

Newtown Creek Superfund Site

CAG Meeting

January 22, 2025



Agenda

- OU4 East Branch Early Action
- OU1 Feasibility Study
- OU1 Feasibility Study Supplemental Data Collection
- OU2 Post-ROD Monitoring
- National Grid Sampling

Newtown Creek



- Part of New York/New Jersey harbor estuary
- Forms a portion of the North-South Brooklyn-Queens border
- Designated by New York City as 1 of 6 Significant Maritime & Industrial Areas in the City
- 3.8 Mile Tidal Waterbody with 5 Tributaries
 - Dutch Kills
 - Maspeth Creek
 - East Branch
 - English Kills
 - Whale Creek

Newtown Creek Superfund Site Overview

The Site was added to the National Priorities List in September 2010 and has since been divided into 4 operable units (OUs):

- **OU1**: Includes the Remedial Investigation/Feasibility Study (RI/FS) of the entire Study Area. Work is being conducted as per the terms of a 2011 Administrative Order on Consent (AOC) with 6 respondents. The RI/FS is ongoing and an interim, early action remedy was recently selected for a portion of the OU1 Study Area.
- **OU2**: Evaluates current and reasonably anticipated future releases of Superfund site-related chemicals of potential concern from combined sewer overflow discharges to the Creek. Work was conducted pursuant to a 2018 AOC with the City of New York, a no further action ROD was signed in April 2021, and post-ROD monitoring is being conducted pursuant to an AOC signed in September 2022 between EPA and the City of New York.
- **OU3**: Evaluated a potential Early Action for a portion of the Operable Unit 1 Study Area; has been discontinued.
- **OU4**: Relates to an interim Early Action for the East Branch portion of Operable Unit 1. EPA released a Proposed Plan to cleanup OU4 on September 18, 2024; the public comment period ended (after extensions) on November 12, 2024 and Record of Decision (ROD) was signed on January 16, 2025.

Overview of Remedy for the East Branch

Selected Remedy: Dredging to allow placement of a cap to maintain existing water depth with localized deeper dredging. The remedy includes the following primary components:

- Robust pre-design investigation (PDI)
- Dredging
- In-Situ Stabilization (ISS)
- Capping
- Backfilling
- Sealed Bulkheads
- Shoreline Stabilization
- Dredged Material Management
- Restoration
- Institutional Controls
- Robust Post-Remedy Implementation Monitoring Program (PRIMP)

Structure of Record of Decision

- Declaration Statement
- Decision Summary
- Attachments
 - Appendix I – Figures
 - Appendix II – Tables
 - Appendix III – Administrative Record Index
 - Appendix IV – State Letter of Concurrence
 - Appendix V – Responsiveness Summary
 - Attachment A – Written Comments Submitted During Public Comment Period
 - Attachment B – Proposed Plan
 - Attachment C – Public Notice
 - Attachment D – Public Meeting Transcript

Pre-Design Investigation

- The PDI will be developed to help fill data gaps and further refine our understanding of the East Branch CSM. The PDI will be developed with clear data quality objectives and assessment methods and will include, at a minimum, the following activities:
 - Collect additional sediment COC data to refine the remedial footprints and depths of the various remedy components and to delineate potential principal threat waste (PTW) and Toxic Substances Control Act (TSCA) materials;
 - Collect additional porewater and/or groundwater COC data to refine cap designs;
 - Collect data to further delineate non-aqueous phase liquid (NAPL), investigate NAPL mobility, and determine the constituents present in NAPL;
 - Collect geotechnical data to support dredge design, cap design and shoreline stability evaluations;
 - Conduct investigations (*e.g.*, systematic as well as opportunistic seep sampling) and surveys to inform decisions on the need for upland source controls [*e.g.*, sealed bulkheads]).

Dredging and In-Situ Stabilization

- Dredging to a minimum depth to accommodate capping without decreasing water depths. FFS dredge depth estimates range from 36 inches (in deeper water areas) to 53 inches (in shallower water areas) below the current mud line
- Dredging deeper in certain areas, to be determined during the design of the remedy, based on the following considerations:
 - potential for NAPL migration from the deeper soft and/or native material;
 - potential for human and/or ecological exposure to PTW;
 - depth to uncontaminated material;
 - and comparatively higher COC concentrations in remaining sediment.
- ISS where needed to reduce migration of and/or for treating NAPL or PTW.


