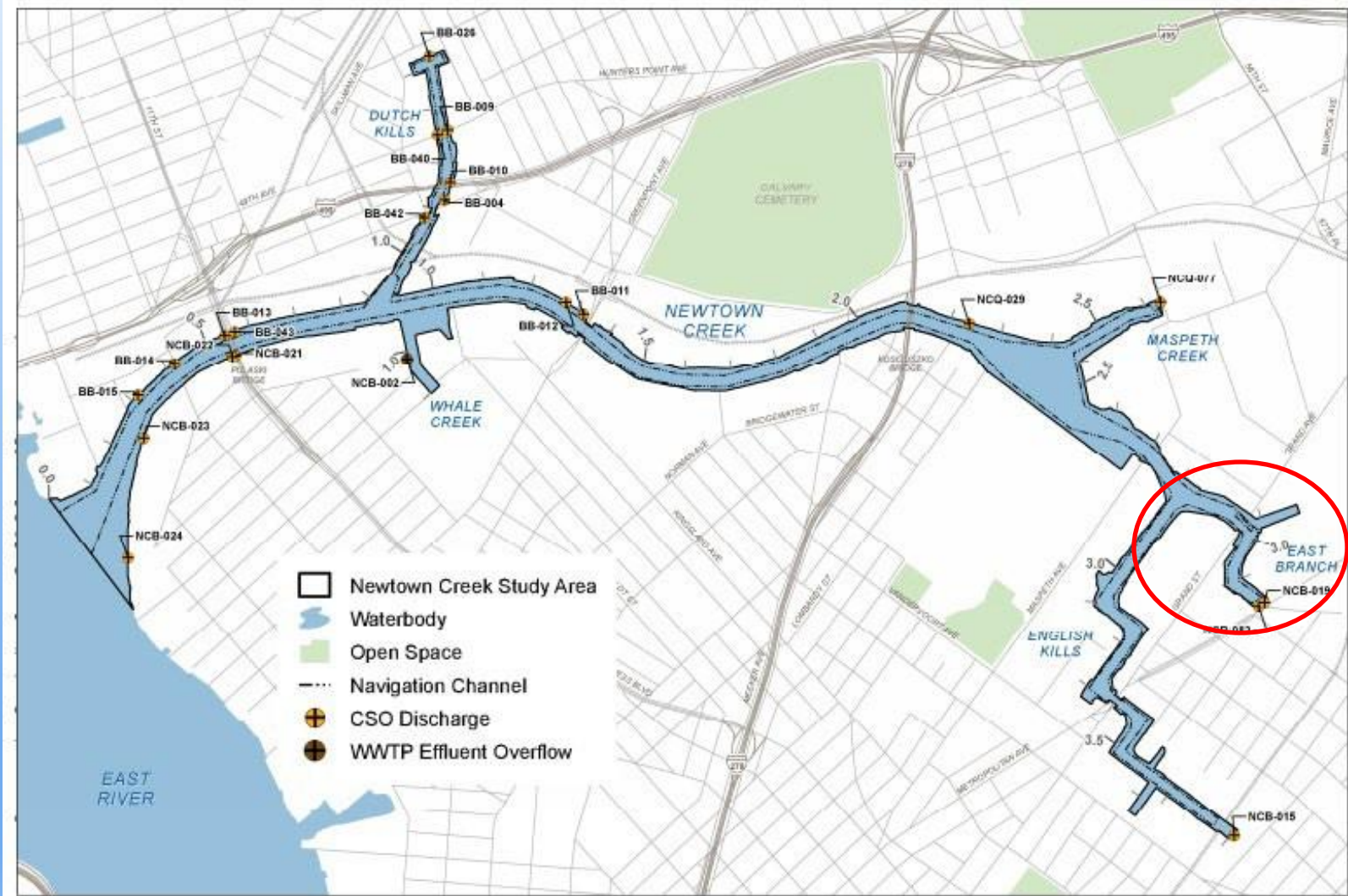


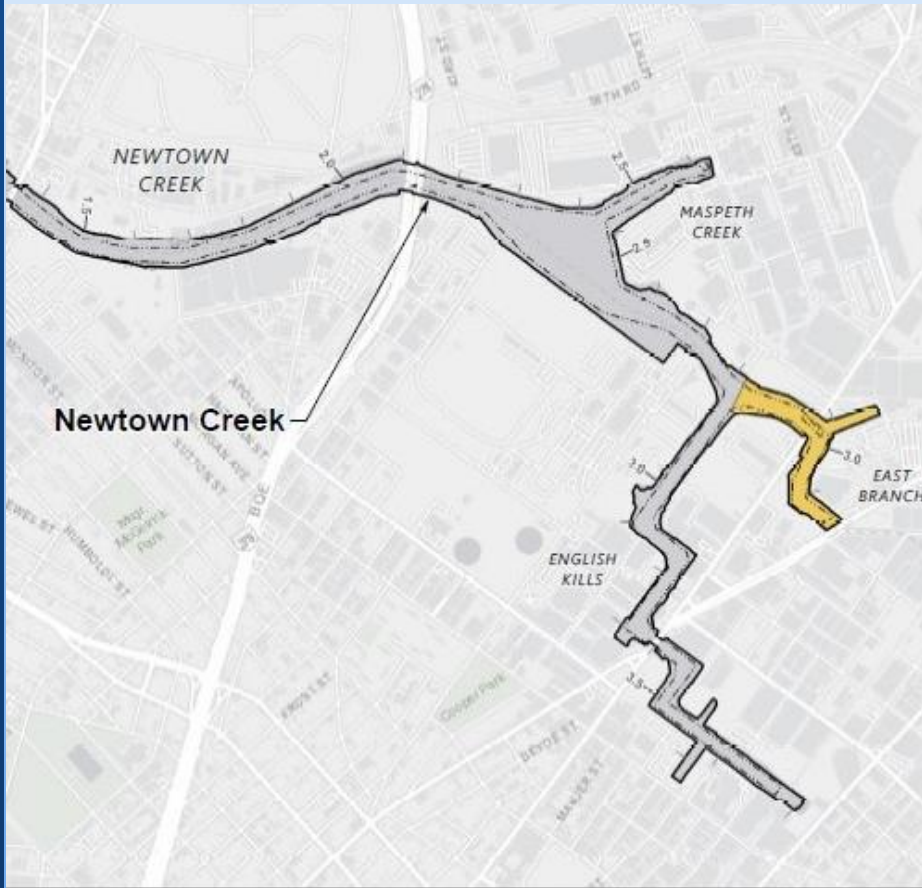


**East Branch Early Action  
Focused Feasibility Study Process Overview and  
Update  
Newtown Creek Superfund Site CAG Meeting  
April 17, 2024**

# Study Area



# East Branch Early Action Study Area



- Tributary of Newtown Creek
- Approximately 0.5 miles in length
- Surface area ~11 acres
- Depth 10.3-16.5 ft in channel and shallower at head of tributaries
- Extensive investigations completed as part of the Remedial Investigation/Feasibility Study Process
- Focused Feasibility Study (FFS) was developed to evaluate remedial alternatives for the East Branch

\*Additional detail on the rationale for conducting the East Branch Early Action can be found in a June 20, 2023 presentation to the CAG (available on the CAG website).

