

UNITED STATES DISTRICT COURT
for the
DISTRICT OF MASSACHUSETTS

.....
UNITED STATES OF AMERICA,

Plaintiff,

v.

METROPOLITAN DISTRICT COMMISSION,
et al.,

Defendants.
.....

CIVIL ACTION
No. 85-0489-RGS

.....
CONSERVATION LAW FOUNDATION OF
NEW ENGLAND, INC.,

Plaintiff,

v.

METROPOLITAN DISTRICT COMMISSION,

Defendants.
.....

CIVIL ACTION
No. 83-1614-RGS

**MEMORANDUM OF THE MASSACHUSETTS WATER RESOURCES
AUTHORITY IN SUPPORT OF JOINT MOTION TO AMEND SCHEDULE SIX**

The Massachusetts Water Resources Authority (the "Authority") submits this memorandum in support of the Joint Motion of the United States and the Massachusetts Water Resources Authority to Amend Schedule Six by (i) deleting the milestones for completion of construction of sewer separation at CAM002 and CAM004 and completion of construction of interceptor relief for

BOS003-014, (ii) by adding milestones related to the revised combined sewer overflow (“CSO”) control plan for Alewife Brook and Upper Mystic River, interceptor relief for BOS003-014, the revised plan for the Charles River CSO controls, the Prison Point CSO facility operation optimization study and a three-year performance assessment of the Authority’s Long-Term CSO control plan, (iii) by modifying footnote 26, (iv) by adding two sentences to footnote 31 and (v) by adding footnote 38.

The Authority recently reached agreement with the United States Department of Justice, the United States Environmental Protection Agency (“EPA”) and the Massachusetts Department of Environmental Protection (“DEP”) on appropriate CSO control measures and recommended plans for the Charles River, the Alewife Brook/Upper Mystic River, and East Boston, and on its overall long-term CSO control plan. The Authority has briefed the Conservation Law Foundation (“CLF”) and the Charles River Watershed Association on the new Charles River initiatives.

As part of the agreement, DEP has agreed to reissue and EPA has agreed to approve five (5) consecutive variances of no more than three years' duration each, through the year 2020, for the Charles River and Alewife Brook/Upper Mystic River that, as applied to the Authority, are consistent with and limited to the requirements in the Authority’s revised Long-Term CSO Control Plan (the “LTCP”) set forth in Schedule Six relating to the Charles River and Alewife Brook/Upper Mystic River added pursuant to the Joint Motion. In addition, the United States and the Authority have agreed to withdraw the February 27,

1987 Stipulation of the United States and the Massachusetts Water Resources Authority on responsibility and legal liability for Combined Sewer Overflow Control once this plan is embodied into a Scheduling Order by the Court and replace it with a Second Stipulation that will require the Authority to undertake such corrective action as may be necessary to implement the CSO requirements set forth in Schedule Six and related orders of the Court and to meet the levels of control described in the Authority's Long-Term CSO Control Plan.¹

This comprehensive agreement will allow the Authority to continue to implement a CSO control plan that will remain at the forefront of CSO control nationally, will dramatically improve water quality, and will provide more certainty in the Authority's management of its capital program and rate increases over a 15-year period. With this agreement, the estimated cost to complete the Authority's Long-Term CSO control plan is now \$855 million, including contingency and escalation of unawarded contracts.

A summary of the recommended plans for the Charles River, Alewife Brook/Upper Mystic River and East Boston are provided below, and a more detailed description is provided in the *MWRA's August 2, 2005 Recommendations and Proposed Schedule for Long-Term CSO Control for the Charles River, Alewife Brook and East Boston.*²

¹ The documents that comprise the Authority's Long-Term CSO Control Plan are identified in the Second Stipulation of the United States and the Massachusetts Water Resources Authority on Responsibility and Legal Liability for Combined Sewer Overflow Control dated March 15, 2006.

² See Attachment "A" to the September 15, 2005 Compliance and Progress Report.

I. Charles River

In response to recent requests by EPA and DEP to provide further improvements to the level of CSO control for the Charles River, the Authority conducted a series of field investigations, operational evaluations and hydraulic modeling simulations. From this work and follow-up discussions with EPA, DEP, CLF and the Charles River Watershed Association, the Authority is able to recommend additional wastewater system improvements and system optimization evaluations that will further reduce treated CSO discharges at the Authority's Cottage Farm CSO facility and potentially further reduce CSO discharges at upstream untreated outfalls.

