EPA Responses to Comments and Questions on EPA's Phase 2 Work Plan
Newtown Creek CAG Steering Committee

EPA responses to The Newtown Creek Community Advisory Group Steering Committee comments and questions, dated December 2, 2014, on EPA's Phase 2 Work Plan for the Newtown Creek Superfund site are provided below.

Vegetation

It may be the case that Newtown Creek's long history of high concentrations of hazardous substances has already limited opportunities for successful plant life at Newtown Creek, but this shouldn't mean that the Phase II workplan not provide for sampling vegetation – an important element of both human health and ecosystem risk. From the phytoplankton, algae, and microbial mats found in the Creek that form the basis of the food web (and the launching point for bioaccumulation problems) to the fruit trees found intermittently in the watershed and along the Creek banks, the vegetation of Newtown Creek must be included in Phase II sampling. Unfortunately, the workplan presentation made by the EPA indicated that evidence of exposure to CERCLA substances will be gathered solely on the basis of accumulation in animals, not plants. As such we respectfully offer the following questions:

1. In the presentation to the CAG of the Phase II program, EPA Representatives suggested that almost none of the Creek has vegetation[1]. Has there been an actual study examining proliferation (or lack thereof) of vegetation in or along the Creek? ([1] To paraphrase, the EPA noted that 99% of the Creek is bulkheaded, and that they were not aware of any plants or that if there were plants on the system, there is not any likely interaction with humans. In the ensuing conversation, and based on later input from the community, there are not only fruit trees along the Creek, but there are extant patches of natural shoreline – most of Maspeth Creek, some stretches of the Queens shoreline upstream of Maspeth, and a few other spots – any and all of which would be good areas for EPA to survey.)

   If information is necessary, then it will be provided in addendum to the Work Plan to collect Response: The shoreline surveys conducted in November 2011 and June 2012 reported in the Phase 1 Remedial Investigation Interim Data Report (Anchor QEA 2012) and Phase 1 Remedial Investigation Field Program Data Summary Report – Submittal No. 1 and Submittal No. 2 (Anchor QEA 2013) reveal that only one percent of shoreline comprises natural materials. The surveys also report that the shoreline vegetation ranges from dense canopies of trees and shrubs in a few locations to sparsely vegetated or bare ground at most locations. Thus, vegetation is limited in the uplands immediately adjacent to Newtown Creek.

   Despite the limited vegetation noted in the immediate uplands, risk to plants is considered and will be evaluated in the ecological risk assessment as one of the assessment endpoints in the Phase 2 Work Plan. The evaluation is performed by comparing chemical concentrations in surface water to surface water toxicity-based values derived from laboratory testing with plants (including aquatic plants and algae) exposed to chemical concentrations that have shown growth or reproductive effects from exposure to specific chemicals. If risk to aquatic plants is indicated, further investigation will be considered. Please keep in mind that accumulation of potentially hazardous chemicals is much more likely to occur in animals than in plants.

   In addition, if further into the investigation defined in the Work Plan it is determined that additional information is necessary, then it will be provided in an addendum to the Work Plan to collect additional data.

2. Why has there been little (or no) sampling of vegetation contamination to date?

   Response: As stated above, vegetation is limited in the immediate upland areas. In addition, terrestrial plants were not sampled for several reasons, including the fact that most chemicals (other than some metals) tend to accumulate to a higher degree in animals than in plants. Further, terrestrial plants are more distant from the potentially affected areas of interest of the remedial investigation, primarily the aquatic and riparian zones.

3. Does the current level of bulkheading (and thereby lack of soft, vegetated shoreline) limit the EPA's review of potential remedies in a way that would obviate the need to study vegetation in Phase II?

   Response: No, as indicated in EPA's response to Comment No. 1, risk to plants is one of the concerns and is being evaluated in the baseline ecological risk assessment. The current level of bulkheading does not limit the EPA's review of potential remedies.

4. If the EPA does consent to including vegetation in Phase II, will it include studies of broad arrays of vegetation types such as seaweed, seagrasses, intertidal grasses, weeds, and other flora, and shoreline trees (especially fruit trees and other edible flora)? If not, why not?