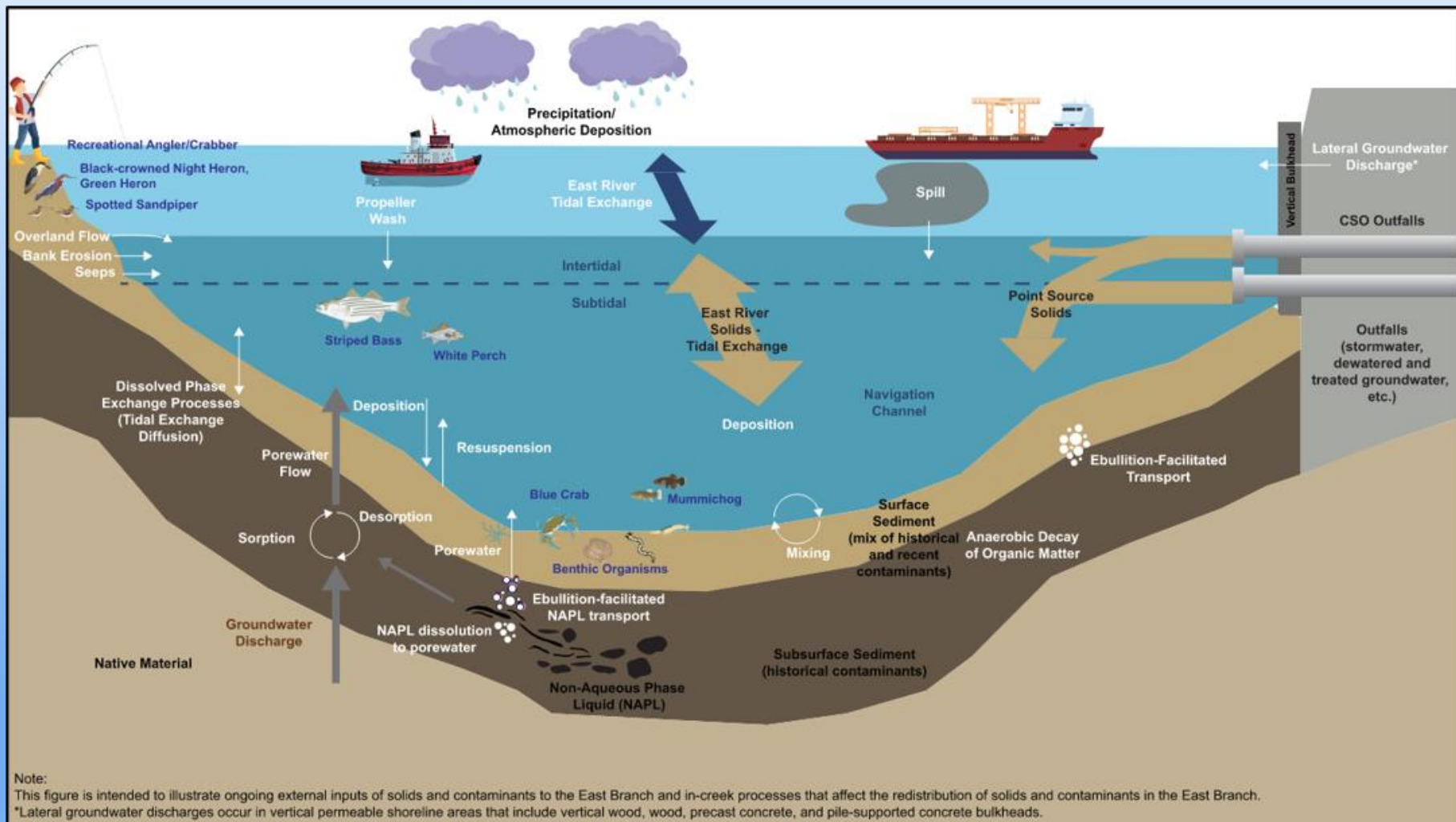
# Rationale for Conducting an Early Action in the East Branch

- Expediate the overall site response by implementing remedial action in one of the most upstream portions of the study area
  - East Branch constitutes approximately 10% of Newtown Creek
- Will result in immediate risk reduction and contaminant mass removal in this portion of the Creek
  - And to a lesser extent in the rest of the Creek
- Opportunity to gain direct experience conducting cleanup work in the creek
  - Will help inform future efforts
  - Logistics
- Opportunity to further refine the Study Area-wide Conceptual Site Model (CSM)
  - Robust post-implementation sampling would be conducted
  - If assumptions are not true, the data will tell us

# Why the East Branch? Some more reasons....

- The East Branch has complicating factors that will help inform future actions, including:
  - Non-aqueous phase liquid (NAPL)
  - Ebullition
  - High PCB concentrations in sediment
  - Aeration system
  - Bulkheads
  - Bridges
  - Combined sewer overflows (CSOs)
  - Navigation
  - Ongoing external sources
  - Restoration Opportunities

# East Branch Conceptual Site Model



Note:  
 This figure is intended to illustrate ongoing external inputs of solids and contaminants to the East Branch and in-branch processes that affect the redistribution of solids and contaminants in the East Branch.  
 \*Lateral groundwater discharges occur in vertical permeable shoreline areas that include vertical wood, wood, precast concrete, and pile-supported concrete bulkheads.

