

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 SEPTEMBER 15, 2009

The Massachusetts Water Resources Authority (the "Authority") submits the following quarterly compliance report for the period from June 16, 2009 to September 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

A status report for the scheduled activities for the months of June 2009 and July 2009 on the Court's Schedule Seven, certified by Frederick A. Laskey, Executive Director of the Authority, is attached hereto as Exhibit "A."

A. Activities Completed.

1. Complete Construction of the Brookline Connection, Cottage Farm Overflow Chamber Interconnection, and Cottage Farm Gate Control.

The Authority completed construction of the Brookline Connection, Cottage Farm Overflow Chamber Interconnection, and Cottage Farm Gate Control project on June 30, 2009, in compliance with Schedule Seven. This project placed the previously unused 54-inch Brookline Connection conduit into service, installed an interconnection between the two overflow chambers that direct overflows to the Cottage Farm Combined Sewer Overflow ("CSO") treatment facility and allowed the Authority to implement new gate controls and a control system for the Cottage Farm facility, which the Authority commenced following completion of construction in June. These system improvements and improved controls together optimize use of available upstream system storage and maximize the conveyance of wet weather flows to the Authority's Ward Street Headworks, thereby reducing overflows to the Cottage Farm facility. The implementation of this project, together with the Brookline and Bulfinch sewer separation projects now in construction and ongoing sewer separation work by the City of Cambridge reduces treated CSO

discharges from the Cottage Farm facility to the Charles River in a typical year from the seven activations and 26.7 million gallons recommended in the Authority's 1997 Final CSO Facilities Plan and Environmental Impact Report to the two activations and 6.3 million gallons in the Authority's approved Long-Term CSO Control Plan.

B. Activities Not Completed.

1. Complete Construction of Morrissey Boulevard Storm Drain.

As anticipated, the Boston Water and Sewer Commission ("BWSC") completed construction of the \$36.4 million Morrissey Boulevard storm drain project on July 15, 2009. The Morrissey Boulevard storm drain is intended to redirect some of the North Dorchester Bay stormwater away from the Authority's CSO storage tunnel in storms greater than the 1-year design storm. Redirecting these stormwater flows to Savin Hill Cove and South Dorchester Bay in large storms will reserve capacity in the Authority's storage tunnel to attain a required 5-year level of stormwater control, as well as the required 25-year level of CSO control, along the South Boston beaches. The storm drain will also enable the BOS087 outfall located near Mother's Rest to be eliminated when the Authority brings the North Dorchester Bay CSO Storage Tunnel on-line.

As previously reported, BWSC experienced a two week delay in June 2009 when it came across an unforeseen, buried concrete structure that conflicted with its eight-by-eight-foot drain that it was installing across Mount

Vernon Street. BWSC was able to quickly process a design change and complete construction two weeks beyond the Schedule Seven milestone. Since the Morrissey Boulevard storm drain is not necessary for CSO control until the North Dorchester Bay CSO Storage Tunnel is brought on-line in May 2011, there was no impact to system performance or water quality due to the delay.

2. Complete Construction of CAM004 Stormwater Outfall and Detention Basin, and Commence Construction of CAM004 Sewer Separation.

As a result of past delays due to the appeal of the Superseding Order of Conditions that the Massachusetts Department of Environmental Protection ("DEP") issued for the City of Cambridge Department of Public Works Cambridge Park Drive Drainage project (Contract 12 - CAM004 Stormwater Outfall and Wetlands Basin) pursuant to the Wetlands Protection Act, the Authority was unable to complete the construction of the CAM004 Stormwater Outfall and Detention Basin project and commence construction of CAM004 Sewer Separation project in accordance with Schedule Seven. As previously reported, the Massachusetts Superior Court dismissed the appeal on May 5, 2009.