   Response: As indicated in the response to Comment No. 1, risk to plants is included in Phase 2 Baseline Ecological Risk Assessment (BERA). Please note that accumulation of potentially hazardous chemicals is much more likely to occur in animals than in plants (especially woody plants). Moreover, if animals or people consume edible fruits or flora along the Creek, the accumulation of contaminants in edible portions of plants would contribute negligible adverse effects. Further, omnivorous mammal receptors were selected as a receptor group in the BERA for evaluating food web effects of contaminants in diet. Protection of omnivorous mammals via dietary pathways, is also expected to provide protection for less sensitive receptors including plants.

Fish and Crab Sampling

In the Phase II workplan presentation, the EPA did not elaborate on the sampling and surveying plans for testing fish and crab contamination in the Creek. CAG members are aware that members of the public regularly fish and crab in the Creek, and given the known risks of eating this catch, a clear understanding of the baseline contamination levels compared to the greater New York Harbor baselines is vital. As such, we have the following questions:

5. Was the suite of organisms chosen for sampling in the currently-proposed Phase II plan chosen for a particular ecological reason? The ecological interactions within the Creek are complex – the EPA should be sampling as widely as possible, so as to capture all elements of this complexity.

   Response: Selected aquatic receptors were chosen to represent key trophic levels and ecological niches. The complexity of any ecosystem precludes sampling of all or most components of ecosystems. Per regulatory guidance, careful and focused selection of a subset of receptors representative of other, non-sampled receptors is critical to performing ecological risk assessments. The receptors selected for the BERA are considered suitable for evaluating important contaminant exposure pathways. Please refer to Appendix S - Baseline Ecological Risk Assessment Problem Formulation of the Phase 2 Work Plan which details selection of ecological receptors for the Newtown Creek Remediation Investigation (RI)/Feasibility Study (FS).

6. Has the EPA considered requiring a larger sample size and broader sample locations? This is particularly important for migratory fish – the EPA has no ability to say whether a striped bass caught in the Creek just arrived or has been returning there for years. As such, having more data points, from more basins (e.g., the Hudson River, the NY Bight, Raritan and Sandy Hook Bays, Hutchinson River) would allow for a more robust analysis, and a clearer understanding of the risk.

   Response: The Study Area for the Newtown Creek RI/FS described in the Administrative Order on Consent (AOC) encompasses the Newtown Creek and five tributaries. Although the RI/FS being conducted is limited to the body of water in Newtown Creek and the five tributaries, for this RI/FS, areas such as Jamaica Bay, East River, and Westchester Creek are also included to serve as reference areas for comparison to the Study Area. Furthermore, the EPA Newtown Creek Team has worked and coordinated with teams working on other Superfund sites in the region to share data and have a consistent approach for developing risk management for regional solutions.

7. Will the EPA be disclosing diversity and abundance data in real-time, or, at least, able to present such information to the CAG and the community before Phase II is completed? Public input would be a way to ensure that the EPA's adaptive management goals are met; the agency could solicit QA/QC feedback you get on whether sampled species are representative of the known Creek biota.

   Response: Public inputs are important to EPA. EPA has worked and will continue to work with CAG in sharing data and considering CAG input as the RI continues. EPA will provide data to CAG and the community after the data are reviewed to ensure the data quality.

8. There have been many species of birds that have returned to the Creek in recent years. These species are a significant part of the Creek's ecological health, improving baseline, and ultimate remediation. For Phase II, how will birds be sampled, and why?

   ***Response*: Risk to avian receptors in the Phase 2 Work Plan is evaluated qualitatively and quantitatively. Avian surveys in the Study Area and reference areas have been conducted to determine whether the abundance and estimated diversity of the avian community in the Study Area is comparable to that of reference areas and regional locations. Risk to avian receptors is also evaluated through food web modeling to evaluate the dietary exposure to birds using the Study Area. If results of surveys show the abundance and diversity in the Study Area is much lower than that in the reference areas, and results of the food web model indicate potential risk to birds, then protection of the avian community will be incorporated into the remedy for the site.**

***S*hellfish**

During the most recent CAG meeting discussion of the Phase II workplan, much of the conversation on shellfish focused on the testing program that is already underway with caged mussels. In this system, however, ecosystem and human health risk analyses must address concerns about existing, in situ mussels, as well as oysters and clams. Taken together, these three types of shellfish could provide significant ecological restoration benefits, habitat for fish and crab, and flood and storm surge mitigation for the Creek. Clearly, shellfish propagation should be an element of the remedy, and, therefore, must be thoroughly analyzed through the Phase II studies. As such, we have the following questions:

9. Why are there no oysters studied in Phase II? The EPA presentation seemed to show that the workplan development stage simply looked to the Passaic River's workplan for ready-to-implement testing protocols instead of developing Newtown Creek-specific plans. Moreover, there are several datasets of oyster restoration efforts around the City (e.g., the Billion Oyster Project by the Harbor

School, NY/NJ Baykeeper's oyster restoration work in the Bronx, and oyster restoration initiatives in Jamaica Bay); it is truly a city-wide effort, the data from which could clearly inform the agency's risk assessments and remedial design, but only after Phase II oyster results have been gathered to establish a baseline.

