Newtown Creek Community Advisory Group (CAG)

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Re: Comments on the Draft Remedial Investigation Report

Dear Environmental Protection Agency Newtown Creek Superfund team:

Thank you for the opportunity to provide comments on the draft Remedial Investigation ("RI") Report for Newtown Creek, dated June 2019. The CAG understands there are further components of the RI Report (appendix G) and studies (e.g., lateral groundwater) that remain forthcoming. When these documents are available, the CAG would like the opportunity to review and discuss with the Environmental Protection Agency (EPA) team. Based upon our review of the draft RI Report, feedback from our TASC technical advisor, and review by the Newtown Creek Community Advisory Group (CAG) Technical Committee, we offer the following comments.

I. The RI Report is insufficient to achieve a remedy protective of present or future public use of Newtown Creek.

As drafted, the RI Report mischaracterizes how the public current uses the creek. The creek is *currently* used for fishing, boating, kayaking, and educational and other recreational shoreline activities. The RI Report wrongly states:

> Access to the Study Area by the public is severely restricted on the land side by physical controls (e.g., fences) and security/surveillance controls maintained and operated by the industrial facilities along Newtown Creek. Currently, there are only three public access areas along Newtown Creek. The access restrictions present in the Study Area

> significantly limit the public's ability to engage in recreational activities along much of the shoreline of Newtown Creek (p. 462).

There are in fact roughly a dozen points where one can come into contact with the water and shoreline from public land that is not fenced off. These areas include:

- Hunters Point South Park (NYC Kayak Launch)
- Box Street Park (planned)
- The Manhattan Avenue Street End Park (NYC Kayak Launch)
- Vernon Boulevard Street End
- The Newtown Creek Nature Walk
- Borden Ave Street End on Dutch Kills
- North Henry Street (planned)
- Apollo Street End
- Penny Bridge Site (Brooklyn)
- Under the K Bridge Park
- Plank Road Site (Queens)
- Maspeth Ave Street End
- Metropolitan Avenue Bridge

This list does not take into account privately owned sites where individuals currently access the water for recreational or educational purposes. Additionally, community planning efforts, like the Newtown Creek Vision Plan (2018), have identified numerous areas where public/private access is feasible in the coming years, significantly increasing the public's ability to engage directly with the waterway in the future. It should be noted that access to the water from any of these points, by necessity, grants unfettered access to the entire waterbody, not just the access point.

The RI Report's characterization of the Creek also does not acknowledge the significant amount of on-water activities at recreational hubs like the North Brooklyn Community Boathouse site,[1] which typically puts over 1,000 people on the Creek per year. With a planned expansion (physical building) at this location, a planned boathouse at the Hunters Point South Development, and increasing demand for improved access in

[1] As an example, some photographic evidence of on-water use in Newtown Creek can be found at the following three links:

- https://www.flickr.com/search/?user_id=10805486%40N02&sort=date-taken-desc&text=Boat%20club&view_all=1
- https://www.flickr.com/search/?user_id=10805486%40N02&sort=date-taken-desc&view_all=1&text=HarborLab
- https://www.flickr.com/search/?user_id=10805486%40N02&sort=date-taken-desc&view_all=1&text=Durand

areas like Dutch Kills and English Kills, it should be noted not only that current recreational uses are severely underevaluated in the current RI Report but also that use will likely grow significantly in the coming years.

The RI Report also wrongly states that fishermen do not use the creek for recreational or subsistence purposes:

> Several important conditions are the following: the industrial nature of (Newtown Creek is a designated SMIA) and limited public access to the Study Area, which constrain the opportunities for recreational anglers to fish and crab within the Study Area (p. 479).

The RI Report also points to posted signage, claiming that it effectively deters fishermen. Given all of the public access points, and based on our observations of Creek use, these statements are misleading about current use, not indicative of potential future changes of use, and irrelevant in the context of protecting human health. Anglers are using the Creek now, and we expect more will in the future as more waterfront access space opens up.