In October 2008, the City of Cambridge commenced and/or resumed design activities for three of the five projects that comprise the Alewife Brook CSO plan. Using updated design information which it has been able to collect since that time, Cambridge has prepared revised construction schedules for the four Alewife Brook projects it will implement. The Authority and the City of Cambridge are now finalizing the construction schedules for all five projects,

including the one Alewife Brook project the Authority plans to implement. The Authority plans to meet with the United States, DEP and the City of Cambridge this month to discuss the revised schedules and expects to propose new milestones for the Court's approval thereafter.

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. Of particular note moving forward, the schedules incorporate progress to date and estimated timelines to obtain easements, permits, licenses and Article 97 legislation prior to the commencement of construction. For Contract 12 - CAM004 Stormwater Outfall and Wetland Basin, which drives the schedule for most of the Alewife Brook CSO control plan, Cambridge's updated work plan and schedule include nine additional months for easement acquisition and permits before the construction contract can be awarded.

Cambridge must obtain numerous construction and long-term maintenance easements from private and public land owners prior to awarding the Contract 12. Some properties have changed hands since the wetlands appeal forced a suspension of design work several years ago. Cambridge has needed to introduce the new property owners to the project and coordinate land interests with them, which, in turn, has affected project design. Easement issues in the Alewife are also compounded by multiple public agency ownerships and interests, including Massachusetts Bay Transportation Authority ("MBTA") and Department of Conservation and Recreation ("DCR"), as

well as Massachusetts Highway Department regarding coordination with a planned bike path.

DCR has informed Cambridge that it believes that state legislation pursuant to Article 97 of the Massachusetts Constitution is required for the proposed easements in the Alewife Brook Reservation. Therefore, Cambridge and DCR have agreed to cooperatively pursue Article 97 legislation for approval of easements that DCR has agreed to grant to Cambridge for Cambridge's use of the reservation for drainage, stormwater wetland, bike path and park land uses. This process is in the early stages, but DCR understands the schedule demands of the CSO project and has committed to work with Cambridge to expedite obtaining this legislative approval.

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.

In the meantime, the City of Cambridge continues with design of the Alewife Brook projects that it assumed responsibility for implementing. Cambridge's design consultant recently submitted the final design plans for

Contract 12 and the preliminary design reports for the Interceptor Connection Relief and Floatables Control ("floatables control") project and the CAM400 Manhole Separation ("CAM400") project. Cambridge has combined construction of the floatables control and CAM400 projects into one construction package for technical efficiencies and cost savings.

Cambridge's updated schedule for its fourth Alewife project, CAM004 Sewer Separation, acknowledges that commencement of remaining construction of this project requires that the stormwater outfall and wetland basin of Contract 12 be in place, and it also reflects the nine-month extension in the proposed Contract 12 schedule, mentioned above. In addition, the Authority is prepared to commence design of the Alewife 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.

B. Progress Report.

1. Combined Sewer Overflow Program.

(a) Charles River Valley Sewer/South Charles Relief Sewer Gate Controls.

The Authority recently completed its hydraulic evaluations on potential Charles River interceptor system improvements, and it plans to submit technical reports on the results to the United States Environmental Protection Agency ("EPA") and DEP, along with a letter discussing the implication of these

results for related milestones in Schedule Seven. These evaluations are a continuation of evaluations that the Authority commenced in January 2008, in compliance with the milestone for commencement of design of Charles River Valley/South Charles River Relief Sewer gate controls and evaluation of additional Charles River interceptor interconnection alternatives. Any CSO benefits achieved from these evaluations would add to and exceed, but not be necessary to attain, the approved long-term level of CSO control.

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 has concluded 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 does not recommend system improvements beyond the measures in its Long-Term CSO Control Plan and plans to seek Court approval to delete the related April 2009, January 2010 and January 2011 implementation milestones from Schedule Seven. The Authority plans to meet with the United States and DEP in September to discuss the results of the optimization evaluations and its recommendations.

In the meantime, the Authority continues to implement the projects in its Long-Term CSO Control Plan that will achieve the necessary reductions in CSO discharges to the Charles River. This past June, the Authority completed

construction of the Cottage Farm Brookline Connection and Inflow Controls Project, in compliance with Schedule Seven. The Bulfinch and Brookline sewer separation projects are well into construction by BWSC and the Town of Brookline. These projects will also contribute to attainment of the Long-Term CSO Control Plan levels of control for Cottage Farm and related CSO outfalls along the Charles River.

