

NBC - Fields Point Wastewater Treatment Facility - CLIMATE VULNERABILITY SUMMARY



Fields Point is located at 2 Ernest Street in Providence. It treats approximately 45.5 million gallons of wastewater per day in dry weather, serving approximately 226,000 customers in portions of Johnston, North Providence, Providence, and Cranston. Fields Point is a combined system that treats stormwater flows during rain events up to about 65 million gallons per day. Additional information is on the back of this summary.

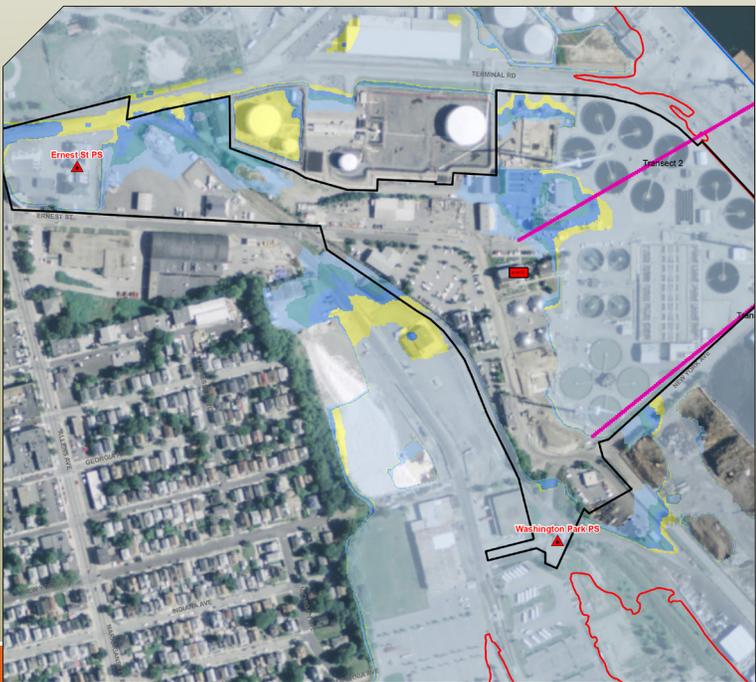


TOP 3 HAZARD MODELING RESULTS

Most of the WWTF components and the Ernest Street pump station would be inundated by storm surge at the 100-year return period.

5 feet at the existing shoreline during 100-year event.

The Central pump station in Johnston would be inundated at the 100-year level plus 2 feet.



Legend

- Treatment Plant
- ▲ Pump Station
- Approx. Parcel Boundary

COASTAL HAZARDS

- Wave Transect
- 2115 Shoreline
- 2065 Shoreline
- 2040 Shoreline
- 100-Year Flood Level
- 100-Year Flood Level Plus 1' SLR
- 100-Year Flood Level Plus 2' SLR
- 100-Year Flood Level Plus 3' SLR
- 100-Year Flood Level Plus 5' SLR



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FACILITY SUMMARY			
Owner	Narragansett Bay Commission	During wet weather conditions, the WWTF can reach secondary-level treatment for up to 77 MGD and route additional flows through primary treatment and disinfection up to 123 MGD.	Operator's primary concern is discharging plant and CSO flow during extreme high tides, which they recognize will become more critical as sea level rises.
Operator	Narragansett Bay Commission		
Facility Address	2 Ernest Street Providence, RI 02905	The total treatment capacity at the Fields Points WWTF is 200 MGD and influent flows in excess of 200 MGD are discharged directly to the Providence River.	The NBC maintains six permanent flow metering stations and is responsible for 38 Combined Sewer Overflows, 32 tide gates, and 80 miles of interceptors in the Fields Point service area.
Contact Name	Paul Desrosiers, Superintendent		
Phone	401.461.8848		
Design Flow Capacity	65.0 MGD	To equalize high wet weather influent flows, the facility operates off a main interceptor carrying roughly 3 MG of capacity and a "deep rock tunnel" designed to hold 65 MG of excess influent.	The site has three wind turbines that generate up to 1.5 MW each; or 40% of the power necessary to operate the facility.
Average Daily Flow	45.5 MGD		
Receiving Water	Providence River		
Extreme Weather Related SSO Events 2010 - 2014	8 out of 74 events or 11%		

ADAPTIVE STRATEGIES (SEE REPORT FOR COMPLETE LIST)				
SYSTEM	Hardening	Readily Repairable/ Replaceable	Redundancy	Mitigation Strategy
Influent Pump Station (Ernest Street PS)	A			Protect facility entrances with flood barriers.
"Deep Rock Tunnel" System	A			Protect facility entrances with flood barriers.
Intermediate Pump Station (Screw Pumps)	A			Protect facility entrances with flood barriers.
Disinfection System (Chlorine Contact Tanks)	A			Protect facility entrances with flood barriers.
Generators	A			Protect facility entrances with flood barriers and elevate generator equipment.
Primary Clarifiers	B	B	B	Protect facility entrances with flood barriers. Replace sludge pumps with submersibles. Pumps may be temporarily augmented. Store replacement drive components on-site.

A = < \$50,000 B = \$50,000 to \$250,000 C = \$250,000 - \$1,000,000 D = > \$1,000,000