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Joe Martens
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September 12, 2013

SENT VIA EMAIL
Mr. Anthony Maracic, P.E.
Director of Capital Planning and Asset Management
Bureau of Wastewater Treatment
New York City Department of Environmental Protection
96-05 Horace Holding Expressway
Corona, NY 11368

Re: Order on Consent ("CSO Order"), DEC Case #CO2-20110512-25 modification to DEC Case #CO2-20000107-8, Appendix A
I. Alley Creek CSO, E. Drainage Basin Specific LTCPs, 1. Submit Approvable Drainage Basin Specific LTCP for Alley Creek

Dear Mr. Maracic:

The New York State Department of Environmental Conservation (Department) has completed a detailed review of the Alley Creek Long-Term Control Plan (LTCP) submitted on July 2, 2013 by the New York City Department of Environmental Protection (City) pursuant to the CSO Order. The Department determines that the LTCP as currently configured is not approvable as submitted. The following paragraphs outline the major threshold issues that must be resolved before the Department will approve the Alley Creek LTCP. It is important to note that Little Neck Bay is a critical recreational waterbody within New York Harbor and Long Island Sound. The current NYS classification is SB and the waters are intended to fully support direct contact recreation. As such it is one of the few waterbodies within the Harbor that support the Clean Water Act goal of "Fishable/Swimmable". See Attachment A for a more detailed discussion of these threshold issues as well as technical comments.

1. **Alternatives Considered**. In Step 2 of the evaluation of alternatives, the City eliminated from further consideration the alternative to disinfect the CSO storage tank overflow, even through this alternative has the potential to significantly reduce or eliminate the CSO pathogen loads to Alley Creek and Little Neck Bay, and improve attainment with water quality standards and criteria for bacteria in both the SB classified waters of Little Neck Bay and the I waters of Alley Creek. Disinfection of a single point intermittent discharge from CSO storage tanks must be thoroughly evaluated as part of any LTCP analysis to achieve the "highest attainable use" of waterbodies as outlined in Item 3 below. Moreover, in past CSO Consent

Order discussions between the City and Department, it was agreed that the Facility Plan CSO Storage Tanks would be capable of adapting disinfection in the future, and that the City's LTCPs would consider disinfection of overflows from any CSO storage facility constructed under an approved facility plan. As such, the Alley Creek LTCP must consider disinfection of the CSO storage tank overflow under Step 3 of the evaluation.

2. **InfoWorks Model 2xDDWF Baseline Assumption**. One of the baseline assumptions for the InfoWorks model that is used to evaluate alternatives for the LTCP is that the Tallman Island WWTP will operate at 2xDDWF in accordance with the SPDES permit CSO best management practice (BMP). To date, however, the City has not provided the Department with an acceptable strategy or method to confirm that the treatment plants covered by the Alley Creek and Little Neck Bay LTCP are in compliance with this CSO BMP. The City must submit a strategy consistent with previous guidance provided by the Department, otherwise this baseline assumption in the Alley Creek LTCP is not valid.

3. **Water Quality Endpoint and Highest Attainable Use**. The City states in the LTCP, Appendix B, Footnote 1, that it disagrees with the Department's statement that the LTCPs are required to achieve the highest attainable uses of the water. The City's interpretation of the LTCP Goal Statement and CSO Control Policy is incorrect. Per the CSO Control Policy, "CSO permittees should ..... develop long-term CSO control plans which evaluate alternatives for attaining compliance with the CWA, including compliance with water quality standards and protection of designated uses." As such, the Department's position that whenever attainable the LTCP must be developed with a water quality endpoint consistent with the Clean Water Act (CWA) Section 101(a)(2) national "fishable/swimmable" goal that "wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water." In those cases where it has been adequately demonstrated that this goal is unattainable, the LTCP must then be developed with a water quality endpoint of attaining the highest attainable use of the waterbodies, and that this goal must be acknowledged within the LTCP is the correct interpretation of the LTCP Goal Statement and CSO Control Policy. Moreover, in the absence of full attainment of the CWA Section 101(a)(2) goal, the LTCP must clearly identify the highest attainable use for both Alley Creek and Little Neck Bay and develop and implement CSO control strategies that achieve the CWA goals (see comment 1).

