

**MWRA ADVISORY BOARD**  
Summary of the  
MWRA BOARD OF DIRECTORS' MEETING

September 29, 1999

A meeting of the Board of Directors of the Massachusetts Water Resources Authority was held on September 29, 1999 at the Authority Headquarters in Charlestown. **Present:** Chairman Robert Durand, Gubernatorial Representative; Norman Jacques and Andrew Pappastergion, Advisory Board Representatives; Vincent Mannering, Robert Spinney and Andrea d'Amato, City of Boston Representatives; Lucile Hicks and Donald Mitchell, Gubernatorial Representatives; Joseph MacRitchie, City of Quincy Representative. **Absent:** John Carroll, Advisory Board Representative; Marie Turner, Town of Winthrop Representative.

**AGENDA**

**Report of the Chair**

No Report.

**Report of the Executive Director**

Douglas B. MacDonald, Executive Director of the MWRA, introduced members of the MWRA Labor Coalition who expressed concerns regarding the contracting of certain services. In addition, the coalition requested that the Authority work with employees to expedite a better working relationship between the coalition and the Authority.

**APPROVALS**

**Increase in SRF Authorization**

The Board voted to amend the twenty-sixth Supplemental Resolution to increase the authorization to up to \$24,000,000 of Massachusetts Water Resources Authority General Revenue Bonds (subordinate series), 1999 Series E and the supporting issuance resolution.

On August 11, 1999, the Board of Directors authorized borrowing \$12,000,000 of water debt from the SRF as part of a pooled financing with 70 other Massachusetts cities, towns and water districts. On September 8, 1999 the bonds were priced by the SRF and the sale is scheduled to close on October 6. One of the towns in the pool is no longer able to use the funds it intended to borrow. The SRF has asked the MWRA to increase the amount it is borrowing to utilize that town's share of the pool.

The additional borrowing will be for wastewater projects and will reduce the amount of the upcoming SRF financing by an equivalent amount. The additional borrowing will have a 30-year final maturity and a grant equivalency of 50%.

**Amendment to Memorandum of Understanding with the City of Boston for Tunnel Rescue and Emergency Response Services**

The Board voted to authorize the Executive Director, on behalf of the Authority, to amend the existing Memorandum of Understanding (MOU) with the City of Boston for tunnel rescue services extending the full-time position of trainer and equipment maintenance for three months, from October 1, 1999 to December 31, 1999, at no increase in the overall cost of the MOU.

At this time, a precise date for completion of the tunnel is not known; however, in order to maintain the readiness of the fire department to respond when safety plug removal resumes, staff recommended that the trainer position and equipment maintenance account be extended. The projected cost is approximately \$27,000, which will be funded within the existing amount established within the MOU.

**Memorandum of Agreement with City of Newton Regarding Water Transmission Mains, Sections 95 and 100, Contract 6108**

The Board voted to authorize the Executive Director, on behalf of the Authority, to execute a Memorandum of Agreement between the City of Newton and the MWRA regarding allocation of responsibilities and costs for certain work performed or to be performed under Change Orders No. 5 and 7 to Contract No. 6108, Water Transmission Mains, Sections 95 and 100, with P. Gioioso and Sons, Inc.

The work of Contract 6108 includes the installation of approximately 7,350 LF of 30" ductile iron water main to allow increased pumping capacity by the Newton Street Pumping Station and provide redundancy to critical Boston Meter 170 (Section 95); and 11,300 LF of 24" ductile iron water main to allow abandonment of the MWRA's Dudley Road Pumping Station and provide emergency connection from the MWRA's Southern Extra High Service System to Newton's Southern Pressure District (Section 100).

Discussions were held with Newton regarding the MWRA's replacing affected local water service connections on Brookline Street that Newton believed were deteriorated and likely to fail as a result of MWRA activity. The MWRA undertook, through its consultant, a review of the impacts of construction activity on those connections and concluded that failure was likely. Newton agreed to reimburse the MWRA for 23% of the costs of the replacements. Newton requested that it meet its portion of the costs by providing necessary services, such as police details, at no cost for an upcoming MWRA project, up to the 23% reimbursement amount.

Mr. Pappastergion asked, "Who determined the 23% rate for Newton? Was the project reviewed by the Construction Review Board?" Mr. MacDonald replied, "We accepted the independent judgement of a third party, Camp Dresser & McKee, Inc. (CDM)."