The RI Report does not acknowledge the educational uses of the creek. Student research on the creek is well established and ongoing. For example, in one recent study, mussels were collected from Newtown Creek and analyzed for their ability to help reduce bacterial contaminants (Sarah E. Durand et al.res, “Ribbed Mussel in an Urban Waterway Filters Bacteria Introduced by Sewage,” *Marine Pollution Bulletin* 161, Part B [2020]: 111629, https://doi.org/10.1016/j.marpolbul.2020.111629). LaGuardia Community College runs frequent field trips to Newtown Creek, and students in the President’s Society are currently working with elected officials, municipal agencies, and local businesses to transform an MTA Railroad right-of-way (now used for cars and trucks) into a public plaza that provides access to the Dutch Kills tributary shoreline, where the NYCDEP has installed tidal marsh habitats. These and other educational activities bring students and faculty into contact with the shoreline, sediments, and surface waters. There is every reason to expect these contacts to increase as the local population swells.

Future water-quality and community-use goals for the Creek are also largely from the RI Report. Most in the surrounding communities support ongoing industrial uses in the creek and preserving its status as a Significant Maritime and Industrial Area (SMIA). We also believe that these uses can coexist sustainably with public park space. These mixed and compatible uses should be considered in the context of determining health

risks. Indeed, Fresh Creek, one of the reference areas, is classified as a SMIA, hat has much less pollution, and is fishable. The RI Report even labels it “non-industrial/CSO” (p.162).

Currently, combined sewer overflow (CSO) discharges, which contain fecal bacteria and other pollutants, are hampering safe use of the creek. We expect that, if successfully implemented, the New York City Department of Environmental Protection’s (NYCDEP) Long Term Control Plan will significantly reduce the volume of those overflows and alleviate at least some of the CSO-related health dangers. That CSO reduction would leave the legacy toxic contaminants of concern (COCs) as the “but for” cause preventing further recreational use of the creek.

The RI Report relies in part on the Baseline Human Health Risk Assessment, which examines risk to construction workers but not to children or elderly people using the shoreline for recreation, such as Plank Road end users. It is unclear whether sensitive receptors such as pregnant mothers and small infants are accounted for, especially those who may live near the site or access recreational opportunities at shoreline open spaces. The CAG is concerned that risks to these sensitive receptors will not be accounted for in the RI Report and remediation plans.

The CAG demands that the Superfund pollutants be removed, not left where they are. Our goal is for Newtown Creek to be an enjoyable resource for all. The CAG outlined its twelve vision principles for Newtown Creek in 2016. The CAG therefore urges that EPA modify the RI Report to account for current use of the creek and acknowledge the community’s future expected uses.

II. The RI Report omits crucial data and analysis related to subsurface sediment contamination and wrongly suggests natural attenuation as the remedy for subsurface contamination, endangering benthic habitat and human health.

The RI Report describes subsurface contamination as clearly worse at depth, yet the focus of the report is on the "shallow" contaminants. The RI Report acknowledges “deeper, often higher concentrations in the subsurface sediment” (p. 537). There is insufficient sampling of fine sediments with higher thickness at depth to determine the true nature of non-aqueous-phase liquid (NAPL) and polycyclic aromatic hydrocarbon (PAH) contamination. We are concerned that the RI Report has not accurately described the risks of subsurface sediment contamination. This additional information is crucial to determine the appropriate depth for the remedy.

As the concentration of COCs is higher in subsurface sediment than in surface sediments (see, e.g., p. 512: “concentrations of TPAH, TPCB, and CU in subsurface sediment are higher than in surface sediment”), EPA and the public need to better understand such contamination now to make better decisions for remediation and future use of the creek. The CAG also wants to understand the extent of contamination in reference area subsurface sediments, which seem to have been completely overlooked.

Therefore, we urge EPA to incorporate into the RI Report a spatial display of surface and subsurface sediment contaminant concentrations using contours. That type or a similar type of display would be easiest for the public to understand and the most suitable and usable for continued assessment. The draft RI Report provides reach- and tributary-specific aerial maps (e.g., Figures 4-63a through j for total polychlorinated biphenyls) that show concentrations of measured contaminants by location and depth. This is a good first step in understanding contaminant occurrence. It would be useful if this information were presented using contaminant concentration contours at a given depth. This would enable reviewers to identify hotspots or zones of contaminant migration more easily. In addition, this would provide a baseline from which remedy approaches can monitor and measure effectiveness over time.

