

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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August 28, 2015

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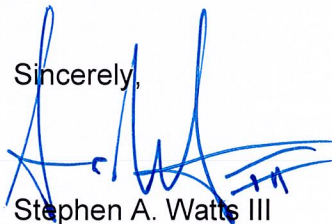
Re: NYSDEC Permit application # 2-6304-00157/00007  
Facility: NYCDEP East Branch Aeration Facility  
**Response to Comments**

Dear Commentors:

The Department has received and reviewed your comments in response to the application referenced above and offers the attached responses from the applicant. The Department concurs with the responses and would like to note in response to CAG comment on the environmental review that NYCDEP was lead agency under CEQR (CEQR is New York City's process for implementing SEQRA).

The Department appreciates your comments on this application. A copy of the issued permit is attached.

Sincerely,



Stephen A. Watts III  
Acting Regional Permit Administrator

cc: Susan Maresca, Natural Resources (via email)  
Sandy Chan, Natural Resources (via email)  
Linda Allen, P.E., DOW (via email)  
Paul Kenline, DOW (via email)  
Vincent Sapienza, P.E, NYCDEP (via email)  
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July 2, 2015

New York State Department of Environmental Conservation  
Division of Environmental Permits, Region 2  
47-40- 21<sup>st</sup> Street  
Long Island City, NY 11101  
Attn: Stephen A. Watts III  
Deputy Regional Permit Administrator

Re: NYSDEC Permit No. 2-6304-00157/0007,8,9  
Permit Type: Article 25, Tidal Wetlands  
Facility: NYCDEP East Branch Aeration Facility  
**Response to Public Notice Comments**

Dear Mr. Watts,

This letter responds to yours dated June 17, 2015, transmitting comments received by the New York State Department of Environmental Conservation (NYSDEC) in response to the Public Notice issued for the New York City (NYC) Department of Environmental Protection (DEP) permit application for the East Branch Aeration project. Those comments, copies of which are attached, are the following:

- Letter from the Newtown Creek Alliance (NCA) dated June 9, 2015
- Letter from the Newtown Creek Superfund Community Advisory Group (CAG) dated June 11, 2015

DEP has reviewed the comments and responds to each below. For clarity, the original comments are provided prior to each response.

**NCA Comments (June 9, 2015)**

**Comment 1: Disruption and resuspension of contaminated sediments**

We are aware that a significant portion of the NC-3 contract, extending from approximately Meeker Avenue and running southeast through the Turning Basin section, will only be activated at a later date due to concern over sediment contamination from former industrial operations such as the Phelps Dodge site. We feel that this is a prudent decision to prevent disruption and resuspension of chemical contaminants known to exist in the surface sediments of this area. However, given that high levels of hazardous contaminants exist elsewhere in Newtown Creek, as currently being analyzed as part of the Superfund Remedial Investigation (RI), we feel that the same cautious approach should apply to the entire Creek, not just the Turning Basin section. At the very least the build out of the aeration system should be delayed until the completed RI definitively shows higher sediment contamination in the Turning Basin section than other areas of the Creek.

**Response:** Aeration of East Branch and other parts of Newtown Creek is required under the 2012 Combined Sewer Overflow (CSO) Order on Consent (DEC Case No. CO2-20000107-8, as modified by a subsequent Order on Consent, DEC Case No. CO2-20110512-25) (the Consent Order) to increase the dissolved oxygen (DO) levels in portions of Newtown Creek to attain water quality standards. This project will be the third aeration system installed in Newtown Creek. The Consent Order requires DEP to issue Notice to Proceed for Construction by June 2015 (Modification to October 2015 requested) and to complete construction by June 2018. Any delay to the start of construction could subject DEP to stipulated penalties under the Consent Order.

Also, please see description of sampling done as part of the Lower English Kills pilot study in the response to NCA, Comment No. 2.

**Comment 2: Potential for aerosolizing harmful bacteria and inorganic particulates**

As noted in previous letters to the NYCDEP and NYSDEC, the aeration system presents a potential hazard for aerosolizing inorganic particulates, given on-site data that demonstrates benthic microbes are aerosolized when the system is in operation. Given the above concerns, and admitted risks of installing an aeration system in portions with highly contaminated sediments, we urge that no further aeration system should be installed in Newtown Creek until a study of the impacts of aerosolizing on air quality is conducted.

**Response:** DEP has previously responded to these concerns in response to earlier public comments and meetings. In a June 22, 2012 letter to the United States Army Corps of Engineers (USACE), responding to comments received on DEP's permit application for the Lower English Kills Aeration project DEP affirmed its position, based on experience with wastewater treatment plants and a review of the relevant scientific literature, that the aeration system poses no health risks. Specifically, DEP stated:

*As part of the Upper English Kills pilot study, a three-year sampling program was undertaken to evaluate the effectiveness of the aeration system and also to identify potential environmental concerns. The sampling program involved the collection of sediment and water column samples along with the conduction of ecological and benthic studies. Some of the key parameters analyzed in the water column included target analyte metals, suspended solids, and dissolved oxygen. Key parameters in the sediment sampling program consisted of target analyte metals in conjunction with total organic carbon and grain size distributions. The water column sampling showed no indication of metals or suspended solids being transferred into the water column as a result of this aeration system.*

*Air sampling was also performed for hydrogen sulfide because hydrogen sulfide release did occur when the system was first activated during summer 2009. However, this release was not attributable to the function of the aeration system; rather it was due to the fact that prior to activation of the aeration system, the bottom waters had become hypoxic from the warm weather without an aeration*

system, thus resulting in the formation of hydrogen sulfide. Hydrogen sulfide has not been detected in the subsequent years because DEP has been activating the system just prior to the start of summer, as originally intended, to prevent the waterbody from becoming hypoxic, thus eliminating any potential for hydrogen sulfide formation.