The revised recommended plan for the Charles River builds on the recommended plan as proposed in the *January 2004 Cottage Farm CSO Facility Assessment Report* (the "Cottage Farm Report"), by adding the following wastewater system improvements. The revised recommended CSO control plan includes use of an existing, but currently abandoned, 54-inch sewer crossing beneath the Charles River (the "Brookline Connection") to convey more flow to the Ward Street Headworks together with the controlled use of the Cottage Farm CSO facility inflow gates, interconnection of the chambers that direct overflow to the Cottage Farm CSO facility and weir raising in these chambers. Additional sewer separation, including 72 acres in specific areas of Brookline tributary to the Ward Street Headworks and approximately 61 acres of partially separated areas in the Bulfinch Triangle area of Boston which are tributary to

the Boston Marginal Conduit would be performed, in part to offset any adverse effects at certain Charles River outfalls of conveying more Cottage Farm-related flow to the Ward Street Headworks. The revised plan also includes implementation of gate controls to optimize flow allocation between the South Charles Relief Sewer, which can overflow to the Cottage Farm facility, and the Charles River Valley Sewer, which conveys flow to the Ward Street Headworks. The Authority will also perform further system optimization evaluations to determine if additional low-cost interconnections between other key interceptors related to the Cottage Farm CSO facility and upstream untreated outfalls can improve the allocation of flow and further reduce CSO discharges and volumes. The decision to incorporate the implementation of any additional interconnections between interceptors into the recommended plan will be based upon technical feasibility, cost, construction impacts and ability to reduce meaningfully the frequency and volume of CSO discharges.

Finally, if future engineering evaluations determine it is technically feasible to convert the existing MWR010 combined sewer outfall into a separate drain outfall, as part of the Brookline Sewer Separation Project, the Authority will fund construction of low-cost connections to remove stormwater from a 15-acre area in Boston adjacent to Brookline that already has been separated by Boston Water and Sewer Commission ("BWSC") but currently flows back to a combined system. Engineering evaluations to determine the technical feasibility and to evaluate costs and benefits of an additional 15 acres of

remaining BWSC combined area also adjacent to Brookline must be completed before any decision regarding separation of this additional area can be made.

The revised recommended plan will result in significant reductions in both the frequency of CSO activations and annual treated discharge volumes at the Cottage Farm facility as compared to the goals of the 1997 Final CSO Facilities Plan and Environmental Impact Report ("1997 CSO control plan") and the 2004 recommended plan in the Cottage Farm Report. Following implementation of the revised recommended plan, the total annual volume of CSO discharge from all remaining CSO outfalls (treated and untreated) to the Charles River in a typical year is predicted to be reduced by 99.6 percent from 1988 conditions. At the recommended control levels, CSO discharges will interfere with Class B water quality criteria less than one percent of the time. The estimated cost to complete this additional work is \$22 million. With these improvements, the total cost of the CSO control plan for the Charles River has risen from \$50 million in the 1997 CSO control plan to approximately \$75 million today.

II. Alewife Brook/Upper Mystic River

The current recommended plan is intended to minimize CSO discharges to Alewife Brook/Upper Mystic River, primarily by separating combined sewers in Cambridge. Construction of the 1997 recommended plan, which also involved sewer separation in Cambridge, commenced in 1998 in compliance with Schedule Six. Construction completed to date already has reduced CSO

discharges along the Alewife Brook from 63 to 25 activations in a typical year and decreased average annual discharge volume from 50 million to 34 million gallons.

In 2000, the Authority suspended design and construction based upon new information, showing that conditions in the Cambridge sewer system were markedly different from conditions assumed in 1997. The Authority then commenced a project reevaluation of the CSO control plan for Alewife Brook/Upper Mystic River, which it completed in May 2003. The reevaluation determined that then-existing CSO discharges to Alewife Brook were significantly greater than estimated in the 1997 CSO control plan. The estimate of baseline CSO discharge to Alewife Brook increased from 16 activations and 18.3 million gallons annual volume to 63 activations and 50 million gallons annual volume. The reevaluation led to a revised recommended CSO control plan for Alewife Brook/Upper Mystic River at an estimated cost of \$74 million, more than five times the cost estimate in the 1997 CSO control plan. The increase in cost resulted from the need for more sewer separation than originally assumed, higher unit costs for installation of new storm drains and other elements of the work, and the need for a new outfall and stormwater detention basin required to manage the increase in separate stormwater to Alewife Brook.

