



December 2, 2014

Jaime Stein, Chair
S.W.I.M. Coalition
(via electronic copy)

Emily Lloyd
Commissioner

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Re: DEP's LTCP Process

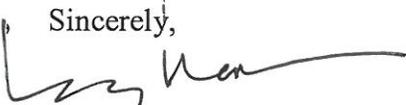
Dear Ms. Stein,

Thank you for your letters concerning DEP's Long Term Control Plan (LTCP) process. DEP appreciates your input, as the public participation process is an essential element of the LTCP, and welcomes the opportunity to work with the Stormwater Infrastructure Matters Coalition (S.W.I.M.) on improving LTCP development, including the public participation process. DEP appreciates S.W.I.M.'s commitment to improving water quality in New York City and its continued support of the New York City Green Infrastructure (GI) Program. S.W.I.M. is a valued member of DEP's Water Infrastructure Steering Committee, and plays an important role in communicating the benefits of sustainable stormwater management practices.

In S.W.I.M.'s recent letters, S.W.I.M. raises several important issues concerning the LTCP process. We agree that the public participation process can be improved, and look forward to continuing to work with S.W.I.M. and others members of the public to achieve that end. S.W.I.M. also offers some suggestions to improve the GI Program, and we have taken these points under consideration as well. With respect to the LTCP alternatives analysis, we concur that we can do better in explaining the multi-step process we use, consistent with the Combined Sewer Overflow (CSO) Plan and related guidance, in identifying and analyzing CSO control alternatives.

Accordingly, we will host a Water Infrastructure Committee meeting on December 4th to focus on LTCP engagement and discuss best management practices regarding public review and the LTCP process. Attached are responses to the main points in your letters for your consideration.

We want to continue to have an open-dialogue with S.W.I.M., other stakeholders and public as we develop waterbody-specific LTCPs in order to improve the process and the results. DEP looks forward to meeting with you on Dec 4th and discuss these important issues.

Sincerely,

Emily Lloyd,

cc: SWIM Coalition Steering Committee
Sean Dixon, Riverkeeper
Robin Kriesberg, Bronx River Alliance
Lawrence Levine, Natural Resources Defense Council
Paul Mankiewicz, Gaia institute
Tatiana Morin, NYC Soil & Water Conservation District
Nina Sander, Rocking the Boat
Shino Tanikawa, NYC Soil & Water Conservation District
Council Member Donovan Richards
EPA Regional Administrator Judith Enck
NYSDEC Assistant Commissioner Jim Tierney
NYSDEC Regional Director Venetia Lannon
NYCDEP Deputy Commissioner Angela Licata

Attachment

Public Participation

1. Engagement

DEP is committed to ensuring robust public engagement during the development of each of the water-body specific, as well as the City-wide LTCP. To this end, DEP developed a Public Participation Plan (PPP) which is available on our website at http://www.nyc.gov/html/dep/pdf/cso_long_term_control_plan/ltcp_public_participation_plan.pdf The goal of the PPP is to maintain an open and transparent process throughout LTCP program development and implementation by providing timely and accessible information to identified stakeholder groups and diverse communities about the need to address Combined Sewer Overflows (CSOs). The PPP also aims to raise awareness about water quality conditions in local waterbodies and throughout the New York Harbor, and increase citizens' understanding of DEP's historical and ongoing efforts to address water quality, protect the environment and improve access to New York City's waterbodies. In an effort to expand the range of community participation and draw in those constituents who may not have participated in previous waterbody/watershed planning activities, DEP has engaged, and will continue to engage stakeholder leaders such as borough presidents, elected officials and community board members to help reach a new and more diverse audience. For example, in advance of the Westchester Creek kick-off meetings, DEP presented to members of Bronx CB 9 on February 10, 2014. For the Hutchinson River LTCP, DEP staff met with members of Bronx CB 10 on March 11, 2014 and presented to the board members of Riverbay/Co-op City on April 24, 2014.

In addition to these efforts, DEP has committed to hosting an annual citywide LTCP meeting. At the last citywide meeting held on February 28, 2013. DEP presented information about the hydraulic and hydrodynamic modeling process used to develop the LTCP. There were over 55 attendees and topics discussed included a review of the water quality model and the mathematical modeling for LTCP alternatives evaluation. The next citywide LTCP workshop is being scheduled for December 11, 2014.

2. Feedback process

An important part of the LTCP public meeting process is gathering information about how the public currently uses the waterbody. S.W.I.M. suggests that in addition to seeking this information at the public meeting, that DEP use crowd sourcing technology to get more public information. We will investigate this option and applicability to improve the LTCP public feedback process.

