UNITED STATES DISTRICT COURT
for the
DISTRICT OF MASSACHUSETTS

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UNITED STATES OF AMERICA, .
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Plaintiff, .
. CIVIL ACTION
v. . No. 85-0489-MA
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METROPOLITAN DISTRICT COMMISSION, .
et al., .
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Defendants. .
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CONSERVATION LAW FOUNDATION OF .
NEW ENGLAND, INC., .
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Plaintiff, .
. CIVIL ACTION
v. . No. 83-1614-MA
.
METROPOLITAN DISTRICT COMMISSION, .
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Defendants. .
.
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MWRA MONTHLY COMPLIANCE REPORT FOR
JANUARY 2000 AND PROGRESS REPORT AS OF FEBRUARY 15, 2000

The Massachusetts Water Resources Authority (the "Authority") submits the following monthly compliance report for the month of January 2000 and supplementary compliance information in accordance with the Court's order of December 23, 1985, subsequent orders of the Court and undertakings of the Authority.

1. Schedule Six.

A status report for the scheduled activities for the month of January 2000 on the Court's Schedule Six, certified by Douglas B. MacDonald, Executive Director of the Authority, is attached hereto as Exhibit "A."

A. Activities Not Completed.

1. Complete Construction of Sewer Separation at CAM 002 and 004.

As reported previously, the City of Cambridge commenced construction of Sewer Separation at CAM 002 and CAM 004 in June 1998 in compliance with Schedule Six. At the same time, the Authority informed the Court that Cambridge would be unable to meet the construction completion milestone of January 2000, because new information indicated that the extent of the work required was well beyond that assumed when the project milestones were proposed and accepted.1 The Authority determined that it must conduct additional field investigations and a reevaluation of the overall plan for combined sewer overflow ("CSO") control in the project area, even while work proceeded on several construction contracts already approved. Three of these construction contracts are now complete, resulting in separation of sewers in certain areas tributary to CAM 004 and CAM 002 and cleaning a portion of the outfall pipe leading to CAM 004.

Although the Authority and Cambridge have expended considerable effort to date to reevaluate the CSO control plan in the CAM 002 and CAM 004 areas, completion of the additional field work and engineering evaluations has taken longer than originally anticipated. Authority staff have met regularly with Cambridge representatives to monitor progress and attempt to resolve problems expeditiously. At the January 20, 2000 meeting referred to in last month's report, the participants concluded that they would be unable to complete the reevaluation of the overall plan by this month, as previously anticipated. The Authority now expects to complete the reevaluation and present a revised recommended CSO control technology by April 2000. Cambridge officials have expressed some reluctance to commit to the April date, because they fear there may not be sufficient information available then to establish the accurate cost estimates. For its part, the Authority believes that adequate information will be available by April to select, at a minimum, the appropriate CSO control technology or set of technologies.

After identification of the appropriate control technology, the Authority will require additional time to develop and negotiate with Cambridge a detailed implementation schedule and allocation of costs between the Authority and Cambridge. The Authority's objective is to propose a detailed implementation plan and schedule to the parties by July 2000, prior to seeking appropriate amendments to Schedule Six.

In the meantime, Cambridge officials recently indicated that they would initiate the process for using City resources for engineering efforts to investigate various methods to reduce overflows from the CAM 401B area, while awaiting completion of the Authority's regional reevaluation. Furthermore, Cambridge staff indicated the City's willingness to use other funding sources for the construction of sewer separation in the CAM 401B area. The City may still seek financial assistance from the Authority for design and floatables control for this area.

Meanwhile, Cambridge is continuing the design of sewer separation in the CAM 004 area. A fourth construction contract separating another area tributary to CAM 004 is approximately 45 percent complete.

B. Progress Report.

1. Fiscal Matters.

(a) Current Expense Budget and Rate Projections.

On February 9, 2000 the Authority's Board of Directors approved the transmittal of the Proposed Fiscal Year ("FY") 2001 Current Expense Budget to the Advisory Board for its review and comment. The proposed $502 million budget, if offset by $48.4 million in debt service assistance from the Commonwealth as anticipated, will require $388.1 million in rate revenue from member cities and towns. Other expected revenues include $40.6 million in investment income and $10.6 million in other user charges.

