



Advisory Board Meeting

Thursday, January 16, 2014
11:30 AM

Samuel Hadley Public Services Building
201 Bedford Street
Lexington, MA

Attendees (Voting Members)

Michael Rademacher	Arlington	Andrew Fisk	Gubernatorial Appt.	Mike Coffey	Quincy
David Manugian	Ashland	Barbara Wyatt	Gubernatorial Appt.	Jeff Zager	Reading
Roy Sorenson	Bedford	William Hadley	Lexington	John DeAmicis	Stoneham
Michael Bishop	Belmont	Amy McHugh	Marblehead	Jack Mitchell	Stoughton
John Sullivan	Boston	Katherine Dunphy	Milton	Carol Antonelli	Wakefield
Jay Hersey	Brookline	F. Thom Donahue	Nahant	Patrick Fasanello	Walpole
John Sanchez	Burlington	Craig Leiner	Natick	Walter Woods	Wellesley
Tim MacDonald	Cambridge	John Cosgrove	Needham	Joe Lobao	Wilmington
Andrew DeSantis	Chelsea	Lou Taverna	Newton		
J.R.Greene	Gubernatorial Appt.	Bernie Cooper	Norwood		

Other Attendees

A. Pappastergion	Brookline	Carl Leone	MWRA	Jonathan Yeo	DCR
Sam Corda	Cambridge	S. Estes Smargiassi	MWRA	Joseph Favaloro	AB Staff
F. DeCarvalho	Framingham	Lise Marx	MWRA	Matthew Romero	AB Staff
George Burnell	Lexington	Kevin McCluskey	MWRA	Cornelia Potter	AB Staff
Vincent Roy	Needham	Kathy Soni	MWRA	Travis Ahern	AB Staff
Joe Welch	Norwood	Lexi Dewey	WSCAC	Mary Ann McClellan	AB Staff
Scott Gustafson	Walpole	Andreae Downs	WAC		

Forty-three people were in attendance, including twenty-eight voting members.

MINUTES APPROVED AT THE MARCH 20, 2014 MEETING

A. APPROVAL OF THE NOVEMBER 21, 2013 AND DECEMBER 4, 2013 MINUTES OF THE ADVISORY BOARD

Chairman Katherine Haynes Dunphy called the MWRA Advisory Board meeting to order at 11:40 a.m.

MWRA Advisory Board Executive Director Joseph Favaloro stated that Dana Snow, an original member of the Advisory Board representing Marblehead and a former member of the Executive Committee, passed away during the holiday season while clearing snow for his neighbors. He was a great member of the Advisory Board who retired in 2010. A moment of silence was offered in Dana's memory.

Lexington Public Works Director Bill Hadley welcomed members to the Public Services Building.

A motion was made **TO APPROVE THE NOVEMBER 21, 2013 AND DECEMBER 4, 2013 MINUTES OF THE ADVISORY BOARD**. It was seconded and passed by unanimous vote.

B. REPORT OF THE EXECUTIVE DIRECTOR

Mr. Favaloro introduced the Advisory Board's newest staff member Travis Ahern, who is joining the staff as a Finance and Policy Analyst.

C. RELEASE OF THE REPORT ON WATER/WASTEWATER INFRASTRUCTURE INVESTMENT AND ECONOMIC DEVELOPMENT – Joseph Favaloro, MWRA Advisory Board Executive Director and Matthew Romero, Director of Communications

Members viewed a video of the presentation of the Advisory Board’s “Legislator of the Year” award to Senate President Therese Murray. Click [here](http://youtu.be/T7ZqeX7eydk) to view the video [http://youtu.be/T7ZqeX7eydk] on YouTube. President Murray was chosen to receive the award because of her efforts to bring water and wastewater infrastructure funding to the forefront. In the video, President Murray states that water and sewer are important to the economy. People don’t realize the importance until there is a problem when they turn on the faucet or have trouble with a septic system.

Mr. Favaloro stated, in her opening remarks, when the Senate Session opened last year, the Senate President stated that water and wastewater was going to be a priority of hers during this session; it changed the landscape and today we are looking at Senate Bill 1880 (SB1880), which has now become SB1947. The Senate Bonding Committee will be meeting at the end of the month and she hopes to have an infrastructure bill on the floor of the Senate by the middle of February. The MWRA does reasonably well in the proposed bill.

Staff will continue to work to ensure that Debt Service Assistance (DSA) is either part of the proposed bill or is running on a parallel course.