Response: Please refer to response to Comment No. 5, above. The Phase I Work Plan for Newtown Creek included a number of specific field surveys including wildlife, fish, and benthic macroinvertebrate surveys to understand the ecological community of Newtown Creek and its tributaries. Mussels were selected as representative bivalves, and are considered appropriate representatives for all bivalves, including oysters and clams (see response to Comment No. 10 below). Mussels have also been selected for caged bivalve studies at other Superfund sites in the region. This supports a consistent approach and dataset for evaluating the data and making risk management decisions.

10. Please explain the scientific basis behind the contention made at the CAG public meeting that mussel contamination research in the Creek will be "representative of all bivalves." Oysters and clams living along the benthos will likely be exposed to significantly different levels (and types) of contamination than mussels in surface cages, along bulkheads, or on derelict boat hulls.

    Response: Although the life history of mussels, clams, and oysters differ to some degree, the primary purpose of selecting a single representative bivalve (mussel) is to evaluate exposure-response associated with controlled exposures to site-related contaminants. Determining contaminant sensitivity to all or even a wide range of resident organisms is neither feasible nor cost effective; hence the need to select representative receptors. An underlying assumption of ecotoxicology is that closely related taxonomic group will have relatively similar sensitivities to contaminants, and this approach forms the basis of all water quality and other similar toxicity-based environmental criteria.

11. Why are caged mussel contamination tests not being compared to the contamination levels of existing mussels which have been living in the Creek their entire lives? As the long-term toxicity of mussels in the Creek is of primary concern, taking samples of mussels that have been in the Creek for the long term should be the primary sampling strategy.

    Response: Mussels which have been living in the Creek were not collected for the study because mussels in the Creek are sparsely distributed in the Creek, sufficient mass from mussels for tissue analysis could not be obtained for the test.

    The comment implies that accumulation of contaminants in bivalve tissues is the key issue, yet exposure-response to contaminants is also critical. Bivalve responses to exposure (e.g., responses related to growth and/or survival) are important outcomes that cannot be directly or reliably linked to tissue concentrations of contaminants. Finally, many laboratory studies have determined that tissue concentrations of contaminants generally reach a steady state after about 30 days exposure. Longer term exposures (e.g., greater than 30 days) to most contaminants are unlikely to result in substantially higher concentrations of contaminants in tissues than levels observed in caged mussels. As such, caged mussels adequately represent exposures experienced by resident bivalves.

Upland Testing, Public Access Areas & New Development

Upland properties (existing and proposed), site runoff, groundwater flow, contamination, and infiltration can all significantly impact the human and ecological risks posed by the Creek and the remedy. From problems along the Creek's edge (where, in one part of the Creek's edge in Queens, a bulkhead installation resulted in a new oil seep), to problems upland from the water's edge (i.e., properties with legacy pollution still migrating through groundwater), the land surrounding Newtown Creek must be studied, cataloged, and modeled accurately. The EPA mentioned at the October CAG meeting that groundwater monitoring wells will be placed at seven locations around the Creek, and that the soil from the well bore will be analyzed. Beyond these seven soil samples (and groundwater monitoring), the EPA's presentation mentioned that more upland testing sites could happen in the future (on private property), but gave no specifics.

The CAG is concerned that the existing plan for upland sampling is not robust enough, that new development projects (ongoing and proposed) will be rushed through planning, testing, and review so as to be built before the Creek remedy (allegedly) will change or burdens development potential, and that the ongoing land-based impacts on the Creek's ecosystem functions are not fully understood by the EPA, PRPs, and agencies involved in the site assessment and clean up. As such, we have the following questions:

12. Why are upland sediment and groundwater testing sites limited to the seven sites mentioned by the EPA, and where specifically are those sites?

