

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

MWRA QUARTERLY COMPLIANCE AND
PROGRESS REPORT AS OF DECEMBER 15, 2009

The Massachusetts Water Resources Authority (the "Authority") submits the following quarterly compliance report for the period from September 16, 2009 to December 15, 2009 and supplementary compliance information in accordance with the Court's order of December 23, 1985 and subsequent orders of the Court.

I. Schedule Seven.

There were no scheduled activities for the last quarter on the Court's Schedule Seven.

A. Progress Report.

1. Combined Sewer Overflow Program.

a. North Dorchester Bay Storage Tunnel and Related Facilities.

On November 30, 2009, the Authority attained substantial completion of the \$146 million construction contract for North Dorchester Bay CSO Storage Tunnel. The Authority accepted the constructed facilities, including the tunnel, the tunnel shafts, and the near-surface combined sewer overflow ("CSO") and stormwater diversion structures and related piping. The tunnel contractor is now completing punch list items.

The Authority also continued to make progress with construction of the \$25.9 million tunnel dewatering pump station at Massachusetts Port Authority's Conley Terminal and related force main and gravity sewer. The tunnel dewatering pump station contractor expects to complete ongoing installation of mini-piles to support the pump station foundation this month, and expects to install the dewatering system and geotechnical instruments thereafter, prior to excavating for the foundation. The contractor also installed approximately 2,000 feet of the 24-inch diameter force main.

In addition, on November 4, 2009, the Authority issued the Notice to Proceed with the \$5.2 million construction contract for the tunnel ventilation building that will be constructed at the upstream end of the tunnel, near the

State Police Building on Day Boulevard. The facility will ventilate the CSO storage tunnel between storms and during storms when the tunnel is filling with CSO and/or stormwater. Ventilated air will be treated through activated carbon units for odor control. This contract is the last of the construction contracts awarded by the Authority or the Boston Water and Sewer Commission ("BWSC") to implement the overall \$260 million North Dorchester Bay CSO control plan, which includes the tunnel and related facilities and the Pleasure Bay and Morrissey Boulevard storm drains. The Authority plans to complete all work by May 2011, in compliance with Schedule Seven.

b. Interceptor Relief for BOS003-014.

The Authority completed the first of the three construction contracts that comprise the East Boston Branch Sewer Relief project (Interceptor Relief for BOS003-014) in 2004 and continues to make substantial progress with the second and third contracts. Since the Authority last reported, the contractor for the second contract, which involves the installation of 2.5 miles of new interceptor primarily using micro-tunneling methods, completed the 48-inch pipe sections of the new interceptor sewer with an additional 1,951 feet of 48-inch micro-tunneling and pipe installation and nearly completed installing a cured-in-place liner through most of this new pipe. The contractor also completed 847 feet of 66-inch diameter micro-tunneling and pipe installation near the downstream end of the new interceptor sewer and is currently installing a cured-in-place liner through these sections. The contractor has

now completed the installation of the total 8,045 feet of pipe for Phase I of a three phase effort.

The contractor for the third and final contract, which involves replacing and upgrading approximately one mile of interceptor pipe in upstream areas using "pipe bursting" methods, completed 2,075 feet of pipe-bursting and simultaneous new pipe insertion to increase a 12-inch pipe to 16-inch pipe along Marginal, Border, Maverick and New streets. In addition, the contractor has installed 170 feet of 16-inch pipe by open cut. The contractor plans to construct three shafts and commence pipe-bursting and pipe installation to upsize 15-inch pipe to 20-inch pipe along Maverick Street in the first quarter of 2010.

Both contracts remain on schedule to be substantially completed by July 2010.

c. Charles River CSO Interceptor Optimization Evaluations.

As previously reported, the Authority completed its hydraulic evaluations on potential Charles River interceptor system improvements.¹ On September 14, 2009, the Authority submitted the technical reports on the results of its hydraulic evaluations to the United States Environmental Protection Agency ("EPA") and the Massachusetts Department of

¹ See Compliance and Progress Reports dated September 15, 2009, pp. 7-9; June 15, 2009, pp. 10-11; and March 16, 2009, pp. 2-3 for previous reports on Charles River CSO interceptor optimization evaluations.