Sampling for biological pathogens has not been conducted. Pathogen release into the atmosphere is not anticipated from this in-stream aeration facility based on DEP's experience at its fourteen wastewater treatment plants (WWTPs). The WWTPs treat sanitary wastewater that has significantly higher levels of pathogens than the subject waterbody, and the WWTPs aerate wastewater using nearly 1,000 times more air per unit volume than the amount that would be used in DEP's aeration system. Based on records maintained by the DEP staff and contractors working at the WWTPs in accordance with OSHA and the NYS Department of Labor Public Employee Safety and Health (PESH) requirements, no incidents of illness or work-related complaints associated with exposure to airborne pathogens have been reported over the last five years. The PESH Recording and Reporting Public Employee's Occupational Injuries and Illnesses Standard (12 NYCRR Part 801) meets or exceeds all requirements of the equivalent federal standard (OSHA 29 CFR 1904). In addition, there are no OSHA- or PESH- related requirements for the Sewage Treatment Workers or Contractors to wear respiratory Personal Protective Equipment in the vicinity of the aeration tanks.

In general, all of the studies that are cited in the Riverkeeper's letter of March 9, 2012 fail to establish any cause-effect relationship of direct or indirect risk of exposures or infections for aerosols of sewage or other sources (freshwater and sea water) that may contain pathogens. Most of the study results were limited to the evaluation of the presence of pathogens at certain concentrations in various parts of several sewage treatment plants or other aquatic environments (Haas et al., 2010; Fracchia et al., 2006; Fannin et al., 1985; Blanchard et al., 1982). Others, including one study from Smit et al. (2009) were specifically designed and conducted to measure the levels of endotoxins and investigate work-related symptoms in wastewater treatment workers who could be exposed to biological and chemical agents. However, none of the studies attempted to evaluate the risks to wastewater treatment workers or to the general public specifically from the aerosolization of viable pathogenic bacteria and endotoxins as a result of aeration conducted in sewage treatment plants.

Some of these studies stated the conclusion that symptoms from workers' exposure to pathogens may have been work-related. However, in all cases they were not able to show any direct or indirect risks of exposure to pathogens from specific sources. They were also not able to establish any clear pathways of pathogen exposure from specific tasks or operations conducted at wastewater treatment facilities. In fact, several other studies have shown no higher infection

*rates (i.e. diagnosed diseases) for sewage treatment workers compared to the general population of workers not exposed to sewage (Garvey, 2005).*

**Comment 3: Re-evaluation of current dissolved oxygen levels and need for aeration**

While we fully appreciate efforts to raise dissolved oxygen levels above the 3mg/L standard that is driving the consent order, we would like to point out that the main channel of Newtown Creek regularly meets this standard from May through September (when DO levels are typically lower and the system would be in operation). From last year's Harbor Survey conducted during this period by the NYCDEP, we find that a large majority of the readings from the two sampling sites within the proposed NC-3 are, NC1 (the Turning Basin) and NC2 (Meeker Avenue), measured above the 3 mg/L DO standard; respectively 87% and 84%. To offer comparison to other waterways with conditions similar to Newtown Creek (poor circulation and heavy CSO discharge), we examined NYCDEP data from the Harbor Survey for sites CIC2, WC2, HC1 and BR2. In contrast to the NC sites, records for BR3 and HC1 show that a minority of samples measured above 3 mg/L DO: respectively, 41% and 48%. For sites WC2 and CIC2, the standard was exceeded in only 65% and 73%, respectively, of recorded samples. In sum, the NYCDEP's own data reveal that conditions are measurably worse at sites where no aeration system is currently proposed. Given these data, the community of Newtown Creek is owed an explanation for the speed with which the aeration project is being implemented, especially in light of the community's growing concerns.

Given that water quality conditions continue to improve throughout NY Harbor (in large part due to significant investments from both NYSDEC and NYCDEP to reduce CSO volume) one would only expect these DO numbers to improve, as they have already done so from 1992 when this consent order was originally initiated.

**Response:** The Waterbody Watershed Facility Plan (WWFP) for Newtown Creek was part of a decade-long program to identify the most effective solution to address poor water quality in the waterbody, as required by the US Environmental Protection Agency (USEPA) to attain existing water quality standards. The numerical standard for Newtown Creek requires that DO concentrations be at or above 3.0 mg/L at all times at all locations within the waterbody. A key element of the WWFP was the installation of an aeration system in Newtown Creek to meet that standard. Improved DO concentrations in Newtown Creek may be attributed, in part, to the aeration systems already in operation, but those improvements do not justify cancelling this project, inasmuch as Newtown Creek does not yet fully attain water quality standards for DO.

