



April 27, 2015

Mr. Jack Melcher, PE
Water Technical Enforcement Unit
Office of Environmental Stewardship
US EPA, Region 1
5 Post Office Square – Suite 100
Mail Code: OES04-1
Boston, MA 02109-3912

RE: Greater New Haven WPCA Consent Order WC5509

Dear Mr. Melcher,

We are pleased to transmit for your information the final negotiated modifications of Consent Order WC5509 between the DEEP and the Greater New Haven Water Pollution Control Authority (GNH). The modified order incorporates all elements articulated in Ms. Ruzicka's December 16, 2014 letter to you regarding the address of combined sewer overflow issues by GNH. In sum, the consent order modifications memorialize the schedule for GNH to complete its Long Term Control Plan Update (LTCP) and subsequent updates, and requires the construction of the improvements identified in such updates to achieve CSO control. The associated document, "Tasks To Be Included In Or Associated With CSO Long Term Control Plan Scope of Work" provides further specific details and definition of work to be conducted by GNH pursuant to this Consent Order modification. We share these documents with appreciation for EPA's previously expressed concerns about GNH's commitment to and timeframe for addressing CSO issues and believe that with these modifications we have created a viable, enforceable path to achieve full compliance with the federal Clean Water Act and Connecticut's Water Quality statutes and standards.

The GNH board was briefed on this matter including an outline of the level of commitment and items to be included in the Consent Order modifications at its April meeting; we did not have a sufficiently formed draft to share with them at that time. These documents have now been transmitted to the GNH Board of Directors for approval. In order to respect and value the Board's consideration and process, we expect it to consider the matter at its May meeting and take action at its June meeting. We understand that this is not the timeframe we had previously anticipated. However, we would not want to devalue the significant work that has gone into arriving at this agreement nor jeopardize the outcomes achievable through this modified consent order vehicle by subverting the Board's process.

(It may also be useful for you to know that the Board considers its annual budget at its May meeting. In addition, the Board is currently considering acquisition of the Stratford Water Pollution Control Facility and absorbing all of its water quality responsibilities. These considerations have necessitated both special meetings and individual meetings with Board members.)

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We think the attached documents will speak for themselves as strong, complete vehicles for meeting our water quality goals in a timely, enforceable manner. We know the 2015 Hydraulic Model Study presentation you attended provided you a greater appreciation for and understanding of the actual progress already made by GNH as well as the significant promise of their short term actions and long term control plan. We look forward to continue working with you towards seeing these programs to their fruition.

Sincerely;



Denise Ruzicka, PE
*Director of Planning and Standards Division
Bureau of Water Protection and Land Reuse
CT DEEP*



Sidney J. Holbrook
*Executive Director
Greater New Haven WPCA*

cc: Michael Wagner, US EPA
George Hicks, CT DEEP
Stacy Pappano, CT DEEP
Gabe Varca, GNHWPCA
Gary Zrelak, GNHWPCA
Tom Sgroi, GNHWPCA



STATE OF CONNECTICUT

V.

ORDER No. 5509 MODIFICATION

**GREATER NEW HAVEN WATER
POLLUTION CONTROL AUTHORITY**

CONSENT ORDER MODIFICATION

With the agreement of the Greater New Haven Water Pollution Control Authority (“GNHWPCA”), the Commissioner of Energy and Environmental Protection (the “Commissioner”) hereby modifies Consent Order No. 5509 (“Consent Order”) dated July 1, 2009 as follows:

- A. Replace the last sentence of paragraph A.2. with the following sentence. “The Respondent has closed 13 combined sewer overflow outfall locations and currently has 18 permitted active combined sewer overflow regulators and 14 active CSO Outfall locations within their collection system.” Paragraphs A.1 through A.9. except for the last sentence in paragraph A.2 of the Consent Order shall remain in their entirety. Section A shall also be modified by adding the following findings paragraphs A.10. through A. 22.:
 10. On or about July 1, 2009, the Greater New Haven Water Pollution Control Authority (“GNHWPCA”) agreed to and the Connecticut Department of Environmental Protection (“DEP”) issued Consent Order No. WC 5509 (“Consent Order”).
 11. The Connecticut Department of Environmental Protection has subsequently been renamed the Department of Energy and Environmental Protection (“DEEP”). Any and all references to DEP within the Consent Order are considered to be DEEP.
 12. On May 7, 2010, the GNHWPCA submitted to the Commissioner a report entitled “*Wet Weather Improvements and Nitrogen Reduction at the East Shore Water Pollution Abatement Facility*” by CH2M Hill.
 13. On March 9, 2011, the Commissioner approved the report referenced in paragraph A.12. above.
 14. GNHWPCA has completed the following combined sewer overflow control projects during the period 2009 to 2015:
 - a) Raising the weir 8 inches at Regulator 004;
 - b) Raising the weir 1.45 feet at Regulator 005;
 - c) Closing CSO Outfall 008;
 - d) Closing CSO Outfall 010;
 - e) Raising the weir 6 inches at Regulator 012;
 - f) Closing CSO Outfall 013;
 - g) Closing Regulator 014;

