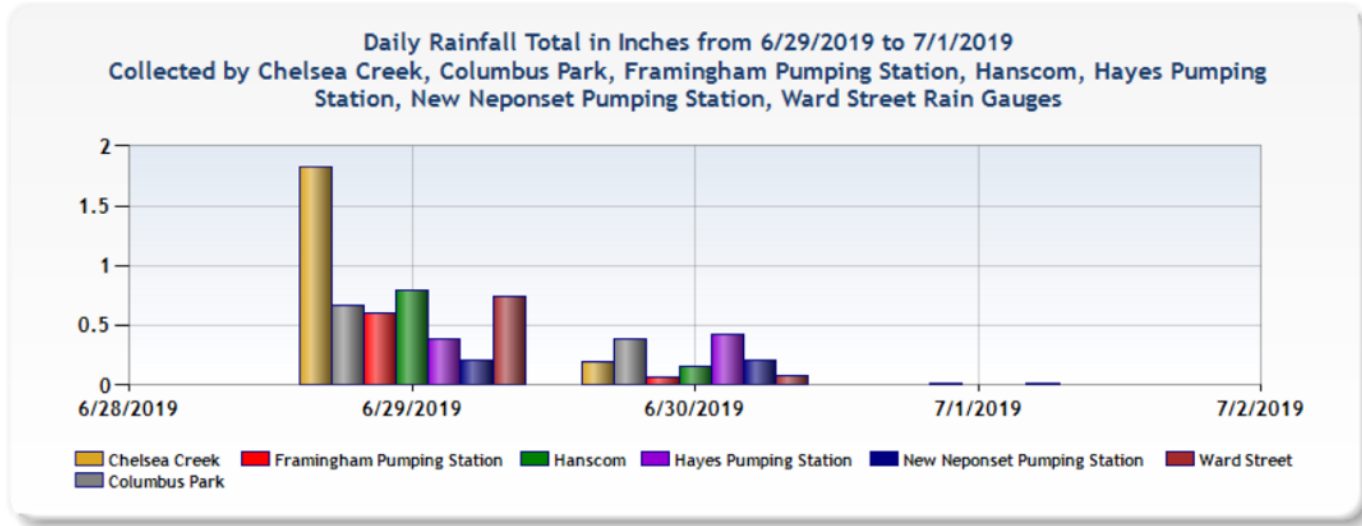
### Measured Area Rainfall:

Hayes PS:	0.42 inches
Columbus Pk HW:	0.38 inches
Ward Street HW:	0.08 inches
Hanscom:	0.16 inches
Chelsea Creek HW:	0.19 inches