**Comment 4: Incorporation of new NYSDEC water quality standards and Long Term Control Plan**

A Long Term Control Plan (LTCP) for Newtown Creek will be submitted (2017) well before construction of NC-3 is completed (June 2018) and would ostensibly

drive all future initiatives to improve water quality conditions. Thus we find it prudent to delay the aeration expansion until the LTCP is put in place. As no timeline has been given for how long the aeration project would remain installed and operating within the Creek, it seems that an LTCP would be the appropriate time to plan and identify such a timeline, incorporating goals beyond a 3mg/L threshold. For instance, we are hopeful that the LTCP will take significant steps to address CSO discharge into the Creek, which again will improve and stabilize DO levels.

Lastly, as NYSDEC has proposed to revise the very Water Quality Classifications that are driving the consent order we strongly recommend a re-evaluation of solutions to bring water quality to the new standards, not the old ones. The present consent order is to bring conditions within the Creek up to current SD standards to accommodate fish survival with DO levels greater than 3 mg/L. In the new standards, SD waters are to be suitable for primary and secondary contact and would be measure by bacteria standards, as well as DO levels. While it is unclear if the consent order will be updated to reflect new classifications it is reasonable to re-evaluate the approach to improving water quality in the Creek so that both DO and bacteria levels will meet the new standard. In other words, if the new standards are adopted aeration alone will not fulfill the original consent order, which is to meet SD classification.

**Response:** The purpose of the WWFP for the waterbodies under the Consent Order was to establish a plan to meet existing water quality standards with enforceable milestones, many of which will be met even before the Newtown Creek LTCP is developed and accepted. The goal of that LTCP will be to evaluate the effectiveness of the WWFP's CSO controls and to determine whether and, if so, which additional CSO controls may be necessary to attain existing water quality standards and/or highest attainable appropriate use. As such, the LTCP for Newtown Creek necessarily will evaluate the aeration system in the context of existing and future water quality standards, and will consider the necessity of continued aeration.

#### Newtown Creek CAG Comments (June 11, 2015)

##### **Comment 1: Disruption and resuspension of contaminated sediments**

We are aware that a significant portion of the NC-3 contract, extending from approximately Meeker Avenue and running southeast through the Turning Basin section, will be activated only at a later date due to concern over sediment contamination from former industrial operations such as the Phelps Dodge site. We feel that this is a prudent decision to prevent disruption and resuspension of chemical contaminants known to exist in the surface sediments of this area. However, given that high levels of hazardous contaminants exist elsewhere in Newtown Creek, as currently being analyzed as part of the Superfund Remedial Investigation (RI), we feel that the same cautious approach should apply to the entire Creek, not just the Turning Basin section. At the very least the build out of

the aeration system should be delayed until the completed RI definitively demonstrates there is clear demarcation between a contaminated and a non-contaminated region of the Creek bottom sediments.

**Response:** Please see response to NCA, Comment No. 1.

**Comment 2: Potential for aerosolizing harmful bacteria and inorganic particulates**

As noted in previous letters from the Newtown Creek Alliance and Riverkeeper to NYCDEP and NYSDEC, the aeration system presents a potential hazard for aerosolizing inorganic particulates, given on-site data that demonstrates benthic microbes are aerosolized when the system is in operation. Given the above concerns, and admitted risks of installing an aeration system in portions with highly contaminated sediments, we urge that no further aeration system should be installed in Newtown Creek until a study of the impacts of aerosolizing on air quality is conducted. Moreover, the need hasn't been proven to the community; there has been no public disclosure of the data used to support the proposition that these systems are needed throughout the project area, nor any rationale as to why this expensive band-aid is being considered over resolution of the underlying dissolved oxygen problem: rampant, unchecked, and unaddressed combined sewer overflows.

Given that the State failed to require a full environmental review of this project, mitigation, avoidance, and alternatives to this project were never discussed. The Newtown Creek CAG Steering Committee calls on the state to rescind its Negative Declaration and require a full review of this proposal. As part of such review, the proponent (NYCDEP) should analyze whether there are ways to avoid public health risks (such as by actually addressing the causes of low dissolved oxygen, instead of the symptoms); or, if aeration risks cannot be avoided, whether there are ways to mitigate those risks (such as by only operating the system at night, installing an automatic system that shuts off the system when near-bottom dissolved oxygen levels reach optimum thresholds, or by only installing aeration in certain portions of the Creek). If risks cannot be avoided, and the DEP claims they cannot be mitigated, the State should demand – as will the community – that the City clearly, and with supporting evidence, disclose its rationale.

Absent any such thorough review, whether done through SEQRA or through DEC's internal review of the project, the installation of this proposal appears to the community to be a large risk of uncertain and short term benefit, an expensive project that doesn't solve the problem it is supposedly addressing, and a plan without a thorough analysis of how to effectively and efficiently balance the community's concerns with the City's goals. As such, the State should not approve this permit without requiring that the City prove it is burdening the community only as much as it must to achieve the projects goals.

