



**Community Advisory Group Meeting
Newtown Creek Superfund Site
Queens and Brooklyn
New York City
November 15, 2023**

CSTAG Recommendations and EPA Region 2 Responses

Proposed East Branch Early Action
CSTAG Meeting 3

Introduction

- EPA Region 2 met with EPA's Contaminated Sediments Technical Advisory Group (CSTAG) in July 2023 about a proposed Early Action for the East Branch of Newtown Creek
 - Meeting was for Milestone 3 of CSTAG's charter, which is to be held prior to finalization of the Feasibility Study
 - Members of the NCG, NYCDEP, NYSDEC, USACE, NOAA, FWS and the CAG all participated
- CSTAG provided its recommendations regarding the proposed early action on September 26, 2023
- EPA provided its responses to CSTAG's recommendations on November 3, 2023
 - Response included a revised version of EPA's Framework for the Operable Unit 1 Remedial Action Objective and Preliminary Remediation Goal Approach (referred to herein as the Framework)
 - Response was shared with all attendees of CSTAG meeting once CSTAG indicated it accepted the response.

Recommendation 1

Early Actions and Site Strategy

Summary of Recommendation

The Region, CSTAG, and site stakeholders have long advocated for early efforts to expedite cleanup and efficiently reduce risk. CSTAG agrees that EB is a good opportunity for early action and particularly to develop experience managing challenges in place throughout Newtown Creek. Getting to early and efficient cleanup in the EB will be difficult due to site characteristics, but also the administrative challenges inherent to balancing multiple stakeholder perspectives and developing multi-party agreements under Superfund. CSTAG is optimistic that EPA and stakeholders can align within this relatively small area of the larger site to achieve “early” action and provide an example of how to use early actions to expedite sitewide cleanup.

Summary of Region 2 Response

Region 2 appreciates CSTAG’s support in moving forward with the proposed early action. The Region is looking forward to working through the challenges presented by this early action, collaborating with stakeholders, and conducting and achieving a cleanup in this portion of Newtown Creek.

Recommendation 2

Shoreline NAPL Seeps

Summary of Recommendation

- CSTAG supports the Region's efforts to continue to evaluate ongoing sources and to consider whether EB upland properties have actionable shoreline NAPL seeps.
- recommends the Region work with NYSDEC to clarify how they intend to share responsibility for evaluating and remediating these potential sources of COCs.
- recommends the Region clarify the remedial design decision process for assessing whether additional source control or protections will be needed for in-water work.
- Include evaluation of shoreline NAPL seeps, and some amount of sealed bulkheads, in the FFS cost assumptions, knowing this may not be as critical for East Branch as other parts of the Study Area.

Summary of Region 2 Response

- Additional evaluation of shoreline seeps during the design of whatever remedy is selected will be clearly included in the Proposed Plan and Record of Decision (ROD) as a common element for all active alternatives considered.
- The Region will ask the NCG to include some amount of sealed bulkheads and in-situ stabilization in the FFS to address NAPL seeps.
- Significant impacts will ideally be discovered/addressed during the design process, and the Framework will allow for ongoing control, in coordination with the State.

Recommendation 3

Remedial Action Objectives Refinement

Summary of Recommendation

Adjust language in RAOs:

- For the human health exposure RAO, replace the phrase “the concentrations of COCs in contaminated sediment” with “the exposure of biota to sediment COCs.”
- For the source control RAO, make clearer the definition of “site-related” and the intent of the action

Summary of Region 2 Response

The RAO language was adjusted consistent with CSTAG recommendations

- Revised human health exposure RAO clarifies that human exposure to COCs can be reduced by reducing exposure of biota to COCs in sediment
- Revised source control RAO to focus on reducing the migration of COCs from NAPL and other sources of COCs to surface sediments.
- The text surrounding the RAOs will make clear that at this site, surface sediment, the bioavailable zone, and accessible sediment are all defined as the top 6 inches of sediment.

Recommendation 4

Interim Evaluation Measures

Summary of Recommendation

- CSTAG recommends ongoing consultations with stakeholders to distinguish between the proposed risk-based remediation goals and the interim evaluation measures.
- In particular, the use of the interim evaluation measures in determining where additional source control is warranted should be clarified.