Mr. Favaloro stated that the *Study on Investment in Water and Wastewater Infrastructure and Economic Development Report* will be released to the public today. The cost per copy to print this document was prohibitive at approximately \$80 per copy. Instead, staff decided to distribute this document, along with the *2013 Annual Water and Sewer Retail Rate Survey*, via a thumb drive, which resulted in a savings in printing and postage costs. Additionally, the thumb drive contains an overview of the report that outlines that for every dollar invested in water and wastewater, you can get as much as 14 times back in state and local taxes. Every dollar invested similarly can generate \$6.77 on top of that for the private economy. It also notes that you get more “bang for a buck” from an investment in water and wastewater than for highways or roads.

Five case studies were done that showed a positive result from investment in water and wastewater infrastructure. Two studies were also done that show negative consequences because the communities don’t have viable infrastructure.

The report also considered the state’s Sustainable Water Management Initiative (SWMI) to show the potentially constrained areas of the state, which were then overlapped with the Metropolitan Area Planning Council’s report about job growth in the greater Boston area; the report determined how many jobs were at risk if, at some point in time, these communities were told they couldn’t expand on water, which was in the vicinity of 4,000 jobs that were at risk.

This report was loaded onto a thumb drive for distribution, which also includes the annual Water and Sewer Retail Rate Survey.

D. PRESENTATION: MWRA’S MASTER PLANNING PROCESS – Stephen Estes-Smargiassi, Director of Planning, Lise Marx, Sr. Program Manager, Planning and Carl Leone, Sr. Program Manager

MWRA Director of Planning Stephen Estes-Smargiassi stated that over the last twenty years, the MWRA has done a series of Master Plans. A very complete version of Water and Wastewater was done in 2006 and staff is virtually

done with an update to that document. The MWRA will likely publish this document via the web. In another effort to save money, this update was done by the MWRA Planning, Operations and Engineering Departments; staff updated the report on what the needs of the system will be from twenty to forty years ahead. The two primary authors were Lise Marx and Carl Leone.

Sr. Program Manager Lise Marx said the MWRA has spent about \$7.7 billion in capital dollars since its inception. About three-quarters of those funds were spent on wastewater projects and one-quarter on water projects. The MWRA has about \$13 billion in asset value between the water and wastewater systems and it is fairly evenly split between the water and wastewater systems.

The goal of the forty-year Master Plan that was developed in 2006 was to set the five-year cap for the FY09- FY13 timeframe. Updates will be performed about every five years to correspond with the cap setting periods.

The 2013 Master Plan, which includes projects that have been identified for the FY14 CIP, also includes system needs. As annual capital budgets are discussed and prioritized, staff throughout the agency is thinking about their needs; they have the Master Plan document to draw upon. Senior management uses the Master Plan to think about long-term financial needs.

Even though it is a 40-year document, the focus has been on the first two five-year periods. About \$1.5 billion in water projects and \$2.5 billion in wastewater projects have been identified in the Master Plan.

Project prioritization is a key part of developing this document. Over 365 water/wastewater projects have been identified and have been prioritized as part of the Master Planning document. As projects are moved to the capital improvement program, the priorities are scrutinized once again.

For the water system, there is a large geographic area with different types of assets. Of the \$1.5 billion in water projects, over \$1 billion of that is currently already in the CIP, with another \$400 million recommended in the Master Plan. Redundancy, or having an alternate means to provide water system service to different pressure zones and areas of the system, was identified as a key issue in 2006. Continuing to do pipeline rehabilitation is also a priority. Staff is also starting to identify its asset protection needs.

For redundancy, the MWRA is a lot closer to implementation between designs and studies and moving toward transmission redundancy with the Wachusett Aqueduct Pump Station and the metropolitan tunnel study. The Lynnfield pipeline is complete and the Northern Intermediate High and Southern Extra High service area projects are moving forward. Blue Hills Covered Storage is complete and the Authority is moving forward with the Spot Pond Covered Storage project.

Staff had to have some planning assumptions to begin this process; the MWRA's 300-million gallon safe yield is adequate. Staff doesn't see any major federal or state regulations that are going to cost "big dollars" on the water side. Modeling that has been done shows that climate change is not expected to have a major impact on reservoir yield. It might have some impact on the partial users if there are more frequent droughts and they need to take more water from the MWRA.

Redundancy remains the top recommendation of MWRA staff from both an operational flexibility and a system security perspective; that remains the key focus. If you look at the projects in the CIP and projects identified in the Master Plan, there is about \$831 million of that \$1.5 billion that addresses redundancy issues in some way. This includes Weston Aqueduct Supply Mains 3 (WASM3), which, although it is a rehabilitation project, is also

designated as a key part in staff's recommendation that came out of the metropolitan tunnel system concept planning work to use WASM3 to provide some redundancy for the northern part of the metropolitan tunnel system.