The largest category of expenditures in the proposed budget is $270.9 million for debt service to support the Authority's capital program. Expenditures also include $194.3 million for wages, utilities, chemicals and the other ongoing costs of operating the agency. In addition, the proposed budget includes $35.3 million for indirect expenses, the largest amount of which is for payments to the Commonwealth for the cost of operating the Metropolitan District Commission's Watershed Management Division, for debt service on bonds used to purchase watershed land and for payments in lieu of taxes to communities in the watersheds.

The combined increase in the rate revenue requirement is 6.7 percent, reflecting a 3.6 percent increase in sewer assessments and a 17.5 percent increase in water assessments. While the impact of this increase on residents in the service area depends on a variety of circumstances and decisions in individual member communities, the estimated impact of the Authority increase is $21 on a per-household basis. As in prior years, following the Advisory Board's review of the proposed budget, the Board of Directors will conduct hearings in May. The Board will take final action on the final budget in June.

(b) State Funding.

On January 26, 2000, the Governor submitted his recommendations for the Commonwealth's FY 2001 budget to the Massachusetts Legislature. The proposed budget includes $53.9 million in statewide debt service assistance for sewer projects, $38.9 million to support the state's contribution to the Federal Clean Water Act State Revolving Fund ("SRF") and $2.5 million to support the SRF for safe drinking water. The budget proposes to make changes to the state revolving fund by asking communities to contribute two percent toward the interest cost on their loans rather than the existing zero percent terms. The budget also proposes $1 million for the development and evaluation of proposals to determine if private operation of all or part of the Authority would increase the efficiency of operations and long-term maintenance of the Authority.

(c) Bond Sale.

On February 10, 2000 the Authority sold $285 million in bonds with maturities of up to 40 years to support the ongoing capital program.2 The all-in total interest cost was 6.1 percent, slightly less than budgeted. This bond sale was the first time the Authority had held a retail order period prior to the sale to make bonds more readily available to individual investors. Retail interest was high and resulted in orders for approximately $40 million in bonds.

2. Harbor Management

(a) Construction of Effluent Outfall Tunnel.

On January 18, 2000, the Occupational Safety and Health Administration ("OSHA") issued its report on its investigation into the July 1999 accident that led to the death of two workers in the tunnel. OSHA levied fines totaling $410,900 and cited four firms. All parties have contested OSHA's findings. The Massachusetts State Police has yet to issue its report.

In the meantime, the contractor continues to work on its plan for the recovery of the remaining evidence and removal of the remaining safety plugs. The Authority had expected that the contractor would submit its plan for review this month, but the contractor recently reported to the Authority that it would not be in position to complete the plan until certain issues are resolved. The Authority disagrees and is pressing the contractor to move forward as quickly as possible. In the circumstances, the Authority cannot now project a schedule for completion of the outfall.

(b) Construction of Secondary Battery C.

In spite of the Authority's efforts during the past month to work with the contractor for Secondary Battery C toward completion of that facility, the contractor did not make the progress required to maintain the schedule projected in last month's report, and the contractor's schedule slipped another 16 workdays. Working with the contractor, the Construction Manager developed a detailed schedule analysis, identifying all remaining activities required to support completion. This schedule was the subject of a meeting with the president of the construction contractor, who has agreed to do everything possible to meet a mid-March date for readiness to begin "inter-CP" testing, including attending weekly progress meetings.3 The contractor demonstrated his commitment by fielding a crew of more than 50 workers on each of the past two Saturdays and continuing to work extended hours on weekdays with selected trades.

In the reactor battery, installation of piping to the scum system pump, well and chlorine injection system is nearly complete. Testing of the oxygen reactor equipment, setting of the operation limits for the scum gates and the pulling of wires and terminations are ongoing.

In the clarifier battery, the contractor completed installation of the temporary heat exchanger and associated piping needed to allow water testing to resume and continue during the winter months. To prevent freezing, the contractor had drained the clarifier channels last month. Filling of the clarifier tanks with water from the reactor trains is now underway. Wet run tests of the equipment and static water leak tests are now complete in two tanks, are underway in another and will continue in others as they are filled. The contractor temporarily suspended dry run testing of the sludge collection equipment due to ice on the floor of the top and bottom tanks, but has now completed the testing in eight clarifiers. The contractor successfully started and ran five return sludge line pumps and is also continuing to install the scum dip tubes, which, as previously reported, require final modification as they are set in place.4 During the past month, a potential problem with the supports for the return sludge line pipe developed during testing, and engineers are evaluating whether the supports require rework.

