

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
.
METROPOLITAN DISTRICT COMMISSION, .
et al., .
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Defendants. . .
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CONSERVATION LAW FOUNDATION OF .
NEW ENGLAND, INC., .
.
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
AUGUST 1998 AND PROGRESS REPORT AS OF SEPTEMBER 15, 1998

The Massachusetts Water Resources Authority (the "Authority") submits the following monthly compliance report for the month of August 1998 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.

I. Schedule Six.

There were no scheduled activities for the month of August 1998 on the Court's Schedule Six.

A. Progress Report.

1. Fiscal Matters.

(a) Federal Funding.

With great sadness, the Authority notes the passing of Kirk O'Donnell who was a strong advocate for the Boston Harbor Project. As the Authority's Washington consultant, Mr. O'Donnell was enormously successful in obtaining federal funds for the Boston Harbor Project over the past several years. His success contributed to the Authority's ability to reduce proposed rate increases for its service communities. He will be long remembered for the strength of his convictions and his commitment to enhancing the quality of life in Massachusetts.

2. Harbor Management.

(a) Construction of Effluent Outfall Tunnel.

At a meeting on September 9, 1998, staff reported to the Board of Directors on the status of construction of the effluent outfall tunnel and prospects for its completion. Based on the contractor's progress during the past year and the activities that remain to be accomplished, the Authority now anticipates that tunnel construction will be completed no sooner than July 1999.

The Authority last reported on an anticipated completion date for the tunnel in July 1997, when, based on the contractor's estimated time to perform the remaining work, the Authority projected a date of November 1998. At that time, the contractor was engaged in pouring structural concrete to form the transition between the tunnel and each diffuser connection, installing a reinforced concrete slab over the backfill grout that had been placed in the tunnel invert and conducting other finish work within the diffuser reach of the tunnel. During the past year, the contractor completed all work within the diffuser reach, including removing all equipment and utilities, completed the placement of the concrete venturi near the start of the diffuser reach to narrow the diameter of the tunnel and made significant progress in the final clean-up, repairs and removal of utilities throughout the tunnel. To date, the contractor has completed first pass clean-up and repairs to within 2,750 feet or 0.52 miles of the Deer Island shaft and final tunnel clean-up and repairs to within 2.7 miles of the shaft. The contractor has also completed contact grouting of the tunnel to within 150 feet of the shaft.¹

Despite this progress, the contractor has been unable to achieve the schedule on which the November 1998 projection was based. Slower-than expected progress in completing the diffuser connections, placing the divider slab concrete, pouring the concrete for the venturi and installing the anchor bolts and reinforcing steel in the venturi has placed the contractor behind the anticipated schedule. Furthermore, the contractor has been unable to meet a projected schedule for achieving final clean-up and repairs at the rate of 1,500 linear feet per week. To date, the contractor has averaged slightly less than 1,000 feet per week, although production over the last two miles has improved.

Given these delays, the Authority has reassessed the expected duration of remaining construction. The contractor must complete the following activities: 1) final clean-up, repairs and removal of utilities for the remaining 2.72 miles;² 2) lining with concrete the 330 feet of starter tunnel (which is not lined with pre-cast segments); 3) placing a concrete bulkhead at the face of the tail tunnel behind the shaft; 4) forming, reinforcing and pouring the concrete elbow to connect the shaft to the tunnel; and 5) returning to the diffuser area of the tunnel to remove the plugs that were inserted at the base of each diffuser after making the initial connections. The removal of the plugs will be a complex operation, because the railway, ventilation and utilities that supported tunnel construction are being removed as part of the clean-up and will no longer be in place. A small crew must use self propelled vehicles and bottled air for support to travel the entire length of the tunnel.³ Once the plugs are removed, the tunnel must be allowed to flood gradually with groundwater seepage. Thereafter, the contractor will remove a limited number of diffuser caps to complete the flooding and purge the tunnel of brackish groundwater.⁴

The final stage of readying the outfall for operation will involve certain preparations to the diffusers and the removal of additional diffuser caps in sufficient number to achieve the desired hydraulics for the discharge. The Authority is preparing to procure a separate contractor to perform this work.