    Response: Phase 2 of the RI/FS does not target specific upland sites for collection of sediment and groundwater. Currently, the EPA Newtown Creek Superfund "Study Area" as defined in the Administrative Order on Consent (AOC) is limited to Newtown Creek, although point source and overland flow discharges to Newtown Creek from upland properties, municipal stormwater, and CSO infrastructure are targeted for sampling to assess contaminant loading to Newtown Creek. The Phase 2 Work Plan also includes a groundwater investigation to assess potential discharge of impacted groundwater to Newtown Creek. Testing at the seven upland sites is limited to physical measurements (e.g., continuous water level measurements), to understand groundwater flow with respect to the creek and tidal fluctuations. A number of the seven sites were selected, because they had existing monitoring wells at appropriate distances and depths in relation to adjacent, in-creek wells.

    Many of the upland properties are in various stages of investigation, remedial design, and remediation by or under the oversight of the New York State Department of Environmental Conservation (NYSDEC). EPA is coordinating closely with NYSDEC on the Newtown Creek project. The Data Applicability Report (Anchor QEA 2012), summarizes existing information for over 100 upland sites adjacent to or near Newtown Creek.

13. To what extent will new development projects currently in the works be incorporated into the modeling EPA will conduct for the risk assessments and remedy?

    Response: EPA reviews USACE permit applications for in-creek activities such as bulkhead restoration or dredging activities, but such work is not generally new development. EPA has met with several real estate developers, at their request, to discuss development projects located adjacent to Newtown Creek. EPA provided comments to the USACE on permits for proposed in-creek construction activities including management of wastes associated

construction, health and safety concerns for construction workers, removal or construction of point source discharges to Newtown Creek, and potential impacts of in-creek construction on the ongoing RI/FS field activities. EPA will assess any changes in the shoreline configuration, addition or discontinuation of point source discharges, and other in-creek development activities that may affect the models currently being developed for Newtown Creek.

14. Will there be any water or soil testing at any of the sites along the Creek currently being redeveloped (or slated for redevelopment), such that the EPA (or the public) will be able to compare post-development water quality and quantity impacts with pre-development Superfund baselines?

    Response: Refer to the response to comment No. 13. The Phase 2 Work Plan does not include water or soil testing at sites currently being developed or slated for redevelopment. As indicated in the response to comment No. 13 above, EPA continuously reviews construction permits for in-creek construction projects that could impact Newtown Creek. These permits are not generally associated with new development projects.

15. Does the EPA plan on using information from Phase II testing, remedy development or the risk assessments to comment on or intercede in proposed development projects along the Creek or in the Creek's watershed?

    Response: EPA will comment on new development of an uplands property to the extent that a developer seeks EPA's view. Developers may seek EPA's view because they are interested in avoiding conflict between their development and EPA's ongoing RI and ultimate remedy selection. EPA comments would generally focus on preventing releases into Newtown Creek from new development on an upland property. As indicated in the response to comment No. 12, NYSDEC generally has the lead for investigation and remediation of upland sites and EPA works closely with NYSDEC with respect to managing hazardous substance releases from upland sites to Newtown Creek

16. Is sampling being conducted inside adjacent businesses, private right-of-ways, or in and under derelict vessels? These areas are just as important to the human health and ecological risk assessments and remedy as the air directly above the Creek and the waters in it. The people of Brooklyn and Queens make varied use of the Creek, and all of their risks should be analyzed, whether on public or private property.

    Response: The primary focus of the current RI/FS is on sediment and water in the Study Area At the current time, sampling is not planned to occur inside private businesses, private rights-of-way, or in or under derelict vessels. As indicated in the response No. 12, under the AOC the Newtown Creek Study Area is limited to Newtown Creek and its tributaries. Numerous upland sites in the vicinity of Newtown Creek are currently regulated, under investigation, or being remediated under NYSDEC authority. EPA is coordinating with NYSDEC with regard to potential impact of upland properties on the Newtown Creek Study Area. EPA will continue to evaluate the need to investigate uplands and may investigate upland areas in the future (as separate Superfund operable units).

    With respect to derelict vessels, EPA has provided sediment data for samples collected in the vicinity of the derelict barge in Dutch Kills. To date, the abandoned vessels and other obstructions have not prevented implementation of the RI field investigation program and there is no evidence of a release or threatened release of hazardous substances from the

derelict vessels. If the derelict vessels present an impediment to implementation of a selected remedy in the future, EPA will consider removal of the vessels.