**Response:** Please see response to NCA, Comment No. 2, with respect to alleged effects of aerosolized particulates on air quality.



Please see response to NCA, Comment No. 4, with regard to how the aeration system, as part of the WWFP, relates to the anticipated LTCP for Newtown Creek. Further, the WWFP for Newtown Creek underwent an extensive public review and comment period regarding the alternatives evaluated for the waterbody.

DEP, as Lead Agency, completed a coordinated review under the rules of City Environmental Quality Review (CEQR). An Environmental Assessment Statement (EAS) was prepared and shared with involved and interested agencies in December 2014. The EAS found that there was no potential for significant, adverse impacts and, therefore, DEP issued a Negative Declaration on January 12, 2015.

**Comment 3: Impact of aeration in relation to ebullition and remedial investigation**

In a recent presentation to the EPA's Contaminated Sediments Technical Advisory Group (CSTAG) in regard to Newton Creek, the NYCDEP expressed concerns over ebullition and dispersal of contaminated sediments. From their presentation they describe (*see original letter for full citation*).

The DEP presentation also discusses the presence of oil sheens that have often been present in various parts of Newtown Creek: *"Direct observation of oil sheens and seeps are commonplace in the turning basin, English Kills and Dutch Kills. These observations are coincident with known oil processing or storage facilities. The magnitude of these on-going releases is unknown."*

We are very concerned that the aeration system may amplify the impact of ebullition and free floating contaminants through resuspension within the water column as well as transference into the air column as bubbles burst at the surface. Unless there is clear evidence that aeration has no impact on this ebullition process or will alter in any way the ability of DEP and various contractors to effectively study and measure this occurrence then we feel the aeration expansion should not occur and current aerated portions (English Kills) should be fully evaluated in this regard. As the Community Advisory Group we need to ensure that Superfund investigations are sound and data collections are not altered by outside factors and trust you can appreciate this responsibility.

**Response:** Gas in sediment is commonly generated by anaerobic decay of organic matter by microorganisms. These microorganisms are ubiquitous in the environment. Laboratory studies have shown that ebullition-facilitated NAPL migration from sediment is proportional to the gas generation rate in sediment. Field observations at several sites support this conclusion (i.e., NAPL migration and sheen generation are greatest during times of greatest gas release from sediment, such as at low tides).

In order for gas bubbles to cause NAPL migration from sediment, the gas bubbles need to come into physical contact with the oily sediment. In English Kills, the



aerators inject gas into the water column above the sediment- the aerators do not inject air into the sediment. As a result, the gas bubbles from the aerators rise up through the water column without coming into contact with the sediment column, except perhaps only at the sediment surface. This potential surface contact is expected to have only a minimal effect on NAPL flux from sediment, if any. NAPL transport due to gas generated within the oily sediment is expected to be orders of magnitude greater than incidental contact of stray gas bubbles from the aerators with the sediment surface.

The amount of NAPL within the water column is not known at Newtown Creek, because most of the NAPL is expected to be either DNAPL or LNAPL, and will be expected to occur within the sediment below the water column, or to be present as a thin film at the surface. Aeration within the water column is expected to have only a minimal effect on aggregate NAPL migration at the site, if any.

Any assessment of NAPL and gas migration from sediment conducted at Newtown Creek by the City of New York will be designed to take into account the placement and operation of the aerators; careful design of field and laboratory experiments will allow us to account for, and to avoid, potential biases introduced by the aeration process.

Please do not hesitate to contact me if you have any questions.

Sincerely,



Ray Meshkati, P.E.  
Accountable Manager

c: V. Sapienza, BEDC, Deputy Commissioner  
K. Moriarty, BEDC, Acting Assistant Commissioner  
R. Tysvaer, BEDC, Portfolio Manager  
M. Klein, BEDC, Chief - Permit Resources Division  
K. Beckmann, BWT, Program Manager, LTCP  
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June 22, 2012



*Carter H. Strickland, Jr.*  
*Commissioner*

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Ms. Naomi Handell  
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New York, NY 10278-0090

Re: **Permit Application Number NAN-2011-00680**  
**NYC Department of Environmental Protection**  
**Installation of Phase II Aeration Pipelines in**  
**Lower English Kills, Brooklyn, Kings County, New York**  
**Response to Riverkeeper, North Brooklyn Boat Club, and**  
**Newtown Creek Alliance Comments**

Dear Ms. Handell:

This letter is in response to the your letter, dated June 5, 2012 (copy attached), which included comments from Riverkeeper, North Brooklyn Boat Club, and Newtown Creek Alliance regarding the New York City Department of Environmental Protection (DEP) permit application to install a pipeline and aeration system in Lower English Kills. The referenced correspondence, copies of which are attached hereto, include the following:

- a letter from Riverkeeper, dated June 4, 2012
- email from Dewey Thompson (North Brooklyn Boat Club member), dated June 4, 2012
- email from Jens Rasmussen (North Brooklyn Boat Club member), dated June 4, 2012
- letter from Newtown Creek Alliance, dated June 4, 2012

Aeration of Lower English Kills and other parts of Newtown Creek is required under the 2012 CSO Order on Consent (DEC Case No. CO2-20000107-8, as modified by DEC Case No. CO2-20110512-25) (hereinafter, the "Order"). The intent of this project is to increase the dissolved oxygen levels in English Kills to attain existing water quality standards. It is also intended to reduce odors associated with hydrogen sulfide that are produced during the summer months when the bottom waters become hypoxic due to lack of dissolved oxygen.