Capping and Backfilling

- Capping will occur
 - over dredged areas where contaminated sediment is left in place
 - where the flux of COCs from groundwater is relatively high and could result in exceedance of remediation goals over time.
 - If necessary, where ISS is used to reduce migration of and/or for treating NAPL and/or PTW.
- Design of the cap will be determined after completion of the PDI
 - FFS assumes placement of a multilayer engineered cap including erosion protection, geotechnical filter (where appropriate), dissolved phase chemical isolation, and NAPL sorption layers.
 - A habitat layer will need to be placed on top of the cap, where appropriate.
 - Design of the cap may vary throughout the East Branch depending on location-specific conditions and/or constructability considerations
 - The thickness of the cap will be commensurate with the depth of dredging at any location.
- Backfilling with a clean sand layer, as needed, to maintain existing water depths.


Shoreline Stabilization and Sealed Bulkheads

- Shoreline stabilization, including ISS, slot dredging, or bulkhead replacement, stabilization and/or installation, as needed.
- Installing sealed bulkheads to address shoreline seeps, as needed based on the results of the PDI and as a preliminary measure while the related upland source is addressed through either state or federal enforcement authorities.

Dredged Material Management, Restoration and Institutional Controls

- Dewatering and off-site disposition of all dredged sediment and debris.
 - Restoration of all impacted areas, taking into account the reasonably anticipated future uses of the East Branch and the adjacent shorelines.
 - Institutional controls, as needed, to maintain the integrity of the implemented remedy (fish consumption advisories through NYSDEC will remain in place).
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Post-Remedy Implementation Monitoring Program

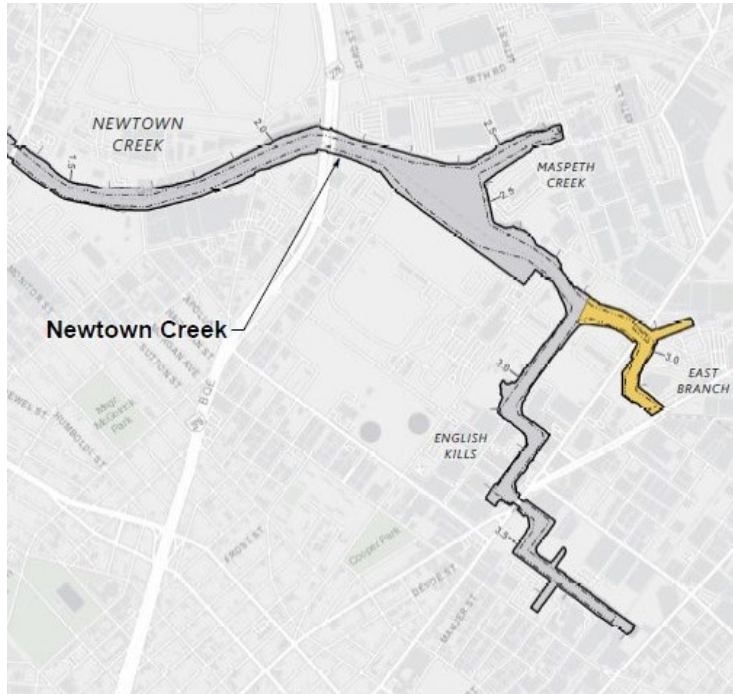
- Two goals
 - Assess the performance of the remedy itself within the East Branch portion of the OU1 Study Area
 - Assess the impact on the protectiveness of the remedy from ongoing sources over time
 - Provides process for evaluating these questions and, where necessary, taking additional action
 - Includes sampling, at a minimum, of surface sediment, subsurface sediment, porewater, both suspended and dissolved phase concentrations of COCs in surface water, and ongoing external sources of contamination.
 - Includes regular visual and/or fluorescence technology inspections for NAPL, with chemical analysis to confirm the composition of NAPL identified, regular bank inspections for erosion, with sampling as needed, and regular inspections for the presence of seeps, with opportunistic sampling as possible
 - Structured so that potential impacts to the protectiveness of the remedy are addressed as soon as possible, ideally before risk-based cleanup goals are exceeded
 - Any additional upland source control measures needed would be through federal (Superfund and/or non-Superfund) and/or state enforcement authorities, to be determined on a case-by-case basis.
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Preliminary Estimates of the Selected Remedy

- Preliminary Estimates

- 101,000 cy of sediment will be dredged through this action, over an area of 11.2 acres, and 5,300 cy of debris will be removed off-site.
- ISS will be used to address 9,900 cy of sediment in-place over an area of 0.4 acres.
- Deeper dredging to uncontaminated material will occur over 1.2 acres.
- An armored and amended cap will be placed over a total of 10.0 acres resulting in the need for 69,600 cy of capping.
- 14,400 cy of backfill material will be needed over 1.2 acres to manage dredge residuals and maintain existing water depth where deeper dredging is conducted.
- Shoreline stabilization will be required along 3,850 LF, which equates to approximately 76 percent of the shoreline, through the use of ISS, bulkheads or other methods.
- Sealed bulkheads will be needed over an estimated length of 180 LF.
- It is estimated that the entire action may take 22 months (over 3 construction seasons) to implement.
- Estimated net-present value cost of \$243.5M

