Long Term Control Plan (LTCP) Newtown Creek Public Meeting #2 – Public Data Review Meeting

Summary of Meeting and Public Comments

On February 21, 2017 the New York City Department of Environmental Protection (DEP) hosted a public meeting to present the data collected as part of the Newtown Creek Combined Sewer Overflows (CSO) Long Term Control Plan (LTCP). The two-hour event, held at the Newtown Creek Wastewater Treatment Plant (WWTP) Visitor Center in Greenpoint, Brooklyn, provided information about DEP's LTCP development for Newtown Creek. The data-sharing meeting was the first of its kind and was held in response to the request made at the close of the kickoff meeting held on November 15, 2016.

Approximately 30 people from the public attended the event, as well as representatives from DEP and the New York State Department of Environmental Conservation (DEC). Information presented included:

- DEP sampling programs and sampling locations;
- CSO and MS4 landside sampling results and analysis;
- Flow monitoring results and analysis;
- The landside model calibration process;
- Receiving water bacteria sampling results and analysis;
- Dissolved oxygen sampling results and analysis;
- Impact of Aeration on DO Levels;
- The water quality model calibration process;
- Data from other (non-DEP) sampling programs;
- Newtown Creek built and planned GI projects;
- Baseline model inputs and assumptions; and
- Model results for baseline CSO volumes.

Key findings from the data collected in the Newtown Creek LTCP Sampling Program indicated elevated bacteria levels, excursions below the water quality standards (WQS) criteria for DO and a slow time to recovery for the waterbody. The following summarizes the questions and comments from attendees as well as responses given. The presentation can be found at http://www.nyc.gov/dep/ltcp.

Q1: Why doesn't fecal coliform and *Enterococci* concentration track consistently with each other in the CSO data?

A1: DEP responded that it does not have a clear explanation or reason, but that the data seem to be consistent with data from other waterbodies where fecal coliform is generally higher than *Enterococci*.

Q2: Why are bacteria concentrations elevated in MS4 outfalls?

A2: DEP responded that they are evaluating the issue. . DEP noted that it is unclear why the MS4 *Enterococci* results are much higher than the fecal coliform concentrations, but that it is presenting the data collected.

Q3: Why are there no overflow results for CSO Outfall NC-015?

A3: DEP responded there was not an overflow with the rain intensities experienced during the LTCP Sampling Program that ran from July 1st to November 3rd 2016.

Q4: Can you explain where the samples are taken?

A4: DEP responded that the results shown on slide 13 are for CSO outfall samples taken from the regulator, upstream of the waterbody.

Q5: In monitoring bacteria levels in water you mentioned, samples were collected at high and low tide. I imagine that for DO, the DO levels would vary with time and tide? Were samples taken at times when minimum DO is expected?

A5: DEP responded that slides later in the presentation show DO results including continuous DO data collection using data sondes.

Q6: What about sampling for heavy metals?

A6: DEP responded that heavy metals are not a parameter analyzed under the Clean Water Act CSO sampling programs but that other programs, such as Superfund, that collect data on heavy metals.

Q7: The fecal coliform and *Enterococci* values for MS4 seem really high. Do you have a sense of what typical values are, and if high, can you check for illicit connections?

A7: DEP responded that illicit connections are not a problem in the Newtown Creek area. This is a wet-weather program so the sampling events target CSO-triggering events. DEP can provide typical MS4 values and the concentrations being used in the model.

FOLLOW-UP RESPONSE: Typical stormwater concentrations from a previous city-wide stormwater sampling program are:

- Fecal coliform:
  - 120,000 #/100mL (high level urban)
  - 35,000 #/100mL (low level urban)
- Enterococci:
  - 50,000 #/100mL (high level urban)
  - 15,000 #/100mL (low level urban)

The water quality model for Newtown Creek is using stormwater concentrations based on the sampling data from Newtown Creek, so the model will reflect the range and relative frequency of the measured concentrations.

Q8: If a wetter year had been used for model calibration, would the results have shown more variability compared to the calibration standards?

A8: 2014-2015 was representative in terms of rainfall, with both large and small storm events, plus there was an entire year of data upon which to evaluate the calibration.

Q9: What does top and bottom mean for samples?

A9: DEP responded that along with high/low tide, samples are collected near the water surface and near the bottom of the Creek if sufficient depth exists for both.

Q10: Do you see a difference in time of recovery from top and bottom samples?

A10: DEP responded that yes, the top sample typically has a higher bacteria concentration than bottom samples. Because CSOs are non-saline water, which is less dense than salt water, the CSO tends initially to be concentrated in the top layers. Bacteria that is attached to sediment can also be re-suspended.

Q11: Was this data collected during the day?

A11: DEP responded that yes, waterbody samples were collected during the day following the storm/CSO event.

Q12: So even in the area with aeration there are depressed DO levels below the WQS? Do you think it would be worse without aeration?

A12: DEP responded that the data sondes continuously recorded data throughout the day and night (low DO hours). DEP noted that there are some issues with the sonde data collected. And yes, the DO levels would be worse without aeration. Slide 17 shows historical DO data in the area of the installed aeration.

Q13: Where were the data sondes installed, on top of the aeration system?

A13: DEP responded that grab samples were taken from the centerline of the Creek and DEP needs to confirm the location of the data sonde installations.

