Newtown Creek

New York City CSO Program

NEW YORK STATE | Department of Environmental Conservation

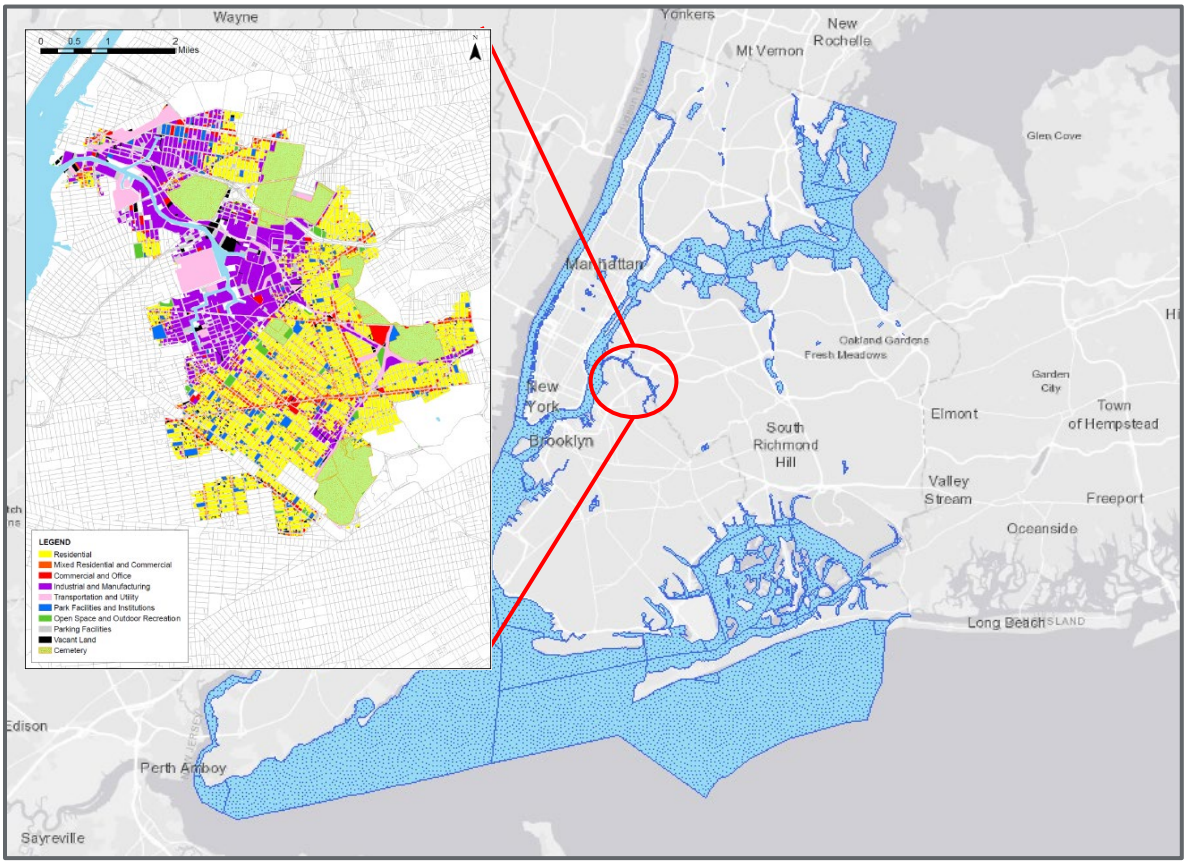
Overview: Pursuant to the NYC CSO Order, the New York City Department of Environmental Protection (DEP) completed watershed-level planning for Newtown Creek to identify opportunities to reduce combined sewer overflows (CSOs) and improve water quality. To date, DEP has committed to invest $2.49 billion into CSO reduction for this waterbody to reduce CSO by 74%. The following table shows all watershed plans developed and implemented for Newtown Creek in accordance with the NYC CSO Order.

Watershed Plan	Date Submitted	Date Approved	Implementation Status
Waterbody/Watershed Facility Plan (WWFP)	June 25, 2007	June 21, 2012	Completed
Long Term Control Plan (LTCP)	June 30, 2017	June 26, 2018	In Design

Waterbody/Watershed Characteristics

Characteristics: Newtown Creek is located in Brooklyn and Queens and is tributary to the Lower East River, and the Upper New York Bay. Its watershed is approximately 6,815 acres; with 32 percent being separately sewered and 68 percent combined sewer. The Creek is a Class SD saline waterbody with twenty-one (21) active CSO outfalls. Most of the land immediately adjacent to the shoreline is industrial, commercial, and residential areas. The predominant land use in the drainage basin is residential and mixed use.