➤ All of these estimates will need to be updated during and after conduct of the PDI



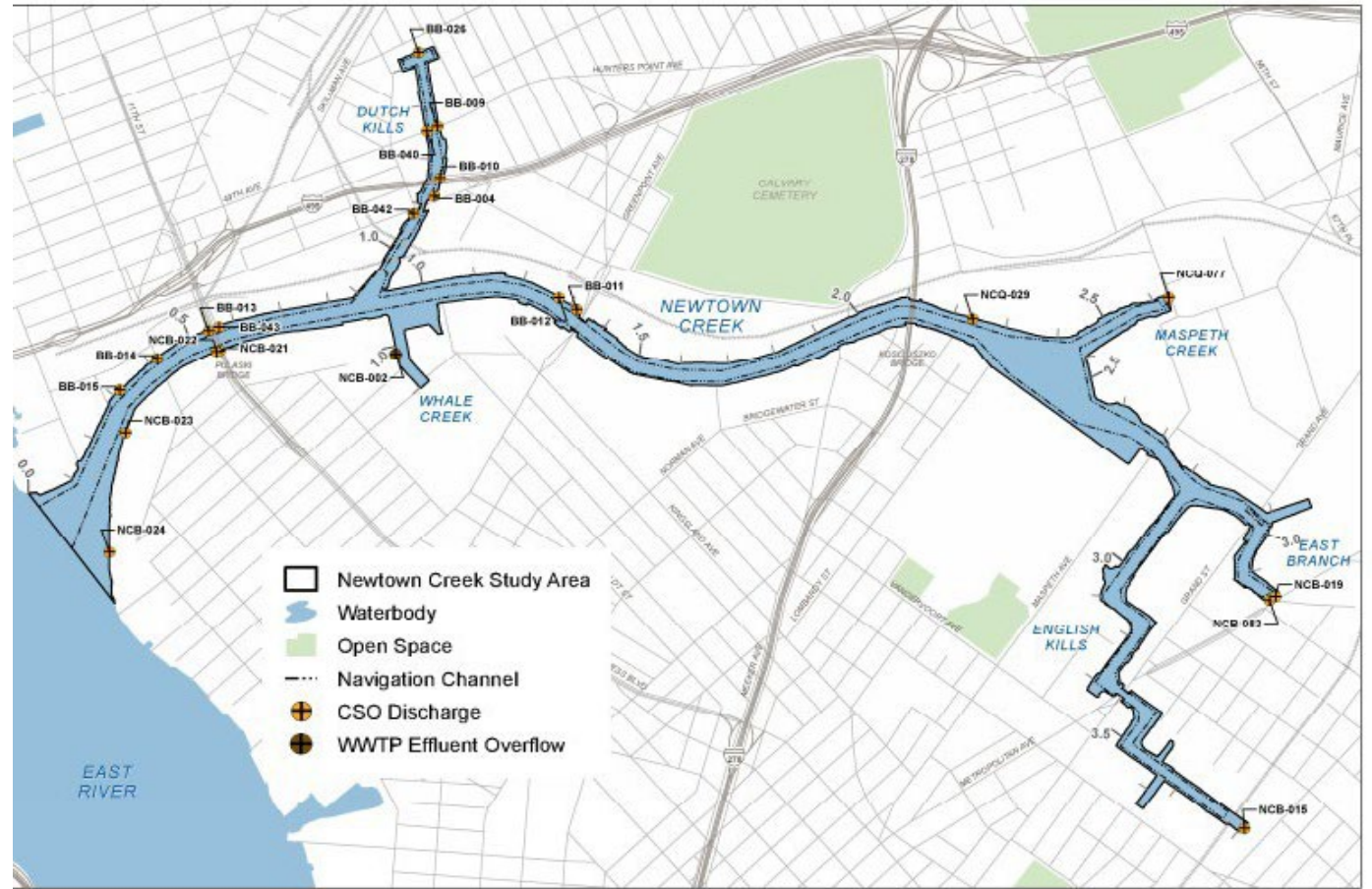
- LEGEND:**
- East Branch Early Action Area
 - Newtown Creek
 - Navigation Channel
 - Creek Mile
 - Dredge Footprint
 - Amended 36-inch Thick Cap, With Any Areas Requiring Dredging for Cap Placement Indicated by Hatching
 - Amended 45-inch Thick Cap, With Any Areas Requiring Dredging for Cap Placement Indicated by Hatching
 - Amended 53-inch Thick Cap, With Any Areas Requiring Dredging for Cap Placement Indicated by Hatching
 - Potential Deeper Dredging Areas
 - ISS and Potential Post-ISS Amended Cap, With Any Areas Requiring Dredging for ISS Swell Removal Indicated by Hatching
 - Evaluation Area for NAPL or PTW (if Either of These Are Found to be Present)
- Shoreline/Bulkhead Stabilization Technique**
- Slot Dredging
 - In Situ Stabilization and Solidification (ISS)
 - Bulkhead Installation
 - Bulkhead Replacement