In the scum building, pumps and piping are in place, and piping to the scum well is in progress. Installation of electrical conduit, pulling of the wires and making terminations are continuing. Testing of the process instrumentation control system is proceeding well and is 50 percent complete.

The Authority will report further on this matter next month.

3. Residuals Management.

(a) Pelletizing Plant Expansion.

After evaluating the results of a sustained run on one of the new dryer trains installed by the contractor for the expansion of the pelletizing plant, the Authority determined that the new shaftless screw installed in the mixer conveyor system showed excessive wear and was unacceptable. The contractor obtained and installed a new abrasion-resistant shaftless screw meeting higher specifications for hardness. The Authority expects a sustained run of the dryer train to take place shortly to determine the acceptability of the new screw.

In addition, the contractor successfully completed performance testing of both new dryer trains to demonstrate preliminary air emission compliance. The contractor also conducted a three-day test on one of the new trains to demonstrate continuous compliance. The Authority is currently evaluating the results of the three-day test.

(b) Management of Pelletizing Operations.

Authority staff are continuing to review the draft recommendations from the consultant regarding the forthcoming Request for Proposals for operating the pelletizing plant. The Authority has formed an internal advisory group representing many different areas within the Authority to review recommendations and guide the re-bid process.

4. CSO Program.

(a) CSO Annual Report.

In compliance with Schedule Six, the Authority submits its Annual Progress Report on the CSO Control Program (the "Annual Report"), attached as Exhibit "B." The Annual Report summarizes the progress made in the design and construction of various projects during the past year and the status of remaining regulatory review activities associated with the CSO control plan. The Annual Report also identifies issues that have affected or may affect the schedule for several projects.

The year 1999 marked a turning point in CSO implementation, involving a significant shift from planning and preliminary design efforts to final design and construction, with most projects moving into construction. Of the 25 projects recommended in the Authority's final CSO plan, the number of projects that were completed or under

construction climbed from five at the end of 1998 to 16 at the end of 1999. By the end of the year, the Authority also commenced design of the Union Park Detention and Treatment Facility.

Work also continued on remaining issues related to federal and state regulatory approvals of the CSO plan. In March, the Massachusetts Department of Environmental Protection ("DEP") issued final conditions on a three-year Variance for CSO discharges to the Alewife Brook and Upper Mystic River. By the end of 1999, the Authority and the Cities of Cambridge and Somerville had complied with various conditions related to CSO control evaluations and stormwater monitoring. In addition, the Authority, Boston Water and Sewer Commission and Cambridge continued to conduct similar work in compliance with the conditions of the two-year Charles River Variance.

The Authority notes that, due to delays in the progress of certain activities related to the Charles River Variance (stormwater monitoring by the United States Geological Survey and start up of automated operations at the upgraded Cottage Farm facility), it will be unable to complete by July 1, 2000, a report required by the Variance to evaluate the cost/benefit of providing additional storage capacity at Cottage Farm. In light of these circumstances, the Authority intends to discuss with DEP extending the Charles River Variance period and deferring certain deadlines accordingly.

In 1999, the Authority continued its field study on the performance of underflow baffles for CSO floatables control. Today the Authority is submitting a final report on the results of the field testing program. See Section 4.b. below and Exhibit "C."

The Annual Report also summarizes issues previously reported that have affected or may affect schedule compliance for several projects mandated by Schedule Six, including the North Dorchester Bay/Reserved Channel projects and Sewer Separation at CAM 002 and CAM 004. In addition, the Authority recently notified the Environmental Protection Agency ("EPA") and DEP that it has been unable to date to collect flow information to confirm that the in-line storage project for Dorchester Brook Conduit is not necessary.5 Continued delay in bringing the new Deer Island outfall on-line and realizing full planned pumping capacity at the new plant has delayed the Authority's plan to measure the frequency and volume of CSO flows to the Conduit under planned conditions. In spite of the prospect of further delay at Deer Island, and in light of the impending milestone for commencement of design of the in-line storage project (July 2000), the Authority plans to begin a field monitoring program by early Spring this year in the hope of obtaining enough information to support a request to delete or defer the project milestones.