As further discussed in response to S.W.I.M.'s comments on the LTCP alternative analysis, in each LTCP, DEP examines the current water quality conditions of each waterbody and whether, or not, there is current public access to the waterbody, or portions of the waterbody. DEP also identifies a range of alternatives, including 100% CSO control. These analyses have demonstrated that in certain waterbodies, even 100% CSO control will not result in water standards attainment. Water quality improvements are particularly challenging to achieve in the constrained tributaries which receive urban runoff and other pollutant loading sources, have been

over time filled in, bulkheaded or otherwise changed from their natural state. Natural conditions such as low water levels, tidal wetlands also limit the recreational access to a waterbody which collectively are considered when identifying and selecting CSO control alternatives.

3. Public Process timeline

S.W.I.M. correctly notes that the time between the public meetings on alternatives and the submittal of the LTCP to the New York State Department of Conservation has been compressed. DEP will strive to allocate additional time for public comments. In addition, comments on the LTCPs are always welcome at any time and can be submitted to the LTCP email address at: ltcp@dep.nyc.gov.

Green Infrastructure Components of the LTCP

DEP welcomes SWIM's support for the Green Infrastructure Program. DEP is working diligently on GI implementation and would like to highlight key points to address the concerns you raised on the GI program. As you are aware, the NYC Green Infrastructure Plan, published in September 2010, included a waterbody by waterbody analysis for green infrastructure (GI) implementation. This analysis was based on infrared flyover data to assess impervious areas and a review of city-owned properties that could be viable opportunities for retrofit. In each waterbody chapter are detailed tables that outline the types of properties that could offer the greatest opportunities for GI implementation. This early basis for the GI Program has since been updated and refined by the Office of Green Infrastructure (OGI) by establishing Priority Tributary Areas and the Area-wide Implementation approach DEP has committed \$730 million in the City's 10 year capital plan for the NYC Green Infrastructure Program and \$1.5 billion over the Program's 20 years. Since the creation of the Office of Green Infrastructure (OGI) in 2011, DEP has created the first Standard Design for right-of-way (ROW) green infrastructure, initiated Area-wide GI contracts for the design and construction, and worked with public and private partners to retrofit existing properties with a variety of GI practices.

The OGI regularly refines and expands the project and geographic prioritization in order to carry out the Program in an efficient manner. For the first milestone in 2015, OGI is focusing on the right of way (ROW) projects, such as bioswales, stormwater greenstreets, ROW rain gardens, and porous paving. Over the next 15 years of the program, DEP will continue the ROW projects as well as take advantage of all other opportunities, including those projects that may take longer to vet, design, and construct.

The 2030 implementation rates for each waterbody were created using metrics and assumptions approved by DEC based on the best available knowledge at the time (2011) and was necessary to how the GI would be distributed across the city for the LTCP baseline modeling efforts. Until real projects are vetted, feasibility tests are completed, and designs take form, it is impossible to predict the exact number of GI practices that will be built over the 20 years. It is an iterative process and the targets for each waterbody will be refined as each project is initiated and completed. The end result will be the equivalent of 10% of impervious surfaces in the combined sewer tributary areas will be managed, as stated in the Order.

The information provided at the Westchester Creek and Hutchinson River public meetings consisted of what was currently available for those watersheds at the time. Therefore during the public meetings DEP shared the maps of the current Area-wide Contracts, descriptions of the siting and construction procedures, contract costs, anticipated schedules, as well as the most up to date implementation schedule information regarding the specific Tributary Areas. At both public meetings, DEP also shared the projected CSO reduction with baseline GI implementation. This is the extent of available GI implementation information to share at the time. While the ROW projects will saturate the Priority Tributary Areas, other opportunities are and will continue to be investigated such as parklands, schools, and public housing and will be presented to the community as the projects are developed. The reason that the CSO reductions from GI above the baseline reductions have not been stated to date is because DEP is preparing the analysis and modeling for the CSO Performance Metrics Report due in June 2016, per the Order. This exercise and report will specifically cover the city-wide CSO reduction associated with the implementing of the first 1.5% green infrastructure application.

As stated in your letter, the process of identifying potential sites and determining if they are viable can be lengthy. The OGI has prioritized investments and planning for the right-of-way because these types of practices are very efficient in managing stormwater and can be implemented systematically and quickly. The success rate of the ROW practices varies by neighborhood and contract area due to urban streetscape conditions and geotechnical investigation results. As mentioned above, OGI has also identified many potential public retrofit projects. These sites can take longer to design and complete because they require site-specific designs. Sorting through the many variables associated with public buildings/sites can result in extended lead time for construction and completion of these projects. However, DEP has successfully sited many public property retrofits to date. Further details on the design and construction process and challenges are described in the 2012 and 2013 Annual Reports.