Figure is adapted from Figures 8-1 and 8-2 in the Remedial Investigation Report, RI/FS, Newtown Creek, March 2023 prepared by Anchor QEA.

East Branch Conceptual Site Model

# Completed Items East Branch Early Action Process

<b>Early presentations to CAG on Early Action</b>	<b>11/16/2022, 5/17/2023 and 6/20/23</b>
<b>CSTAG Meeting 3 (all key stakeholders participate)</b>	<b>7/11/2023 to 7/13/2023</b>
<b>Draft FFS Submitted by NCG</b>	<b>7/28/2023</b>
<b>Recommendations Received from CSTAG*</b>	<b>9/26/2023</b>
<b>EPA Region 2's Response to CSTAG Recommendations</b>	<b>11/3/2023</b>
<b>EPA Comments Submitted on the Draft FFS</b>	<b>11/15/2023</b>
<b>EPA Presentation to CAG on CSTAG recommendations and review of Superfund process</b>	<b>11/15/2023</b>
<b>EPA Presentation to CAG on draft FFS comment review process</b>	<b>1/17/2024</b>
<b>CSTAG Meeting 4 (EPA Only)</b>	<b>2/13/24 to 2/14/24</b>
<b>CSTAG Recommendations Received</b>	<b>By 3/27/24 (actual: 4/9/24)</b>
<b>→ NCG Submits Revised FFS</b>	<b>April 2024 (actual: 4/12/24)</b>

\*CSTAG is EPA's Contaminated Sediment Technical Advisory Group, which is comprised of members from all 10 EPA regions, EPA Headquarters and the U.S. Army Corps of Engineers.

## Tentative Schedule for East Branch Proposed Plan Release and Record of Decision

EPA Response to CSTAG Recommendations	By 5/8/24 (revised: by 5/21/24)
CSTAG Reply	By 5/22/24 (revised: by 6/4/24)
NCG Submits Draft Final FFS	June 2024
→ Release Proposed Plan	Early summer
Public Meeting	About 2 weeks after release of Proposed Plan
End of Public Comment Period (minimum 30 days)	Late summer
Record of Decision	Late 2024



# Overview of Focused Feasibility Study

- Basic Table of Contents
  - Overview of East Branch Conceptual Site Model
  - Basis for Evaluation
    - Contaminants of concern
    - Remedial action objectives
    - Preliminary remediation goals
  - Identification and Screening of Options/Technologies
  - Development of Remedial Alternatives
    - Description of alternatives
    - Common elements
  - Individual and Comparative Analysis of Alternatives
  - Several Appendices
    - Conceptual Site Model
    - Uplands Source Evaluation
    - Capping Evaluations
    - Greenhouse Gas Emissions Evaluation
    - Shoreline/Bulkhead Stability Evaluation
    - Cost Estimates

# Remedial Action Objectives

## Exposure-based RAOs

- Reduce potential current and future human exposure to COCs from ingestion of fish and crab by preventing biota exposure to sediments in the East Branch with COC concentrations above protective preliminary remediation goals (PRGs).
- Reduce ecological exposure to site COCs in sediment by reducing the concentrations of COCs in contaminated sediment in the East Branch to protective PRGs.

## Source Control RAO

- Reduce migration of COCs related to NAPL and its constituents, and other sources of COCs within the East Branch, to surface sediment and surface water to levels that are protective for human health and ecological exposure.