The 2012 Order was publicly noticed on October 19, 2011. A 30-day comment period was provided and a public meeting was held in Long Island City on November 9, 2011. DEP and the New York State of Environmental Conservation (DEC) conducted a subsequent public meeting at the Newtown Creek WWTP Visitor Center on February 22, 2012 specifically to discuss

elements of the Newtown Creek Waterbody Watershed Facility Plan (WWFP). That meeting included discussions on the proposed aeration projects, and a 30-day public comment period was also provided. Comments were received from a number of individuals and associations including Riverkeeper. DEP met with representatives from Riverkeeper and Newtown Creek Alliance on April 27, 2012 to discuss their comments and concerns.

In reviewing the comments sent to your office in response to the subject permit application, DEP has identified essentially two comments or concerns that are pertinent to the aeration system. The remaining comments and concerns are related to issues with the overall long term plan for the entirety of the Newtown Creek waterbody. These comments stem from issuance of the draft Newtown Creek WWFP, which was recently approved by DEC. As such, these comments are more appropriately addressed through that forum. DEP has prepared the Newtown Creek WWFP Responsiveness Summary (copy attached) which answers these comments. The Newtown Creek WWFP Responsiveness Summary will be appended to the Newtown Creek WWFP. Regarding the comments that are specific to the aeration system, we offer the following responses:

**Comment 1:** NYC held a public meeting to solicit public input on the WWFP on February 22, 2012, but provided only basic information about its plans to expand the aeration project. For example, NYCDEP did not provide detailed information on the location of blower buildings, exact locations of the expanded system with the English Kills, or the method by which the aeration piping would be secured to the bed of the Creek. [Riverkeeper letter dated June 4, 2012]

**Response:** The existing In-Stream Aeration System for Upper English Kills consists of a building (at 1106 Grand Street, Brooklyn) that houses two 1,750 standard cubic feet per minute (scfm) air blowers, 2,220 linear feet of 6-inch diameter polypropylene piping and 506 diffusers. The piping is held down by stainless steel ballast plates. The Lower English Kills system is very similar to the Upper English Kills system and will use the existing building to house an additional 1,750 scfm air blower. The system also includes 2,985 linear feet of 6-inch diameter polypropylene piping, to be held down by stainless steel ballast plates, and 722 diffusers. Drawings showing the details of the aeration system are shown on pages 8 through 13 (labeled as NAN-2011-00680-EHA 4/9 through 9/9) of the Public Notice. The future phases beyond the English Kills systems are still under preliminary design, but will likely be of similar design to the system currently in English Kills.

**Comment 2:** The Plan completely fails to adequately assess the potential public health risk of expanding the aeration system throughout the Creek, which would resuspend and disseminate bacterial contamination from the Creek water and sediment into the surrounding air, exposing recreational boaters and operators of commercial marine traffic to bacterial contaminants through direct exposure and inhalation. [Riverkeeper letter dated March 9, 2012]

DEP staff also provided some information regarding the expansion of the aeration system at a public meeting on February 22, 2012. In that presentation, DEP explained that it conducted air quality monitoring for Hydrogen sulfide, VOCs

and benzene, and detected only initial spikes in hydrogen sulfide when the system first started up, which apparently dissipated. Several members of the public at the meeting asked if DEP had conducted air sampling for bacterial pathogens, and DEP answered that they did not believe so, but were unsure. DEP did not provide any information suggesting that such air sampling had taken place, and the Plan does not include any information describing air sampling for pathogens.

[Riverkeeper letter dated March 9, 2012]

Riverkeeper is extremely concerned that DEP has not adequately studied the air quality impacts of the aeration system or the potential for the aerosolizing of sewage related bacteria and other contaminants into the surrounding air. This could present a public health risk to boaters on the Creek as well as people living and working in areas adjacent or in the nearby vicinity of the Creek while the aeration system is running. [Riverkeeper letter dated March 9, 2012]

We join the Newtown Creek Alliance and other community groups in our concern about the potential for existing and expanded aeration to create an aerosol spray that could mobilize pathogens and contamination present both in sediments and the water column into the air. As an active working waterfront with daily tug and barge operations, as well as increasing public access and recreational boating activity, there are significant opportunities for aspirated material to potentially impact human health. [Email from North Brooklyn Boat Club member Dewey Thompson dated June 4, 2012]

A common concern expressed by many of our members is the potential for existing and expanded aeration to create an aerosol spray that could mobilize pathogens and contamination present both in sediments and the water column into the air. As an active working waterfront with daily tug and barge operations, as well as increasing public access and recreational boating activity, there are significant opportunities for aspirated material to potentially impact human health. [Email from North Brooklyn Boat Club member Jens Rasmussen dated June 4, 2012]