In July 2003, the Authority submitted the Final Variance Report for Alewife Brook and the Upper Mystic River, presenting the revised recommended plan to EPA and DEP. The recommended long-term CSO control plan for

Alewife Brook/Upper Mystic River includes upgrades to the Somerville-Marginal CSO treatment facility (completed); sewer separation to close outfalls SOM001, SOM002A, SOM003, SOM004, SOM006 and SOM007 (completed); sewer separation to close outfalls CAM400 and CAM004, with construction of a new outfall and detention basin to manage the separated CAM004 stormwater flows; relief of interceptor connections and floatables control associated with certain Cambridge outfalls; construction of an overflow control gate and floatables control at outfall MWR003; and relief of the Authority's Rindge Avenue Siphon.

These projects, together with improvements already completed by Cambridge, are predicted to reduce annual CSO volume to Alewife Brook/Upper Mystic River by 85 percent in a typical year, from 50 million gallons to 7.3 million gallons. CSO activations in a typical year will be reduced from 63 to seven. At the recommended control levels, CSO discharges will comply with Class B water quality criteria 98.5 percent of the time. Furthermore, receiving water quality modeling indicated that higher levels of CSO control would not result in additional water quality benefits due to the impacts of non-CSO sources.

The cost of the Alewife Brook/Upper Mystic River CSO control plan has since escalated further, from \$13.8 million when incorporated into Schedule Six to approximately \$100 million for the current recommended plan based on information in Cambridge's Draft Second Supplemental Preliminary Design Report, December 2004. The Authority and the City of Cambridge are

continuing to negotiate the sharing of the most recent cost increase in this project.

III. East Boston

The long-term CSO control plan for East Boston is to provide hydraulic relief of the Authority's interceptor system serving most of East Boston in order to minimize CSO discharges to Boston Harbor and Chelsea Creek through outfalls BOS003-014. The current plan, recommended in the 1997 CSO control plan, calls for replacing, relieving or rehabilitating a total of 24,750 feet of existing interceptor sewers using a combination of construction methods, including open cut, pipe bursting, microtunneling, and pipe repair and relining. The Authority commenced the first construction contract, which involved rehabilitation of portions of the existing East Boston Branch Sewer with cured-in-place pipe liner, in March 2003 and completed the contract in June 2004. The second construction contract involves installation of a new sewer interceptor along Condor, East Eagle and Border Streets using microtunneling methods, and the third contract replaces interceptors in upstream areas using "pipe bursting" methods. The Authority suspended design of the latter two contracts in June 2002, when it determined that the original plan would cost twice as much as estimated in the 1997 CSO control plan and would not fully attain the recommended level of CSO control.

In November 2003, the Authority substantially completed a reassessment that involved reevaluating the cost effectiveness of the plan against alternatives

that might have higher benefit and/or lower cost. The reassessment determined that the current interceptor relief project, at a total capital cost now estimated at \$72 million (more than twice the cost estimate in the 1997 CSO control plan) continued to be cost-effective. The increase is primarily related to higher costs for microtunneling and shaft construction. The reevaluation results also showed that adding sewer separation to the recommended interceptor relief project would add considerable cost with only minor improvement in CSO control and negligible water quality benefit.

Based on the results of the reassessment, the Authority believes that the original interceptor relief plan, even at the updated, higher cost estimate of \$72 million, is cost-effective and will reduce CSO discharges at all of the East Boston outfalls to greater than 99 percent compliance with Class B water quality standards, consistent with the 1997 CSO control plan. Ongoing work by BWSC and others to separate sewers in East Boston will further reduce CSO discharges. Therefore, the 1997 hydraulic relief plan for the control of CSOs in East Boston continues to be the recommended plan.

The recommended plan for East Boston is predicted to reduce annual CSO volume in a typical year from 41 million gallons today to 8.6 million gallons. The number of CSO activations in a typical year will be reduced from 31 to six.

For these reasons, the Authority respectfully requests that the Court allow its motion to amend Schedule Six.

By its attorneys,

/s/ Jonathan M. Ettinger
John M. Stevens (BBO No. 480140)
Jonathan M. Ettinger (BBO No. 552136)
Foley Hoag LLP
155 Seaport Boulevard
Boston, Massachusetts 02210
(617) 832-1000
jettinger@foleyhoag.com

Of Counsel:

Steven A. Remsberg,
General Counsel
Christopher L. John,
Senior Staff Counsel
Massachusetts Water Resources
Authority
100 First Avenue
Boston, Massachusetts 02109
(617) 242-6000

Dated: March 15, 2006

B3171418.1