(b) Construction of Interceptor Relief
for BOS003-014.

Since the Authority last reported, the contractor for the second of three construction contracts for the East Boston Branch Sewer Relief project (Interceptor Relief for BOS003-014), which involves the installation of 2.5 miles of new interceptor primarily using micro-tunneling methods, continues to make significant progress. The contractor is proceeding with the Phase I drives by means of the 48-inch diameter micro-tunnel boring machine and has completed drives from Receiving Shaft 2 on Border Street to Jacking Shaft 5 on Condor Street and from Jacking Shaft 6 on East Eagle Street to Jacking Shaft 8 on Chelsea Street, bringing the total amount of pipe installed to date to 5,239 linear feet. The contractor also installed receiving and jacking shafts on Orleans and Bremen Streets.

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 excavating test pits and installing three insertion and receiving shafts on Marginal Street. The contractor is

proceeding with its initial pipe bursting drives. Both contractors remain on schedule to complete construction by July 2010.

(c.) North Dorchester Bay Storage Tunnel and Related Facilities.

The contractor for the North Dorchester Bay CSO storage tunnel is nearing substantial completion of construction of the storage tunnel contract. The contractor is now in the process of testing the stormwater diversion structures and associated connections to the tunnel at the existing outfalls that will remain in service and is performing finish work and final clean-up of the shaft structure at the downstream end of the tunnel at Massport's Conley Terminal. The Authority anticipates that the contractor will substantially complete its construction activities and punch list items by December.

Progress also continues with the separate construction contract that includes the tunnel dewatering pump station at Massport's Conley Terminal and related force main. Since commencement of work in May 2009, the contractor has mobilized on the Conley Terminal site, prepared technical submissions required by the contract, and completed preconstruction surveys. The Contractor has also completed relining of BWSC sewers that will accept flows from the pumping station and force main and has commenced construction of the slurry wall for the pumping station foundation and wet well, as well as installation of the 24-inch force main on East Broadway.

In addition, on August 1, 2009, the Authority advertised the construction contract for the tunnel ventilation building that will be constructed next to the

State Police building off Day Boulevard. The Authority expects to award this contract next month and complete all work necessary to bring the storage tunnel on-line by May 2011.

By its attorneys,

/s/ John M. Stevens

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

Of Counsel:

Steven A. Remsberg,
General Counsel
Christopher L. John,
Senior Staff Counsel
Massachusetts Water Resources
Authority
100 First Avenue
Boston, Massachusetts 02129
(617) 242-6000

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 September 15, 2009:

/s/ John M. Stevens

John M. Stevens (BBO No. 480140)
jstevens@foleyhoag.com

Dated: September 15, 2009

EXHIBIT A

SCHEDULE SEVEN

MWRA MONTHLY COMPLIANCE REPORT
June, July, 2009

EXHIBIT "A"

LONG-TERM
SLUDGE MANAGEMENT
NEW BOSTON HARBOR
SECONDARY
TREATMENT PLANT

MONTH/YEAR CSO CONTROL

June 2009 MWRA to complete construction of the Brookline Connection, Cottage Farm overflow chamber interconnection and Cottage Farm gate control.

(Completed June 30, 2009)


MWRA, in cooperation with BW/SC, to complete Construction of Morrissey Boulevard storm drain.

(Completed 15 days late – See September 15, 2009 Compliance and Progress Report.)

July 2009 MWRA, in cooperation with Cambridge, to complete Construction of CAM004 stormwater outfall and Detention basin, and to commence construction of CAM004 sewer separation.²⁶

(Not Completed – See September 15, 2009 Compliance and Progress Report.)