The CAG also questions why 15 centimeters or 6 inches is the chosen depth to evaluate surface sediments (section 4.1.3.4). This depth is not much when referring to surface sediments in a tidal estuarine system with frequent boat traffic and prop wash. We also question why subsurface sediments seem to have been sparsely evaluated in heavily polluted areas of the creek where we could reasonably expect to find significantly elevated concentrations of NAPL, such as the Turning Basin adjacent to the National Grid site. The RI Report states:

> Estimated dissolved phase TPAH [total polycyclic aromatic hydrocarbon] loading is the highest along the Brooklyn shoreline of Newtown Creek, just downstream of the confluence with English Kills in the Turning Basin (CM 2.3 to 2.7)" (Section 5.2.2.1)

If the turning basin groundwater is the most TPAH-polluted, the CAG questions why there wasn’t more testing of subsurface sediments at that site. We believe more information is needed at the National Grid site before proceeding with the Feasibility Study.

Even where subsurface COCs are found, the RI Report attempts to downplay them. Throughout the RI Report there is improper reliance on Newtown Creek Group's conclusory assumptions about attenuation from sorptive capacity of subsurface sediments. For example, the RI Report states:

> Due to attenuation resulting from sorption processes (as well as dispersion and possibly degradation), these loads are not determined by deeper, often higher concentrations in the subsurface sediment, nor are they determined by contaminant concentrations in groundwater. (p.537; *see also* pp. 538 and 542-545)

It further argues that

> due to attenuation within the subsurface sediment, the chemical loads associated with groundwater only indirectly contribute to the chemical loads to the biologically active surface sediment and surface water. (pp. 330-331)

We note that sorptive capacity is uncertain and, in any event, limited. The potential for desorption must also be evaluated.

Moreover, the RI Report should not point to the proposed remedy of natural attenuation. The RI Report is not the place to suggest remedies. Any purported remedy selection should be removed from the RI Report and left to future steps in the Superfund process. Potential remedies should be determined in the Feasibility Study after all information has been gathered. References to remedies now would short-circuit the process and prevent thorough analysis.

The CAG urges EPA not to let Newtown Creek Group sweep its pollution responsibilities under the rug by pointing only to the surface sediments and effectively telling the public: "Don't worry about what's under there because it will somehow take care of itself." The point of Superfund is to demand that the polluters clean up the mess they have made.

III. Contaminant sources and fate and transport are not accurately described, and there are multiple data gaps.

A. NAPL is left largely unanalyzed.

Given that the industrial history of the Newtown Creek estuary is dominated by petrochemical (NAPL-associated) industries and that the principal contaminants of this industry segregate within the estuary ecosystem as NAPL, it would be expected that identification of NAPL residue and ongoing NAPL contamination would be a principal focus -- if not *the* principal focus -- of the RI Report. Furthermore, given that any one type of NAPL source is associated with a unique chemical profile and unique set of CERCLA COCs, then determination of NAPL sources would require chemical analysis of NAPL samples.

These observations informed the approach of the RI Report for a neighboring Superfund site, the Gowanus Canal. Systematic and collaborative work by EPA and the New York State Department of Environmental Conservation mapped NAPL upland sources, fate, and transport from former MGPs, which are sources of dense coal tar NAPL. Chemical analysis of this NAPL revealed it to be the principal source of COCs in sediments of the Gowanus tidal waterway. Newtown Creek sediments of the Turning Basin region and into CM2+ are comparable to Gowanus sediments because they are in the path of NAPL migration from two former MGP sites, the Greenpoint Energy Center and Equity Works. The existence and operational timeline of these two MGPs are not represented in the Newtown Creek historic timeline offered in figure 3.6, “Human Use and Activities,” and we question the reason for this omission.

The Gowanus RI properly pursued the identification and quantification of NAPL COCs, which included semivolatile PAHs (e.g., naphthlene) and volatile organic compounds (BTEX chemicals), among others. Given the greater diversity of NAPL-emitting industries along Newtown Creek, a greater variety of NAPL chemical profiles would be anticipated relative to the Gowanus Canal.

The absence of NAPL chemical analysis in the RI is of concern with respect to issues other than NAPL chemical profiles’ being important indicators of NAPL sources. CERCLA COCs associated with oil and gas operations are hydrophobic/oleophilic;

therefore, these COCs preferentially dissolve in NAPL and not pore water or other aqueous solutions. Confirmation of this observation is available in the Superfund RI Report for the Gowanus Canal, wherein it is reported that the highest concentrations of PAH compounds were associated with NAPL (EPA, Gowanus Canal Superfund Record of Decision, p. 21).