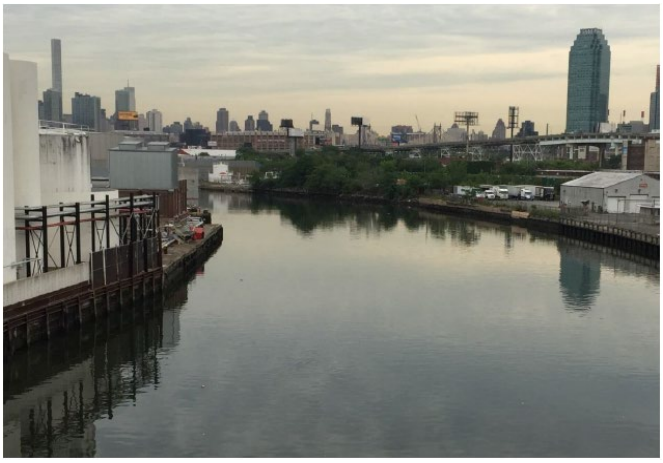
Newtown Creek Drainage Area Location



Source: New York State Department of Environmental Conservation & New York City Department of Environmental Protection

WWFP Projects

Newtown Creek



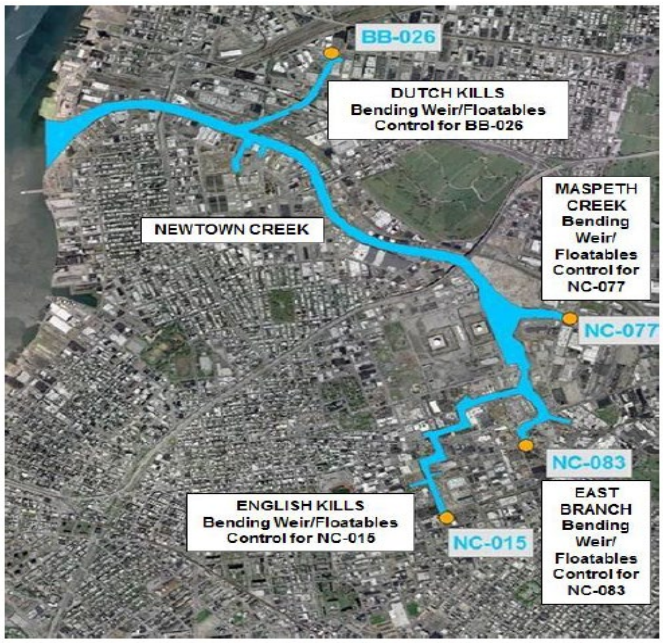
Source: New York City Department of Environmental Protection

WWFP Baseline Conditions: Prior to implementation of any CSO reduction projects, approximately 1,472 million gallons per year (MGY) of CSO was discharged to Newtown Creek for an average rainfall year [1]. In addition, another 577 MGY of stormwater is discharged to the Creek on average. Under the baseline conditions, Newtown Creek did not fully attain the applicable fecal coliform and dissolved oxygen standards throughout the waterbody.

Projects Summary: Within its watershed-level plans, DEP evaluated multiple alternatives to address the water quality issues present in Newtown Creek. Two (2) cost-effective alternatives were selected: construction of bending weirs and floatables control at outfalls BB-026, NCQ-077, NCB-083, and NCB-015; and construction of in-stream aeration systems. The following table summarizes the projects completed in Newtown Creek along with their completion date and total cost at project completion.

Selected Alternatives	Completion Status	Date of Completion	Total Cost at Project Completion	Projected CSO Reduction
Bending Weir and Floatables Control	Completed	December 2017	$43.4 Million	62 MGY
In-Stream Aeration Projects	Completed	June 2018	$55.9 Million	N/A

Bending Weir, Underflow Baffles and In-Stream Aeration Projects



Source: New York City Department of Environmental Protection

Source: New York State Department of Environmental Conservation

[1] 1988 JFK rainfall year was determined to be the average rainfall year during the WWFP development.

Source: New York State Department of Environmental Conservation

Source: New York City Department of Environmental Protection

LTCP Projects

LTCP Baseline Conditions: Prior to implementation of any CSO reduction projects under the LTCP, approximately 1.162 billion gallons per year (BGY) of CSO was discharged to Newtown Creek for an average rainfall year[2]. In addition, another 931 MGY of stormwater discharges to the Creek on average. Under the LTCP baseline conditions, Newtown Creek did not fully attain the applicable fecal coliform and dissolved oxygen standards year-round.

Projects Summary: Two (2) cost-effective alternatives were selected under the LTCP. These projects were later modified, after the LTCP was submitted, to recommend construction of a 54-inch gravity interceptor and diversion chambers; and a 50-million-gallon storage tunnel, reducing discharges from outfalls BB-026, NCB-015, NCQ-077, and NCB-083. The following table summarizes the completion dates and the estimated costs for these projects.

Project Improvements

CSO Reduction: The selected alternatives are expected to reduce the total CSO discharge to Newtown Creek by roughly 761 MGY.

Selected Alternatives	Completion Status	Date of Completion	Total Cost at Project Completion	CSO Volume Reduction
54-Inch Gravity Interceptor and Diversion Chambers	In Design Phase	December 2031	TBD	67%
50 MG CSO Storage Tunnel	In Design Phase	December 2040	$2.39 Billion	

[2] 2008 rainfall year was determined to be the average rainfall year during the LTCP development and for the InfoWorks modeling.

Projected Water Quality: The selected alternatives are predicted to achieve fecal coliform standards during the recreational season, but not year-round. With implementation of the alternatives, the dissolved oxygen standard is predicted to remain in non-attainment, however the LTCP also determined that 100% CSO capture would also not achieve significant water quality benefits.

Post Construction Monitoring

To confirm that the projects implemented achieve the projected water quality improvements, post-construction compliance monitoring will be conducted by DEP. DEP conducts ongoing monitoring under its' Harbor Survey Monitoring Program.

Long Term Control Plan

If you would like additional information on the Newtown Creek LTCP, you can access the entire approved LTCP by visiting the New York City CSO Program information page on the New York State Department of Environmental Conservation Website.