While DEP attempts to site as many practices as possible, in many locations they cannot fit or the captured water would not infiltrate. SWIM should be assured that the screening and vetting of viable projects is on-going, every day in the OGI in order to meet the milestones set in the Order. With thousands of GI practices being installed in the right-of-way and many public property retrofits in planning, design, or construction, OGI regularly engages local communities on these projects at an early stage. Several meetings are held with community boards, elected officials, and local civic and environmental organizations in advance of an Area-wide contract initiation. Maps and spreadsheets of bioswale and stormwater Greenstreet locations are distributed, and Community Construction Liaisons are stationed in field offices to articulate the value of the program while answering construction related issues once construction begins. OGI welcomes feedback and input on the above and would be happy to further discuss this with SWIM.

Regarding maintenance, currently Brooklyn, Queens and the Bronx each have fully staffed maintenance crews with five members. These crews are the result of a 2011 Memorandum of Understanding between DEP and the NYC Department of Parks and Recreation. Through the MOU, DEP provides funding for the salaries of the personnel and all of the equipment and vehicles necessary to maintain the GI installed in the right-of-way. The crews include gardeners and city park workers who are responsible for removing trash and sediment accumulation,

maintaining grading and caring for the trees and plants. DEP is continuously evaluating the maintenance capacity of the existing crews and with the new ROWBs being constructed will add crews in each borough as needed. As the program grows, the maintenance crews and strategy will grow with it. Because NYC's GI Program is large and expanding quickly, DEP will fund the maintenance expansion as a coordinated effort as sites are completed and come online. It is critical to be flexible in the near term so to determine the most cost effective way to manage the maintenance program and assess success and challenges. Based on these lessons, a broader and longer term plan will be developed. Additionally, the BioswaleCare program, a stewardship program sponsored by DEP, is an opportunity to engage communities in the Program. To date five workshops have been held, and DEP is currently in discussions with local environmental organizations to offer more workshops in 2015. The 2013 Annual Report (available on our website) also includes a description of the GI Maintenance Program.

Selection of alternatives

1. Lack of impact analysis

S.W.I.M. is concerned that the Hutchinson River LTCP failed to set forth a robust alternatives analysis. We regret that we have not been effective in articulating the process for evaluating alternatives, and that the information at the Hutchinson River LTCP public meeting was not comprehensive. We are glad to have this opportunity to clarify the process, and will also ensure that at future public meetings concerning alternatives, our process is more fully explained.

As explained in the Hutchinson River LTCP, under Sections 6.0 and 8.0, DEP followed a multi-step process to evaluate CSO control alternatives. The evaluation process considered factors related to environmental benefits, such as impact on sensitive areas, community and societal impacts, and considerations related to implementation and Operation and Maintenance (O&M). Projected CSO control and attainment of water quality criteria were determined based on model results of CSO volume and pollutant load reduction. Only after these steps were concluded, did cost considerations come into play i.e. the retained alternatives were then subjected to cost performance and cost attainment evaluations.

At the public presentation, and as set forth in the LTCP, the Hutchinson River's water quality is affected by many sources; including flows from Westchester County which are a major component causing non-attainment of the current water quality standard of class SB. This does not preclude contributions from DEP's CSO discharges to the tidal portion of the river and sampling data was presented on the impact of these CSO discharges to the river's pathogen load during wet weather.

Based upon modeling, DEP determined that even with 100% CSO control, water quality standards could not be met due to non-CSO sources. DEP, following direction from DEC, performed a Wasteload Allocation (WLA) to identify the CSO load reductions needed in the tidal portion of the River to achieve water quality standards. Based on this analysis, DEP proposed constructing an In-line CSO Disinfection Outfall for treating up to 50 million gallon per day of CSO with inclusion of appropriate floatables control measures to be evaluated during

the design phase. With this investment, DEP projects water quality benefits of 23% bacterial load reduction during the recreational season under the WLA approach.

2. No information on regulatory, administrative, and environmental feasibility of implementing alternatives

S.W.I.M. is concerned that the LTCP alternatives analysis precludes consideration of factors beyond water quality and cost. The LTCP alternatives analysis considers factors such as environmental impact on natural resources and feasibility. For example, in the Alley Creek LTCP, DEP gave extensive consideration to the potential ecological impact of disinfection under Section 8.2. The disinfection design for the Hutchinson River alternative will be coordinated with the results of the Alley Creek Disinfection study. Once a viable alternative is identified for inclusion into the LTCP report the LTCP is submitted for approval by DEC. Upon receiving an approved LTCP the alternative will be subject to all required regulatory approvals and permitting including a comprehensive City Environmental Quality Review process.

3. No cost analysis that frames each waterbody in the citywide context

S.W.I.M. also raises concerns about the costs for the entire LTCP Program. One of the challenges of the LTCP process is the serial production of 11 LTCPs. In an effort to address concerns about overall cost of the program, all LTCPs include an affordability and financial capacity analysis. This analysis includes detailed financial information regarding currently budgeted and completed mandated programs as well as future system investments including non-CSO compliance costs as well as other crucial programs such as state of good repair, climate resiliency initiatives and energy projects.