- h) Closing Regulator 031;
 - i) Closing Regulator 032;
 - j) Raising the weir 2 feet at Regulator 034;
 - k) Closing Regulator at Greene Street;
 - l) Installing a new tidegate at CSO Outfall 015;
 - m) Installing a new tidegate at CSO Outfall 016;
 - n) Installing a new tidegate at CSO Outfall 021;
 - o) Installing a new tidegate at CSO Outfall 024;
 - p) Construction of the Lombard Street East Sewer Separation Project;
 - q) Construction of the Yale Campus/Trumbull Street Area – Phases 1A and 1B Sewer Separation Project;
 - r) Improvements to the Truman CSO Storage Tank; and
 - s) Cleaning of the Lower Boulevard Trunk Sewer to increase capacity.
15. In 2012, GNHWPCA instituted and has subsequently maintained a flow monitoring system under which it collects and analyzes data from each of its permitted CSO outfall locations.
16. GNHWPCA in 2014 began a \$57M upgrade of its East Shore Water Pollution Abatement Facility. Such upgrades include: electrical upgrades and installment of emergency generators to add resilience and redundancy to the system; solids handling upgrades addressing gravity thickening and storage; odor control improvements, and; nitrogen removal upgrades to address secondary treatment through a second anoxic zone and including supplemental carbon.
17. On or about January 30, 2015, GNHWPCA through its consultant CH2MHill completed and submitted to DEEP an update of the hydraulic model previously used to design and implement the original 2001 DEEP approved New Haven CSO Long Term Control Plan (“2001 LTCP”). The 2015 Hydraulic Model Update and Hydraulic Analysis (“2015 Hydraulic Model”) was designed to identify and achieve system optimization, develop models for CSO control and address through simulation of design storms long term control plan (“LTCP”) scenarios. This state of the art model has been populated with over two years of CSO flow monitoring data in addition to three months of temporary sub meters with input from three rain gauges. The measured flow and rainfall data combined with a continuously updated GIS network resulted in a model that was calibrated to match measured data within a high degree of confidence.
- a) The 2015 Hydraulic Model was run using the 2 year, 6 hour design storm and the Typical Year Conditions.
 - b) The 2015 Hydraulic Model identified an actual reduction of CSO volumes during the 2 year, 6 hour design storm of 46% (from 26.04 million gallons (MG) to 14.01 MG) from 1997 (the date of analytics used in the original 2001 LTCP) to 2015 through implementation of projects listed in paragraph A.14, above.
 - c) Such Model identified an actual reduction of CSO volumes during the Typical Year of 66% (from 125.93 MG over 51 events to 43.40 MG over 30 events) through implementation of projects listed in paragraph A.14, above.

18. On April 9, 2015, DEEP approved the 2015 Hydraulic Model.
19. Multiple system optimization scenarios have been run under the 2015 Hydraulic Model and identify specific capital improvement projects as listed in paragraph A.20, below, that when undertaken will result in an overall 59% reduction in CSO volume from the 1997 conditions during the 2 year, 6 hour design storm (from 26.04 Million Gallons (“MG”) to 10.80 MG) and an overall 84% reduction in CSO volume from 1997 conditions during the Typical Year (from 125.93 MG over 51 events to 19.70 MG over 30 events).
20. Projects to achieve the above referenced reductions identified through the 2015 Hydraulic Model that can with appropriate funding be undertaken by 2018 include the following:
 - a) Relocate regulator and raise weir at Regulator 003;
 - b) Relocate regulator and raise weir at Regulator 004;
 - c) Modify regulator access and raise weir at Regulator 006;
 - d) Construct relief sewer and close CSO Outfall 012;
 - e) Construct relief sewer and close CSO Outfall 020;
 - f) Construct relief sewer and close Regulator 034; and
 - g) Infiltration and Inflow project in Hamden that will affect reductions at CSO Outfall 009 and 015.
21. Projects to achieve additional reductions identified through the 2015 Hydraulic Model update that can with appropriate funding be undertaken by 2021 include, but are not limited to the following:
 - a) Construct Union Pump Station Force Main Bridge over Metro North for CSO Abatement;
 - b) Construct Union Pump Station New Force Main to Twin Barrel New Haven Harbor crossing for CSO Abatement;
 - c) Rehabilitate and Expand Capacity of the Existing Union Pump Station for CSO Abatement; and
 - d) Construct the sewer separation project known as “*Yale Campus Trumbull Street Area Sewer Separation Phase 2A.*”
22. Completion of the above referenced projects in paragraphs A.20. and A.21 by 2021 is expected to reduce CSO volume to 18.94 MG during the Typical Year and 10.37MG during the 2 year, 6 hour design storm.
23. In consideration of all of the above referenced findings in paragraphs A.10 through A.22 above, paragraphs B.1. through B.5. of the Consent Order have been complied with and/or are obsolete and are replaced in their entirety by the enumerated items in Section B below. Paragraphs B.6. through B. 21. of the Consent Order remain in their entirety.