# Rainfall Totals From June 29th to July 1st

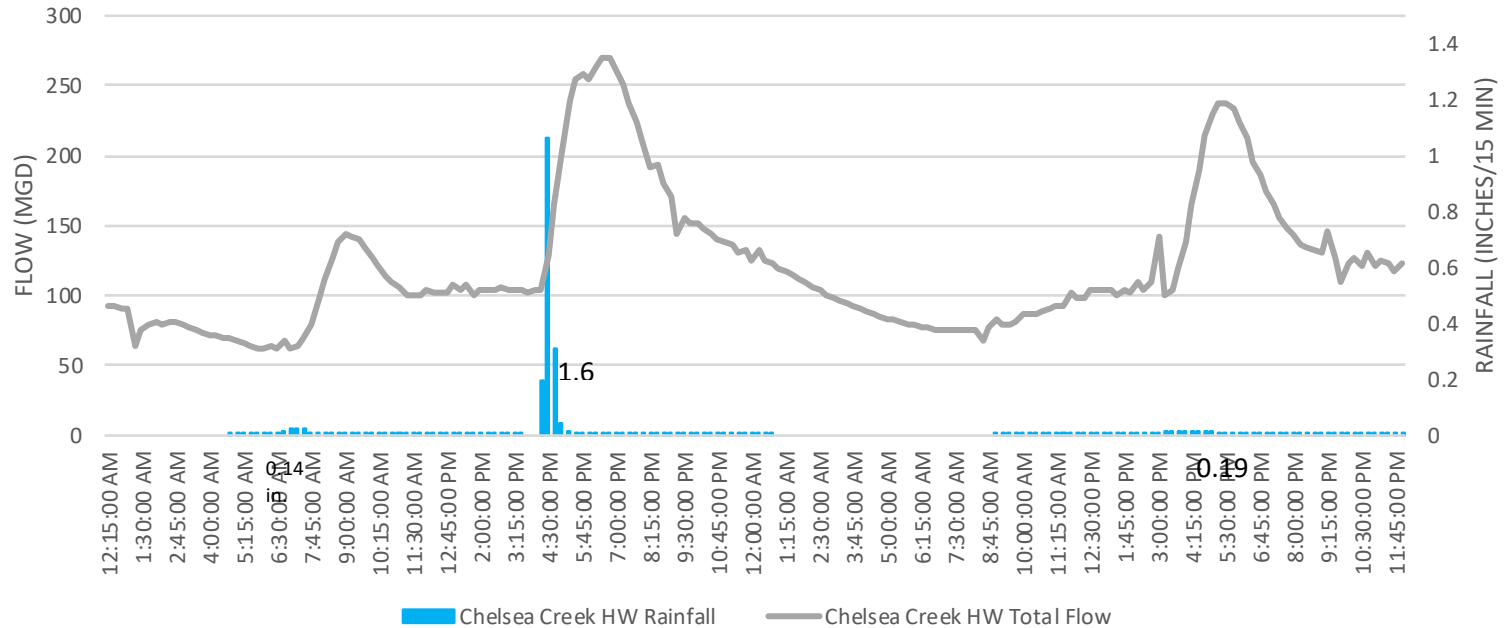


Date	Chelsea Creek	Columbus Park	Framingham Pumping Station	Hanscom	Hayes Pumping Station	New Neponset Pumping Station	Ward Street
6/29/2019	1.82	0.66	0.60	0.79	0.38	0.21	0.74
6/30/2019	0.19	0.38	0.07	0.16	0.42	0.21	0.08
7/1/2019	0.00	0.00	0.01	0.00	0.00	0.01	0.00
<b>Total</b>	<b>2.01</b>	<b>1.04</b>	<b>0.68</b>	<b>0.94</b>	<b>0.80</b>	<b>0.43</b>	<b>0.82</b>



# Chelsea Creek Headworks Flow

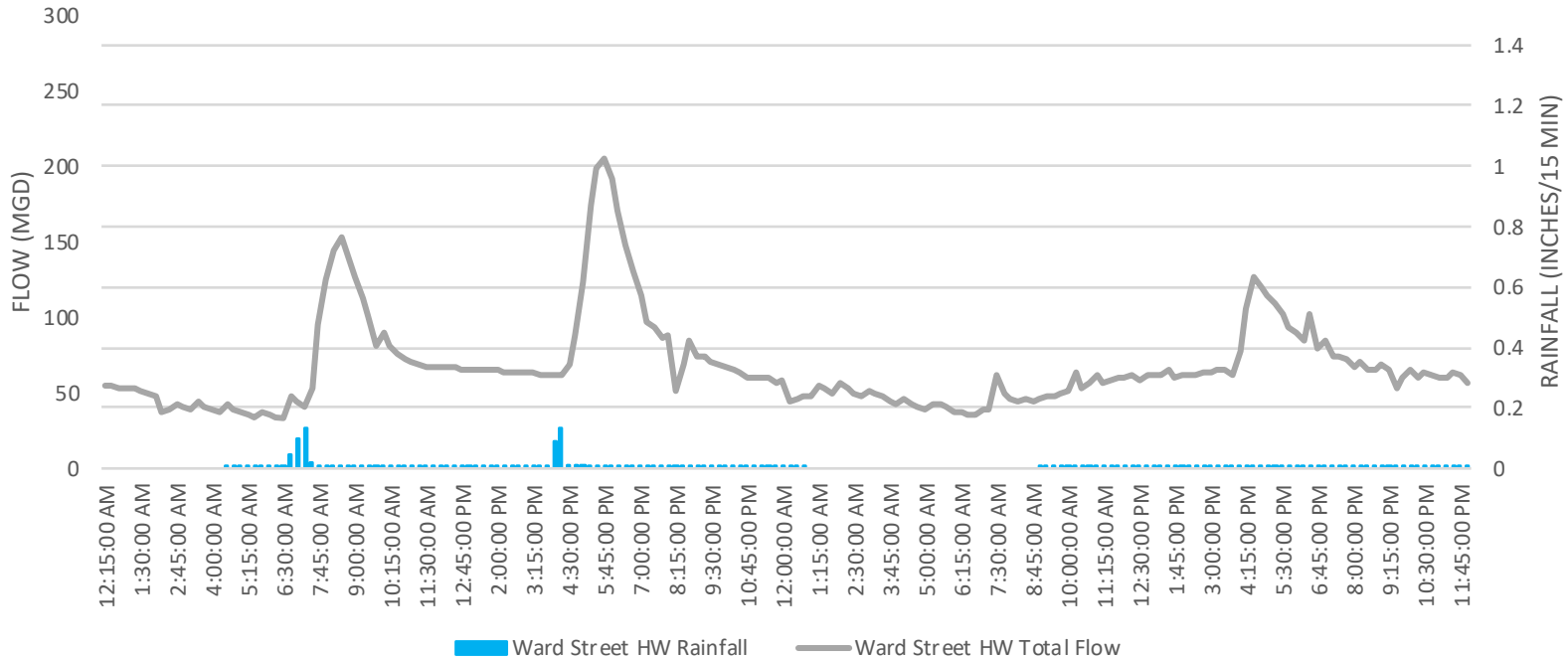
CHELSEA CREEK HEADWORKS FLOWS  
JUNE 29-30 2019