- NOTES:**
1. Creek mile hatches are shown every hundredth mile and labeled every tenth mile. For the East Branch FFS, CM 0.0 begins at the mouth of East Branch.
 2. Aerial Imagery: New York State Department of Information Technology Services, 2022.
 3. ISS: In Situ Stabilization and Solidification
 4. Preliminary cap thicknesses shown in this figure are based on the capping evaluations presented in Appendix C. Additional analyses and refinements may be appropriate during the remedial design phase if an alternative that includes capping is selected.
 5. The location in the Western (leef slip) has been selected for the purposes of evaluating remedial options for addressing NAPL or PTW (if either of these are found to be present during the PDI) in the FFS. However, the exact location of where ISS could be applied to the selected remedy would be determined during the remedial design phase based on previous and future site investigations that identify locations where conditions exist that warrant ISS, as determined by USEPA.



Operable Unit 1 (OU1) Feasibility Study

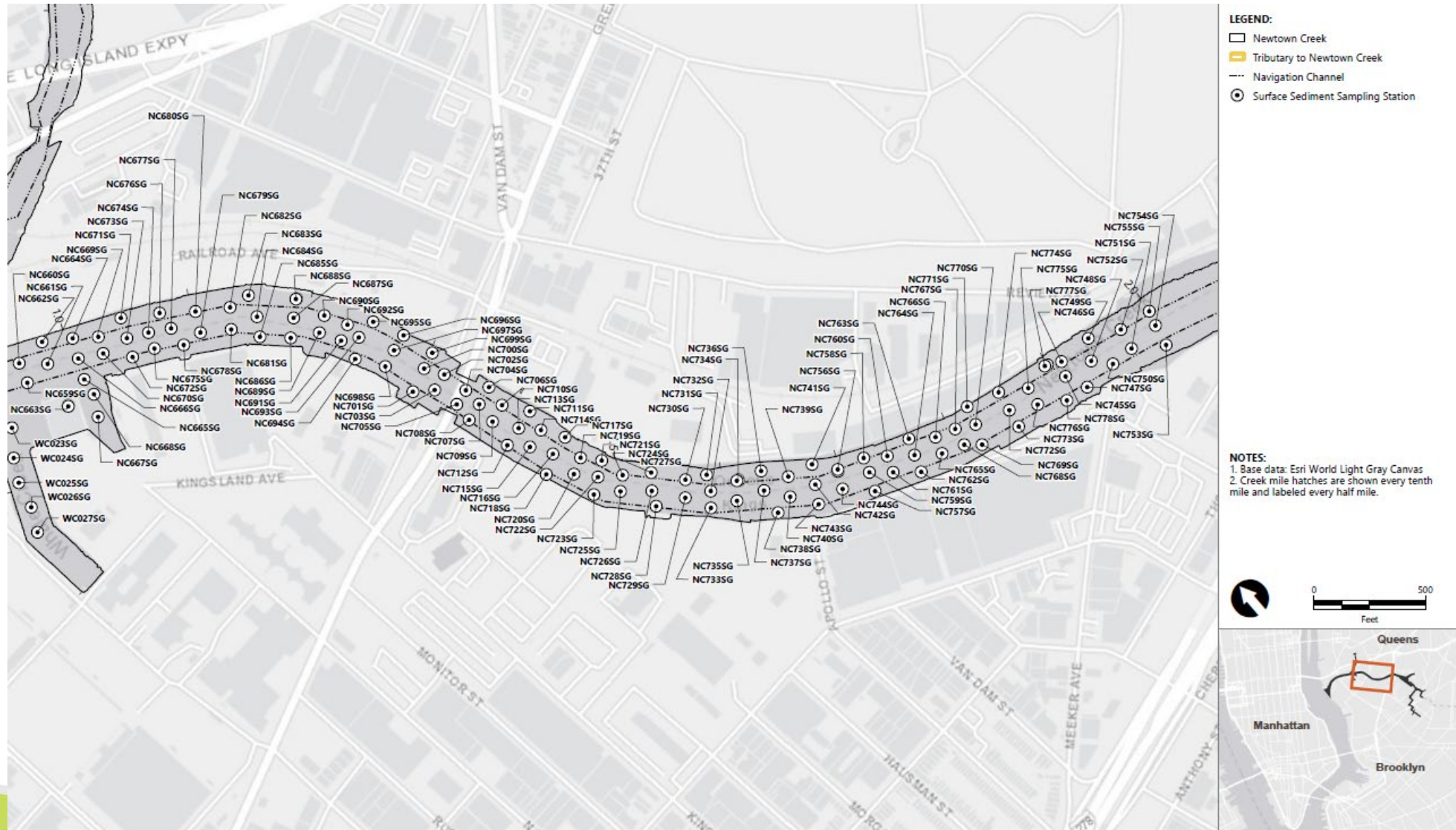
- Evaluates cleanup methods for the OU1 Study Area
- Alternatives Memorandum submitted to EPA in May 2024
 - Under review by EPA
- OU1 Feasibility Study
 - Under development
 - Initial draft expected to be submitted to EPA in Summer 2026