Mr. Mannering asked, "How much did CDM's review cost and who paid for it?" Bill Brutsch answered, "The cost was between \$8,000 and \$9,000." Mr. MacDonald responded, "CDM was working for both MWRA and Newton at the time."

**Extension of Contract Employee, Sewerage Division**

The Board voted to approve an amendment to the personnel services contract of Joseph LoBuglio, Marine Information Analysis Consultant, ENQUAD/Sewerage, extending the contract for seven months from February 2000 to September 1, 2000 and increasing the hourly rate, beginning October 4, 1999, from \$20.50 to \$35.00, for an annual compensation not to exceed \$68,250.00.

Mr. LoBuglio currently provides technical and project management support in environmental data management to ENQUAD. His duties include assisting with database project management, application development to load NPDES data and produce yellow notebook and beach reports, developing summary

graphics, and training staff in use of new computer software. Additional responsibilities will include automating NPDES permit-required data analyses and performing scientific analyses of data.

Mr. Mitchell asked, "Is \$35.00 per hour a standard rate for this position?" Leroy Walker, Human Resources, responded, "Yes."

Mr. Jacques asked, "We hired this person as a consultant, why not as a regular employee?" Mr. Walker replied, "Mr. LoBuglio was hired for a short-term need to meet the NPDES requirements."

**Appointment of Asset Manager, Deer Island Maintenance**

The Board voted to approve the Executive Director's recommendation to appoint William Fahey to the position of Asset Manager, Deer Island Maintenance in the Sewerage Division at an annual salary of \$80,521.00, to be effective on the date designated by the Executive Director.

The Asset Manager will work closely with the Deputy Director of Maintenance and will oversee the Work Coordination Group, which is responsible for the planning, scheduling and inspection functions associated with the 28,000 pieces of equipment currently identified in the MAXIMO system.

Mr. Fahey has been employed by the MWRA, in a steady progression of increasingly responsible positions, since November 1987. He holds a BS in Mechanical Engineering from Massachusetts Maritime Academy and is a candidate for an MBA at the University of Massachusetts.

**CONTRACT AWARDS**

**Norumbega Reservoir Covered Storage Design/Build Contract: Norumbega Constructors, J.V. – J. F. White Contracting Company/Slattery Skanska, Inc., Contract 6213**

The Board voted to approve the recommendation of the Selection Panel to select Norumbega Constructors, a joint venture of J. F. White Contracting Company and Slattery Skanska, Inc. to design and build the Norumbega Reservoir Covered Storage Project and to authorize the Executive Director, on behalf of the Authority, to execute a contract with Norumbega Constructors, a joint venture of J. F. White Contracting Company and Slattery Skanska, Inc., at the contract price of \$89,400,000.00 with an expiration date of October 30, 2004.

The Norumbega Covered Storage Project is a 115 million-gallon buried concrete storage tank to be constructed in Weston between the existing Norumbega Reservoir and the Massachusetts Turnpike. The tank itself will have a footprint of approximately 17 acres and will provide distribution storage for the MWRA water supply system. The tank will also improve drinking water quality and bring the Norumbega Reservoir into compliance with state and federal drinking water regulations.

**Off-Site Snow Related Services and Asphalt Sweeping V: R. Zoppo, Inc., Contract 6351**

The Board voted to approve the award of Contract No. 6351, Off-Site Snow Related Service and Asphalt Sweeping V, to the lowest responsive bidder, R. Zoppo, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute and deliver said contract in the bid amount of \$464,645.00 for a period of 788 calendar days from the date of the Notice to Proceed.

This is the fifth in a series of Off-Site Snow Related Service and Asphalt Sweeping contracts, required to continue services through completion of the Boston Harbor Project (BHP) construction. The current contract expires November 4, 1999.

During the winter months, the contractor will be responsible for snow plowing, salting and sanding parking lots, access roads and vehicular circulation areas at Suffolk Downs and Squantum Point during all hours of operation. In addition, to ensure the safety of pedestrians, the contractor will be required to treat waiting areas, sidewalks, steps and access paths with salt and sand. This is the last phase of this contract in its current form. At the end of this contract, January 1, 2002, it is not anticipated that the Squantum Point and Suffolk Downs facilities will be used by BHP contractors and Construction Management staff. Parking for any remaining BHP project personnel beyond that date would be accommodated at other MWRA facilities.

Ms. Hicks asked, "If we are leasing this property for employees to park, shouldn't the owners be maintaining it?" Staff replied, "The property in Quincy is owned by the MDC, but the MWRA uses it. The contract with Suffolk Downs states that the MWRA will be responsible for the maintenance. The Authority wanted to be sure that the property is cleared of snow prior to work shifts in the very early morning hours, and could not require that of the property owner."