Summary of Region 2 Response

- The Region will engage in additional discussions with stakeholders about this topic.
- Very broadly, the measures will be developed based on empirical data and through the use of the long-term equilibrium model. The model and its outputs will be refined over time using empirical data results. The IEMs will be used to determine what concentrations in the surface sediment of the Creek should look like based on known current loading to the system, which is expected to decrease over time.
- Not including NAPL seeps in the determination of the interim evaluation measures is a conservative approach that will help the Region identify any potentially significant ongoing sources of COCs that may require additional control.
- The Framework provides a means for us to achieve a protective remedy based on risk-based goals rather than based on background conditions influenced by ongoing sources.

Recommendation 5

Alternatives

Summary of Recommendation

CSTAG recommends the Region develop the FFS and ROD language to maximize flexibility in the face of implementation challenges and new findings such as the need for variation in cap design, bulkhead replacement or other source control/remedy protection measures, additional dredging, in-situ treatment, or in-situ stabilization.

Summary of Region 2 Response

The Region fully agrees with this comment and intends to develop ROD language that offers both maximum flexibility to design the remedy appropriately based on the ongoing groundwater sampling effort and the results of the predesign investigation activities, while also providing clear metrics and measures that must be achieved so that the goals of the remedy are achieved. Whatever alternative is ultimately selected will need to allow for the incorporation of dredging, capping, isolation and treatment components.

Recommendation 6

Monitoring

Summary of Recommendation

- CSTAG recommends that specifics on the monitoring program be provided in the FFS and ROD, including the monitoring objectives, parameters and design, to the extent possible.
- CSTAG also recommends that pore water sampling be incorporated into the monitoring program.

Summary of Region 2 Response

The Region agrees with all aspects of this recommendation and will assure that the FFS includes a discussion of the monitoring objectives, the parameters to be monitored, and known data gaps, and will make clear that all of this may be refined based on the findings of the pre-design investigation. Further, porewater sampling will be included as part of the monitoring program.

Recommendation 7

Adaptive Site Management as a Site Strategy

Summary of Recommendation

If the Region intends to use Adaptive Site Management as a strategy for the site, it should develop an Adaptive Site Management plan to formalize the process.

Summary of Region 2 Response

Region 2 acknowledges CSTAG's recommendation and is working to develop an ASM cleanup strategy consistent with the recommendations provided. The Region will share a draft version of the strategy with CSTAG once it is more fully formed. In addition, note that the Framework that was attached to the responses will be an essential component of the overall strategy.

Recommendation 8

Community Engagement

Summary of Recommendation

CSTAG recommends that the Region work with project stakeholders to clarify points of confusion which are distracting from the primary goals of the early action. The Region should clearly explain the bounds of the early action as it pertains to addressing sediment versus potential ongoing sources of contaminants, as well as what will and will not be accomplished by the early action. Doing so can create a shared vision of what successful implementation will look like. For example, if some sediment recontamination is expected, it is important to set expectations so that the project is not wrongly perceived as a failure, and to reinforce that monitoring and evaluation will be ongoing to ensure that EB and sitewide RAOs are achieved.