OU1 Feasibility Study Supplemental Data Collection

- Objectives:
 - Improve understanding of the physical and chemical processes
 - Address data gaps related to creek mile (CM) 0-2, the East River, and the Creek's bathymetry
 - Evaluate changes to the study area since RI sampling was conducted
 - Inform the OU1 Feasibility Study
- Program Activities
 - Study-area wide bathymetric survey (Summer 2022)
 - Surface sediment sampling in CM 0-2 (Summer 2023)
 - Surface water sampling at the mouth of the Creek (July 2023 – May 2024)
- Analytical data and results are currently under review by EPA

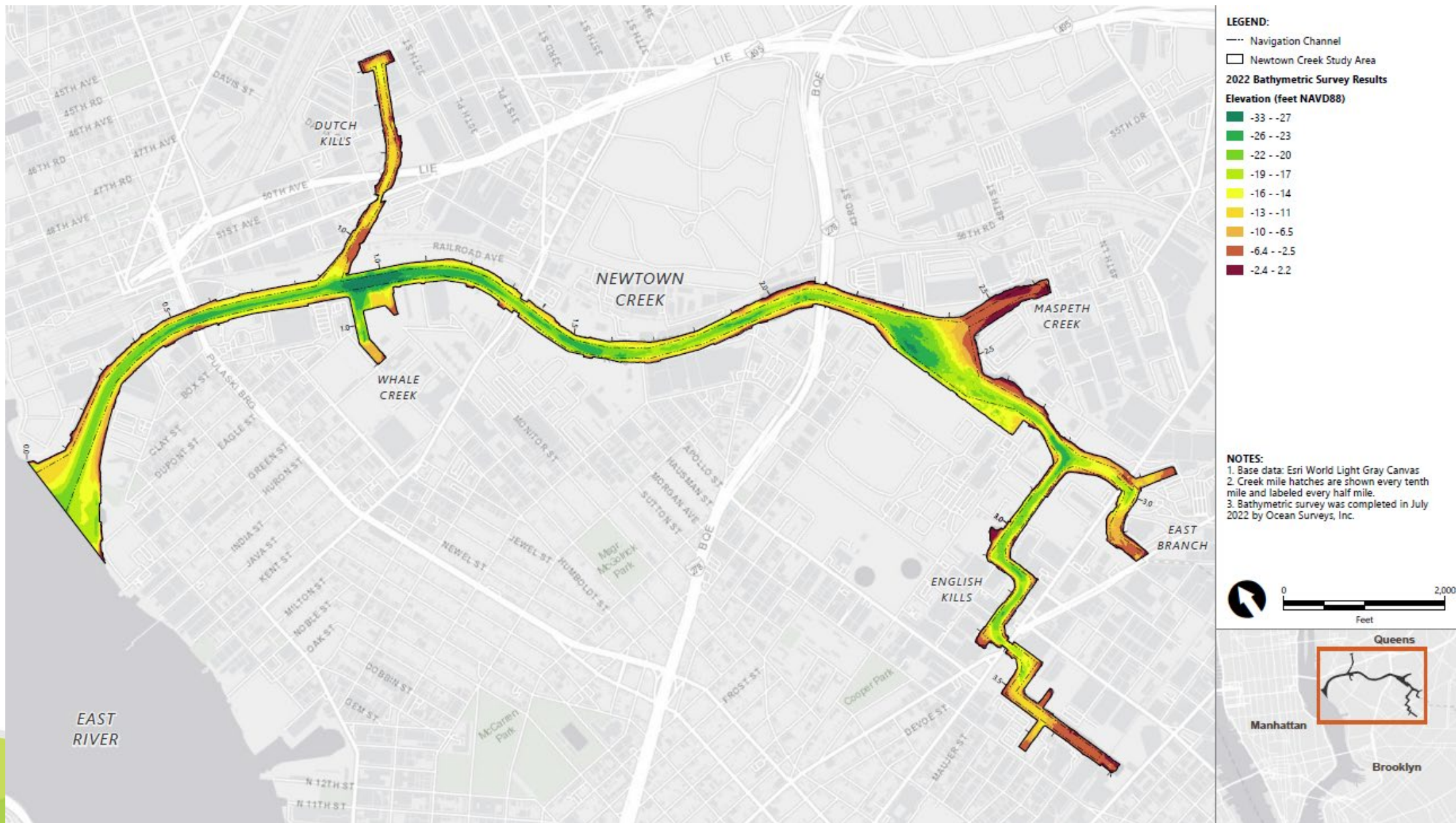
Surface Sediment Sampling Locations



East River Surface Water Sampling Locations



Bathymetry Survey (Updated July 2022)