4. **Characterization and Removal of Dry Weather Sources of Impairment of Alley Creek and Little Neck Bay**. The LTCP indicates that the neither Alley Creek nor Little Neck Bay will be capable of fully attaining Class SB water quality standards due to a variety of sources of impairment, including stormwater, CSOs, and dry weather flows from upper Alley Creek watershed. However, it is not clear in the LTCP if the projected attainment levels are based on anticipated abatement of the dry weather sources. The City must provide additional information on the characterization of these sources and clarify whether the attainment levels presented in the LTCP are based on abatement of all dry weather sources. In addition, the trackdown and abatement of dry weather sources of contamination to Alley Creek and Little Neck Bay must be undertaken immediately in accordance with the existing SPDES permit.

These threshold issues must be resolved in order for the LTCP to be considered approvable. The Department requests that the City provide a written response to the threshold issues and a revised LTCP within 60 days of the date of this letter, otherwise the Department will issue a notice of violation for submittal of an unapprovable LTCP. If the City would like to discuss the comments contained herein prior to submitting its formal response, please contact the Department to do so in a timely manner to ensure the 60 day deadline will be met.

If you have any questions regarding this letter, please contact Mr. Gary E. Kline, P.E., Section Chief at 518-402-9655 or gekline@gw.dec.state.ny.us.

Sincerely,

Joseph DiMura, P.E.
Director, Bureau of Water Compliance
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ATTACHMENT A

THRESHOLD ISSUES:

1. **Alternatives Considered.** The City utilized a three-step process for evaluating and screening alternatives for the Alley Creek LTCP. Under this process, each alternative was numerically ranked against a variety of factors to determine the most feasible and effective CSO control strategies to be considered in the knee of the curve analysis. The LTCP, however, did not clearly indicate that basis for setting a cutoff for the ranked alternatives between 55 and 58, which resulted in the elimination from further consideration some alternatives under Step 3 of the process. One of the alternatives eliminated was the alternative to disinfect the CSO storage tank overflow. DEC's analysis of the pollutant sources and the potential for water quality attainment of CWA goals and the achievement of "Highest Attainable Use" of the waters, is dependent on reducing pathogen loads from the CSO storage tank overflows and elimination of unidentified dry weather pollution sources. Based on data presented in Table 6-8 for seasonal attainment levels for sampling point OW2, the Department believes that disinfection is a cost-effective alternative for reducing pathogen loads from the CSO storage tank overflow and thus pollutant loads to Alley Creek and Little Neck Bay. Moreover, the City and Department agreed during previous discussions that the City LTCPs would consider disinfection of overflows from any CSO storage facility constructed under an approved facility plan. In fact, the Alley Creek CSO storage tank was designed to allow for easy retrofit for disinfection capabilities. As such, the Alley Creek LTCP must consider disinfection of the CSO storage tank overflow under Step 3 of the evaluation process. The evaluation of the disinfection should identify the level of chlorination required to optimize pathogen reduction (in terms of log removals) while at the same time not exceeding discharge limits for chlorine residual. In addition, DEC finds it difficult to understand how the City could justify the cutoff point for the ranked preliminary alternatives that eliminated the very cost effective disinfection alternative from detailed analysis.