NAPL contamination in the draft RI Report for Newtown Creek is underreported as a result of bias introduced into the study "Nonaqueous Phase Liquid Evaluation," compiled in appendix C. This is the NAPL investigation that serves as the basis for all conclusions regarding NAPL contamination in the draft RI Report. NAPL underestimation bias is identified as follows.

1. Strategic use of terminology to discount NAPL observations:

   a. **Misuse of technical terminology:** Sheen on water and sediment surfaces is not recorded as NAPL in appendix C. Therefore, all references to NAPL in the main body of the RI Report, which are determined by the study in appendix C, do not reference this ubiquitous indicator of NAPL. Note that a critical conclusion regarding the *absence* of NAPL, stated on page 6 of appendix C, is based on this false premise that sheen is not NAPL: "NAPL was not observed in Dutch Kills or Whale Creek sediment**,** although sheen was observed."

   NAPL sheen should have been recognized as NAPL, and samples of the sheen should be collected in oleophilic nets and chemically analyzed for composition and relative concentrations of COC components. Once the chemical profile of the NAPL sheen (or any NAPL sample) is assessed, its chemical signature can then been applied to determination of source.

   b. **Use of ambiguous terminology:** Ambiguous terms such as "apparent NAPL" and "potential NAPL" are inappropriate in the RI data report, given there has been adequate time to employ available EPA-approved technology to distinguish *apparent* and *potential* from *real* NAPL. Ambiguity is introduced in multiple contexts. For example, appendix C, page 16, describes the visual observations of core sediments categorized as "*potential* sheen or NAPL (*if* present)" (emphasis added). If there is observable sheen in a waterway industrialized by fossil fuel industries, then how is

this sheen “potential”? If sheen is present, then NAPL is present, there is no scientific basis for “or” and “if present.”

The terms “apparent NAPL” and “potential NAPL” and “potential sheen” are not found in the Gowanus Superfund RI nor in the NYCDEP NAPL investigation of the Creek. They should be deleted from the Newtown Creek RI Report.

c. **Creation of false distinctions:** Oil is a non-aqueous-phase liquid. Said again, oil is NAPL. However, consider the following quotation from appendix C, page 8: “During Phase 1 of the RI, when visual observations such as the presence of an oil-like material on sampling equipment suggested that NAPL may be present, a shake test was performed.” Oil-like material is NAPL, so NAPL was present; there is no scientific basis for stating “may be.”

Selective omission of NAPL confirmation tests, deriving from the misuse of terminology in the draft RI, underestimates NAPL impact. This underestimation of NAPL provides an argument against inclusion of NAPL in the Newtown Creek Conceptual Site Model (CSM). Omission of NAPL from the CSM would stand to substantially reduce remediation costs for the Superfund commercial PRPs, thereby explaining what appears to be the deliberate introduction of data-collection bias by manipulation of terminology.

2. Failure to collect NAPL data from sediment samples:

a. **Phase 1 sediment cores were not assessed for NAPL:** Phase 1 sediment cores, n=142, collected by the Newtown Creek Group were included as a component of the NAPL evaluation study compiled in appendix C, and Phase 1 “data” are referenced with NAPL observations from Phase 2 and Feasibility Study sampling in RI sections 4 and 6. The RI concludes that significant NAPL contamination is restricted to only three regions in the Newtown Creek estuary. But the NAPL evaluation study of appendix C on which this claim is based is flawed, and therefore so is this conclusion.

The 142 Phase 1 cores, collected over two years, were *not* evaluated for NAPL as specifically noted appendix C, page 9: “Phase 1 field methods for documenting visual observations were not designed to specifically investigate the presence and

extent of NAPL." Therefore, NAPL observations made in reference to the 142 Phase 1 core samples *were not collected according to the scientific method*, i.e., were not collected according to any scientific protocol, whether EPA-approved or not. Although Phase 1 sediment cores were not assessed for NAPL**,** as stated in appendix C, Phase 1 observations are the *basis for the first point of information offered in the summary overview* in RI Report page 213: "During Phase 1, the presence of NAPL in sediment and underlying native material was confirmed at four locations in the Study Area."