Certification of Completed Activities

By: 
Frederick A. Laskey
Executive Director, MWRA

Date: September 15, 2009

EXHIBIT B

Massachusetts Water Resources Authority



**Combined Sewer Overflow
Control Plan**

**Quarterly Progress Report
September 15, 2009**

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

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Table 1
Status of CSO Project Implementation
September 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	X	
N. Dorchester Bay Facilities				
Pleasure Bay Storm Drain Improvements				X
Hydraulic Relief Projects	CAM005 Relief			X
	BOS017 Relief			X
East Boston Branch Sewer Relief			X	
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				X
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			X
Brookline Connection and Cottage Farm Overflow Interconnection and Gate				X
Charles River Interceptor Gate Controls and Additional Interceptor Connections		X		
Optimization Study of Prison Point CSO Facility				X
Community Managed Projects				
South Dorchester Bay Sewer Separation				X
Stony Brook Sewer Separation				X
Neponset River Sewer Separation				X
Constitution Beach Sewer Separation				X
Fort Point Channel Sewer Separation and System Optimization				X
Morrissey Boulevard Storm Drain				X
Reserved Channel Sewer Separation		X	X	
Bulfinch Triangle Sewer Separation			X	
Brookline Sewer Separation		X	X	
Somerville Baffle Manhole Separation				X
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 the 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 January 2016.

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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 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 June 16, 2009, to September 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.

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, two more than reported last quarter. MWRA completed construction of the Brookline Connection and Cottage Farm Overflow Connection and Gate Control project in June 2009, and Boston Water and Sewer Commission ("BWSC") completed construction of the Morrissey Boulevard Storm Drain project in July 2009.

Six of the remaining projects are in the construction phase. Construction work is well underway and continues on five of these projects: North Dorchester Bay CSO Storage Tunnel and Facilities; East Boston Branch Sewer Relief project (Interceptor Relief for Outfalls BOS003-014); Reserved Channel Sewer Separation; Bulfinch Triangle Sewer Separation; and Brookline Sewer Separation. 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.

Later sections of this report provide information on the recent progress and status of the 11 CSO projects that are not yet complete. In addition to these projects in MWRA's approved Long-Term Control Plan, 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.

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

- MWRA continued to make progress with construction of the \$146 million North Dorchester Bay CSO Storage Tunnel. MWRA also made progress with the \$25.9 million construction contract for the tunnel dewatering pump station at Massport's Conley Terminal and related force main, which commenced in May 2009. In addition, on August 1, 2009, MWRA advertised the construction contract for the tunnel ventilation building that will be constructed at the upstream end of the tunnel, near the State Police Building off Day Boulevard. MWRA expects to award this contract next month. The ventilation building contract is the final construction contract for 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. MWRA expects to complete all work by May 2011, in compliance with Schedule Seven.
- MWRA continued to make progress with construction of the \$85.4 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 substantially completed the \$2.0 million construction contract for the Brookline Connection, Cottage Farm Overflow Chamber Interconnection, and Cottage Farm Gate Control project on June 30, 2009, in compliance with Schedule Seven. This project included the implementation of system improvements and improved operational controls to optimize use of available upstream system storage and maximize the conveyance of wet weather flows to MWRA's Ward Street Headworks, thereby reducing overflows to the Cottage Farm facility and its treated discharges to the Charles River. The interconnection is in service with work continuing on level sensors.
- MWRA recently completed its supplemental hydraulic evaluations for the Charles River Valley/South Charles Relief Sewer Gate Controls and Additional Interceptor Connections design study, which MWRA commenced in January 2008 in compliance with Schedule Seven. On September 14, 2009, MWRA submitted technical information on the results of the entire 18-month-long study to the United States Environmental Protection Agency ("EPA") and the Massachusetts Department of Environmental Protection ("DEP").
- On July 15, 2009, BWSC substantially completed the \$36.4 million Morrissey Boulevard Storm Drain project. The storm drain is already in service collecting runoff from local drainage systems owned by BWSC and the Massachusetts Department of Conservation and Recreation ("DCR") along Morrissey Boulevard. The storm drain will be used for

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CSO control when MWRA brings the North Dorchester Bay CSO Storage Tunnel on-line in May 2011.