Environmental Protection ("DEP"), along with a letter discussing the implications of these results for related milestones in Schedule Seven. From the hydraulic evaluations, which are documented in the Authority's Final Hydraulic Modeling Technical Report (December 2008), Report on Evaluation of Additional Charles River Interceptor Connection Alternatives (January 2009) and Supplemental Hydraulic Modeling Technical Report (September 2009), the Authority concluded that there is no feasible additional means to optimize the hydraulic performance of its existing Charles River interceptors to increase the level of CSO control and did not recommend system improvements beyond the measures in its Long-Term CSO Control Plan.

On October 13, 2009, EPA submitted comments on the Authority's three technical reports to the Authority. The Authority performed some additional evaluations pursuant to EPA's comments and submitted its responses to EPA on December 14, 2009. Based on these additional evaluations, the Authority confirmed its previous conclusion that there is no feasible means to optimize the hydraulic performance of its existing Charles River interceptors to increase the level of CSO control. Accordingly, the Authority continues to recommend that no additional system improvements to the Charles River interceptors be implemented beyond the measures already contained in its Long-Term CSO Control Plan.

The Authority plans to seek Court approval to delete the related April 2009, January 2010 and January 2011 implementation milestones from Schedule Seven once it has finalized discussions with the United States and DEP.

d. Cambridge Sewer Separation.

Since last reporting, the Authority and the City of Cambridge met with EPA and DEP to discuss Cambridge's proposed revised schedule for the Alewife Brook CSO control plan. The updated construction schedules for these projects take into account the 27-month delay due to the wetlands appeal and also incorporate recent information collected as part of Cambridge's design work, including estimated timelines to obtain easements, permits, licenses and Article 97 legislation prior to the commencement of construction.²

The proposed revised construction schedule for Contract 12 (July 2010-July 2012) maintains the original 2-year construction duration but moves the start and end dates out nine months beyond the 27-month delay to accommodate necessary easements and permits for construction, including private and public property easements, permits for a railroad crossing, and approval by the state legislature pursuant to Article 97 of the Massachusetts

² See Compliance and Progress Reports dated September 15, 2009, pp. 4-7; June 15, 2009 pp. 4-5; March 16, 2009, pp. 3-5; December 15, 2008, pp. 6-7; September 15, 2008, pp. 5-6; June 13, 2008 pp. 6-7; March 14, 2008, pp. 4-5; December 14, 2007, pp. 5-6; December 15, 2006, pp. 9-10; September 15, 2006, pp. 6-7; December 15, 2004, pp. 10-12; and September 15, 2004, pp. 6-7 for previous reports on the wetland permitting issue.

Constitution for work in the Department of Conservation and Recreation's Alewife Reservation. The proposed construction schedules for CAM400 Manhole Separation (January 2010-March 2011) and for Interceptor Relief and Floatables Controls (January 2010-October 2010) reflect the 27-month delay and a decision by Cambridge to combine these projects into one construction contract with separate project substantial completion dates. The construction schedule for CAM004 Sewer Separation (July 2012-December 2015) maintains the same construction duration, but reflects the schedule delays associated with Contract 12 because the commencement of construction is directly dependent upon the completion of Contract 12 (July 2012). In addition, the schedule for Outfall MWR003 Control Gate and Floatables Control and Rindge Avenue Siphon Relief project (November 2013-January 2015), which is managed by the Authority, reflects the schedule delays associated with Contract 12 as it is directly dependent on design of CAM004 Sewer Separation.

The Authority plans to seek Court approval to delete the existing Alewife Brook CSO control plan project milestones in Schedule Seven and replace those milestones with new milestones based on Cambridge's current project schedules once it has finalized discussions with the United States and DEP.

Meanwhile, the City of Cambridge continues to make design progress with three of the five projects in Schedule Seven that comprise the \$117 million Alewife Brook CSO control plan. On November 19, 2009, Cambridge advertised the single contract for construction of CAM400 Manhole Separation and

Interconnection Relief and Floatables Control, and expects to award the contract by January 31, 2010.

e. Quarterly CSO Progress Report.

In accordance with Schedule Seven, the Authority submits as Exhibit "A" its Quarterly CSO Progress Report (the "Report"). The Report summarizes progress made in design and construction on the CSO projects during the past quarter and identifies issues that affect or may affect compliance with Schedule Seven.