# Contaminants of Concern and Risk-Based Preliminary Remediation Goals

Contaminants of Concern	Risk-Based PRG	Most Sensitive Receptor and Exposure Pathway
TPCBs <sup>1</sup>	0.30 mg/kg	Humans via crab consumption
Dioxins/Furans TEQ <sup>1</sup>	18 ng/kg	Humans via crab consumption
Copper <sup>2</sup>	490 mg/kg	Mummichog via dietary intake
Lead <sup>1</sup>	340 mg/kg	Spotted sandpiper via dietary intake <sup>3</sup>
TPAH(34) <sup>2</sup>	100 mg/kg	Benthic macroinvertebrates via sediment toxicity
C19-C36 Aliphatic Hydrocarbons <sup>2</sup>	200 mg/kg	Benthic macroinvertebrates via sediment toxicity

**Notes:**

TPCBs – total polychlorinated biphenyls

TEQ – toxic equivalence quotient

mg/kg – milligrams per kilogram

ng/kg – nanograms per kilogram

1. Evaluated on SWAC basis
2. Evaluated on point-by-point basis (not to exceed)
3. Occurs in intertidal mud flats

# Alternatives Evaluated

Alternative	Alternative Summary
Alternative EB-A	No Action
Alternative EB-B	<b>Dredge to Allow Placement of Cap at or Below 0 Foot MLLW:</b> Dredge sediments down to a specified elevation to facilitate placement of an armored/amended cap entirely at (or below) 0 foot MLLW, which would decrease water depths.
Alternative EB-C	<b>Dredge to Allow Placement of Cap to Maintain Existing Water Depth:</b> Dredge sediment to a minimum depth to accommodate placement of an armored/amended cap to maintain the existing water depth.
Alternative EB-D	<b>Dredge to Allow Placement of Cap to Maintain Existing Water Depth with Localized Deeper Dredging:</b> Dredge sediment to a minimum depth to accommodate placement of an armored/amended cap to maintain the existing water depth. In select areas, sediment would be dredged deeper considering the depth to uncontaminated materials, COC concentrations in sediment, potential for upward NAPL migration from the deeper soft and/or native sediment.
Alternative EB-E	<b>Dredge All Within Navigation Channel, Cap Outside:</b> Dredge the federally authorized navigation channel to a depth necessary to accommodate a cap below the current authorized depth plus a buffer or to native material, whichever is shallower.
Alternative EB-F	<b>Dredge All:</b> Dredge all sediments to uncontaminated materials (e.g., uncontaminated native material) and backfill if necessary.

# Common Elements of Each Active Alternative

- Robust predesign investigation
- Dredging
- Capping
- In-situ stabilization, where needed to reduce migration, to treat NAPL
- Sealed bulkheads, where needed to reduce migration, as a temporary measure to address seeps while upland cleanup measures are evaluated and implemented
- Stabilization measures
- Dredged material management
- Institutional controls
- Evaluation monitoring
  - This is key!!

# Evaluation Monitoring Approach

- Set long-term goal for cleanup to risk-based cleanup standards
  - These will be met immediately following cleanup
- Determine Interim Evaluation Measures based on empirical data from surrounding upland inputs
- Develop a long-term monitoring program to:
  - Monitor the performance of the in-creek portion of remedy
  - Evaluate the progress towards meeting the Remedial Action Objectives in the long-term
- Take additional source control actions as needed and on an ongoing basis
  - Either through State or Federal enforcement authority

## More on the approach...

- This evaluation monitoring program will:
  - allow EPA to identify the specific ongoing inputs that may cause PRG exceedances before PRG exceedances actually occur
  - enable EPA to develop an appropriate course of action to ideally prevent PRG exceedances from ever occurring.
- If NAPL from ongoing sources, including upland seeps, is found to be impacting the protectiveness of the implemented remedy, it will need to be addressed through either State or Federal enforcement authorities (to be determined on a case-by-case basis).
- Sheens could potentially be indicative of site-related contamination at elevated concentrations that would impact the protectiveness of the implemented remedy.
  - Any sheen observed in the future would need to be further investigated, including through sampling and analysis.
  - Depending on the results, additional remedial efforts could be required

## Next Steps

- At the May meeting we will provide more details on:
  - The cleanup alternatives evaluated in the Focused Feasibility Study
  - The predesign investigation
  - The post-implementation evaluation monitoring plan
- This summer, we will release the Proposed Plan for public comment, along with the Focused Feasibility Study
- We will work with the CAG leadership to assure all technical review supports are in place prior to release of the Proposed Plan



**QUESTIONS?**