# Ward Street Headworks Flow

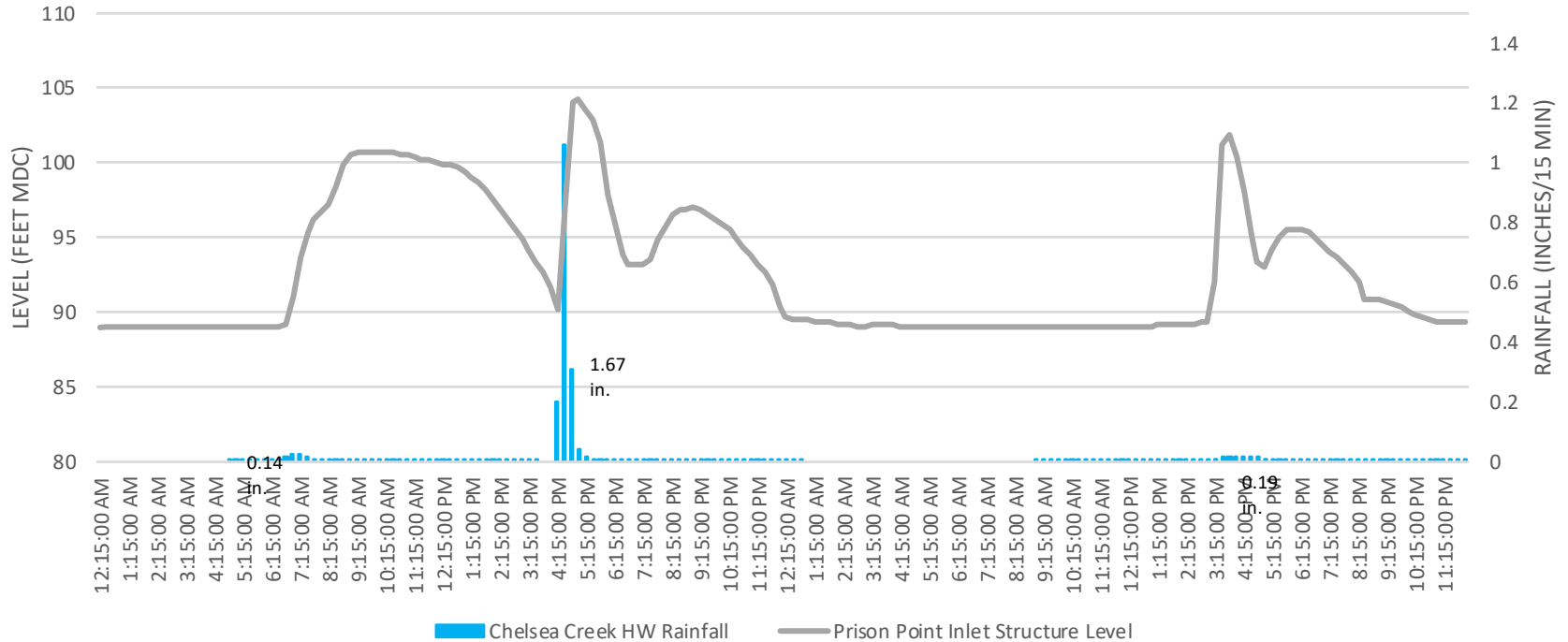
WARD STREET HEADWORKS FLOW  
JUNE 29-30 2019





# Prison Point CSO Inlet Elevation

PRISON POINT CSO INLET LEVEL  
JUNE 29-30 2019





# Somerville Marginal CSO Inlet Elevation

SOMERVILLE MARGINAL CSO INLET LEVEL  
JUNE 29-30 2019