Construction is underway for several major CSO projects including North Dorchester Bay CSO Facilities, East Boston Branch Sewer Relief (Interceptor Relief for Outfalls BOS003-014), and the Reserved Channel, Bulfinch Triangle and Brookline sewer separation projects. The last of the North Dorchester Bay and East Boston construction contracts are awarded and well underway. BWSC continues to make progress with its first contract to construct the Reserved Channel Sewer Separation project while also preparing eight additional contracts for construction awards over the next few years. BWSC is also nearing completion of its contract to construct the Bulfinch Triangle Sewer Separation project. At the same time, the Town of Brookline has nearly completed its first contract to construct the Brookline Sewer Separation project and expects to advertise the second contract soon. In addition, the City of Cambridge recently advertised a construction contract that marks a transition from design into construction for the Alewife Brook CSO projects after several

years of delay due to wetlands permit appeals. The Authority anticipates heavy construction spending over the next five years, culminating in completion of construction of the Long-Term CSO Control Plan.

By its attorneys,

/s/ John M. Stevens

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CERTIFICATE OF SERVICE

I hereby certify that a true and accurate copy of this document, which was filed via the Court's ECF system, will be sent electronically by the ECF system to the registered participants as identified on the Notice of Electronic Filing (NEF) and paper copies will be sent to those indicated as non-registered participants on December 15, 2009:

/s/ John M. Stevens

John M. Stevens (BBO No. 480140)
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Dated: December 15, 2009

EXHIBIT A

Massachusetts Water Resources Authority



**Combined Sewer Overflow
Control Plan**

Quarterly Progress Report
December 15, 2009

Massachusetts Water Resources Authority
Combined Sewer Overflow Control Plan
Quarterly Progress Report - December 2009

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Table 1
Status of CSO Project Implementation
December 15, 2009

MWRA Contract	CSO Projects in Schedule Seven	IN DESIGN	IN CONSTRUCTION	COMPLETE
MWRA Managed Projects				
N. Dorchester Bay Tunnel	N. Dorchester Bay CSO Storage Tunnel and Related Facilities		X	
N. Dorchester Bay Facilities				
Pleasure Bay Storm Drain Improvements				
Hydraulic Relief Projects	CAM005 Relief			X
	BOS017 Relief			X
East Boston Branch Sewer Relief				
BOS019 CSO Storage Conduit			X	
Chelsea Relief Sewers	Chelsea Trunk Sewer Relief			X
	Chelsea Branch Sewer Relief			X
	CHE008 Outfall Repairs			X
Union Park Detention/Treatment Facility				
CSO Facility Upgrades and MWRA Floatables	Cottage Farm Upgrade			X
	Prison Point Upgrade			X
	Commercial Point Upgrade			X
	Fox Point Upgrade			X
	Somerville-Marginal Upgrade			X
MWRA Floatables and Outfall Closings				
Brookline Connection and Cottage Farm Overflow Interconnection and Gate				
Charles River Interceptor Gate Controls and Additional Interceptor Connections		X		
Optimization Study of Prison Point CSO Facility				
Community Managed Projects				
South Dorchester Bay Sewer Separation				
Stony Brook Sewer Separation				
Neponset River Sewer Separation				
Constitution Beach Sewer Separation				
Fort Point Channel Sewer Separation and System Optimization				
Morrissey Boulevard Storm Drain				
Reserved Channel Sewer Separation		X	X	
Bulfinch Triangle Sewer Separation			X	
Brookline Sewer Separation		X	X	
Somerville Baffle Manhole Separation				
Cambridge/Alewife Brook Sewer Separation	CAM004 Outfall and Basin	X		
	CAM004 Sewer Separation	X ⁽¹⁾	X ⁽¹⁾	
	CAM400 Manhole Separation	X		
	Interceptor Connection Relief/Floatables	X		
	MWR003 Gate and Rindge Ave. Siphon	Start 2012		
Region-wide Floatables Control and Outfall Closings				
				X

⁽¹⁾ In 1997-2002, the City of Cambridge completed design and construction of four initial contracts to separate the CAM004 tributary area and close this outfall. Cambridge plans to commence design of the remaining CAM004 sewer separation work by February 2010 and complete construction by December 2015.