FOLLOW-UP ITEM: All sondes were on low profile mounts close to the bed of the Creek but they were not installed on or directly adjacent to the aeration system equipment. It is possible the sondes were being covered and uncovered by sediment with changes in the tide and the low DO readings are an artifact of being covered with sediment.

Q14: Was Sediment Oxygen Demand (SOD) collected using light and dark chambers?

A14: DEP responded that yes, it believes the light and dark chambers were used.

FOLLOW-UP ITEM: The SOD analysis protocol called for incubating the sediment core tubes in the dark.

Q15: Have you looked at variable die-off rates for other factors such as solar reduction?

A15: DEP responded that yes, it has considered other die-off factors such as solar radiation, and may revisit those factors.

Q16: Have you done any vertical profiles for DO?

A16: DEP responded no; only top and bottom are collected.

Q17: Why did you do comparison of Newtown Creek Alliance data but not Riverkeeper?

A17: DEP responded that the Riverkeeper comparison is shown on slide 45.

Q18: How many gallons of CSO does aeration prevent?

A18: DEP respond zero; aeration addresses only dissolved oxygen.

Q19: Regarding the use of natural versus artificial turf in green infrastructure installations, have you done sampling/testing to determine which is better?

A19: DEP responded yes, testing is part of the DEP research and development program. DEP noted that in some cases, artificial turf was better for programmable uses of the green space.

Q20: Do you have any GI projects in the Community Board 2 area, north of Newtown Creek?

A20: DEP responded that information can be sent regarding that area.

FOLLOW-UP ITEM: Visit www.nyc.gov/greeninfrastructure to view the online map of planned, designed, and constructed green infrastructure installations. Click "content" to include community board shapes.

Q21: All GI is upland and small sites. Seems like Newtown Creek is an opportunity to restore/make an entire area as marshland to be used as for treatment. Has there been thought to transforming Dutch Kills into a marshland?

A21: DEP responded yes, those concepts are part of the LTCP analysis. There is a balance between green and grey infrastructure to achieve the desired water quality. DEP seeks the public's input on where to install GI. DEP also noted that a wetland pilot project has been installed in Dutch Kills and that a second one will be installed this year.

Q22: Are the volumes for all outfalls in the model? And available to the public?

A22: DEP responded that yes, the 21 outfalls are in the model and yes, we can provide the volumes for all 21.

FOLLOW-UP ITEM: Updated LTCP Baseline volumes for all CSO outfalls to Newtown Creek for the 2008 typical year are presented in Table 1.

Table 1. LTCP Baseline Volumes to Newtown Creek (2008 Typical Year)

Combined Sewer Outfalls	Receiving Waters	Discharge Volume (MGY)	No. of Discharges
BB-026	Dutch Kills	120	37
NC-077	Maspeth Creek	300	41
NC-083	East Branch	314	42
NC-015	English Kills	321	31
Subtotal - Four Largest Outfalls	**Newtown Creek and Tributaries**	**1,055**	**42 (max.)**
BB-004	Dutch Kills	0	1
BB-009	Dutch Kills	43	34
BB-040	Dutch Kills	1	16
BB-010	Newtown Creek	1	7
BB-011	Newtown Creek	2	14
BB-012	Newtown Creek	0	1
BB-013	Newtown Creek	16	31
BB-014	Newtown Creek	2	18
BB-015	Newtown Creek	1	13
BB-042	Newtown Creek	2	22
BB-043	Newtown Creek	9	32
BB-049	Newtown Creek	0	0
NCB-019	Newtown Creek	3	21
NCB-021	Newtown Creek	0	0
NCB-022	Newtown Creek	7	29
NCB-023	Newtown Creek	0	8
NCQ-029	Newtown Creek	19	40
Subtotal – Other Outfalls	**Newtown Creek and Dutch Kills**	**106**	**40 (max.)**
Total CSO	**Newtown Creek and Tributaries**	**1,161**	**42 (max.)**

Q23: Why such changes in modeled volumes from previous models? NC-083 has been the biggest outfall in the past.

A23: DEP responded that Outfall NC-083 has stormwater connections downstream of the regulator. In addition, DEP has active bending weir projects that move flows around. Further details can be provided in the model calibration report. In the case of Outfall NC-015, some areas now go to the East River.

Q24: Does DEP have updated sewershed maps reflecting the changes?

A24: DEP responded yes, that slide 54 shows the outfall drainage areas, and revised maps will be included in the LTCP. DEP can also provide that information separately beforehand.

Q25: At what point will aeration be addressed since it has been delayed several times? Would like to address it now and make an argument that previous analysis is based on aged data before other improvements were in place and is an old order requirement. Aeration is poor investment of money and the installed system is not functioning properly and is not an effective system. Why not just run the aeration system right after storm events, when DO conditions are worse?

A25: DEP responded that aeration and the other LTCP alternatives will be discussed at the April Alternatives Meeting when DEP will have model results and more/updated analyses.

Q26: Request a meeting with DEP to discuss and finalize the aeration decision?

A26: DEP responded that it is open to meeting with the community to further discuss aeration.

FOLLOW-UP ITEM: DEP and DEC met with representatives from Riverkeeper and the Newtown Creek Alliance to discuss aeration. That meeting took place at DEC Region 2's headquarters in Long Island City on April 5, 2017.