2. **InfoWorks Model 2xDDWF Baseline Assumption.** Prior to development of the LTCP, the Department and City discussed at length the acceptability of the baseline assumptions used in the InfoWorks model and reached agreement on all of the assumptions except for the characterization of the sewer system and operation of the treatment plants at 2xDDWF during wet weather events. At present, the City has not committed to an acceptable strategy for demonstrating that its treatment plants covered by the Alley Creek and Little Neck Bay LTCP are consistently operating at 2xDDWF prior to significant overflows in accordance with the SPDES permit CSO BMP. In addition, the City has not provided any documentation based on field inspections to support its assumption that the combined sewer lines within the Alley Creek and Little Neck Bay sewershed do not have any sediment, which seems to be an unrealistic assumption. For example, one of the combined sewer lines that flows into the Gowanus wastewater pump station has between four and five feet of sediment, which is clearly illustrates that the combined sewer lines are not sediment free. As such, the Department cannot accept the results from the InfoWorks model for this LTCP and requests that the City submit a strategy and documentation to demonstrate compliance with the CSO BMPs consistent with previous guidance provided by the Department.

3. **Water Quality Endpoint and Highest Attainable Use**. During development of the LTCP Goal Statement (Appendix C of the CSO Order), the Department and City discussed at length the goal of the LTCP to achieve the highest attainable uses of a waterbody and the Goal Statement was crafted with that water quality endpoint in mind. Yet, in the LTCP, Appendix B, Footnote 1, the City states that it disagrees with the Department's statement that the LTCPs are required to achieve the highest attainable uses of the waters. The City's interpretation of the LTCP Goal Statement and CSO Control Policy is incorrect. Per the CSO Control Policy, "CSO permittees should ..... develop long-term CSO control plans which evaluate alternatives for attaining compliance with the CWA, including compliance with water quality standards and protection of designated uses." As such, the Department's position that the LTCP must be developed with a water quality endpoint of attaining the highest attainable use of the waterbodies and that this goal must be clearly acknowledged within the LTCP is the correct interpretation of the LTCP Goal Statement and CSO Control Policy. Moreover, the LTCP must achieve the highest attainable use for both Alley Creek and Little Neck Bay and develop and implement CSO control strategies that achieve the CWA goals.(see comment 1).

4. **Characterization and Removal of Dry Weather Sources of Impairment of Alley Creek and Little Neck Bay**. Alley Creek was listed on the 2010 NYS Section 303(d) list due to non-attainment of the dissolved oxygen water quality standard, but the water body was delisted in 2012 and designated as a 4b water body for which a Total Maximum Daily Load (TMDL) analysis is not required because other required control measures are expected to result in restoration in a reasonable period of time. The other required control measures are to be identified and implemented under a LTCP required under the CSO Consent Order. Little Neck Bay is still listed on the 303(d) list for non-attainment with the pathogen water quality standard but may be delisted if the City demonstrates through a LTCP that it can attain its applicable water quality standards. The LTCP for Alley Creek and Little Neck Bay must therefore provide the minimum information necessary for the Department to accept the LTCP in lieu of a TMDL analysis. The LTCP indicates that there are several sources of impairment for Alley Creek and Little Neck Bay, including stormwater, CSOs, and dry weather flows from upper Alley Creek watershed and vicinity of the Douglaston Manor Association. Although the analysis presented in the LTCP indicates that the dry weather sources are not the most significant source of impairment, the LTCP needs to provide more detailed information on the characterization of these dry weather sources as well as any assumptions made in the plan related to removal of these sources under the baseline conditions. It appears that the projected attainment levels for the alternatives are based on the anticipated abatement of the dry weather sources in the upper Alley Creek, and if this is the case, then it should he clearly stated. Specifically, in Section 2, Table 2-7, the City presented the loading characteristics for the upper Alley Creek sources but in Section 6.2, the City states in that localized sources of non-CSO contamination are assumed to be mitigated for the DMA area and that possible sources of contaminated stormwater into Oakland Lake and other tributaries (e.g. Duck Pond) will be tracked down and eliminated. However, Table 6-1 presents the same pollutant loadings for these sources as was presented for calibration of the model in Section 2. Thus, it appears that the pathogen loadings from these dry weather sources have not been removed for the baseline conditions even though the pathogen loadings presented in Tables 6-3 and 6-4 are very low. The City must provide additional information on the characterization of tbe dry weather sources, in particular Oakland Lake and Duck Pond, and clarify whether the attainment levels presented in Section 8 of the LTCP are based on abatement of all dry weather sources. Last-

ly, the identification, trackdown, and abatement of all dry weather sources of contamination to Alley Creek and Little Neck Bay must be undertaken immediately in accordance with the existing SPDES permit.