Summary of Region 2 Response

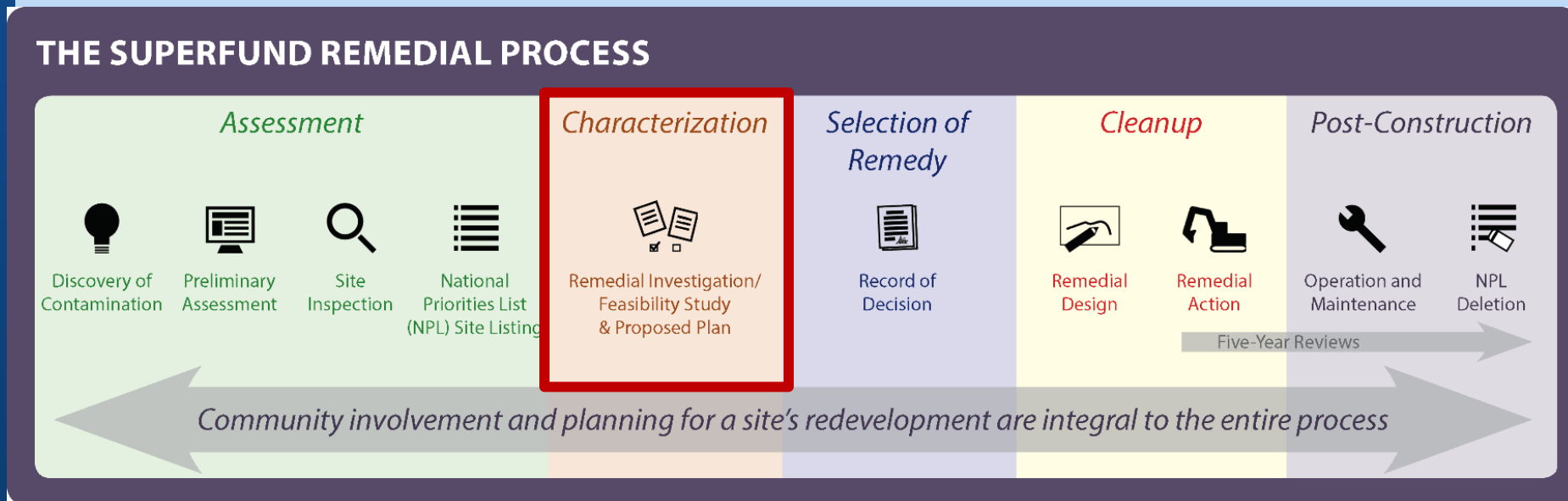
The Region appreciates CSTAG's recommendations and will be sure to focus more attention on the bounds of the EA and discussing with the community what it will and will not achieve. As the early action progresses, the Region will communicate the expectations of the early action, including methods for identifying potential ongoing sources of contamination and addressing recontamination from external sources, and how it will fit in with the larger remediation of the rest of OU1.

➤ **Successful implementation of the EB EA is a primary goal of all stakeholders.**

Review of the Superfund Process

In general, and specifically as it applies to
Newtown Creek.

Superfund Remedial Process



You may have seen this graphic before....

Some key process takeaways to focus on now....

The remedial investigation develops enough information to determine if an action is needed (i.e., if there is unacceptable risk)

The feasibility study evaluates various ways to address the unacceptable risks

The Record of Decision selects the remedial alternative to be used after evaluation of public comment

A very robust pre-design investigation will be conducted to determine how to design and implement a protective remedy

Post-implementation monitoring both in the creek and the uplands will be conducted on an ongoing basis to assure the remedy remains protective

Source control measures can be taken at any point in this process

Some Definitions....

- Remedial Action Objectives, or RAOs
 - Very simply, they describe the objectives of the cleanup
 - What do we want to achieve?
- Preliminary Remediation Goals
 - Concentrations of the contaminants of concern at a site that will allow us to achieve the RAOs
 - They become “remediation goals” once a Record of Decision is signed (i.e., once a remedy is selected)
- Role of Background in Superfund
 - In general, sites are not cleaned up to below background concentrations
 - Often used to assess what contamination levels would be at a site “were it not for” the Superfund site
 - Several guidance documents available on this topic

Preliminary Remedial Action Objectives

(updated from May 2023 presentation to CAG, based on feedback from CSTAG)

- Exposure-based RAOs
 - Reduce potential current and future human exposure to contaminants of concern (COCs) from ingestion of fish and crab by preventing biota exposure to sediments in the Study Area with COC concentrations above **protective** levels.
 - Reduce ecological exposure to site contaminants of concern in sediment to **protective** preliminary remediation goals.

- Source-Control RAOs
 - Reduce migration of COCs related to non-aqueous phase liquid (NAPL) and its constituents, and other sources of COCs within the Study Area, to surface sediment and surface water to levels that are **protective** for human health and the environment.

- Note:
 - There are many ongoing sources of contamination that may impact the **protectiveness** of the remedy.