17. Given that open space plays a significant role in human health and ecological risks – from direct public access to the water to esplanades, marshes, restored wetlands, piers and parks – does the EPA plan on sampling any upland open space, such as the Newtown STP Nature Walk Park?

    Response: Refer to EPA response to Comments No. 12 and No. 16.

18. Around the Creek, there are many sources of information on water, air, and soil quality. From Clean Water Act and Clean Air Act enforcement data, monitoring and compliance data, and permittee-submitted reports, to Brownfield program tests and monitoring reports, Interstate Environmental Commission data, well tests (from oil spill remediation), and a host of other state, city, and federal information, there is a significant amount we already know about the Creek – even though it has not perhaps been collected as one comprehensive study. What datasets – listed above or not – will the EPA be using (or not using) to augment their sampling data, and why?

    Response: The Data Applicability Report (DAR) (Anchor QEA 2012) provides a comprehensive review of existing data for properties adjacent to and near Newtown Creek including regulatory information such as discharge permits, spill reports, NYSDEC and other agency regulatory activities; existing investigation reports and analytical data; and site history and development information. The DAR was prepared to collect existing information and to evaluate that information for a number of purposes including development of a conceptual site model for the site; to support modeling, risk assessment, and the feasibility study, and to support identification of data gaps to effectively targeting the Phase II field investigation activities. The DAR is not a final document. It will be updated as new information becomes available during the course of the RI/FS. EPA will continue to use the information in the DAR and any new information to inform ongoing and future RI/FS activities.

    The existing Laurel Hill OU6 sediment data is being incorporated into the RI evaluation of sediment contamination in the turning basin area of Newtown Creek.

Air Quality

The CAG acknowledges that the EPA air monitoring data presented in October shows air quality at the Creek as being below New York City background levels. However, in explaining its air data collection methods, the EPA stated that it collected this Phase I air data over the course of one single 24- hour period. The CAG is concerned that the Phase I air sampling program was not robust enough to capture periods of worse-than-normal air quality, incidents of toxic and hazardous air pollution events, or changes in air quality baselines that may occur across the seasons. As such, the CAG has the following questions:

19. Did the EPA consider continuous air emissions monitoring stations?

    Response: See response to comment No. 20 below. The Phase 1 air sampling event was conducted in June 2013. Additional air sampling would be considered if the Phase 1 results showed significant air contamination associated with Newtown Creek. However, the Phase 1 air sampling did not show the presence of site-related contaminants at levels above background. Based on the results of the Phase 1 air testing program, additional air sampling is not planned at the present time.

20. Why doesn't Phase II have more air quality sampling (even to confirm the Phase I test results)?

    Response: The Phase 1 air sampling program was performed to assess potential impacts to air from

site-related contaminants. Air samples were collected along the banks of the creek and in Newtown Creek over a period of 24 hours. Results of the Phase 1 air sampling did not show the presence of site-related compounds at concentrations above background concentrations. The air sampling program was performed in accordance with the Final Quality Assurance Project Plan (QAPP), which was reviewed and approved by EPA. The air sampling and chemical analysis were performed in accordance with the procedures established in the QAPP and the resulting data are considered to be acceptable.

21. As with storm-event water testing (where the EPA has developed a rapid response team to test water quality during events), will the EPA consider a similar program for air, where, during large storm events, toxic releases, or other air-quality-affecting events, the Agency will test air quality?

    Response: Stormwater testing is being conducted by the consultant to the Newtown Creek Group (NCG) under EPA oversight. Currently, EPA is not planning an air testing program similar to the point source discharge (storm-event) sampling program. However, EPA maintains rapid response teams such as EPA's Environmental Response Team (ERT) and emergency response capabilities under its Superfund Removal authority. These teams have the equipment, technologies, and expertise to respond to and investigate all environmental media, including air releases, and may be activated in the event of major air-quality-affecting events. For example, EPA coordinated with the NYSDEC spill response team and the US Coast Guard in facilitating the investigation of reports of, and response to, oil sheens in Dutch Kills.

22. The community has raised concerns at CAG meetings about how aeration may lead to exposure to bacteria, pathogens, particulate matter, and other potentially hazardous substances for people boating on the Creek, walking in the Creekside neighborhoods, or working on the Creek. Is EPA planning on taking air samples to specifically determine the risks associated with the DEP's aeration sites within the Creek? If not, why not? If so, given such data's clear utility in public safety protection, would the EPA consider releasing those results before the complete Phase II data?