### **CONTRACT AMENDMENTS/CHANGE ORDERS**

#### **Effluent Outfall Tunnel: Kiewit/Atkinson/Kenny, JV, Contract 5637, Change Order 70**

The Board voted to authorize the Executive Director, on behalf of the Authority, to approve Change Order No. 70 to increase the contract price on Contract No. 5637, with Kiewit/Atkinson/Kenny, JV, Effluent Outfall Tunnel, in an amount not to exceed \$900,000, increasing the contract amount from \$222,235,922.12 to \$223,135,922.12. This vote also authorizes the Executive Director to approve additional change orders as may be needed to Contract No. 5637 in amounts not to exceed the aggregate of \$250,000. A contingency transfer of \$482,923 will be required.

The Effluent Outfall Tunnel requires minor repairs to concrete surfaces, preparation for and the installation of protective coatings at the top of the tunnel shaft, the installation of the shaft cover, removal of construction utilities from the shaft and installation of the sodium bisulfite system. This work was scheduled to be performed concurrently with the removal of the riser safety plugs. However, due to an accident during the plug pulling operation on July 21, 1999, plug removal was halted and has yet to be resumed.

Mr. Pappastergion asked, "Can someone explain why MWRA will spend \$1.3 million for work that the contractor is required to do anyway?" Ralph Wallace replied, "The contractor's schedule planned to perform the protective coating work concurrently with the removal of the diffuser plugs. With the July 21 incident, plug removal was placed in abeyance. In order to save money, the contractor planned to demobilize and perform the work when the plug removal work resumed. It was MWRA's desire to prosecute this work and not wait for the plug removal, motivated by concern to keep a sense of momentum. It is very important to complete as much work as quickly as possible to limit further delays in the project to start the tunnel this year. The Authority wanted to retain the existing workforce so that they would not be lost to other jobs."

Mr. Wallace noted that the costs incurred for re-sequencing this work are additional costs incurred by the contractor. MWRA agreed to compensate the contractor for these additional costs which include management and supervisory costs, direct labor costs associated with supporting the shaft work, such as oilers, operators and electricians, equipment rental and maintenance costs necessary to support the shaft work and miscellaneous small tools and supplies. MWRA is not paying for work required under the base contract, nor for the cost of keeping the tunnel dewatered.

The original staff summary requested \$1.3 million, but in response to Mr. Pappastergion's questions, staff noted that actual costs were \$900,000. Mr. Pappastergion made a motion to reduce the request to that sum. The motion was approved.

**Secondary Reactor/Clarifier Battery C: Modern Continental Construction Co., Contract 6159, Change Order 35**

The Board voted to authorize the Executive Director, on behalf of the Authority, to approve Change Order No. 35 to increase the contract price on Contract No. 6159, with Modern Continental Construction Co., Inc., Secondary Reactor and Clarifier Battery C, in the amount of \$57,000.00 increasing the contract amount from \$161,685,600.23 to \$161,742,600.23. No time extension is required. The vote also authorizes the Executive Director to approve additional change orders as may be needed to Contract No. 6159 in amounts not to exceed the aggregate of \$250,000.00.

The Contract Documents require the installation, programming and testing of 43 variable frequency drive (VFD) units to control the function of cryogenic compressors, sludge collection drive motors, and oxygen reactor aerators. All of this equipment receives power from the Boston Edison Co. (BECO) power supply, which is an unconditioned power source subject to momentary voltage fluctuations. Experience with similar equipment in other Deer Island facilities has shown that a momentary dip in the voltage supplied to VFD controlled equipment can cause the equipment to shut down. The shut down and restart of this equipment would interrupt the sewerage treatment process. The motor starters and control panels for each of four compressors in the Cryogenics Building cannot be adjusted or reprogrammed to overcome this problem without installation of four special electrical inverters to convert electricity from direct current to alternate current. This Change Order will also reprogram 39 variable frequency drives that are capable of compensating for the voltage fluctuations without inverters, but need reprogramming to enable certain control features.