In the coming months, the Authority will continue to monitor progress on the outfall tunnel and will include a reassessment of the tunnel construction schedule in the 1998 Annual Progress Report on the Boston Harbor Project to be submitted in January 1999. At that time, clean-up of the tunnel is scheduled to be complete, and

placement of concrete in the starter tunnel should be underway. The status of these two activities will provide a good indication of the likely completion date of the tunnel.

(b) Lydia Goodhue Pump Station.

The contractor for the Lydia Goodhue Pump Station has completed the installation of the three replacement transformers.⁵ The contractor also has been making modifications to the electronic controls of the variable frequency drives in the pumps, in turn, leaving seven of the eight wastewater pumps available for use at any time.

Work is also continuing on the modifications to the harmonic filter banks at both the Lydia Goodhue and North Main Pump Stations, in order to reduce the level of harmonic distortion that may occur in the island-wide electric grid during periods of high flows when additional pumps are in simultaneous operation at the two pump stations. The Authority expects the fabrication of these filters to be complete by early December 1998 and installation to take place during December and January. Once all the filters are in place, testing of the overall system will proceed.⁶

(c) Demolition of Nut Island Treatment Plant.

The contractor working at the decommissioned Nut Island Treatment Plant has completed cleaning of two of the four digesters and is scheduled to complete the remaining two in October. The contractor also is removing electric power lines from the old plant and conducting an asbestos evaluation. Demolition of a temporary bypass conduit from the high level sewer is underway, and full scale demolition of the old plant is scheduled to commence later this month.⁷

In addition, the contractor is performing work required to convert interim influent and effluent channels used during construction of the Nut Island Headworks into a permanent surge containment facility for the new headworks. This work involves demolition of the wall separating the two interim channels to create a surge containment structure and installation of a new set of gates between the new structure and the existing outfalls.

(d) Thermal Plant.

In the thermal plant, the contractor has completed the installation of the new oil filter system in the digester gas system and is working now on the installation of the flame arrestors in the boilers. Under a separate contract, another contractor is working on the installation of the permanent cooling water lines needed for testing the digester gas system. Currently, the modifications to the system, the installation of the flame arrestors and installation of the cooling water lines all are scheduled to be complete by the end of October. Thereafter, testing of the boilers using the digester gas system can proceed.

3. Combined Sewer Overflow Control.

(a) Revisions to Schedule Six.

The Authority submits as Exhibit "A" a proposed revision to the Court's Schedule Six. The proposed schedule amends Schedule Six by incorporating orders entered by the Court through August 31, 1998. The amendments include the deletion and addition of milestones to reflect changes to combined sewer overflow ("CSO") projects. In addition to incorporating these amendments, Exhibit A also corrects a number of typographical errors in milestones proposed to and adopted by the Court. Those corrections are as follows: (1) restore the inadvertently omitted acronym "CSO" to the milestone for February 1997; (2) add a call to footnote 26 to the milestones for July 1998, July 2000 and September 2006 referencing the Stony Brook sewer separation project; (3) substitute the word "of" for the word "for" in the milestones for November 1999, October 2000 and March 2001 referencing construction of upgrades to CSO treatment facilities and (4) replace the word "construed" with the word "constructed" in footnote 33. The Authority circulated the proposed schedule among the parties and received no comments.

(b) Supplemental Environmental Impact Report for CSO Facility Upgrades.