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1. Quarterly Progress Overview

This quarterly progress report is presented to comply with reporting requirements in the Federal District Court's Order in the Boston Harbor Case. For the remaining combined sewer overflow ("CSO") projects referenced in the Court's Order and its schedule of milestones (Schedule Seven), the report summarizes progress made during the period from September 16, 2009, to December 15, 2009, identifies project schedules relative to corresponding Court milestones, and describes issues that have affected or may affect compliance with Schedule Seven.

Detailed descriptions of the CSO projects and identification of all corresponding Court milestones for design and construction are not presented in this report but can be found in MWRA's *CSO Annual Progress Report 2008*, dated March 2009 (the "Annual Report"). The Annual Report is available for public viewing on MWRA's website, at www.mwra.com.

Construction is well underway for major CSO projects including North Dorchester Bay CSO Facilities and East Boston Branch Sewer Relief (Interceptor Relief for Outfalls BOS003-014). Work and spending associated with the remaining CSO projects, including Cambridge Alewife Brook Sewer Separation, Reserved Channel Sewer Separation and Brookline Sewer Separation, is also shifting from design to construction. The Authority anticipates heavy construction spending over the next five years, culminating in completion of construction of the Long-Term CSO Control Plan.

Table 1 shows the status of implementation for each of the 35 projects that comprise the long-term CSO control plan as referenced in Schedule Seven. As shown in Table 1, MWRA and its CSO communities have completed 24 of the 35 projects, as reported last quarter.

Six of the remaining projects are in the construction phase. Construction work is well underway and in progress on five of these projects: North Dorchester Bay CSO Facilities (construction of the CSO storage tunnel was completed last month); East Boston Branch Sewer Relief project; Reserved Channel Sewer Separation; Bulfinch Triangle Sewer Separation; and Brookline Sewer Separation. Since reporting last quarter, MWRA completed the remaining design work associated with the North Dorchester Bay project when it issued notice to proceed with the last construction contract, for the North Dorchester Bay Ventilation Building, in November 2009. The sixth project that Table 1 shows as "in construction" (as well as "in design") is CAM004 Sewer Separation, for which the City of Cambridge and MWRA completed early construction contracts several years ago, as previously reported.

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Later sections of this report provide information on the recent progress and status of the 11 CSO projects in MWRA's approved Long-term CSO Control plan that are not yet complete. In addition to these projects, BWSC continues design work it started in November 2008 for CSO-related improvements in an area tributary to BWSC's Dorchester Brook Conduit, which discharges stormwater and CSO flows to the Fort Point Channel at Outfall BOS070.

The following are highlights of the progress MWRA and its CSO communities made on CSO control projects in the fourth quarter of 2009.

- On November 30, 2009, MWRA attained substantial completion of the \$146.8 million construction contract for the North Dorchester Bay CSO Storage Tunnel. MWRA also continued to make progress with the \$25.9 million construction contract for the tunnel dewatering pump station at Massport's Conley Terminal and related force main. In addition, on November 4, 2009, MWRA issued the Notice to Proceed with the \$5.2 million construction contract for the ventilation building that will be constructed at the upstream end of the tunnel between the State Police Building and the Bayside Exposition Center property.
- MWRA continued to make progress with construction of the \$85 million East Boston Branch Sewer Relief project (Interceptor Relief for BOS003-014). Work continues on two contracts, with an expected completion date of July 2010.
- MWRA's construction contractor for the Brookline Connection, Cottage Farm Overflow Chamber Interconnection, and Cottage Farm Gate Control project continued to address punch list items and restoration work after substantially completing the CSO related work on June 30, 2009, in compliance with Schedule Seven. In addition, MWRA executed a contract change order for additional work to correct new remote depth sensor installations.
- On September 30, 2009, MWRA met with the U.S. Environmental Protection Agency ("EPA") and the Massachusetts Department of Environmental Protection ("DEP") to discuss the results and conclusions from its 18-month long hydraulic performance investigation of the Charles River Valley/South Charles Relief Sewer Gate Controls and Additional Interceptor Connections project. MWRA has concluded that no interceptor optimization improvement is feasible to increase the level of control of CSO discharges to the Charles River without the risk of system flooding and, accordingly, has recommended that three milestones calling for the implementation of system improvements be deleted from Schedule Seven.