A common concern expressed by the community working and recreating on the creek is the potential for existing and expanded aeration to create an aerosol spray that could mobilize pathogens and contamination present both in sediments and the water column into the air. As an active working waterfront with daily tug and barge operations, as well as increasing public access and recreational boating activity, there are significant opportunities for aspirated material to potentially impact human health. [Newtown Creek Alliance letter dated June 4, 2012]

**Response:** As discussed in the attached Newtown Creek WWFP Responsiveness Summary, studies have shown that aeration will not cause sediment re-suspension or increased levels of dissolved metals in the water column. As part of the Upper English Kills pilot study, a three-year sampling program was undertaken to evaluate the effectiveness of the aeration system and also to identify potential environmental concerns. The sampling program involved the collection of sediment and water column samples along with the conduction of ecological and benthic studies. Some of the key parameters analyzed in the water column

included target analyte metals, suspended solids, and dissolved oxygen. Key parameters in the sediment sampling program consisted of target analyte metals in conjunction with total organic carbon and grain size distributions. The water column sampling showed no indication of metals or suspended solids being transferred into the water column as a result of this aeration system.

Air sampling was also performed for hydrogen sulfide because hydrogen sulfide release did occur when the system was first activated during summer 2009. However, this release was not attributable to the function of the aeration system; rather it was due to the fact that prior to activation of the aeration system, the bottom waters had become hypoxic from the warm weather without an aeration system, thus resulting in the formation of hydrogen sulfide. Hydrogen sulfide has not been detected in the subsequent years because DEP has been activating the system just prior to the start of summer, as originally intended, to prevent the waterbody from becoming hypoxic, thus eliminating any potential for hydrogen sulfide formation.

Sampling for biological pathogens has not been conducted. Pathogen release into the atmosphere is not anticipated from this in-stream aeration facility based on DEP's experience at its fourteen wastewater treatment plants (WWTPs). The WWTPs treat sanitary wastewater that has significantly higher levels of pathogens than the subject waterbody, and the WWTPs aerate wastewater using nearly 1,000 times more air per unit volume than the amount that would be used in DEP's aeration system. Based on records maintained by the DEP staff and contractors working at the WWTPs in accordance with OSHA and the NYS Department of Labor Public Employee Safety and Health (PESH) requirements, no incidents of illness or work-related complaints associated with exposure to airborne pathogens have been reported over the last five years. The PESH Recording and Reporting Public Employee's Occupational Injuries and Illnesses Standard (12 NYCRR Part 801) meets or exceeds all requirements of the equivalent federal standard (OSHA 29 CFR 1904). In addition, there are no OSHA- or PESH-related requirements for the Sewage Treatment Workers or Contractors to wear respiratory Personal Protective Equipment in the vicinity of the aeration tanks.

In general, all of the studies that are cited in the Riverkeeper's letter of March 9, 2012 fail to establish any cause-effect relationship of direct or indirect risk of exposures or infections from aerosols of sewage or other sources (freshwater and sea water) that may contain pathogens. Most of the study results were limited to the evaluation of the presence of pathogens at certain concentrations in various parts of several sewage treatment plants or other aquatic environments (Haas et al., 2010; Fracchia et al., 2006; Fannin et al., 1985; Blanchard et al., 1982). Others, including one study from Smit et al. (2005) were specifically designed and conducted to measure the levels of endotoxins and investigate work-related symptoms in wastewater treatment workers who could be exposed to biological and chemical agents. However, none of the studies attempted to evaluate the risks to wastewater treatment workers or to the general public specifically from the aerosolization of viable pathogenic bacteria and endotoxins as a result of aeration conducted in sewage treatment plants.

Some of these studies stated the conclusion that symptoms from workers' exposure to pathogens may have been work-related. However, in all cases they were not able to show any direct or indirect risks of exposure to pathogens from specific sources. They were also not able to establish any clear pathways of pathogen exposure from specific tasks or operations conducted at wastewater treatment facilities. In fact, several other studies have shown no higher infection rates (i.e. diagnosed diseases) for sewage treatment workers compared to the general population of workers not exposed to sewage (Garvey, 2005).

To summarize, the requested detailed information for this project can be found in the Public Notice. This project has gone through the public notice and comment process on multiple occasions, including the review of the Newtown Creek WWFP and the 2012 Order where the above issues have been addressed. Subsequent public meetings have also been held. It is the DEP's position that there are no health concerns caused by the aeration system (i.e. aerosol sprays mobilizing pathogens and contaminants) based on experience with the WWTPs and our review of the relevant literature. Since these concerns are the basis for the request for a public hearing, DEP respectfully submits that such hearing is unnecessary.

Please do not hesitate to contact me if you have any questions. Thank you for your continued assistance on this project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Wing Szeto', with a long horizontal flourish extending to the right.