For additional recommendations, the CIP already includes inspection of the Quabbin tunnel; the tunnels are getting older. Once the Wachusett Aqueduct Pump Station is constructed, staff is recommending that the Cosgrove Tunnel be periodically taken offline and inspected. Likewise, staff is recommending that once there is a means to provide redundancy for the metropolitan tunnel system, the city tunnel extension and the Dorchester Tunnel should be taken offline and inspected looking at access issues and valve replacement. Staff is recommending a placeholder of \$65 million be put in for that work.

Pipeline rehabilitation is still a key element. The MWRA believes it is important to get rid of its unlined cast-iron mains, just as it has worked to help MWRA communities do the same. To date, the Authority has lined roughly 53 miles of pipe and has identified about 58 more miles to be lined. For steel pipes, staff is recommending 21 additional miles.

Another recommendation staff is making is to step back and look at the pipes that have been rehabilitated and consider what has been learned. Staff had made an assumption that the new life for the rehabilitated pipes would be 50 years but studies elsewhere have shown that if there is not significant corrosion to the exterior of the pipe, the life expectancy could be much longer. Staff wants to look at the miles of pipe it hasn't gotten to and reassess what the life of various materials is and look at how the remaining pipe should be prioritized.

For asset protection, even though the Carroll Water Treatment Plant (CWTP) and the Quabbin disinfection facilities seem brand new, staff has to begin to think further out about when it will have to replace electrical components and other types of equipment. Staff added \$500,000 to the CIP this year for the CWTP and will recommend that this funding should increase over time and adding some for Quabbin as well.

Sr. Program Manager Carl Leone stated on the wastewater side, the MWRA has almost \$1 billion in the CIP and over the forty-year planning period in the Master Plan staff is estimating another \$1.5 billion in new wastewater projects. Similar to the water, in the first ten-year period, much of the money is already in the CIP.

At Deer Island, staff continues to look at long-term investments to maintain the wastewater treatment plant. The considerable funds dedicated to Deer Island are focused on asset protection. Funds have been allocated for the co-digestion pilot study as well.

Work is moving forward on headworks and interceptor renewal; engineering is now looking at what the right phasing of those projects are.

The CSO Control Plan has changed quite a bit from 2006 when the Authority was spending large sums of money for these projects. Projects are winding down now and the long-term regulatory outlook is much the same.

There is an assumption that no new communities will be coming into the system on the wastewater side. There is minor funding in the CIP for regulatory changes, which is still an unknown.

Flood mitigation and storm surge is an issue that staff is taking on a project-by-project basis.

Over the next ten-years, the Authority expects to spend \$450 million on the Deer Island Wastewater Treatment Plant, which is about 40% of the wastewater spending budget, to keep the plant in good shape.

For residuals, there is a \$100 million plan to upgrade the facilities with the expectation that the operations will continue in the current manner. The co-digestion pilot study will determine if it will affect the residuals process.

Over the next ten years, the Authority has budgeted \$14 million for the Clinton Wastewater Treatment Plant.

Additionally, staff has set aside funds in the Master Plan for the “unknown,” assuming that repairs will need to be made to tunnels and shafts. Deterioration from hydrogen sulfide eats away at the concrete in the tunnel shafts. Staff expects to have the tunnels and shafts inspected in about five years.

Three older headworks are currently being worked on and Nut Island is the newer headwork; this is a \$162 million reinvestment that has begun, which is about 15% of all wastewater spending over the next period.

Out of 20 pump stations and CSO facilities, 15 have been built by the MWRA since 1985 so they are relatively new; five are older facilities that have had some updating. There is \$28 million in the CIP. The work that comes out of a condition assessment study will identify the work that needs to be done for each of these facilities.

In the FY14 CIP, \$49 million was remaining to complete the last four projects in the CSO Control Program. In the Master Plan there is no additional CSO control funding.

The CIP contains \$93 million for the first half of the interceptor renewal projects and another \$282 million is estimated for future work.

Wastewater metering and the SCADA program have relatively small dollars dedicated to these programs.

The Master Plan contains five additional \$40 million phases for the Local Community Assistance Programs. Discussions are planned with the Operations Committee on what the plan will be for FY15 in light of plans to increase the funding.

A member asked about MWRA facilities that might be affected by a storm surge. Mr. Estes-Smargiassi stated that the MWRA has about one-half dozen facilities that would be on a higher priority list where, even without a sea level rise, they are on the verge of being in trouble from a significant storm surge. Additionally, any facility that is being rehabilitated will also be considered for its vulnerability in a storm surge and will be addressed at that time.