    Response: The aeration system was in operation during the Phase 1 air sampling conducted on June 18 and 19, 2013. Three air sampling stations were located near the aeration system. As indicated in EPA's response to Comment No. 20, results of the Phase 1 air sampling, including sampling stations near the aeration system, did not show the presence of site-related compounds at concentrations above background concentrations.

    EPA plans to use the Phase 1 air data in the Human Health Risk Assessment to assess the potential risks associated with the air exposure pathway.

Water Sampling Plans

At the CAG meeting in October, the community discussion on Phase II sampling focused heavily on the specifics of the proposed water runoff and effluent sampling that EPA plans for wet-weather events (including CSOs, MS4 sources, and private property stormwater outfalls). Among the questions for EPA on the Phase II water sampling plans were:

23. Will CSO sampling test for flow, floatables, indicator chemicals, prescriptions/pharmaceuticals, personal care products, or pesticides? For each, if not, why not; if so, to what extent?

    Response: The responses below address the individual items in the questions related to CSO sampling. Regarding testing for CSO flow, see response to comment No. 24.

    CSO sampling does not include testing for floatables. Floatables are regulated under the

Clean Water Act and are not evaluated under Superfund. New York City manages floatables under the Clean Water Act administered by NYSDEC.

CSO sampling does not include testing for pharmaceuticals or personal care products. These substances are considered emerging contaminants and their behavior and toxicity in the environment are not well understood at the present time. Currently, there is insufficient data to assess the risks associated with pharmaceuticals and personal care products released to the environment and currently there are no standards limiting discharge of pharmaceuticals or personal care products to surface waters.

Chemical testing of CSOs and other point source discharges is focused on chemicals that are of primary concern under the Superfund program. CSO sampling includes testing for a broad range of chemicals to estimate chemical loading to Newtown Creek. The Phase 2 Work Plan includes a detailed list of all the chemicals that are being tested. A summary of the classes of chemicals that are being analyzed for is provided below:

- **Volatile organic compounds (VOCs)**
- **Semi-volatile organic compounds (SVOCs)**
- **N-alkanes and isoprenoids including petroleum hydrocarbons**
- **Polycyclic aromatic hydrocarbons (PAHs) and alkyl PAHs**
- **Organochlorine pesticides**
- **Herbicides**
- **209 polychlorinated biphenyls (PCB) congeners and homolog groups**
- **Dioxins and furans**
- **Total and dissolved metals, including mercury**
- **Methyl mercury**
- **Various nutrients/water quality parameters**

24. At the CAG meeting, the EPA noted that it was preparing a rapid-response sampling program for several sites along the Creek; our concern is that even the most rapid-response sampling program for CSOs (and MS4s outfalls) will miss a great deal of pollution discharged in the early few minutes of a storm. For context see the below passage from New York City's Sustainable Stormwater Management Plan:

    "The connection between precipitation and CSO discharges is not a fixed ratio, nor is the effect of rainfall the same in each watershed. We do know that rainfalls of less than one inch cause most of the CSO events citywide, while larger rainstorms cause most of the CSO discharges by volume … As with the frequency of overflows, the level of pollutants is not proportional to rainfall. Rather, smaller CSO events will have more concentrated pollutant levels than larger CSO events because they contain a smaller amount of diluting stormwater and a larger amount of the first, concentrated flush of pollutants from impermeable surfaces. This characteristic of smaller CSO events is particularly true for fecal coliform and other pathogens; sanitary sewage flows stay relatively constant while stormwater flows are lower during smaller rainfalls, so CSOs during small rainstorms contain a greater percentage of sanitary flow."

    Because pollutant loading from CSO events varies dramatically over time and in relation to the intensity and duration of rainfall, taking grab samples even an hour after a storm begins will not yield data that accurately assesses pollutant loading from those CSOs. Debris, oils and grease, and a host of other contaminants from industrial sites and roadways along the Creek would be similarly discharged in the first few minutes of a storm from MS4 outfalls, permitted private outfalls, and

direct discharge. As such, will the Phase II sampling at point sources and CSOs involve any fixed, real-time, continuous monitoring devices? If not, why not, and how is the EPA intending on capturing the first-flush pollutant loading problems in the Creek?