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- BWSC continues to make progress with the first of nine planned construction contracts for the \$78.6 million Reserved Channel Sewer Separation project. In the meantime, BWSC continues to move forward with final design of the other contracts, which BWSC plans to award sequentially, between March 2010 and April 2014. BWSC's project schedule calls for all work to be completed by December 2015, in compliance with Schedule Seven.
- BWSC continued to make progress with construction of the \$9.6 million Bulfinch Triangle Sewer Separation project. The work is on schedule for substantial completion in July 2010, in accordance with the contract and with Schedule Seven.
- The Town of Brookline recently completed the installation of new storm drains in the first of two construction contracts for the \$24.0 million Brookline Sewer Separation project. Brookline continues to make progress with final design of the second and much larger contract, which the Town plans to advertise for construction bids in early 2010. Brookline expects to complete all work ahead of the July 2013 milestone in Schedule Seven.
- The City of Cambridge continues to make design progress with three of the five projects in Schedule Seven that comprise the \$117 million Alewife Brook CSO control plan. On November 19, 2009, Cambridge advertised one contract for construction of two of the projects - CAM400 Manhole Separation and Interconnection Relief and Floatables Control - and plans to award the contract by January 31, 2010. In the meantime, MWRA and Cambridge continue their discussions with EPA and DEP regarding proposed revised schedules and related revisions to Schedule Seven for the Alewife Brook projects.
- BWSC is completing final design of its Lower Dorchester Brook Sewer improvements, which are intended to bring CSO discharges to the Dorchester Brook Conduit and Fort Point Channel in line with the long-term plan level of control. BWSC and MWRA are sharing the cost of these improvements. MWRA will fund the cost to relocate a CSO regulator and complete sewer separation in the adjacent 25-acre NSTAR area up to a funding cap, with BWSC funding any higher costs for this work and any additional sewer separation and hydraulic relief work necessary to bring the CSO discharges into compliance with the long-term plan levels of control. BWSC recently received 95 percent design documents and is coordinating with NSTAR for easements and security protocols. BWSC's current schedule calls for advertising the construction contract in February 2010, three months later than last reported.

Project Implementation

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2.1 MWRA-Managed Projects

North Dorchester Bay Tunnel and Related Facilities

On November 30, 2009, MWRA attained substantial completion of the \$146 million construction contract for North Dorchester Bay CSO Storage Tunnel. MWRA has accepted the constructed facilities, including the tunnel, the tunnel shafts, and the near-surface CSO and stormwater diversion structures and related piping. The tunnel contractor is now completing punch list items.

MWRA also continued to make progress with construction of the \$25.9 million tunnel dewatering pump station at Massport's Conley Terminal and related force main and gravity sewer, which MWRA commenced in May 2009. The contractor expects to complete ongoing installation of mini-piles to support the pump station foundation this month, and will then install the dewatering system and geotechnical instruments prior to excavating for the foundation. The contractor has also installed approximately 2,000 feet of the 24-inch diameter force main. The contractor is expected to decide soon whether to continue with installation of the remaining 2,000 feet of force main and gravity sewer or to defer the work until this spring.

In addition, on November 4, 2009, MWRA issued the Notice to Proceed with the \$5.2 million construction contract for the tunnel ventilation building that will be constructed at the upstream end of the tunnel, near the State Police Building on Day Boulevard. The facility will ventilate the CSO storage tunnel between storms and when the tunnel is filling with CSO and/or stormwater during storms. Ventilated air will be treated through activated carbon units for odor control. The contractor is setting up the field office and preparing shop drawings and other early submissions required by the contract, and plans to start the construction work next month.

East Boston Branch Sewer Relief (BOS003-014)

MWRA completed the first construction contract (Contract 6840) in 2004 and continues to make substantial progress with the second and third contracts (Contracts 6257 and 6841, respectively). Both contracts call for substantial completion by July 2010.