- BWSC continued to make progress with construction of the \$9.6 million Bulfinch Triangle Sewer Separation project. BWSC commenced the sole construction contract in September 2008, and the work is on schedule for substantial completion in July 2010, in accordance with the contract.
- The Town of Brookline continued to make progress with the first of two construction contracts for the \$24.0 million Brookline Sewer Separation project. Construction began in November 2008. Brookline continues to make progress with final design of the second, much larger, contract, which the town plans to advertise for bids in November 2009, one month later than reported last quarter. Brookline expects to complete all work for this project ahead of the July 2013 milestone in Schedule Seven.
- BWSC is making construction progress with the first of nine planned contracts for the \$78.6 million Reserved Channel Sewer Separation project. BWSC issued the Notice to Proceed with this first contract in May 2009, which includes construction of new storm drains in the area of South Boston tributary to CSO Outfall BOS080. 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.
- 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. With the new information Cambridge has collected from field investigations and early design work over the past several months, it has developed and proposed new project schedules for the four Alewife Brook projects it has assumed responsibility for implementing. MWRA and Cambridge are now finalizing the construction schedules for all five projects, including the one Alewife Brook project MWRA plans to implement.
- BWSC is making progress with final design of its Lower Dorchester Brook Sewer improvements. BWSC and MWRA are sharing the cost of these improvements, whereby MWRA will fund the cost to relocate regulator RE070/11-2 to RE070/7-1 and complete sewer separation in the adjacent 25-acre NSTAR area (up to the \$2.03 million funding cap, with BWSC paying any higher costs), and BWSC will fund any additional sewer separation and hydraulic relief work necessary to bring the CSO discharges into compliance with the long-term plan

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levels of control. BWSC plans to commence construction of the MWRA-funded improvements in November 2009.

Project Implementation

2.1 MWRA-Managed Projects

North Dorchester Bay Tunnel and Related Facilities

The contractor for the North Dorchester Bay CSO storage tunnel is nearing substantial completion. The contractor is testing the stormwater diversion structures and associated connections to the tunnel at the existing outfalls that will remain in service and is performing finish work and final clean-up of the shaft structure at the downstream end of the tunnel at Massport's Conley Terminal.

Progress also continues with the separate construction contract that includes the tunnel dewatering pump station at Massport's Conley Terminal and related force main. Since commencement of work in May 2009, the contractor has mobilized on the Conley Terminal site, prepared technical submissions required by the contract, and completed preconstruction surveys. The contractor has also completed relining of BWSC sewers that will accept flows from the pumping station and force main. In addition, the contractor has commenced construction of the slurry wall for the pumping station foundation and wet well on Conley Terminal and installation of the 24-inch force main on East Broadway.

On August 1, 2009, MWRA advertised the construction contract for the tunnel ventilation building that will be constructed next to the State Police building off Day Boulevard. MWRA expects to award this contract in October 2009 and complete all work by May 2011.

East Boston Branch Sewer Relief (BOS003-014)

All design work for the \$85.4 million East Boston Branch Sewer Relief project (Interceptor Relief for Outfalls BOS003-014) is complete. MWRA completed the first construction contract (Contract 6840) in 2004 and is making substantial progress with the second and third contracts (Contracts 6257 and 6841, respectively). Both contractors remain on schedule to complete construction of the project by July 2010.

The second contract (Contract 6257), at \$60.8 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.

Phase I involves 8,000 feet of 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. As reported last quarter, the contractor received the first 48-inch micro-tunnel boring machine ("MTBM") in December 2008 and began Phase I mining operations in March 2009. To date, the contractor has completed 5,239 linear feet of mining and pipe installation. In the past quarter, the contractor also took delivery of a second 48-inch diameter MTBM and a 66-inch diameter MTBM, as well as delivery of 48-inch diameter and 66-inch diameter pipe.

Phase II involves 1,500 linear feet of micro-tunneling to install a 48-inch diameter pipe which 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 contractor recently completed construction of the two shafts related to Phase II, and plans to commence Phase II mining following completion of Phase I 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 recently completed two of the Phase III jacking shafts, on Orleans Street. The Phase III mining operation is scheduled for the spring of 2010.