Wing Szeto, P.E.  
Accountable Manager

cc: Angela Licata, Deputy Commissioner, Sustainability  
Eileen Mahoney, Director, BEPA  
Kevin Donnelly, Assistant Commissioner, BEDC  
Roy Tysvaer, Portfolio Manager, BEDC  
Mark Klein, Chief, BEDC  
James Mueller, Assistant Commissioner, BWT  
Anthony Maracic, Director, BWT  
Keith Mahoney, Division Chief, BWT  
Robin Levine, Senior Environmental Counsel, BLA  
Heather Donnelly, Assistant Counsel, BLA  
Thomas Creamer, Chief of Operations, USACE



**PERMIT**  
**Under the Environmental Conservation Law (ECL)**

**Permittee and Facility Information**

**Permit Issued To:**

NYC DEPT OF ENVIRONMENTAL  
PROTECTION

96-05 HORACE HARDING EXPY FL 5  
CORONA, NY 11368  
(718) 595-4906

**Facility:**

NYC DEP EAST BRANCH AERATION  
FACILITY - NEWTOWN CREEK CSO  
PROJECT  
58-26 47TH ST  
MASPETH, NY 11378

**Facility Location:** in QUEENS COUNTY

**Facility Principal Reference Point:** NYTM-E: 590.989      NYTM-N: 4508.009  
Latitude: 40°43'04.7" Longitude: 73°55'21.7"

**Authorized Activity:** Install a blower building and a diffused aeration system for aerating the East Branch and portions of Newtown Creek. The blower building will be located at 58-26 47<sup>th</sup> Street in Maspeth and divers will install 2500 feet of the creek bed with diffusers and concrete ballasts along the pipe length to further facilitate the aeration of these water bodies as part of the Citywide CSO abatement program. This project is required pursuant to the 2005 CSO Consent Order (CO2-20000107-8).

**Permit Authorizations**

**Water Quality Certification - Under Section 401 - Clean Water Act**

Permit ID 2-6304-00157/00006

New Permit

Effective Date: 9/1/2015

Expiration Date: 12/31/2022

**Tidal Wetlands - Under Article 25**

Permit ID 2-6304-00157/00007

New Permit

Effective Date: 9/1/2015

Expiration Date: 12/31/2022

**Excavation & Fill in Navigable Waters - Under Article 15, Title 5**

Permit ID 2-6304-00157/00008

New Permit

Effective Date: 9/1/2015

Expiration Date: 12/31/2022





**NYSDEC Approval**

**By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, and all conditions included as part of this permit.**

Permit Administrator: STEPHEN A WATTS, Acting Regional Permit Administrator

Address: NYSDEC Region 2 Headquarters  
47-40 21st St  
Long Island City, NY 11101 -5401

Authorized Signature: \_\_\_\_\_

Date 08/28/2015

**Permit Components**

NATURAL RESOURCE PERMIT CONDITIONS

WATER QUALITY CERTIFICATION SPECIFIC CONDITION

GENERAL CONDITIONS, APPLY TO ALL AUTHORIZED PERMITS

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

**NATURAL RESOURCE PERMIT CONDITIONS - Apply to the Following  
Permits: WATER QUALITY CERTIFICATION; TIDAL WETLANDS;  
EXCAVATION & FILL IN NAVIGABLE WATERS**

**1. Conformance With Plans** All activities authorized by this permit must be in strict conformance with the approved plans submitted by the applicant or applicant's agent as part of the permit application. Such approved plans were prepared by NYCDEP.

**2. Conformance with Plans - Addenda** In addition to plans referenced in the Condition titled "Conformance with Plans," the activities authorized by this permit must be in strict conformance with the following approved plans and/or submissions made as part of the permit application:

A) Planting Plan – Sheet C-11 dated 4/21/2015

B) Application package dated October 27, 2014, received November 3, 2014 and response to incomplete notice dated February 18, 2015, received February 25, 2015.



**3. Planting monitoring** All new plants, must be monitored for survival for a minimum of two growing seasons. If mortality or bare areas occur dead plants are to be replaced. The Permittee must notify the NYSDEC Bureau of Fish & Wildlife, 47-40 21st Street, Long Island City, New York 11101 (Attention: Marine Resources Manager) at the conclusion of each growing season as to the condition of plants and the actions taken in the planting area.

**4. Best Management Practices** Best management practices will be employed to prevent the loss of construction materials, debris, and sediment from entering the waterways. Such practices may include, but are not limited to silt fencing, hay bales, and floating booms.

**5. Concrete or Leachate Must Not Escape** During construction, concrete or leachate will not escape or be discharged, nor will washings from transit mix trucks, mixers, or other devices enter tidal wetlands and or protected buffer areas.

**6. Removal of Debris and Excess Material** Any debris or excess material from construction of this project will be completely removed from the adjacent area (upland) and removed to an approved upland area for disposal. No debris is permitted in tidal wetlands or tidal wetlands adjacent area or protected buffer areas.

**7. Erosion/Sediment Control** All areas of soil disturbance resulting from this project will be stabilized immediately following project completion or prior to permit expiration, whichever comes first. The approved methodologies are as follows:

- A. Stabilization of the entire disturbed area with appropriate vegetation (grasses, etc.).
- B. Stabilized as per specifications identified on approved plans.
- C. Temporarily stabilized with straw or hay mulch or jute matting or other similar natural fiber matting within 1 week of final grading. Temporary stabilization will be maintained until a mature vegetative cover is established.

**8. Disturbed Soils** All disturbed areas where soil will be temporarily exposed or stockpiled for longer than one (1) week will be contained by a continuous line of staked hay bales/silt curtain (or other NYSDEC approved method) placed on the seaward side between the fill and wetland or protected buffer area. Tarps are authorized to supplement these approved methods.