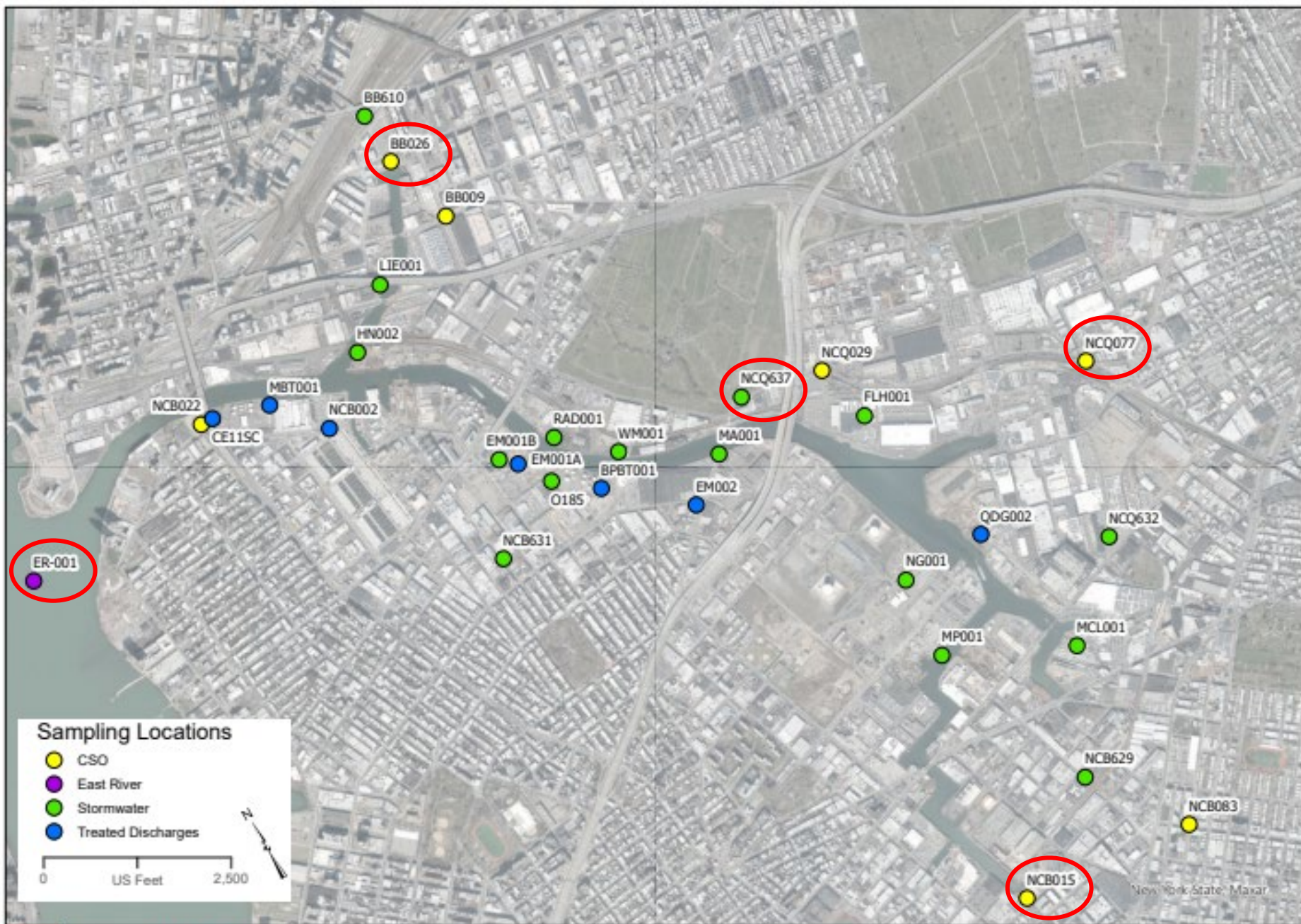


OU2 Post-ROD Monitoring

- Ensure that the assumptions made regarding the concentrations of contaminants of potential concern (COPCs) in ongoing sources evaluated during OU2 FFS are valid.
- Assess temporal trend of COPCs entering the Creek from four largest CSO outfalls.
- Estimate the discharge volumes from CSOs and stormwater to the Creek.
- Monitoring program targets the following locations sampled during the RI:
 - Combined Sewer Overflow Outfalls - 7
 - Stormwater locations Outfalls - 16
 - Treated Discharge Outfalls - 8