For some programs, such as the Municipal Separate Storm Sewer System (MS4) stormwater control, identifying costs is challenging as DEP's obligations under MS4 are significantly increasing over time. In the near future, DEP will be responsible for developing a stormwater management program plan for New York City to facilitate compliance with a new permit to be issued by DEC. This plan will also develop the legal authority to implement and enforce the stormwater management program as well as develop enforcement and tracking measures and provide adequate resources to comply with the MS4 permit. Some of the potential permit conditions identified through this plan will result in increased costs to DEP and those costs will be more clearly defined upon completion of the plan. The permit also requires New York City to conduct fiscal analysis of the capital and Operation and Maintenance (O&M) expenditures necessary to meet the requirements of this permit, including any development, implementation and enforcement activities required.

The draft MS4 permit compliance costs are yet to be estimated. DEP's annual historic stormwater capital and O&M costs have averaged \$131.6 million. However, given the more stringent draft permit requirements, future MS4 compliance costs are anticipated to be significantly higher than DEP's current stormwater program costs.

Flawed modeling

S.W.I.M. asserts that the modeling analysis for the Hutchinson River were conducted only using one year's worth of data and cites 2008 water quality data and 2010 rainfall data. Unfortunately, there appears to be a misconception in this regard, as multiple year sources are used during the modeling and analyses effort. The DEP uses variable rainfall data to assess water quality over a one year period (2008 rainfall) and 10 year rainfall period (2002 – 2011). Analysis of rainfall period from 1955 to 2011 has shown that the JFK 2008 rainfall period is most representative of the present rainfall period from 2002 through 2011, as opposed to the JFK 1988 rainfall period. The JFK 2008 rainfall year is used only to initially screen and compare alternatives. The 2008 rainfall period is also used to project attainment of dissolved oxygen (DO) standards because model requires significant computational effort for multiple year analysis. The 10-year (2002-2011) rainfall period simulation is also performed for bacteria to assess the baseline conditions, evaluate the performance gap between baseline and 100% CSO control, and analyze the impacts of the preferred alternative. The 2002-2011 rainfall periods were also used for the Hutchinson River WLA analysis to examine the occurrence of excursions above the existing fecal coliform criterion monthly geometric mean (GM). The month with the highest monthly fecal coliform GM, in each of the 10 years, was selected at Station HR-05 for comparison. Station HR-05, located downstream of the largest CSO outfall (HP-024), was chosen as the location for the WLA analysis because it consistently had the highest fecal coliform concentrations in the Hutchinson River. Based on the analysis, August 2011 was identified as the reference month to use for the WLA analysis as it represented a critical condition for the tidal portion of the Hutchinson River.

Section 6 of the LTCP report, found on the DEP website, describes in greater detail the baseline conditions, the bacteria concentrations and loads calculated by the IW model and the resulting bacteria concentrations calculated by the ERTM water quality model. It further describes the gap between calculated baseline bacteria concentrations and the existing and future WQS. The section presents two approaches to closing the gap: the first approach involves determining whether the gap can be closed through CSO reductions alone (100 percent CSO Control); the second approach conducts a waste load allocation (WLA) analysis examining reductions from all sources (CSO, separate sewer system and direct drainage) to close the gap.

Reference is also made to a Save the Sound water quality study conducted in the Hutchinson River in 2014. DEP conducted extensive sampling at nine locations coupled with flow monitoring of major outfalls during the 2012 sampling period. This work was performed to establish recalibration of the applicable models in the local waterway for calculation of WQ attainment, WLA, and time to recover analysis. While DEP is always willing to meet and discuss publically collected data with various citizen groups pertaining to water quality, it must be cautioned that approved methods, locations, number of samples and results need to be compared for compatibility between groups for an accurate analysis. DEP will not ignore any data presented with regard to impact on water quality for any waterbody in question and would gladly discuss applicable results.

Lastly, DEP would like to clarify the CSO volume reductions with multiple CSO control planning efforts. Based on best available information and updates and revisions will be made

available as new data is collected and models are recalibrated as part of the LTCP process, it is estimated that prior to the implementation of the Waterbody/Watershed Facility Plans (WWFP), the CSO volumes were 27 BGY which is based on 2040 projected sanitary flows and calendar year 2008 rainfall data. When all the grey controls proposed in the WWFP are implemented (many have been already been constructed), it is estimated that the CSO discharge volume will be reduced to 22 BGY and with 10% Green Infrastructure in CSO areas, this will be further reduced to about 20 BGY. LTCPs will build upon these efforts and identify additional CSO controls to further water quality improvements particularly in the urban tributaries of the Harbor.