On what basis were four locations, and only these locations, confirmed for NAPL out of the 142 Phase 1 core locations, given that Phase 1 sediment samples *were not designed to specifically investigate the presence and extent of NAPL*? The observation used to confirm NAPL at Phase 1 core locations was the presence of an oily substance on core sampling *equipment*, not an oily substance in core *sediments*: "During Phase 1 of the RI, when visual observations such as the presence of an oil-like material on sampling equipment suggested that NAPL may be present, a shake test was performed" (appendix C, page 8); similarly: "In total, shake tests were only performed on 5 of 142 Phase 1 cores. These tests were performed on an ad hoc basis and were not conducted using a standardized procedure" (appendix C, page 8).

Oil sheen and other oil-like materials *associated with sediments* were disregarded as NAPL. The biased, nonscientific approach to NAPL evaluation in service to the commercial interest of grossly underestimating NAPL contamination has no place in an RI report and constitutes a betrayal of Newtown Creek communities.

b. **Data gap not adequately addressed:** The data gap resulting from Phase 1 and Phase 2 sampling was not adequately addressed by the subsequent NAPL Distribution Refinement study because sheen continued to be unrecognized as NAPL. Shake tests were not refined by inclusion of oleophilic dye to visualize colorless NAPL. Critically, no chemical analysis of NAPL composition was performed. Thus, source of the NAPL could not be investigated and the potential of the NAPL *as a source* of CERCLA COCs could not be quantified. Omission of these data is contrary to the intent of CERCLA legislation.

3. Failure to include available NAPL data:

The CAG has had the opportunity to review the evaluation of NAPL contamination conducted by NYCDEP contractor the Louis Berger Group (LBG, which has since been acquired by the Canadian company WSP). Two sets of LBG investigations, sediment core sampling and seep sampling, address the biases and data gaps outlined above: NAPL sheen was not only correctly categorized but also chemically evaluated; chemical composition was quantified and levels of toxicity identified; data collection controls were implemented, including duplicate sampling and inclusion of blank and duplicate samples; and data analysis controls were implemented, with duplicate chemical analysis by different labs. Finally, preliminary study of sediment cores identified, as would be anticipated, NAPL-rich sediments outside the three sites recognized in the RI Report ("Category 2/3" sites).

Most notably, the results of chemical analysis were similar to those obtained for the Gowanus Canal: contaminant concentrations in NAPL were "several orders of magnitude higher than all other sampled sources to the Creek" (NYC Department of Environmental Protection, 2017 NAPL Seep Sampling Data Summary Report, The Newtown Creek Superfund Site, Kings County & Queens County, New York City, NY, September 2020, page 21).

In addition to providing chemical analysis and quantitative data, the DEP NAPL evaluation provides a clear mapping of current sites of NAPL seeps, obtained by a systematic low-tide survey of the Creek shoreline and the inclusion of seep data available from the NYSDEC. In contrast, in the draft RI Report, no systematic surveys were conducted to map current NAPL seeps. Compare that omission to appendix E, which maps point sources under the responsibility of city and state agencies. This omission is in contradiction to the 2015 CSTAG recommendations, which seek to understand the extent of NAPL contamination, its phase, and the pathway by which it is entering the Creek:

> It is important to determine where the coal tar/NAPL is located within the study area (i.e., behind the bulkhead, under the sediments, upland pools), what phase it is in, the location of any pressure gradients, and how it is entering the Creek and its tributaries. Understanding how the coal tar is entering the Creek will be critically important for evaluating

> effective remedies in the FS to contain, treat, or remove it. CSTAG recommends that Region 2 identify where the mobile fraction of coal tar is located in the subsurface. Technologies that can evaluate the mobile fraction of coal tar have been found to be useful at some sites and should be considered.

The DEP's NAPL study provides us with results consistent with those obtained for the Gowanus Canal RI, wherein the threat of NAPL seeps and other forms of transport are recognized. Compare the attached Gowanus CSM diagram against that of the Newtown Creek CSM for the Creek CM2+ region (site of two former MGPs). The Gowanus Canal diagram depicts NAPL seeps, advection, and ebullition, forms of NAPL contamination absent from the Newtown Creek CM2+ diagram. No valid argument can be claimed for ignoring evidence of NAPL contamination that is relevant to the remediation of the estuary.

The NAPL investigation conducted by LBG was paid for with NYC taxpayer money and as such should serve to benefit New York City residents and workers. This NAPL evaluation offers a counterweight to the bias introduced into CERCLA implementation by commercial concerns (i.e., profit margin and capital accumulation).