 - East River - 1

OU2 Post-ROD Monitoring

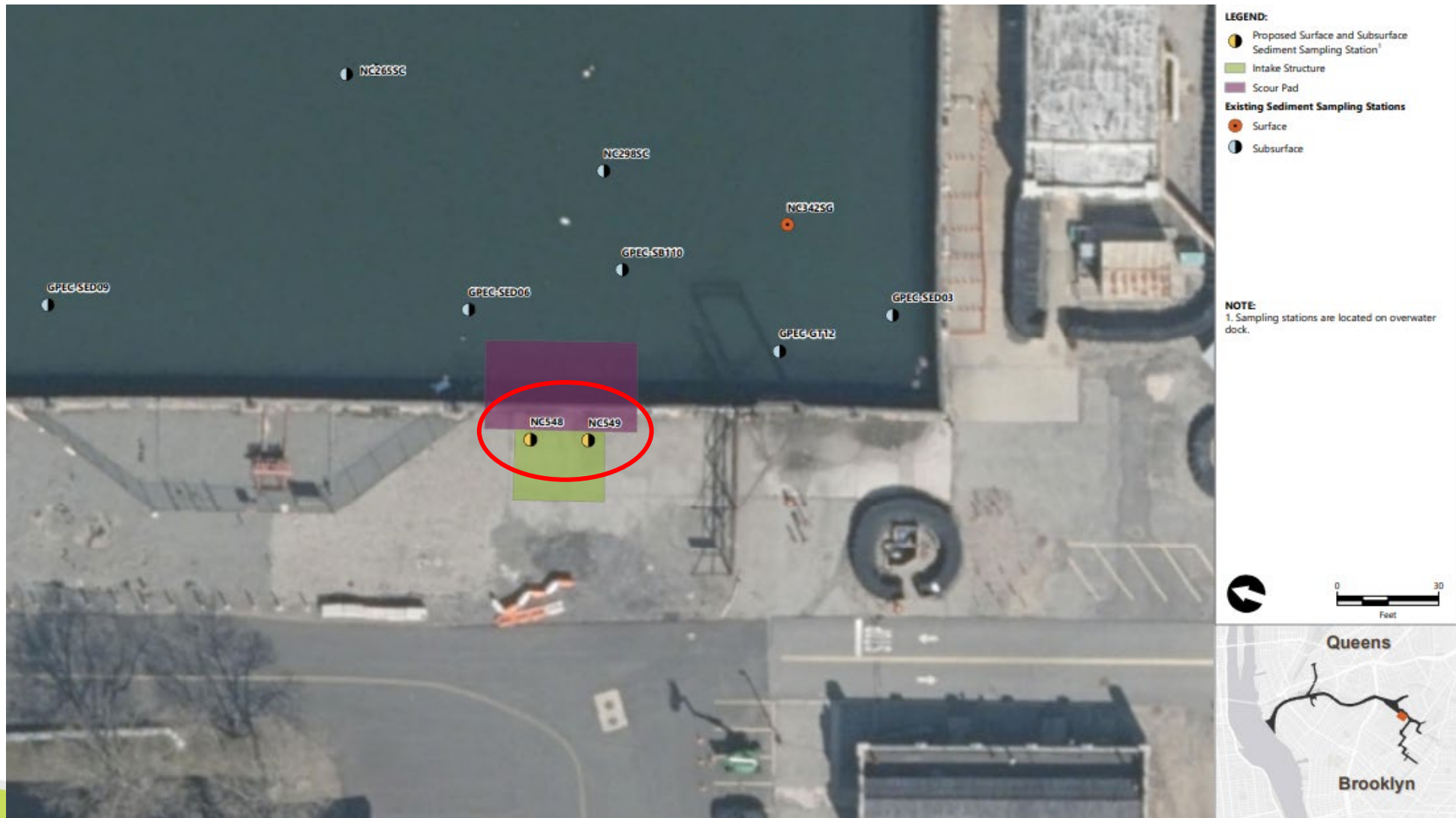
- To date NYC has mobilized on five occasions to sample CSOs, the East River, and MS4s, and six samples have been collected.
- Most recent Quarterly Monitoring Report is available on EPA's website: <https://www.epa.gov/superfund/newtown-creek> under Site Documents & Data, SPP Technical Reports and Studies
 - Dates of sampling events and description of sampling activities
 - Sampling results (if available)
 - Figures with sampling locations
 - Watershed-wide metrics
 - Deviations