Finally, the Annual Report summarizes the Authority's CSO program objectives in the year 2000. The Authority expects to complete several projects as scheduled. It plans to continue its CSO planning and water quality monitoring and modeling efforts related to the Charles River and Alewife Brook/Upper Mystic River Variances. The Authority also expects to complete its reevaluation and present a revised plan to address CSO control for Alewife Brook and develop a plan for addressing the current obstacles to proceeding with the North Dorchester Bay and Reserved Channel projects. In addition, the Authority, in conjunction with the CSO communities, will continue to make progress in designing and constructing the community CSO control projects.

(b) Floatables Control.

In compliance with Schedule Six, the Authority submits the final report on its field testing program for floatables control, attached as Exhibit "C." The Authority began the field program in 1997 and has since submitted to the parties two interim reports, in January 1998 and December 1998.6 The final report submitted today describes the results of the field activities conducted in 1999, reports the data collected, reviews all of the information collected since 1997 and presents conclusions.

The field program had the two objectives of verifying the effectiveness of underflow baffles to capture floatables and determining whether there were any operational or maintenance impacts from baffle installation.7 The Authority used end-of-pipe netting at one location (BOS 004) in an attempt to quantify and characterize floatable material before and after installation of the baffle. It installed prototype underflow baffles at two other locations (BOS 012 and BOS 078) to monitor operational and maintenance impacts.

At the BOS 004 netting site, the Authority was able to characterize floatable material caught in the net after 33 storms, nine of which, based on flow meter data, likely caused CSO activation. The results indicate that relatively minor quantities of floatables are attributable to CSO flows at BOS 004, compared to separate stormwater flows entering downstream of the CSO regulator and discharging at the same location. Furthermore, the information collected does not allow any statistical correlation to be made between the amount of floatable material measured and storm size, intensity or duration. Without this correlation, it is not possible to compare the quantities under pre- and post-baffle conditions, as intended in the field study design. The Authority estimates that it would need to continue the study for several more years in order to collect enough data to allow for even the potential of making a statistical correlation. Therefore, the Authority has concluded that attaining such results is not feasible.8

At the prototype baffle installations (BOS 012 and BOS 078), the Authority observed conditions during and/or after 12 wet weather events. The baffles appeared to perform well, retaining most floatable materials in the regulators, and caused no operational or environmental problems.

Based on the study results, the Authority concludes that underflow baffles are effective in retaining floatables during storm flows and allowing the floatables to discharge to the interceptor via the dry weather flow connection following each storm. They also appear to operate properly and are easy and inexpensive to construct at many CSO regulators.

The Authority has terminated further study of floatables control, because additional efforts will not yield enough statistically valid data to meet the original study goals, due to the low frequency of CSO activations, minor quantities of CSO floatables compared to separate stormwater floatables, site limitations and the influence of stormwater discharges. Nevertheless, based on laboratory studies performed in 1996 and the recent field observations, the report concludes that underflow baffles are effective in controlling floatables in CSO discharges. Therefore, the Authority continues to recommend the use of underflow baffles at approximately 31 locations throughout its own and the communities' systems.9

(c) Cottage Farm CSO Facility Upgrade.

Although the Authority accepted the Cottage Farm facility upgrade as substantially complete in January, the contractor has continued to address several outstanding items. These include adjustments to flow meters that experienced operating problems during a January 10 wet weather event activation and modifications to the sampling systems used to guide the automatic control of chemical dosing for disinfection and dechlorination. Further performance testing took place during yesterday's storm, and the problems with the flow meters and automatic sampling systems were again in evidence. The Authority is continuing its efforts to evaluate and address these problems.

(d) North Dorchester Bay/Reserved Channel
Consolidation Conduits and CSO Facility.

As anticipated, the Authority's Board of Directors has reviewed (in Executive Session) the difficulty the Authority faces in moving forward with the North Dorchester Bay and Reserved Channel CSO control projects, in view of the community's strong opposition to the use of the site recommended for the new Reserved Channel treatment facility and for the shaft to be used for constructing the two related storage tunnels. In view of the statements made by the community's elected representatives at the Board's December 15, 1999 meeting that they would do anything in their control to stop the project at "Site J," the Board concluded that it must inform the Court at this time that it no longer expects to be able to meet the September 2000 milestone for beginning construction of the Reserved Channel facility and associated CSO relocation.10 For the time being, the Authority has suspended most activities related to design, permitting and preparing bid specifications for project construction.