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 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. In addition to mobilizing on the site, preparing required technical submissions and conducting construction surveys, the contractor has completed the installation of test pits and the construction of three insertion and receiving shafts on Marginal Street. The contractor is proceeding with its initial pipe bursting drives to install new 12 to 16-inch diameter pipe.

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

MWRA substantially completed construction of the Brookline Connection, Cottage Farm Overflow Chamber Interconnection, and Cottage Farm Gate Control project on June 30, 2009, in compliance with Schedule Seven. This project placed the 54-inch Brookline Connection conduit into service, installed an interconnection between the two overflow chambers that direct overflows to the Cottage Farm CSO treatment facility, and allowed MWRA to implement new gate controls and a control system for the Cottage Farm facility, which MWRA commenced following completion of construction in June.

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 approved Long-Term CSO Control Plan.

The new 60-inch PCCP pipe interconnection between the North and South Charles Relief Sewer Overflow Chambers and the three new sluice gates, in the North and South Charles Relief Sewer Overflow Chambers and the Brookline Chamber, are all operational and in-service. Testing and training on new sluice gates has commenced. Calibration, startup and training have been conducted on new radio and instrumentation systems.

The contractor is addressing equipment issues to the two remote level sensors on the Boston side of the Charles River. MWRA's design consultant is upgrading the solar power for these sites. At an upstream Cambridge remote level sensing site, DCR withdrew the previously granted permission to install the 40-foot high utility pole required for the solar panel and radio equipment installation due to residential objections to the obstruction to the river views. MWRA's design consultant is now working on an evaluation of alternative connections to utility power and telephone data lines for the Cambridge remote monitoring site. These problems and corrections do not prevent MWRA from operating the new improvements and Cottage Farm gates to minimize CSO discharges.

The contractor continues to complete final pavement restoration and wetland restoration.

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

MWRA recently completed its supplemental hydraulic evaluations for the Charles River Valley/South Charles Relief Sewer Gate Controls and Additional Interceptor Connections design study, which MWRA commenced in January 2008 in compliance with Schedule Seven. MWRA recently submitted technical information on the results of the entire 18-month long study to EPA and DEP. Any CSO benefits achieved from these evaluations would add to and exceed, but not be necessary to attain, the approved long-term level of CSO control.

The Charles River interceptor evaluations were originally proposed by MWRA in 2005 for the purpose of achieving an optimized allocation of flow among the major interceptors related to the Cottage Farm CSO Facility and upstream CSO outfalls (CAM005, CAM007, CAM009, CAM011 and MWR010), with the goal of further controlling CSO discharges at these locations to the extent possible. The original scope of the evaluations included implementation of gate controls to optimize flow allocation between the South Charles Relief Sewer ("SCRS"), which can overflow to the Cottage Farm facility, and the Charles River Valley Sewer ("CRVS"), which conveys flow directly to the Ward Street Headworks.

The scope also included evaluations to determine whether additional low-cost interconnections to transfer flows between these and two other interceptors related to the Cottage Farm CSO facility - the North Charles Metropolitan Sewer and the North Charles Relief Sewer - could improve the conveyance and/or in-system storage of wet weather flows and further reduce CSO discharges and volumes. Any decision to incorporate additional interconnections between the interceptors into the CSO control plan was to be based on technical feasibility, cost, construction impacts and ability to meaningfully reduce the frequency and/or volume of CSO discharge.

On January 31, 2009, MWRA submitted a report to EPA and DEP on the evaluation of additional interconnections, in compliance with Schedule Seven. The report presented model results supporting the conclusion that the existing or already planned interconnections between the interceptors were sufficient to optimize the allocation of wet weather flows and that additional interconnection of the interceptors would not provide incremental CSO control or hydraulic grade line benefit. The report also presented the progress of the broader planning study and a preliminary recommended plan for optimizing the allocation of flows and potentially further reducing CSO discharges using the existing interconnections between the CRVS and the SCRS.