Response: A comprehensive point source sampling program has been developed to assess contaminant loading to Newtown Creek. The point source sampling program includes collection of samples from combined sewer overflows (CSOs), municipal separate storm sewers (MS4s) and other direct stormwater discharges, permitted private discharges, and unpermitted discharges. The program is designed to collect time-composite samples of the discharge including the "first flush" from direct discharges and the beginning of CSOs. CSO discharge to Newtown Creek occurs when tide gates open. Prior to the opening of tide gates, stormwater flows to the wastewater treatment plant. As such, CSOs typically do not show the classic "first flush" effect often seen in direct stormwater discharges. Since the objective of the CSO sampling is to estimate contaminant loading to Newtown Creek, CSO sampling begins when tide gates open and discharge to Newtown Creek begins.

Point source sampling includes detailed protocols for tracking storms and assessing storm forecasts including 48-hour and 24-hour pre-storm assessments of forecasted rainfall amount, intensity, and duration. The decision to mobilize sampling teams is made before the storm begins so that field teams can be in place to capture the first flush from MS4s and other direct stormwater discharges and the beginning of CSOs; when CSO tide gates open.

To account for variability in the characteristics of point source discharges due to variation in rainfall, each point source discharge will be sampled during four rain events and for up to 8 hours per event during the course of the point sources sampling program. This will provide data to evaluate the effect of storm characteristics (e.g., rainfall amounts, intensity, duration) on contaminant loading to the creek.

Real-time monitoring devices such as flow meters will not be placed into New York City infrastructure during sampling because of concerns that such equipment could damage the sewer infrastructure. However, New York City has installed fixed flow meters in five CSO locations. While these flow meters do not provide real-time flow data, the data will be available for use in evaluating the CSO sampling data.

25. Will EPA take any water samples in the Creek itself near CSO stormwater discharge points? If not, why not?

Response: In accordance with the Phase 2 Work Plan, surface water samples will be collected from Newtown Creek during CSO discharges, including samples at locations near CSO discharges.

26. Will the EPA commit to testing stormwater (through any conveyance – CSOs, MS4s, sheet flow, or private stormwater discharges, for example), during snowmelt? If not, why not?

Response: Sampling of point source discharges during snowmelt is not a specific objective of the point source sampling program. Snowmelt occurs over extended periods of time and the flows from snowmelt are low and potentially intermittent, resulting in very low flows within pipes that are difficult to capture during sampling programs. Multiple sampling events during rainstorms are sufficient to provide the data needed to estimate contaminant loading to Newtown Creek. However, if a rain storm of sufficient duration and intensity occurs when snow is present on the ground, the associated snowmelt that discharges to Newtown Creek will be sampled along with the rainfall runoff.

27. Will the EPA commit to testing stormwater (through any conveyance – CSOs, MS4s, sheet flow, or private stormwater discharges, for example), during periods of heavy use of road salt or other deicing chemicals, fluids, or materials? If not, why not?

    Response: Sampling of point source discharges during periods of heavy use of road salt or other deicing chemicals is not a specific objective of the point source sampling program. However, the point source sampling program is being conducted during the winter months and into the spring of 2015. Road salt and other deicing chemicals washed into CSOs or other point source discharges during winter rain events will be sampled and measured under the current point source sampling program.

28. To what extent is the EPA requiring samples from highways, bridges, and other high-volume roadways? For any of the bridges over the Creek with stormwater runoff that will not be sampled during Phase II, please provide bridge-specific rationale for the decision not to require testing. In addition, please provide information on the Kosciuszko/New Bridge construction project (including its impacts on the Creek, on the Phase II sampling, and the development of the risk assessments).

    Response: Road runoff samples will be collected from discharges from the Long Island Expressway (LIE). As it is not necessary to sample every pipe that discharges to Newtown Creek to meet the RI objective of estimating contaminant loading to Newtown Creek, it is also not necessary to collect samples from every highway or bridge in the area to meet the RI objective for point source discharges. Samples collected from the LIE will be used to assess loading to Newtown Creek from runoff from bridges.

    EPA has been coordinating with New York State Department of Transportation (NYSDOT) during the planning of the Kosciusko Bridge construction project. EPA has reviewed construction plans and construction practices for potential impacts on the Newtown Creek Remedial Investigation and has provided recommendations to NYSDOT to minimize impacts on Newtown Creek. EPA will continue to coordinate with the NYSDOT as the project progresses.