On February 1, Authority staff met with representatives of EPA and DEP to report and discuss the impasse regarding the project. Authority staff anticipate that further discussion will take place with the agencies in the coming weeks. This discussion will be useful to the Board as it continues its consideration of the options

available to it for moving forward with plans for CSO control in the North Dorchester Bay/Reserved Channel area. The Authority will report further on this matter next month.

(e) Hydraulic Relief for CAM 005.

During the past month, the contractor for the hydraulic relief project at CAM 005 completed the new concrete structure and backfilled to subgrade. The contractor is currently working on the retaining wall, sidewalk replacement and site restoration.

(f) Variance for Alewife Brook and Upper Mystic River CSO Discharges.

In January, Authority staff attended a Mystic River Watershed Sub-Team meeting, during which the Authority reported on the Fall 1999 stormwater sampling efforts conducted in compliance with the Variance for Alewife Brook-Upper Mystic River CSO discharges. In addition, the Authority recently completed compiling its 1999 receiving water monitoring data for Alewife Brook and the Mystic River.

(g) Interceptor Relief for BOS 003-014.

On February 9, 2000, the Authority's Board of Directors authorized the award of the contract for design of interceptor relief for BOS 003-014, the East Boston Branch Sewer Relief Project. The Authority expects to issue the Notice to Proceed this month, in advance of the March 2000 milestone.

The project will provide relief to the Authority's interceptor system serving most of East Boston, to minimize CSO discharges to Boston Harbor and the Chelsea Creek through outfalls BOS 003-014.11 As recommended in the Authority's final CSO plan, the project will replace, relieve or rehabilitate approximately 25,000 feet of existing sewers, using a combination of construction methods, including pipe bursting, open cut, microtunneling and pipe repair or relining. The Authority expects to complete construction by March 2003, on schedule.

By its attorneys,

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CERTIFICATE OF SERVICE

I, John M. Stevens, attorney for the Massachusetts Water Resources Authority, do hereby certify that I have caused this document to be served by hand or mail to all counsel of record.

John M. Stevens (BBO No. 480140)

Dated: February 15, 2000

Notes:

1. See August 17, 1998 Compliance and Progress Report, pp. 3-4. See also February 12, 1999 Compliance and Progress Report, pp. 10-16. In the meantime, Cambridge had also identified an additional CSO outfall, now identified as CAM 401B, which was unknown at the time the Authority developed the CSO control plan for the area tributary to Alewife Brook. See March 16, 1998 Compliance and Progress Report, pp. 8-9.

2. A bill passed by the Massachusetts Legislature on January 20, 2000 and signed by the Governor on January 24, 2000 increased the Authority's debt cap to $4.75 billion.

3. Resident engineering, construction management and contractor staff are also meeting daily to review progress and resolve issues.

4. The contractor has added an additional welding crew to support this activity.

5. Although EPA and DEP approved the Authority's decision to eliminate this project from the final CSO plan, the project remains in the Court schedule, pending confirmatory information (see Note 38 to Schedule Six). EPA has indicated a willingness to delete the project from the schedule, pending field verification of the predicted minimal CSO activation frequencies and volumes.

6. See Compliance and Progress Reports submitted February 13, 1998, pp. 2-4 and January 15, 1999, pp. 4-6

7. The Authority notes that its final CSO plan called for using underflow baffles only at CSO outfalls expected to have minimal activations. The majority of CSO overflows (92 percent) will receive screening, as well as other treatment, at one of the new or upgraded CSO treatment facilities.

8. The Authority originally selected BOS 004 because it appeared to have the best potential for meeting the desired study goals compared to all other CSO outfalls in the region.

9. The Authority has proposed other technologies such as in-line nets to provide floatables control at nine other locations.

10. In order to begin work at Site J, as well as substantial other areas in South Boston required for the overall project, the Authority must obtain legislative approval under Article 97 of the Massachusetts Constitution. Under the circumstances, the Authority has little prospect of finding a sponsor even to introduce the necessary legislation and no prospect of obtaining legislative approval. In addition, as reported on December 15, 1999, members of the community near Site J have filed suit, challenging the selection of Site J under the Massachusetts Environmental Policy Act. See December 15, 1999 Compliance and Progress Report, pp. 8-9.

11. CSO outfalls BOS 003-014 include ten active outfalls. The project will eliminate CSO discharges at one of these outfalls, BOS 010. CSO outfalls BOS 008 and BOS 011 are no longer active.