**Process Instrumentation & Controls: Bailey Controls, Contract 5546, Change Order 76**

The Board voted to authorize the Executive Director, on behalf of the Authority, to approve Change Order No. 76 to increase the contract price on Contract No. 5546, with Bailey Controls Co., Process Instrumentation and Control Systems (PICS), in an amount not to exceed \$548,573.00, increasing from \$22,774,986.66 to \$23,323,559.66, and to extend the time for completion by 442 calendar days to December 30, 2000. This vote also authorizes the Executive Director to approve additional change orders as may be needed to Contract No. 5546 in amounts not to exceed the aggregate of \$250,000.00 and time extensions not to exceed the aggregate of 180 calendar days.

The Pretreatment Facilities/Substation and Plant Modifications contract, which was awarded on December 16, 1998, includes construction of the North and South Pretreatment Facilities and an electrical substation and associated monitoring systems.

The PICS contract, awarded in 1992, provides for a single controls system to enable the plant operators to monitor the plant from control centers. To ensure a completeness of the plant-wide system, this work must be added by change order to the PICS contract to cover the new installation made in the pretreatment facilities.

**OTHER BUSINESS**

**Executive Director Salary Adjustment**

The Board voted to grant the Executive Director four percent (4%) salary increases effective retroactively from September 1, 1998 and September 1, 1999.

### **Additional Funding for Cambridge CSO Project CAM004**

The Board voted to approve a recommended approach for determining the most appropriate CSO control plan for Cambridge and to authorize staff to transfer an amount not to exceed \$2.5 million to the City of Cambridge for design of sewer separation in the CAM004 tributary area and for limited efforts associated with reevaluation of CSO control alternatives. Staff is directed to return to the Board no later than February 2000 with a revised Cambridge CSO control plan and implementation schedule. (See *INFORMATION REPORTS: City of Cambridge Implemented CSO Projects Update.*)

## **INFORMATION REPORTS**

### **FY99 Year End Capital Project Performance Report (PPR)**

During FY99, MWRA spent \$499 million of a total capital budget of \$527 million, resulting in a variance of -5.2%. Construction expenditures of \$358 million accounted for 72% of total spending. The overall variance for construction expenditures was -3.2%. Non-construction expenditures totaled \$140.8 million, 28% of total spending; the overall variance for this spending category was -10.3%.

Total grant receipts were \$99 million, \$47 million more than projected because of the \$50 million FY99 Special Boston Harbor Project Grant, which had not been anticipated at the time the FY99 budget was finalized. Total SRF loan receipts for FY99 were \$61.8 million or \$65 million less than budgeted. This variance is attributable to delay of the planned SRF borrowing for last spring until early FY00.

### **MWRA Debt Cap Update**

In response to the Board's request, staff prepared a briefing on the MWRA Debt Cap. The MWRA enabling legislation (Chapter 372 of the Acts of 1984, as amended, sections 12 and 16) establishes a limit on the maximum amount of debt that the Authority may issue. When MWRA was created in 1984, the limit was \$600 million. This limit has been increased ten times since 1985 and now stands at \$4.37 billion. MWRA has requested each increase based on spending and borrowing plans for the next 12 to 18 months to reflect the Advisory Board's preference for a "short leash" on new debt capacity. A proposed debt cap increase to \$4.75 billion was included in MWRA legislative priorities reviewed by the Board on November 18, 1998. To date, the Legislature has approved each increase on a timely basis.

Mr. Jacques suggested the postponement of discussion on the MWRA Debt Cap due to the absence of Mr. Carroll who had requested the update.

Barbara Gottschalk presented the Board of Directors with a proposed agenda for a retreat regarding the capital budget. The Board approved the afternoon session of the November 3, 1999 Board of Directors meeting as the designated retreat for a debt cap discussion.

### **City of Cambridge Implemented CSO Projects Update**

*[At the July 14, 1999 Board meeting, the Board voted to defer consideration on staff's recommended approach for moving forward with the CSO control plan in Cambridge. The Board was concerned with the increased scope and cost of the project and requested that Cambridge officials meet with the Board prior to approval of any additional project expenditures.]*

Robert Healy, Cambridge City Manager, stated that Cambridge's commitment to the protection of its water supply includes construction of a new \$77 million Water Treatment Plant. He reported that Cambridge is also embarking on an aggressive sewer separation program, and CSO program, which involves hundreds of millions of dollars of city money. Cambridge staff and engineers have been working with the MWRA on this project to look at collaboration and cost containment issues.

Eoin O’Riordan, City Engineer, stated that to date, MWRA has approved four contracts for construction. A cleaning Contract No. 1, valued at approximately \$440,000, of which \$400,000 is available for MWRA reimbursement. Contract No. 2A was a sewer separation project valued at \$660,000, of which half was eligible for MWRA reimbursement. Contract No. 3 in the CAM002 area of Porter Square, valued at \$2.1 million, of which \$1.6 million is eligible for MWRA reimbursement. Contract No. 2B, presently under construction on Fresh Pond Parkway, valued at \$12.5 million.