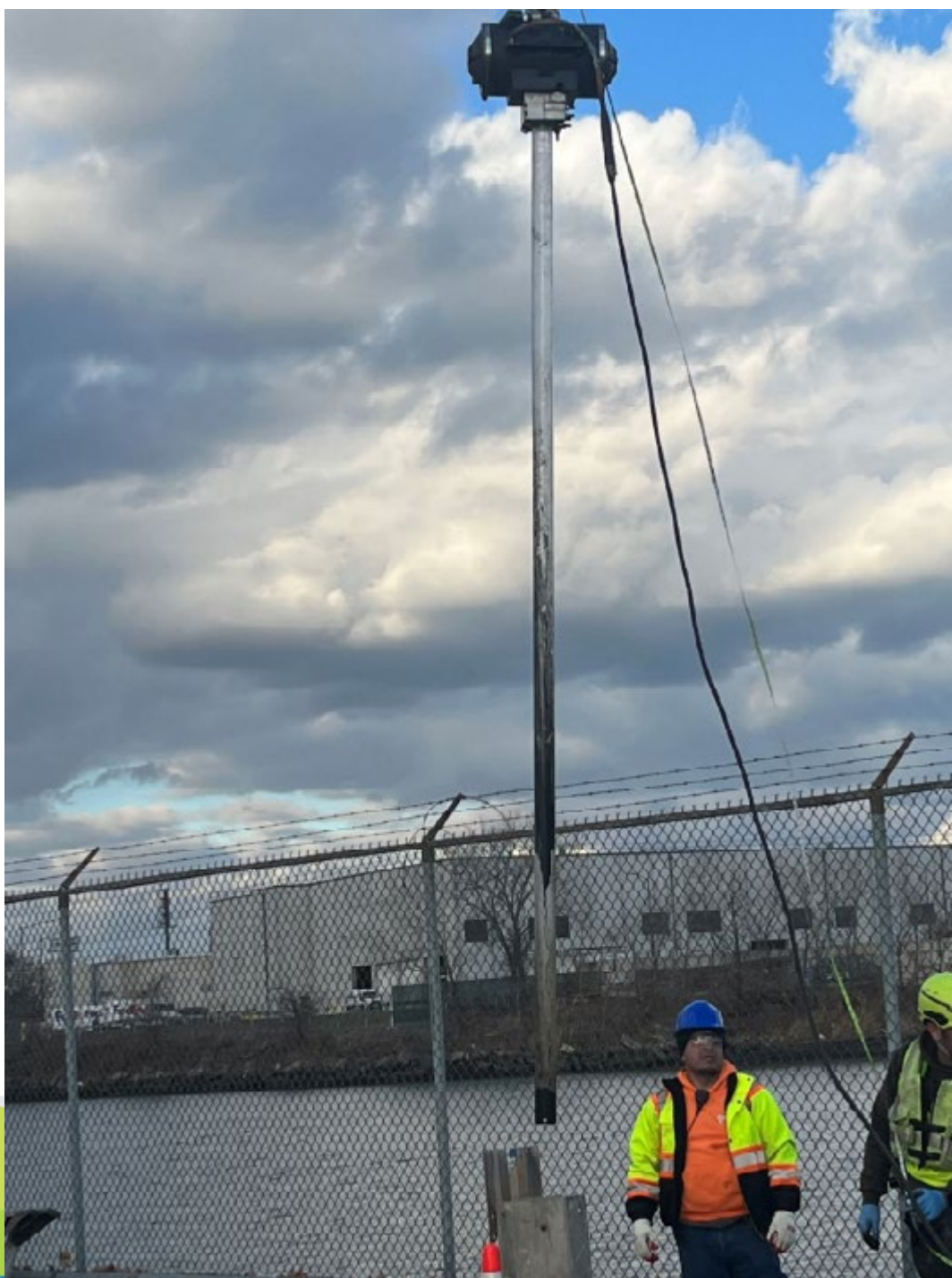
Sampling Locations for Point Sources and East River
 NEWTOWN CREEK

FIGURE 6

National Grid Sampling (Dec 2024)









www.epa.gov/superfund/newtown-creek

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