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From the hydraulic evaluations MWRA has conducted since January 2008, which are documented in MWRA's December 2008 Final Hydraulic Modeling Technical Report ("HMTR"), the January 31, 2009 report on Evaluation of Additional Charles River Interceptor Connection Alternatives, and MWRA's September 2009 Supplemental HMTR, MWRA has concluded that there is no feasible means to optimize the hydraulic performance of its existing Charles River Interceptors to increase the level of CSO control. MWRA recently provided copies of these reports to EPA and DEP and expects to discuss the evaluation results with these agencies soon.

2.2 Community-Managed Projects

Morrissey Boulevard Storm Drain

On July 15, 2009, BWSC substantially completed the \$36.4 million Morrissey Boulevard Storm Drain project. The storm drain is already in service collecting runoff from local drainage systems owned by BWSC and DCR along Morrissey Boulevard.

The Morrissey Boulevard storm drain will be used for CSO control when MWRA brings the North Dorchester Bay CSO Storage Tunnel on-line in May 2011. The storm drain is intended to redirect some of the North Dorchester Bay stormwater away from MWRA's CSO storage tunnel in storms greater than the 1-year design storm. Redirecting these stormwater flows to Savin Hill Cove and South Dorchester Bay in large storms will reserve capacity in MWRA's storage tunnel to attain a required 5-year level of stormwater control, as well as the required 25-year level of CSO control, along the South Boston beaches. The storm drain will also enable the BOS087 outfall located near Mother's Rest to be eliminated when MWRA brings the North Dorchester Bay CSO Storage Tunnel on-line.

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

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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 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 to-date have focused on mobilization, construction surveys, design submissions and early installation of large drain pipes in Farragut and East First streets. The contractor has installed approximately 2% of the storm drains included in this contract.

In the meantime, BWSC continues to make scheduled progress with final design of the other contracts, which BWSC plans to award sequentially, between March 2010 and April 2014. BWSC plans to award the second construction contract, which includes rehabilitation of the CSO outfalls, in December 2009. BWSC's project schedule calls for all project 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 over the past quarter included continued installation of storm drain pipes in Causeway, Canal, Lancaster and Portland Streets. To date, BWSC has installed over 2,500 linear feet of storm drain, approximately 60% of the project total. The contract completion date is July 2010, well in advance of the July 2013 milestone in Schedule Seven.

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Brookline Sewer Separation

This project involves sewer separation in several areas of Brookline, totaling 72 acres, where there are remaining combined sewers tributary 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. The Town issued the Notice to Proceed for this \$1.4 million contract on November 21, 2008, in compliance with Schedule Seven. The contractor has completed storm drain installations on the north side of Beacon Street and continues with construction of new storm drains on the south side of Beacon Street. This contract is scheduled to be substantially complete by November 2009, with final paving extending to Spring 2010.

The Town is also continuing with final design of the second 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 is presently resolving several items, including traffic management plans, prior to completing the design documents. Brookline expects to submit the 95% design documents to MWRA in September 2009, and complete final design later this fall. Brookline expects to advertise this contract in November 2009 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 plan (Stormwater Basin and Outfall; CAM400 Common Manhole Separation; and Interceptor Connection Relief and Floatables Control). Using updated design information which it has been able to collect during the design investigations, Cambridge has prepared revised construction schedules for all four Alewife Brook projects it will implement. MWRA and the City of Cambridge are now finalizing the construction schedules for all five projects, including the one Alewife Brook project MWRA plans to implement.

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

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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 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.

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.

In the meantime, the City of Cambridge continues with design of the Alewife Brook projects that it assumed responsibility for implementing. Cambridge's design consultant recently submitted the final design plans for Contract 12 and the preliminary design reports for the Interceptor Connection Relief and Floatables Control ("floatables control") project and the CAM400 Manhole Separation ("CAM400") project. Cambridge has combined construction of the floatables control and CAM400 projects into one construction package for technical efficiencies and cost savings.

In addition, MWRA is prepared to commence design of the one Alewife 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.