**9. Fill Material** All fill will consist of “clean” sand, gravel, or soil. The use of material such as asphalt, slag, fly-ash, recycled concrete aggregate (RCA), broken concrete, or demolition debris is strictly prohibited.

**10. No Equipment Below High Water** Equipment operation below apparent high water is strictly prohibited.

**11. No Discharge into Tidal Wetlands** There will be no discharge of runoff or other effluent over or through any bulkhead or shoreline stabilization structure or into any tidal wetland or tidal wetlands adjacent area (unless specifically authorized herein).



**12. Storage of Construction Equipment and Materials** The storage of construction equipment and materials will be confined to within the project work site and or upland areas greater than 35 linear feet from the tidal wetland boundary.

**13. Post Construction Photographs** Post-construction photographs of the work area must be submitted to the NYSDEC Bureau of Marine Resources, 47-40 21st Street, Long Island City, New York 11101 within 30 days of the completion of work.

**14. Notice of Intent to Commence Work** At least five (5) days prior to commencement of the permitted activity, Permittee must complete and submit the attached "Notice of Intent to Commence Work" to NYSDEC Office of Natural Resources, 47-40 21st Street, Long Island City, New York 11101.

**15. Posting of NYSDEC Permit Sign** The attached NYSDEC permit sign shall be posted, protected from the weather, in a conspicuous outdoor location at the project site. This sign is to be posted for the duration of work authorized by this permit.

**16. No Interference With Navigation** There shall be no unreasonable interference with navigation by the work herein authorized.

**17. State Not Liable for Damage** The State of New York shall in no case be liable for any damage or injury to the structure or work herein authorized which may be caused by or result from future operations undertaken by the State for the conservation or improvement of navigation, or for other purposes, and no claim or right to compensation shall accrue from any such damage.

**18. State May Order Removal or Alteration of Work** If future operations by the State of New York require an alteration in the position of the structure or work herein authorized, or if, in the opinion of the Department of Environmental Conservation it shall cause unreasonable obstruction to the free navigation of said waters or flood flows or endanger the health, safety or welfare of the people of the State, or cause loss or destruction of the natural resources of the State, the owner may be ordered by the Department to remove or alter the structural work, obstructions, or hazards caused thereby without expense to the State, and if, upon the expiration or revocation of this permit, the structure, fill, excavation, or other modification of the watercourse hereby authorized shall not be completed, the owners, shall, without expense to the State, and to such extent and in such time and manner as the Department of Environmental Conservation may require, remove all or any portion of the uncompleted structure or fill and restore to its former condition the navigable and flood capacity of the watercourse. No claim shall be made against the State of New York on account of any such removal or alteration.

**19. Precautions Against Contamination of Waters** All necessary precautions shall be taken to preclude contamination of any wetland or waterway by suspended solids, sediments, fuels, solvents, lubricants, epoxy coatings, paints, concrete, leachate or any other environmentally deleterious materials associated with the project.



**20. State May Require Site Restoration** If upon the expiration or revocation of this permit, the project hereby authorized has not been completed, the applicant shall, without expense to the State, and to such extent and in such time and manner as the Department of Environmental Conservation may lawfully require, remove all or any portion of the uncompleted structure or fill and restore the site to its former condition. No claim shall be made against the State of New York on account of any such removal or alteration.

### **WATER QUALITY CERTIFICATION SPECIFIC CONDITIONS**

**1. Water Quality Certification** The NYS Department of Environmental Conservation hereby certifies that the subject project will not contravene effluent limitations or other limitations or standards under Sections 301, 302, 303, 306 and 307 of the Clean Water Act of 1977 (PL 95-217) provided that all of the conditions listed herein are met.

### **GENERAL CONDITIONS - Apply to ALL Authorized Permits:**

**1. Facility Inspection by The Department** The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71- 0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

**2. Relationship of this Permit to Other Department Orders and Determinations** Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

**3. Applications For Permit Renewals, Modifications or Transfers** The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal, modification or transfer are to be submitted to:

Regional Permit Administrator  
NYSDEC Region 2 Headquarters  
47-40 21st St  
Long Island City, NY 11101 -5401



**4. Submission of Renewal Application** The permittee must submit a renewal application at least 30 days before permit expiration for the following permit authorizations: Excavation & Fill in Navigable Waters, Tidal Wetlands, Water Quality Certification.

**5. Permit Modifications, Suspensions and Revocations by the Department** The Department reserves the right to exercise all available authority to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

- a. materially false or inaccurate statements in the permit application or supporting papers;
- b. failure by the permittee to comply with any terms or conditions of the permit;
- c. exceeding the scope of the project as described in the permit application;
- d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;
- e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

**6. Permit Transfer** Permits are transferrable unless specifically prohibited by statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

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| <b>NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS</b> |
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**Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification**

The permittee, excepting state or federal agencies, expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.



**Item B: Permittee's Contractors to Comply with Permit**

The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

**Item C: Permittee Responsible for Obtaining Other Required Permits**

The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

**Item D: No Right to Trespass or Interfere with Riparian Rights**

This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.