Pat Fasanella asked what percent of the capacity of the Deer Island system is being used currently. Mr. Leone said in dry weather the facility can accommodate 350 to 360 million gallons per day. The plant’s capacity is 1.2 billion gallons. In wet weather, the capacity is met and exceeded because the MWRA has combined sewer overflows.

Bill Hadley stated that the co-digestion pilot program is being done for the Commonwealth of Massachusetts yet about \$1.4 million of ratepayers’ money is being used and the state will be providing a grant. When, in fact, will the MWRA ratepayers be seeing a source of revenue from this program? Mr. Estes-Smargiassi stated that if the Authority moves forward with co-digestion in a serious way, it has to be revenue positive for the MWRA. The pilot phase will determine if it really works; the MWRA will not proceed with a next phase unless it will make money for the MWRA and its ratepayers.

Mr. Favaloro noted that there was hand-out of a letter from DEP that the Advisory Board had demanded that essentially holds the MWRA “harmless” should there be any negative effects as a result of this pilot study.

E. PRESENTATION: DCR’S WATERSHED DIVISION ACCOMPLISHMENTS/CHALLENGES – Jonathan Yeo, Director, Division of Water Supply Protection

Jonathan Yeo, Director of the Division of Water Supply Protection, stated that he has been asked about the situation in West Virginia where 5,000 to 7,000 gallons of toxic chemicals leaked into the Elk River, just upstream from a water treatment plant that serves 300,000 people. People became ill from drinking and bathing in the water before the leak was discovered. There were no early warnings; people just started tasting the chemicals.

The MWRA/DCR water system is very well protected with 82% of the watershed being forest or wetlands and with less than 1% of commercial land use. DCR owns a lot of land, which is regulated through the Watershed Protection Act. There is no large scale or industrial storage of hazardous materials. There are some small generators.

Additionally, the Department of Environmental Protection (DEP) is a much stronger regulator than what is going on in West Virginia. DEP inspects facilities. The DCR watershed maintains databases of any threats that are out in the watersheds and inspections are conducted as staff does sanitary surveys; additionally staff stays in touch with the regulators at the local, state and federal levels.

Staff has been working to eliminate some of the more serious threats around the Wachusett, in particular direct discharges from the highways.

Between MWRA and DCR, staff has done a lot with emergency response; a lot of equipment has been pre-positioned. Training has been done on boom deployments. There are pre-positioned anchor points at critical locations where staff can quickly roll out to get things done. This is a joint effort between MWRA and DCR. The local fire departments and emergency response officials in the communities are also involved with emergency plans as well.

In terms of early warnings, the MWRA has state-of-the-art warning technology to identify physical or chemical parameters in the water that are outside of the norm. Suffice it to say, the MWRA would know very early on, either out in the source water or in the distribution system, if anything has gone awry. There is an early warning system that would involve notification to communities.

J.R. Greene asked about the railroad track. Mr. Yeo said the railroad track is a significant concern; it runs over the reservoir five miles from the intake but it is still a concern. Staff has been attempting to have the railroads cooperate with DCR in terms of training and ensuring that the tracks are safe and they know what to do if something bad happens. It is a challenge. The two agencies are going to continue to work to encourage PanAm Rail, which is the company that uses this rail, to better cooperate.

Mr. Estes-Smargiassi said there have been some significant improvements since the events of 9/11 in terms of communication, information, speed on the tracks, etc. but there is still room for improvement.

Additionally, the MWRA has a backup water supply, which might have to have a boil water order, but the situation that occurred in West Virginia would not happen with the MWRA system.

In terms of an update on the Division of Water Supply Protection (DWSP), there is a work plan that is approved by the Trustees of the Water Supply Protection Trust. Katherine Dunphy is one of the trustees and is a strong proponent of source water protection.

DWSP had a successful deer hunt in December; 122 deer were taken at Quabbin. The deer hunt has been designed to keep the deer population at Quabbin within a range of 10 to 15 deer per square mile. The deer could have a devastating impact on the ability of the forests to regenerate. The forest is the filtration system for the drinking water.

Invasive species, insects as well as aquatic invasive plants, continues to be a challenge. The war is still on against the Asian longhorn beetle (ALB) in the Worcester area; it has had a devastating impact since 2008 on trees. There have been no new findings of infested trees in the reservoir area. DCR and the US Forest Service are working closely to ensure that the program is funded and continuing. It will likely take another ten years to be rid of the ALB.