The second contract (Contract 6257), at \$61 million, is the largest of the three construction contracts. It involves the installation of 2.5 miles of new sewer interceptor along Border, Condor, East Eagle and Chelsea streets and along Marginal, Orleans and Bremen streets primarily using micro-tunneling methods to minimize conflicts with congested utilities and high traffic volumes along the East Boston

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streets. The contractor's work plan and schedule splits the contract work into three phases, as described and discussed below.

The contractor has completed the planned 8,045 feet of Phase I micro-tunneling to install 48-inch and 66-inch diameter pipe from an intermediate point along Border Street to the downstream end of the project at MWRA's Caruso Pump Station. The Phase I alignment follows Border, Condor, East Eagle and Chelsea streets. In the past quarter, the contractor accomplished 1,951 feet of 48-inch diameter micro-tunneling and pipe installation, completing the 48-inch pipe sections of the new interceptor sewer and bringing the total length of 48-inch pipe construction to 7,190 feet. The contractor has also nearly completed installing a cured-in-place liner through most of this new pipe. In addition, the contractor has completed 847 feet of 66-inch diameter micro-tunneling and pipe installation near the downstream end of the new interceptor sewer and is presently installing a cured-in-place liner through these sections.

The remaining work of Phase I includes construction of a special structure (#RS8A) on Chelsea Street and installation of a short section of 66-inch pipe to connect the downstream end of the new relief sewer to an existing junction structure that directs flows into MWRA's Caruso Pump Station. The contractor has encountered excessive groundwater infiltration into the special structure RS8A excavation, which has slowed the installation of excavation support and may result in additional costs and delay. MWRA is reviewing these impacts to assess whether they will affect the current contract substantial completion date of July 2010.

Phase II involves 1,500 linear feet of micro-tunneling to install a 48-inch diameter pipe that will be slip-lined with a 36-inch diameter PVC liner. The Phase II alignment extends south along Border Street from the end of Phase I. The two Phase II shafts are complete, and the contractor plans to begin the Phase II mining and pipe installation in the spring of 2010.

Phase III involves 2,500 linear feet of micro-tunneling along Orleans and Bremen streets to install a 48-inch diameter pipe which will be slip-lined with a 36-inch diameter PVC liner. Phase III also includes open-trench construction on Marginal and Porter streets to install two sections of 36-inch diameter pipe totaling 1,200 linear feet. The contractor has completed five Phase III shafts and is preparing to commence mining and pipe installation next month.

Meanwhile, MWRA's contractor for the third and final construction contract (Contract 6841) has also continued to make progress since the contract commenced in April 2009. This \$7.3 million contract involves replacement and upgrade of approximately one mile of interceptor

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sewers in upstream reaches of MWRA's East Boston sewer system along Marginal, New, Maverick, Border and Jefferies streets using "pipe-bursting" methods. The contract has a substantial completion date of July 2010.

The contractor has completed 2,075 feet of pipe-bursting and simultaneous new pipe insertion to increase a 12-inch pipe to 16-inch pipe along Marginal, Border, Maverick and New streets. In addition, the contractor has installed 170 feet of 16-inch pipe by open cut. The contractor plans to construct three shafts and commence pipe-bursting and pipe installation to upsize 15-inch pipe to 20-inch pipe along Maverick Street in the first quarter of 2010. A total of 2,975 feet of the existing 15-inch diameter pipe along Maverick Street will be upsized to 20-inch diameter with this project.

**Brookline Connection and Cottage Farm
Overflow Chamber Interconnection and Gate Control**

MWRA's construction contractor for the Brookline Connection, Cottage Farm Overflow Chamber Interconnection, and Cottage Farm Gate Control project continued to address punch list items and restoration work after substantially completing the CSO related work on June 30, 2009, in compliance with Schedule Seven. In addition, MWRA executed a contract change order for additional work to resolve problems associated with proposed depth sensors in sewer interceptors related to the Cottage Farm facility. These problems and corrections do not prevent MWRA from operating the new improvements and Cottage Farm gates to minimize CSO discharges in accordance with the Long-Term CSO Control Plan. The contractor also continues to complete final pavement restoration and wetland restoration.