Schedule Six requires the Authority to submit a Supplemental Environmental Impact Report for the CSO treatment facility upgrades ("SEIR") to the Secretary of Environmental Affairs (the "Secretary") by the end of the month. The SEIR is a requirement in the Secretary's Certificate on the Notice of Project Change filed by the Authority last year to address the necessity to change the approach to providing dechlorination at four of the five existing CSO treatment facilities.⁸ In accordance with the Certificate, the SEIR must address several issues related to the provision of dechlorination. Among them, the SEIR must include further evaluation of sites for new dechlorination facilities which the Notice of Project Change had recommended for construction at the Somerville Marginal facility and at a location downstream of the Fox Point facility.

The Authority and its design consultant for the facility upgrades have completed a number of planning and engineering activities to respond to the Secretary's Certificate and to prepare the SEIR on schedule. Although additional work appears to have resolved siting issues at Somerville Marginal, neighborhood interest in the siting of the proposed dechlorination facility at Fox Point has intensified. Elected officials with whom staff have worked closely regarding the Fox Point plan have requested additional time to respond to public concerns prior to the Authority submitting the SEIR. In the interest of gaining a level of public support for its Fox Point plan and to allow time to provide additional information to the community, the Authority has agreed to delay the submission of only that portion of the SEIR related to Fox Point siting, by up to three months. The Authority intends to submit the majority of the SEIR on schedule, including all requirements related to the other facilities (Commercial Point, Prison Point and Somerville Marginal).

The plans for Fox Point involve the construction of a new dechlorination building near the end of the outfall pipe, approximately one half mile downstream of the existing facility. The new building, approximately 36 feet square and 15 feet high, will house storage tanks for the dechlorinating agent, sodium bisulfite, and all ancillary equipment and systems for properly operating and monitoring the dechlorination process. Along with upgraded chlorination equipment at the existing Fox Point facility, the dechlorination facilities are intended to provide improved treatment of CSO flows at Fox Point in the short-term, until BWSC completes ongoing sewer separation in the South Dorchester Bay area by 2008.

The recommended site for the new Fox Point building is vacant land within the property owned by the Savin Hill Yacht Club, across Morrissey Boulevard from the Savin Hill neighborhood. The Secretary's Certificate on the Notice of Project Change required the Authority to investigate site options in the immediate vicinity of the Yacht Club but did not require the Authority to investigate alternative plans for dechlorination. However, local interest in the proposal is strong enough for the Authority to conclude that it is in the best interest of the project to conduct additional evaluations and public participation efforts relative to Fox Point siting, prior to submitting that portion of the SEIR.

The Authority has notified the Executive Office of Environmental Affairs of the circumstances, and the staff administering the Massachusetts Environmental Policy Act have agreed to this approach. The Authority will continue to work with the community to resolve the siting concerns at Fox Point and will submit the related sections of the SEIR, including a recommended plan for Fox Point, at the earliest possible time.

(c) Variance for Charles River CSO Discharges.

During the past month, issues of concern regarding the Variance from state water quality standards proposed by the Massachusetts Department of Environmental Protection ("DEP") for CSO discharges to the Charles River have reached resolution. Copies of the Variance, a letter from DEP to the Environmental Protection Agency ("EPA") requesting approval of the Variance and a letter from EPA approving the Variance are attached as Exhibits "B," "C" and "D," respectively. The Variance is expected to become effective on October 1, 1998.

The variance is a temporary modification of applicable water quality standards that permits the CSO discharges remaining in the Charles River basin after implementation of the Authority's CSO projects in the Final CSO Facilities Plan.⁹ The conditions of the Variance require the Authority to continue to implement its CSO projects for the Charles River, and to provide additional information to be used at the end of the term of the Variance in

assessing whether additional CSO control measures may be appropriate. In particular, the Authority is required to prepare a facilities planning report evaluating the siting of larger storage facilities associated with the Cottage Farm treatment facility, possible enhancements to treatment and the performance of the upgraded Cottage Farm facility following its completion. The Authority will also evaluate the potential of other measures, such as infiltration/inflow removal, further system optimization and pollution trading for achieving improvements in water quality.