DETAILED COMMENTS:

1. **Section 1.**
   a. Section 1.2.d. The LTCP states that adoption of the Green Infrastructure Plan resulted in elimination of some grey infrastructure, which is not correct. The changes made to the CSO Order 2012 did not reflect a trade between green and grey infrastructure and the LTCP must be revised to reflect this fact.

2. **Section 2.**

   a. Under Section 2.1.c.3, the City presents the modeling results for operation of the Tallman Island WWTP for calendar years 2008 and 2011 to illustrate the change in hours at 2xDDWF under two different scenarios (pre-CEG and CEG). It is not clear, however, why the simulation results for 2011 are being presented in this LTCP, this year is not part of the baseline rainfall years. Thus, it is recommended that the discussion of 2xDDWF hours during 2011 be removed from the LTCP.
   b. Tables 2-7 and 2-8 present pathogen loadings for groundwater infiltration but the LTCP does not discuss how these loadings were determined or why they are being included in the modeling for the LTCP. Additional information on the loads from groundwater should be presented in the LTCP.
   c. Table 2-7 presents dry weather flows from Oakland Lake and Upstream Pond but the LTCP does not discuss how these flows were determined. Additional information on the determination of these flows should be presented in the LTCP.
   d. Under Section 2.1.c.5, the City discusses the interceptor inspection program, but it is recommended that the LTCP include a figure within this section to illustrate the interceptors that were cleaned for the Alley Creek sewershed as well as any data on sediment depths for the interceptors and combined sewers.

3. **Section 4.**

   a. Table 4-1: Table 4-1 provides a summary of the calculated monthly retained volumes and overflows for 2012 for the Alley Creek CSO storage facility, information that was also reported in Table 3-9 of the August 2013 Post Construction Compliance Monitoring and CSO Retention Facility Overflow Summary for Calendar Year 2012 (August 2013 PCCM Report). However, the August 2013 PCCM report also provided the InfoWorks model results for the same time period and these modeling results are consistently higher than the calculated results. The LTCP should include a discussion of both the modeled and calculated results for the CSO storage facility, possible reasons for the discrepancies between the two sets of values, and implications for predicting the levels of attainment with water quality standards that are presented in the LTCP.
   b. Table 4-2: Include in this table the estimated overflow volumes for each overflow event based on the flow monitoring data collected at the tank as well as the predicted monthly

overflow volumes based on the InfoWorks model run using the 2012 rainfall data.

c. Section 4.3.b. Discuss in this section how the City is able to confirm that an overflow event actually occurs using the data available from the flow monitoring. Also discuss if the InfoWorks model using 2012 rainfall data predicted an overflow for a particular rainfall event that did not occur based on the tank flow monitoring data.

4. **Section 5.**

   a. Figure 5-1 does not show the Alley Creek or Little Neck Bay waterbodies or sewershed and it is recommended that the figure be expanded to show these areas.
   b. Section 5.4.c discusses the baseline application rate for green infrastructure and states that the expected application rate will be three (3) percent, all of which will be in onsite private properties. It is recommended that the LTCP include a figure illustrating where this green infrastructure will be located.