These improvements, together with the Brookline and Bulfinch sewer separation projects now in construction and ongoing sewer separation work by the City of Cambridge, are intended to reduce treated CSO discharges from the Cottage Farm facility to the Charles River in a typical year from seven activations and 26.7 million gallons recommended in MWRA's 1997 Final CSO Facilities Plan and Environmental Impact Report to two activations and 6.3 million gallons in MWRA's Long-Term CSO Control Plan.

**Charles River Interceptor Gate Controls
and Additional Interceptor Connections**

On September 30, 2009, MWRA met with the U.S. Environmental Protection Agency ("EPA") and the Massachusetts Department of Environmental Protection ("DEP") to discuss results and conclusions from its 18-month long hydraulic performance investigation of the Charles River Valley/South Charles Relief Sewer Gate Controls and Additional

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Interceptor Connections project. After evaluating scores of system optimization alternatives, MWRA concluded that no interceptor optimization improvement is feasible to increase the level of control of CSO discharges to the Charles River without the risk of system flooding. Accordingly, MWRA has recommended that three milestones calling for the construction or implementation of system improvements (April 2009, January 2010 and January 2011) be deleted from Schedule Seven.

On October 13, 2009, EPA submitted comments on the Final Hydraulic Modeling Technical Report (December 2008), the Report on Evaluation of Additional Charles River Interceptor Connection Alternatives (January 2009) and the Supplemental Hydraulic Modeling Technical Report (September 2009) to the Authority. The Authority performed some additional evaluations pursuant to EPA's comments and submitted its responses to EPA on December 14, 2009. Based on these additional evaluations, the Authority confirmed its previous conclusion that there is no feasible means to optimize the hydraulic performance of its existing Charles River interceptors to increase the level of CSO control.

2.2 Community-Managed Projects

Reserved Channel Sewer Separation

The \$78.6 million Reserved Channel Sewer Separation project is intended to minimize CSO discharges to the Reserved Channel by separating combined sewer systems in a 365-acre area of South Boston tributary to CSO Outfalls BOS076, BOS078, BOS079 and BOS080. Implementation of the sewer separation plan will reduce the number of CSO activations to the Reserved Channel from 37 to three events in a typical year.

The work includes the installation of approximately 35,000 feet of new storm drains. Connecting catch basins to the new storm drains will require an additional 6,500 feet of minor drain work. To remove enough stormwater inflow from the sewer system to attain the long-term level of CSO control, many building downspout connections and parking lot drains will also be disconnected from the sewer and tied into the new storm drains. The project also includes rehabilitating and/or upgrading the four CSO outfalls to ensure they have the capacity to deliver the separated stormwater flows, as well as remaining CSO flows, to the Reserved Channel for the long term.

BWSC has made substantial progress with design of the project since issuing the Preliminary Design Report in early 2008. BWSC proposes nine, phased construction contracts for this project, including four sewer separation contracts, an outfalls rehabilitation contract, a

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sewer rehabilitation contract, a downspout disconnection contract, and two final paving contracts.

BWSC issued the Notice to Proceed with the first construction contract on May 26, 2009, in compliance with Schedule Seven. This contract involves the installation of storm drains and removal of stormwater flows from the combined sewer system tributary to Outfall BOS080, one of four CSO outfalls that discharge to the Reserved Channel. The contractor's construction activities have focused on installation of large drain pipes in the Farragut and East First streets area. The contractor has installed approximately 11 percent of the storm drains included in this contract.

In the meantime, BWSC continues to make scheduled progress with final design of other contracts, which BWSC plans to award sequentially, between March 2010 and April 2014. BWSC plans to advertise the second construction contract, which includes rehabilitation of the CSO outfalls, next month and award the contract in March 2010. In addition, BWSC plans to award the third and fourth construction contracts, which involve the installation of storm drains and removal of stormwater flows from the combined sewer system tributary to Outfalls BOS076 and BOS078/BOS079 respectively, as well as the initial pavement restoration contract in the spring of 2010. The project schedule calls for all work to be completed by December 2015, in compliance with Schedule Seven.

Bulfinch Triangle Sewer Separation

The goal of the Bulfinch Triangle sewer separation project is to minimize CSO discharges to the Charles River by separating combined sewer systems in the area of Boston roughly bounded by North Station, Haymarket Station, North Washington Street, Cambridge Street and immediate environs.