In contrast to the omission of the comprehensive NAPL dataset compiled by LBG, we note that the draft RI Report includes data from a separate contractor (GEI) in service of a commercial potentially responsible party, National Grid. If some potentially responsible parties are allowed to contribute data outside the approved work plan, then the NYC DEP's data should be included as well. LBG has successfully served (and is serving) the EPA and United State Army Corps of Engineers and has no record of failed remediation projects.

Associated with the absence of CSM inclusion of the Creek's NAPL contamination is the absence of mobility studies for Creek miles 2+. Was NAPL mobility data for the Turning Basin, English Kills, and other areas collected? If not, why not? If so, it seems to have been inexplicably excluded from the RI Report.

a. <u>Historical COC sources should be attributed where feasible.</u>

We question why historical contamination sources are left unexamined as “too complex” though such sources were attributed to adjacent businesses at the Gowanus Canal Superfund site. The RI Report says:

> the locations of impacts observed today cannot necessarily be directly linked to proximate upland sites (p. 526)

and:

> Contaminants in the Study Area cannot necessarily be attributed to proximate upland sites, due to the complex patterns of development and use . . . and the complex history. (p. 272)

The CAG urges EPA to attribute COC contamination to sources where possible. The Gowanus RI did not invoke "complexity" as an excuse for failure to determine sources of NAPL migration into soft sediments and underlying native sediments from former manufactured gas plants (MGPs). The NAPL samples do not seem to have been evaluated for type, potential source, or how behavior. For instance, whether NAPL is heavy or light or whether it is coal tar, heating oil, or gas could help identify the culprit polluter. In addition, it is not “speculative” to attribute pollution to site proximity; rather, it is one line of evidence that could make culpability more probable. The RI Report mentions multiple tributary areas (e.g., sections 5.4.2.1, 5.4.2.2, 5.4.2.3, and 5.4.4) where contaminant levels were elevated. Surely, the location and conditions point to certain prior and/or ongoing uses as the polluters most responsible.

We urge EPA to undertake the evaluations to attribute pollution. At the very least, this and similar statements should be removed from the RI:

> Discussions are not centered around proximity to upland sites or other potential sources, because to do so would be speculative (Section 4.1).

b. <u>Upland sites should be addressed, potentially through an additional operable unit.</u>

Data in the RI Report do not fully encompass potential ongoing sources of pollution from adjacent properties. The CAG requests greater consideration of these sources, and the designation of a new operable unit to address upland contaminated sites. Studies of these sites should incorporate all potential pollution sources to the Creek, including all

known seeps and direct and piped stormwater discharges, as well as groundwater discharges from areas in and upland of the intertidal zone. For example, there are known oil spills polluting the creek (Scott Enman, “There Are 3 Active Oil Spills on Newtown Creek,” *Brooklyn Eagle*, May 20, 2019, https://brooklyneagle.com/articles/2019/05/20/there-are-3-active-oil-spills-on-newtown-creek). Information on the upland impacts on the Creek should be collected especially in areas known for oil and gas refining and manufacturing. Failure to incorporate evaluation of these ongoing COC sources into the RI Report could result in a deficient remedy or its long-term failure.

c. Navigational and surface dredging impacts should be reevaluated.

The CAG seeks further clarity on the methods and conclusions for the assessment of the “Impact of Recent NYC Navigational Dredging on Surface Sediment Chemical Concentrations” (section 4.2.4). The CAG’s TASC consultant could not verify the dredging assessment’s methods and conclusions with the information presented in the RI. Some of the supporting data do not appear to be correctly presented or could benefit from additional explanation. For example, the “Range of Surface Sediment Concentrations in the First Mile” data (table 4-11a, first column) actually present the range of concentrations in the first two miles for all the chemicals *except* total polycyclic aromatic hydrocarbons. In addition, the text indicates there are multiple samples available for “locations with only sand cover,” yet only one result is presented (table 4-11a).

d. Aeration is not thoroughly sampled or discussed.