5. **Section 6.**

   a. Table 6-2 and 6-3. Explain the basis for calculation of the total pollutant loads for TI-025 and TI-024. The total flows for these two outfalls are approximately the same, hut the pollutant loads for stormwater are roughly half of the loads for CSO. Given the pollutant concentrations in Table 6-1, it would seem that there would be a greater difference in the pollutant loads from these two sources.
   b. There are two Figure 6-1, thus all subsequent figures are numbered incorrectly. There are two Table 6-6 as well, thus all subsequent tables are numbered incorrectly.
   c. Table 6-6 on page 6-16 does not include the names of waterbodies or sampling points that correspond to the data presented.
   d. On page 6-26, there is a reference to Figures 6-5 and 6-6 and a statement that the 30 day max and GM concentrations for enterococci at AC1 are over 500 org/100 ml and 1000 org/100 ml respectively, however, the Figure 6-5 does not reflect these data and there is no Figure 6-6.
   e. Figures 6-1 and 6-1 on pages 6-13 and 6-14 show the attainment levels with the pathogen water quality standards for sampling points AC1 and DMA, however, similar figures should be provided for sampling points OW2, LN1, and E11.
   f. It is recommended that additional figures similar to Figures 6-4 and 6-5 be provided that illustrate seasonal and annual attainment levels for the enterococci standard.
   g. Section 5.4.c. Discuss the estimated percent of CSO reduction associated with the onsite 3 percent GI application rate for new development under baseline conditions.
   h. Section 6.3, page 6-14. The LTCP states that the City did not assess the attainment levels of Alley Creek with the enterococci standards because it is a class I waterbody. However, as the Department has stated in the past, the LTCP should evaluate the ability of the waterbody to attain the next highest standards or fishable/swimmable goals of the Clean Water Act.

6. **Section 8.**

   a. Section 8.2. The City needs to include the evaluation of disinfection as an alternative for closing the performance gap. The City also needs to more specifically address the re-

quirement that the LTCP should eliminate or relocate CSOs that impact sensitive areas, in particular Douglaston Manor Association beach and ensure that the level of treatment and/or CSO reductions proposed in the LTCP will meet water quality standards for full protection of existing and designated uses for sensitive areas.

b. Section 8.2.b. The City evaluated two possible GI scenarios, one consisting of a 10 percent application rate and the other consisting of a 50 percent application rate. The LTCP states that the 10 percent GI application will result in a 15 percent reduction in CSO AAOV while the 50 percent GI application will result in a 65 percent reduction in CSO AAOV. However, the LTCP does not discuss the technical basis for estimating these CSO reductions, which appear to be unrealistically high. The City should describe in more detail the technical basis for these estimates.

7. **Section 9**.
   a. Section 9.5. The LTCP should provide a more detailed discussion of the Post-Construction Compliance Monitoring (PCCM) being performed for Alley Creek and Little Neck Bay and include, for example, a map of the sampling locations, information on the sampling frequency and parameters monitored, the methodology for calculating the overflow from the CSO storage facility, and protocol for using the monitoring data for verifying the InfoWorks and water quality receiving model. Moreover, the Department requests that the City add the sampling point OW2 as a permanent monitoring station and conduct sampling of pathogens (fecal coliform and enterococci) for the retention facility overflows for Alley Creek and Little Neck Bay PCCM.

8. **Appendices D and E**.
   a. The Department is not providing detailed comments at this time on the Use Attainability Analyses (UAA) for Alley Creek and Little Neck Bay. The Department will assess any UAA after all LTCP comments are addressed and an approvable LTCP is received.

9. **General Comment**: The LTCP contains numerous ambiguous or misleading statements related to the sources of impairment and their relative contributions, such as on page 6-22 where it states the East River is a significant contributor to high concentrations of enterococci or that the Nassau County stormwater becomes a larger portion of the calculated enterococci concentrations. These statements are not consistent with the data presented in Table 6-8 as well as the Departments understanding of the major sources of impairment. These statements should be revised to more accurately reflect the impacts of the sources of impairment. Moreover, the fact that complete reduction of CSOs may not close the performance gap for attaining water quality standards does not preclude the potential for the reduction of CSOs to meet the highest attainable use.

10. **SPDES Variance**. If the selected alternative will not achieve water quality goals of the CWA then the LTCP must include a draft application for a variance to effluent limits for any overflow from the CSO storage tank.