BWSC issued the Notice to Proceed in September 2008. Construction activities in the past quarter included completion of storm drain installations on Causeway, Canal, Lancaster and Portland Streets. Storm drain installation continues on Merrimac Street. To date, BWSC has installed more than 3,900 linear feet of storm drain, approximately 90 percent of the project total. The contract completion date is July 8, 2010, well in advance of the July 2013 milestone in Schedule Seven.

Brookline Sewer Separation

This project involves sewer separation in several areas of Brookline, totaling 72 acres, where there are remaining combined sewers tributary

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to MWRA's Charles River Valley Sewer. The project is intended to reduce discharges to the Charles River at the Cottage Farm facility.

The project includes two construction contracts. Construction Contract 1 includes the installation of storm drains north and south of Beacon Street. Brookline issued the Notice to Proceed for this \$1.4 million contract November 2008, in compliance with Schedule Seven. The contractor recently completed the storm drain installations, and the contract is substantially complete. The contractor will lay final paving through Spring 2010.

Brookline is also continuing with final design of the second and much larger separation contract, which has an estimated value of \$15.7 million. The second contract involves micro-tunneling along Beacon Street to install new sewers at significant depths, as well as the construction of several special structures that will connect the new sewers with the existing laterals. Main trunk combined sewers will be converted to storm drains. Brookline submitted the 95 percent design documents to MWRA in November 2009. Brookline is presently resolving several issues, including potential conflicts with existing water lines, prior to completing the design documents. Brookline expects to advertise this contract in early 2010 and complete construction ahead of the July 2013 milestone in Schedule Seven.

Cambridge/Alewife Brook Sewer Separation

The City of Cambridge continued with design services for three of the five projects that comprise the Alewife Brook CSO control plan (CAM004 Stormwater Basin and Outfall, CAM400 Manhole Separation, and Interceptor Connection Relief and Floatables Control). Using updated information which it collected during recent design investigations, Cambridge prepared revised construction schedules for all four Alewife Brook projects it will implement. MWRA is prepared to commence design of the one Alewife CSO project it plans to implement - Control Gate and Floatables Control at Outfall MWR003 and MWRA Rindge Avenue Siphon Relief - in accordance with the original sequencing plan for the Alewife projects and consistent with Cambridge's updated schedule.

The updated construction schedules for these projects take into account the 27-month delay due to the wetlands appeal and also incorporate recent information collected as part of Cambridge's design work. The new schedules incorporate progress to date and estimated timelines to obtain easements, permits, licenses and Article 97 legislation prior to the commencement of construction.

Cambridge must obtain numerous construction and long-term maintenance easements from private and public land owners prior to awarding Contract 12. Some property owners have changed since the wetlands

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appeal forced a suspension of design work several years ago. Cambridge has introduced the new property owners to the project and begun to coordinate land interests with them, which, in turn, has affected the project design. Easement issues in the Alewife are also compounded by multiple public agency ownerships and interests, including Massachusetts Bay Transportation Authority ("MBTA") and DCR, as well as Massachusetts Highway Department regarding coordination with a planned bike path. Cambridge and DCR recently agreed to cooperatively pursue Article 97 legislation to formally acknowledge use of the reservation for drainage, stormwater wetland, bike path and park land uses. Legislation is to be submitted jointly at the start of the January session.

In addition, Cambridge is working to obtain permits from MBTA and other railroad operators for a railroad crossing involving two high speed commuter rails and seven freight rails. Cambridge has twice met with the railroad parties to present the proposed CSO work, has submitted the railroad crossing permit application, and is addressing questions and requests for additional information from MBTA and its real estate manager, Transit Realty Associates, as well as freight carrier Pan Am Railways. Cambridge is also coordinating its proposed CSO work with planned track improvements currently under design by MBTA.

On November 19, 2009 Cambridge advertised one construction contract for two of the Alewife projects: Interceptor Relief and Floatables Control and CAM400 Manhole Separation. Bids are due December 22, 2009, and Cambridge expects to issue the Notice to Proceed by the end of January 2010.

In addition to the ongoing design work of Contract 12 (CAM004 Stormwater Basin and Outfall), Cambridge continues its efforts to obtain construction and long-term maintenance easements. Its design consultant is preparing easement plans to include with the Article 97 legislation.