- B. The Commissioner, acting under Sections 22a-6, 22a-424, 22a-425, 22a-427 and 22a-428 of the Connecticut General Statutes, and with the agreement of the Respondent, orders the Respondent as follows:
1. Within 30 days from the execution of this modified Consent Order the Respondent shall submit to DEEP for approval a Scope of Work for a 2016 CSO Long-Term Control Plan (“2016 LTCP Scope of Work”). The 2016 LTCP Scope of Work shall include preliminary CSO control alternatives analyses that identify, screen, develop, and evaluate alternatives which shall provide for measures necessary to remove or control CSO discharges from all CSO outfalls to meet a 2-year, 6 hour level of CSO control (zero discharges) by 2036 in compliance with the technology-based and water quality-based requirements of the Clean Water Act, applicable Connecticut law, and the NPDES Permit as may be revised. The 2016 LTCP shall include consideration of green infrastructure. The Respondent shall also revise the 2016 LTCP Scope of Work in a timely manner as may be necessary to address any DEEP comments.
 2. Within 365 days from the Commissioner’s approval of the 2016 LTCP Scope of Work, the Respondent shall submit a proposed 2016 Long-Term Control Plan (“2016 LTCP”) that describes the CSO control measures the GNHWPCA proposes to implement, including the construction of all collection system and East Shore Water Pollution Abatement Facility improvements necessary to ensure compliance with Connecticut’s Water Quality Standards as may be amended or revised, and a proposed implementation schedule for constructing those CSO control measures. The Respondent shall reply to any DEEP comments and make appropriate revisions to the 2016 LTCP within 30 days of receiving such comments.
 - a. Upon approval by DEEP of the 2016 LTCP, the Respondent shall construct the CSO control measures approved in accordance with the 5 year construction schedule approved by DEEP. This schedule shall be deemed incorporated into this Consent Order upon its approval by DEEP.
 - b. The 5 year construction schedule shall include at a minimum the projects identified in paragraphs A.20. and A.21, above.
 3. The Respondent shall submit a subsequent proposed LTCP Update to DEEP on or before October 1, 2022 and on a 5 year reoccurring schedule thereafter to demonstrate the Respondent’s progress to date and plan for meeting a 2 year, 6 hour level of CSO control until such CSO control has been achieved. The Respondent shall reply to any DEEP comments and make appropriate revisions to any such LTCP Update as necessary to obtain DEEP approval.
 - a. Each LTCP Update shall be a stand-alone document and shall build upon the previous LTCPs.
 - b. Each LTCP Update shall include a public informational process and provide an opportunity for receiving and responding to public comments.

**TASKS TO BE INCLUDED IN OR ASSOCIATED WITH THE GREATER NEW
HAVEN WATER POLLUTION CONTROL AUTHORITY CSO
LONG TERM CONTROL PLAN UPDATE
SCOPE OF WORK
4/17/2015**

1. The CSO Nine Minimum Controls (“NMCs”) Implementation Assessment documenting the Authority’s implementation of the NMC measures described in EPA’s May 1995 guidance document. For each of the NMCs, summarize the status of control measures implemented and identify planned future actions based on assessment findings. Includes the following items:
 - a. A description of the specific short and long-term actions that the Authority is taking, or plans to take, to address any of the deficiencies identified during the completion of the NMCs Implementation Assessment.
 - b. A schedule for implementation of the NMCs Corrective Action Plan.
2. A list of all proposed improvements to the East Shore Water Pollution Abatement Facility (ESWPAF) and collection system to remove or control CSO discharges. The timeframe for these improvements is from 2015 to 2021.
3. A list of all proposed improvements to the ESWPAF and collection system to remove or control CSO discharges to comply with the 2 year, 6 hour storm level of CSO control. The timeframe to implement these improvements is by 2036.
4. Associated with the LTCP improvements contemplated by the lists in items 2. and 3. above, but separate from the LTCP Scope and subsequently any, the Authority will prepare a financial impact analysis. Such analysis will be informed by the methodology specified in EPA’s February 1997 guidance: “Combined Sewer Overflows – Guidance for Financial Capability Assessment and Schedule Development and any additional analysis using alternative inputs that may produce a more accurate calculation of financial impact.
5. In the evaluation of alternatives for CSO control, the Authority shall screen an appropriate range of technologies for elimination of all CSO discharges from up to and including the 25 year, 24-hour storm as well as to eliminate CSO discharges for the “2 year, 6 hour storm”. The evaluation shall include 1) the capital costs of achieving the 25 year, 24-hour storm overflow elimination option, and 2) the present worth analysis on all alternatives considered for the “2 year, 6 hour storm” option.