WATER SUPPLY CITIZENS ADVISORY COMMITTEE
to the Mass. Water Resources Authority

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WSCAC Meeting

Location: Carroll Water Treatment Plant
Marlborough, MA
October 10, 2017—10:00 A.M.

Members in Bold in Attendance:

Whitney Beals, WSCAC Chair, NE Forestry
Gerald Eves, Trout Unlimited
Martha Morgan, Nashua River Watershed
Kurt Tramposch, Wayland Wells
Terry Connolly, Town of Ware & Trout Unlimited
Janet Rothrock, League of Women Voters
Martin Pillsbury, MAPC
Andrea Donlon, CT River Conservancy
Michael Baram, BU & CLF
Paul Lauenstein, NepRWA
Bill Fadden, OARS
Jean McCluskey, ACEC/MA

Non-Members in Attendance:

Lexi Dewey, WSCAC staff
Andreae Downs, WAC staff
Lou Taverna, Newton
Bill Kiley, BWSC
David Coppes, MWRA
Steve Estes-Smargiassi, MWRA
James Guiod, MWRA Advisory Board
Bill Sullivan, MWRA
Adriana Cillo, BWSC

WSCAC Business

A motion was made to approve the August Meeting Summary, as corrected by Michael Baram. The motion was seconded. All voted in favor of approving the meeting summary.

Overview of the Wachusett Aqueduct Pumping Station

Bill Sullivan began his presentation by providing Committee members and guests with an overview of the MWRA Transmission System. With the use of maps, Bill demonstrated the proximity of the Wachusett Aqueduct Pumping Station to the Carroll Water Treatment Plant and the Wachusett Aqueduct Supply.

Bill then discussed the major design elements of the project. The Wachusett Pumping Station will consist of seven pumps—a maximum of six pumps will be running at any given time and each pump runs forty million gallons per day. Therefore, total capacity is 240 million gallons per day (mgd). The MWRA is confident they will be able to reach this capacity—however if operation of the Wachusett Aqueduct Pumping Station were required to supply water to the Carroll plant during the summer when water demand can exceed 240 mgd, they would have to implement some kind of restrictions. But for most of the year, the system is at less than 240 mgd on any given day.

Bill Kiley asked if theoretically there was a power outage, would the gravity feed take over.

Bill Sullivan expressed that gravity would not be capable of lifting the water into the plant, but in an absolute dire circumstance, the MWRA is going to maintain the ability to flow water from the Wachusett Aqueduct directly into the Hultman and the MetroWest Tunnel. There is, of course, a backup power source for the station.

Bill explained that an important part of the design was how to prevent damage from power failures. He discussed the purpose of the surge tank and the need to prevent damage from surge pressures that would result from a sudden loss in flow caused by a power outage.

Lexi asked how often the MWRA intends to use the station, as it is a redundancy effort.

Dave Coppes replied that they plan to exercise the pumps every other month or monthly. Once a year, the Authority will start a full flow and transfer the entire plant to the pump station. The Authority estimates that the exercise will take the entirety of a week to complete. This process will ensure that the MWRA staff understands how to operate the system and that the system is capable of doing what it needs to do. In terms of timing, Dave thinks this exercise will take place in the spring, but no definitive time has been selected. The final determination will depend on a variety of factors, including weather and flows.

Bill then continued to discuss the entrance improvements. The station will have K-12 high impact Security Gates. Additionally, entrance improvements include the Guard House and Canopy. He also discussed other design elements. For example, there will be photovoltaic panels on the roof and ground. The station—excluding the pumps—is designed at zero net energy. This means that on average, the facility will generate as much power as it consumes during the year when in stand-by mode.

Kurt asked if there are any thermal impacts on the water when the system is running. Bill stated that while there is a lot of heat generated by the pump motors, the amount of water running through the Forebay into which the geothermal system discharges will make the impact negligible.

Bill provided an overview of the schedule for construction. The Notice to Proceed was issued March 1, 2016. Substantial completion of the project is projected for February 14, 2019. Testing should begin late next year.

Lou Taverna asked if there was one pipe feeding from the pump station, or two? Bill answered that there was one pipe—that one pipe is the redundant pipe.

Kurt asked if the Authority has discovered any surprises during the construction of the station. Steve replied, that yes, there had been surprises—there are always surprises. Some subsurface conditions were a surprise and a change to the support of excavation method was implemented.

Kurt then asked if there was any federal funding. Bill replied that there is some state revolving loan money. Steve stated that there really is not any federal grant money for the drinking water supply. With respect to the loans, instead of being at market rate (three and a half percent loans), the MWRA can get two-percent loans. Kurt asked if the security upgrade was a similar situation. Dave stated that the Authority received a Homeland Security grants for one set of security gates.

Kurt asked if the land surrounding the Wachusett Pump Station was heavily hiked. Bill explained that the Sudbury Valley Trustees have trails throughout the area. He also stated that the Authority maintains security cameras and intrusion alarms on the property.

Kurt asked if there were any considerations on the proximity to the suburban propane storage facility in terms of blast—Kurt wondered if that had been part of the analysis. Bill replied that the Authority did not look into an explosion of suburban propane.

Andreae Downs stated that she was curious as to where the Forebay Channel drains to. Dave explained that before the Hultman Aqueduct was created, the Wachusett Aqueduct flowed down the Forebay to Sudbury Reservoir. Sudbury Reservoir then went to Weston Aqueduct and to Foss Reservoir Three and to Sudbury Aqueduct. That was the supply. Then, in 1940—when they built the Hultman—they diverted that water directly into the Hultman. In summary, Dave explained that the location of the Wachusett Aqueduct Pumping Station has a lot of history with respect to the water system.

Andreae then asked if the Museum of Science still has the MWRA Water Supply System on display. Steve replied that he did not know. Guests and members all stated that it would be a terrific way to share information about the system, increase public awareness, and engage children and young adults with the field of engineering.

The Committee members and meeting guests proceeded to the Wachusett Pump Station site for the remainder of the meeting.

The meeting was adjourned.

WSCAC will meet on November 14, 2017 at 10:00 AM at the MWRA Facilities in Southborough. Please visit our website for more information on this meeting.