The CAG reiterates its concern that the Department of Environmental Protection’s aeration system is causing the resurfacing of pollutants and potentially aerosolizing them. This is possible when the aeration system is operating properly, but we also note that the aeration system is often broken, malfunctioning by emitting high-volume blasts of gas in concentrated areas on the Creek, aerosolizing whatever is in the water column. The pipes sit on the bottom of the Creek and have been documented to get buried by sediment during periods of inactivity. Additional prop wash in the aeration zones can disturb nearby sediment and allow the aerators to bring these potential contaminants not just to the surface waters but also the air column. Most concerning is the fact that aeration pipes run in areas of the Creek where both sediment contamination by COCs is highest and the presence of NAPL on surface waters via ebullition is most concerning (Turning Basin and English Kills).

The CAG firmly believes that the potential exposure to COCs, via surface waters and aerosolization, for Creek users who may be recreating or working near the aeration pipes needs to be addressed as a pathway for human health risk. The air quality and surface water monitoring done as part of the RI was not conducted to properly evaluate the potential impacts of the aeration system, and only a smaller portion of the actual system was even operating during phase 1 and 2 of sampling. We ask that aeration be evaluated in the FS as a mechanism for resuspension and migration of COCs (just as issues like prop wash are given consideration) and a potential pathway for human health exposure. In order to do so, proper data must be collected in regards to how the operation of the aeration system may be affecting surface water and air quality in the immediate area.

e. Tributary inflows, groundwater seeps, illicit discharges, and CSO discharges are not studied and described accurately.

The RI Report says there are no natural tributary inflows (e.g., p. ES-2), but some inflows have been documented, such as in English Kills and Maspeth Creek (*see* photos at https://www.flickr.com/photos/76572518@N04/albums/72157641840652343). Moreover, the RI Report states without justification that groundwater seeps are not responsible for significant pollution:

> contaminant seeps are minor sources of contaminants to the surface water and surface sediment. (p.532)

Even though thirty-one seeps were identified, only nine were sampled. The potential contaminant contribution from the nonsampled seeps remains unknown; they have not been studied by AnchorQEA. Therefore, it is premature to conclude that groundwater seeps are only “minor” sources. Members of the CAG have witnessed extensive sheens on surface water, apparently emanating from seeps. We believe these sources are significant. Will further evaluation of the shoreline seeps be addressed as part of the forthcoming lateral groundwater studies? The RI Report indicates that sampling of the opportunistic shoreline seeps was problematic because of access and safety considerations.

The RI Report also omits discussion of unlawful industrial stormwater and other discharges as a source of contaminants. (see, e.g., sections 8.3 and 8.5.2.1). It is unclear whether such discharges have been factored into the RI Report. CAG members have identified dozens of unlawful discharges on the creek over the past two decades and continue to do so.

The RI Report also seems to avoid accurately modeling CSO discharges, failing to capture the difference between dry and wet weather:

> Wet weather sampling program design could not include sampling of ambient conditions prior to the onset of the precipitation event. . . . Whale Creek was not sampled during wet weather. (sections 4.7.2.3 and 8.4.3)

Why were samples of all reaches not taken before, during, and following wet weather?

IV. The use of unprotective benchmarks derived by Newtown Creek Group should be removed

Newtown Creek Group refers to its own benchmarks, including "critical body residue" levels and "lowest observed effect concentration." All suggested benchmarks or targets suggested by Newtown Creek Group should be deleted from the RI Report. This includes "critical body residue" figures, which are calculated to repeatedly and unsurprisingly fail to recognize significant pollution concentrations:

> There is no evidence of harm to bivalves and mummichog when NCG CBRs were used in the tissue residue approach. (p. 483)

Where EPA reference concentrations find significant levels of contamination, Newtown Creek Group finds none:

> For blue crab, all HQs were less than 1 when using the NCG LOECs. When using USEPA Region 2 LOECs, Study Area-wide HQs were 1.6 for Cu and 8.8 for TPCB congeners. (p. 492)

These Newtown Creek Group figures should be removed from, among other places, pages 145, 483, 490, 492 in multiple places, 502, and 547.

Newtown Creek Group also substitutes its own hypothetical datasets by performing hypothetical analyses excluding values that tend to show pollution. For instance, Newtown Creek Group makes conclusions about cyanide concentrations based on the hypothetical "if these two sample results are not included in the dataset" (pp. 147 & 484). Any reference to these hypothetical analyses should be deleted.

V. Tributary areas are so isolated, contaminated, and unique that they need their own site-specific conceptual site models.