MWRA and DCR have a combined program to deal with aquatic invasive species. This year the MWRA did a diver-assisted suction harvesting (DASH) program for milfoil. In particular, it is at Stillwater Basin at the Wachusett Reservoir. Once suctioned, the plant material was composted on the ground; staff ensured none of the plant materials were flowing downstream out of the subject area into the main body of the reservoir. Year one was a big success; however, it will be multiple years of work. Staff is excited about the progress.

The next big challenge is the annual battle with the gulls and the birds. Staff must ensure that the fecal coliform standard is met at the MWRA intakes. There has been a lot of tracking of the gulls to try to figure out where they are coming from and why. Unfortunately, staff has tracked them to parking lots where people have been feeding them in large numbers, which is not helpful to this situation. Instead of these birds flying to spend the winter elsewhere, they are remaining here if they are fed. Staff has begun to work with parking lot owners and municipalities to educate people about feeding gulls in large amounts.

Wires have been installed over sewage treatment plants to make sure that the gulls don't have another source of food that will make them remain as well.

Near intakes, staff goes out on boats with lasers and pyrotechnics every night to keep gulls away to meet the standards.

The forestry program is up and running this year. DWSP is doing more to be transparent and explain the forestry plan to the public.

Lastly, some major land acquisitions have been made this year. The Chapman Well Drilling Company was the last piece of privately-owned land on the Wachusett Reservoir. The land has been purchased and plans are being made to remove buildings and restore the land to a natural state.

The only other challenges have been some strange incidents. In November, some Blackhawk helicopters suddenly buzzed the Quabbin on a couple of different nights. They were from the Connecticut National Guard and they made unannounced visits without letting DWSP know who they were and what they were doing. Staff is trying to figure out how to communicate with military officials about keeping their aircraft away from the reservoirs.

On November 26, a large military jet swooped over the Winsor Dam while MWRA and DCR staff were on the dam. This was tracked to a military base in New Jersey. This is of concern and staff is working to communicate with the military about staying away from these water bodies.

F. COMMITTEE REPORTS

Operations Committee – Lou Taverna

❖ ACTION ITEM: EXPANSION OF THE I/I GRANT/LOAN PROGRAM TO INCLUDE PHASES 9 AND 10 AT \$80 MILLION PER PHASE

Mr. Favaloro said 24 communities attended the Operations Committee meeting in December and made a recommendation to expand the I/I Program. The Executive Committee endorsed their recommendation.

A Motion was made TO **CREATE PHASES 9 AND 10 OF THE INFLOW/INFILTRATION (I/I) GRANT/LOAN PROGRAM IN THE AMOUNT OF \$80 MILLION PER PHASE. IN ADDITION, TO CREATE SUNSET PROVISIONS ON THE GRANT PORTIONS OF PHASE 6 (FY18) AND PHASE 7 (FY21).** It was seconded and passed by unanimous vote.

Executive Committee – Katherine Haynes Dunphy

❖ LEGISLATIVE UPDATE

Mr. Favaloro stated that the emphasis between now and the end of the fiscal year will be on an Infrastructure Bill, which is the priority of MWRA and MWRA Advisory Board staff. Language in that bill will speak to enterprise fund accounts in the communities. DEP defines what constitutes an “enterprise fund” with regard to eligibility for SRF. Staff has reached out to DEP to get the appropriate language so communities can compare their language to DEP, which will be the trigger point to receive SRF funding. Advisory Board staff will assist communities in developing their enterprise funding language.

Next week the Advisory Board’s bill on the Expansion of the Septic Tax Credit will be heard.

Finance Committee – Bernard Cooper

❖ UPDATE

Matt Romero stated that the MWRA Advisory Board has received the official transmission of the FY15 proposed CEB. Staff is putting together a briefing schedule to meet with MWRA staff.

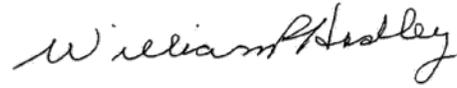
On the CEB side, the Authority has transferred \$6.4 million into the dedicated defeasance account from variable rate debt savings. The net variance of CEB under-spending is \$803,000, driven by wages and salaries and overtime, offset by a workers’ compensation claim.

On the CIP side, the MWRA is \$14.2 million, or 24.4% underspent; however, excluding the community and CSO programs, elements over which the MWRA has very little control, it becomes a \$10.4 million underspending or 26.1%.

G. ADJOURNMENT

A MOTION WAS MADE TO ADJOURN THE MEETING AT 1:18 P.M. It was seconded and passed by unanimous vote.

Respectfully submitted,

A handwritten signature in cursive script that reads "William P. Hadley". The signature is written in black ink and is positioned above the printed name.

William P. Hadley, Secretary