Among other conditions, the Variance requires the Authority to conduct additional sampling to characterize more fully the relative contributions of contaminants in the Charles River from upstream, separate stormwater and CSO sources. The Variance provides that the Authority may comply with this sampling requirement by participating financially in a broader interagency study of water quality conditions in the Charles River to be conducted by the United States Geologic Survey ("U.S.G.S."). The Authority's Board of Directors has authorized the contribution of \$308,000 to the U.S.G.S. study as part of the state share of funding that will allow the study to go forward.¹⁰ In return, the Authority expects to participate in the oversight of the study and has received assurances that it will not be required through the forthcoming NPDES permit or otherwise to undertake other analyses of non-CSO sources of pollution to the Charles River.

(d) Constitution Beach Sewer Separation.

On June 23, 1998, the Boston Water and Sewer Commission ("BWSC") issued a Notice to Proceed for the construction of a portion of the sewer separation project tributary to the Constitution Beach CSO facility (outfall MWR 207). The commencement of construction is well in advance of the April 1999 milestone for this work on Schedule Six. This project will eliminate CSO discharges at outfall MWR 207 and allow the Authority to decommission the Constitution Beach CSO treatment facility. BWSC expects to issue one or more additional contracts over the next several months to complete the construction by October 2000, in compliance with Schedule Six.

(e) Neponset River Sewer Separation.

On July 13, 1998, BWSC issued a Notice to Proceed for the second construction contract to separate sewers and eliminate CSO discharges to the Neponset River.¹¹ This second contract, together with a third expected to be let by BWSC next year, will result in the elimination of CSO discharges at the single remaining CSO outfall to the Neponset River, BOS 095. The first construction contract was completed earlier this year and resulted in the closing of all CSO regulators tributary to outfall BOS 093.¹² Schedule Six requires completion of construction of this project by June 2000.

4. Residuals Program.

(a) Pelletizing Plant Expansion.

At the pelletizing plant, functional testing of the two new dryer trains is complete, and the contractor is completing punchlist items. The contractor expects to introduce sludge into the new trains by the end of the month to begin test operations.

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: September 15, 1998

Notes:

1. During the past month, the contractor resumed first pass clean up and repairs at a location 4,500 feet from the shaft. This work had been placed on hold in May, due to slow progress in the contact grouting proceeding ahead of the clean-up and repairs. Grouting is now on hold and will resume when the contractor lines the starter tunnel (see below).
2. The time required for this work may be affected by the need to perform more extensive repairs to the liner segments in the first mile of the tunnel, where the contractor had not yet refined its technique for segment installation.
3. In late August, a subcontractor engaged to perform this work conducted an exploratory walk to the diffuser reach to test the conditions. The team reached diffuser No. 23 and was able to advance as far as the venturi at the start of the diffusers without the use of bottled air. The team encountered no unanticipated problems or conditions.
4. The contractor's ability to remove the caps on the ocean floor will be dependent on weather conditions.
5. The new transformers, which replaced two that were damaged during testing and another considered unreliable, will be in use for an interim period until permanent replacements are available for all eight of

the pumps.

6. Until some or all of the additional harmonic filters are installed, the Authority will operate no more than four pumps at one time in the Lydia Goodhue Pump Station.
7. The public event to recognize the end of primary treatment and daily wastewater discharges at Nut Island is scheduled for October 5, 1998 at 10:00 a.m.
8. See Compliance and Progress Reports for August 15, 1997, pp. 17-20, and November 17, 1997, pp. 8-11.
9. These projects include providing hydraulic relief for CAM 005, for which design began in July 1997; upgrading the Cottage Farm CSO treatment facility, the construction of which began in March 1998; and sewer separation in the Stony Brook area, for which design began in July 1998.
10. Overall, the Authority expects to spend more than \$850,000 to comply with the Variance conditions.
11. See Compliance and Progress Report for June 17, 1996, pp. 3-4, for a report on the first contract.
12. BOS 093 now discharges stormwater only.