Mr. MacRitchie asked, “What type of work is not eligible for reimbursement from the MWRA?” Mike Hornbook replied, “MWRA reviews Cambridge’s plans and specs on a line item basis to determine eligibility for funding.”

Mr. O’Riordan reported that Contract 2B is in the middle of the CAM004 area. It eliminates the CSOs, acting as a relief to the Combined Sewer System upstream. If the system is not separated upstream, there is a risk of having back ups, causing significant flooding. If Cambridge did a sewer separation upstream and failed to consider stormwater conveyance downstream, eventually stormwater would collect and cause flooding problems downstream.

Senator Durand asked, “To what degree do the businesses and residences in the area get impacted?” Mr. O’Riordan answered, “During the June storm last year, one business had \$200,000 in damages.”

Mr. O’Riordan reported that Cambridge has had three years to do detailed sewer and storm drain investigations in the area, completing two design reports, determining that it will cost \$36 million to complete the sewer separation work in this area. The other alternative to sewer separation is CSO storage and disinfection, which MWRA’s consultants have suggested would cost \$70 million.

In the MOU between Cambridge and the MWRA, it was expected that there would be approximately 6,000 linear feet of sewer and drainpipe. A more detailed investigation of the system revealed that there is approximately ten times that amount of work to separate the system. It is not related to improving stormwater capacity, but purely sewer separation. Using the eligibility criteria suggests that the MWRA’s share of the \$36 million cost of this project could be \$14 million.

In the next five years, Cambridge expects to spend in excess of \$40 million in sewer separation projects in the mid-Cambridge area as well. Currently, capacity is at maximum. The city expects to spend in excess of \$166 million over the next twenty years. This is expected to have a significant impact on the MWRA system as it reduces the flow during wet weather events, thereby improving performance and providing benefits for communities adjacent to Cambridge.

Mr. O’Riordan summarized, “It is Cambridge’s opinion that the cost-effective way to deal with the CAM004 problem is to separate the entire system. It would cost the MWRA \$14 million. We are asking in the short-term for \$2.5 million to move ahead with the design work required. If we do not get approval for these projects, we will have no choice but to go back and retro-fit at a cost of \$2 million to reduce the possibility of significant flooding and detrimental impact on the properties in that area.”

Mr. MacRitchie asked, “How did we get from one mile to ten miles in that area?” Mr. Hornbook stated MWRA consultants, based upon record drawings provided by the City of Cambridge, did the initial estimate. Those record drawings indicated that a lot of the streets were already separated. During detailed design work in the field, it was discovered that almost all of those lines were cross-connected hydraulically. That increased the quantity of new pipe to be laid significantly.”

Mr. Spinney asked, “Some of the CSO goes into Alewife Brook, does it flow into Fresh Pond as well?” Mr. O’Riordan replied, “We have reason to believe that it has in the past flowed into Fresh Pond.”

Senator Durand asked, “Do you have a Watershed Management Plan for Fresh Pond?” Mr. Healy replied, “We have a Fresh Pond Advisory Committee that is working on developing a Fresh Pond Master Plan which will include a commitment of \$250,000 annually for a stewardship plan, and we also have a watershed plan for Lincoln, Weston and Waltham. We have just completed the acquisition of 55 acres, in conjunction with the Commonwealth and the Lincoln Conservation Commission. A golf course, the Water Treatment Plant and a skilled nursing facility border it. It will be zoned as open space so that nothing more can be built on the Reservoir, which will be memorialized in this agreement.”

Mr. Jacques asked, “What are the chances of Cambridge coming back to request more funds for this project? Is \$14 million the maximum for MWRA’s share?” Mr. O’Riordan replied, “Yes, for this project. After the detailed investigation, we are very confident of the \$14 million figure.”

Mr. O’Riordan stated that it might be possible to reduce the amount of sewer separation that has to be done in the CAM002 area if it is separated in the CAM004 area.

Mr. Hornbrook noted that \$14 million is the cost to complete. The Authority has already invested \$15 million relating to Cambridge CSOs.

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*This summary does not include every item discussed by the Board, nor the full extent of the discussions. Please contact Mary Ann McClellan at the Advisory Board Office with questions, comments and requests for additional information.*