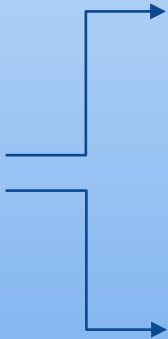
Ongoing Sources of Contamination at Newtown Creek

- There are many direct sources of hazardous substances, pollutants or contaminants to the Creek
- Internal sources include (but are not necessarily limited to)
 - Contaminated sediment resuspension
 - Ebullition
 - NAPL migration, dissolution, etc.
 - Vertical groundwater flow
- External sources include (but are not necessarily limited to)
 - Permitted and non-permitted discharges
 - Lateral Groundwater – including discharge/seeps from upland properties
 - CSOs and MS4s
 - Bank erosion
 - Direct overland flow
 - East river
 - Atmospheric deposition

The Dilemma

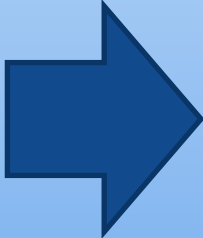
Could wait for all significant sources to be addressed, but that will take years...no one wants that!

Ongoing Sources



Protective Remedy

Achievable Remedy



Adaptive Management Framework

Could call ongoing sources background, but do not want Creek to only be as clean as what is entering it...that does not make sense either!

Adaptive Management

- Adaptive Management Framework
 - Adaptive management is a formalized process to manage risks from contaminated sediment sites. Sediment sites are typically much more complex, with higher levels of uncertainty about the effectiveness of different cleanups.
 - A site-specific adaptive management plan is developed to guide iterations of remediation, monitoring, and progress evaluations.
 - The plan establishes the goals of the project, sets expectations, uses monitoring data to evaluate progress towards those expectations, and adapts the remedy as necessary based on those evaluations.

General Outline of Plan

Set long-term cleanup goals equal to long-term **risk-based** human health and ecological endpoints

Determine evaluation measures using empirical data

Develop a robust long-term monitoring program that covers both the Creek itself and the ongoing inputs

- Expectation: contamination from external ongoing sources will decrease over time
- Decrease could be due to upland cleanup actions, additional regulatory control and/or improved best management practices


If concentrations do not continue trending towards long-term, risk-based goals, consider additional source control measures

- Both internal and external sources of contamination would be evaluated
- Appropriate entity to control the source would be decided on a situation-specific basis


Reassess evaluation measures, continue monitoring and address concerns as needed

The process, described another way....

- Gather data and determine risks
- Select remedy to address risks based on existing information
- Conduct robust pre-design investigation
- Implement cleanup
- Conduct post implementation sampling



**Address
significant
external
sources to
the Creek on
an ongoing
basis**



So how does this relate to recent information provided by other stakeholders?

- EPA acknowledges the input and concerns of all stakeholders for the Site
 - The validity of the Newtown Creek Group's evaluation will be determined during the pre-design investigation and post-implementation monitoring
 - EPA thinks risk-based remediation goals can be achieved in the long term
 - EPA has been and continues to coordinate closely with NYSDEC
- The region is working to develop a protective Superfund remedy for the Creek in concert with our state and other Federal partners
- It takes a village! Superfund cannot solve this problem alone.
 - The long-term goals will not be achieved overnight, but they are achievable.

Hypothetical Example

- Suppose a section of the Creek is dredged and capped
 - the surface of the sediment will be clean immediately following cleanup
- Surface sediment concentrations will be impacted over time by the ongoing sources, eventually reaching new equilibrium concentrations
 - Initial evaluation measures will be developed considering the anticipated equilibrium concentrations
 - Surface sediment concentrations at any particular location should start to trend down over time after equilibrium is reached
 - If concentrations at any particular location do not follow the expected pattern, then additional source control may be needed in that area
 - Both internal and external sources of contamination will be evaluated
 - Federal or State enforcement authorities would be used to address any issues
- Continue monitoring and update evaluation measures as needed

Questions

Thank You!

- ◆ For further information, please contact:
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- ◆ Or visit EPA's Site Profile Page for Newtown Creek at

www.epa.gov/superfund/newtown-creek

Study Area