A key finding of the RI Report is that the reaches of the Study Area (Creek Miles 0-2, Creek Miles 2+, and each tributary) differ materially in physical characteristics, tidal action, contaminant distributions, sources of solids and contaminants, relative contributions of historical versus ongoing sources, fate and transport processes, and risk. Those differences will play an important role and will pose unique challenges when developing and assessing remedial alternatives in the Feasibility Study (see section 9.2). The major reaches are so different that each one deserves its own conceptual site model. As drafted, the RI Report has only one conceptual site model, in which it assumes conditions are the same throughout the entire study area:

> The hydrodynamics of the Study Area are dominated by twice-daily tides and by rainfall-related flows from point sources and overland flow. (section 8.3)

This description highlights the problem of using a single CSM. Some reaches are less affected by the tides, such as English Kills. Some are less impacted by overland flow (Creek Miles 0-1).

Thus, CSM should be divided by specific reaches to account for their individual conditions. CSMs are “living documents” and are regularly updated throughout the RI/FS process and serve to identify source areas, fate and transport pathways, and suitable current and future-exposure pathways. The tributaries of the Creek have distinct and unique features, including conditions of sediment depth, bathymetry, spatial contaminant occurrence, sources of scour, and influence from the mainstem. Given the variability of these features among the tributaries (for instance, the sediment depth profile in Maspeth Creek versus English Kills), it will be useful to construct a more-specific CSM for each tributary and each reach within the mainstem.

The conceptual diagram for “all tributaries” (shown in figure 38-3) does not capture the uniqueness of each tributary. More defined CSMs could help reviewers more fully envision the nature and extent of contamination within a defined piece of the site. Depending upon data availability, a “loading-based” depiction of estimated sources (point and nonpoint sources inclusive of groundwater when the information becomes available) would be beneficial to show conditions for each reach and tributary. In addition, characteristics including sediment depth, water depth, occurring seeps,

erosional shorelines, and access points would help maximize the understanding of exposure conditions for each tributary or reach.

VI. The Conceptual Site Model should acknowledge likely future conditions.

The CSM does not account for expected changes in conditions, such as climate change, population growth, decrease in upriver polychlorinated biphenyl (PCB) contamination, local green infrastructure development, etc. These likely changes in conditions should be acknowledged and assessed. If future conditions are not incorporated into the CSM, the CAG urges EPA to factor them into the Feasibility Study and Remedy Selection.

VII. The COCs driving the RI Report analysis are too narrowly circumscribed.

The CAG questions why the COCs are narrowed to only three contaminants. These include total polycyclic aromatic hydrocarbon (TPAH); total polychlorinated biphenyl (TPCB); and copper. Secondary contaminants summarized in the RI Report include 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8TCDD); lead (Pb); and dieldrin. In Gowanus Canal, EPA evaluated BTEX, PAHs, PCBs, barium, cadmium, copper, lead, mercury, nickel, and silver (see attached table from the Gowanus Record of Decision). Given similar industrial uses and CSO discharges in Gowanus and Newtown Creek, why were different constituents selected as the primary drivers for the RI?

VIII. The selected Phase 2 reference areas are some of the most polluted waterbodies in New York City.

The CAG questions why the RI Report relies only on tidal inlets as reference areas. The RI Report relies too heavily on these sites to determine risk (see, e.g., section 8.4.1.1). Specifically, why were Gerritsen Creek, Westchester Creek, and Spring Creek chosen as the Phase 2 reference areas (section 8.7). Many of these waterbodies are highly polluted and in need of cleanup in their own right, especially Westchester Creek. What about other, closer areas of the harbor, such as the East River? Did EPA rely on only polluted tidal inlets for the Gowanus Canal Superfund? The CAG is concerned that comparison to these polluted waters will undermine the strength of the cleanup and fail

to meet the community's goals for the Creek. We reiterate that to the extent these reference areas will factor into the remedy, their subsurface sediments should be evaluated.

The RI Report says the Phase 2 reference areas were selected because "they exhibited generally lower levels of contamination in surface sediment than other reference areas" (p. 550). This is incorrect and should be deleted.

* * *

Thank you for your consideration of the CAG's comments. We look forward to engaging with EPA and other stakeholders as further studies are completed.

Respectfully submitted,

Steering Committee
Newtown Creek Community Advisory Group (CAG)