



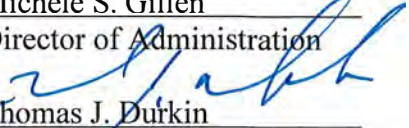
**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** October 16, 2019  
**SUBJECT:** Update on DCR Department of Water Supply Protection Projects Undertaken by MWRA


**COMMITTEE:** Administration, Finance & Audit

X  INFORMATION  
  VOTE

  
Michele S. Gillen  
Director of Administration

  
Thomas J. Durkin  
Director of Finance

Douglas J. Rice, Director of Procurement  
John P. Colbert P.E., Chief Engineer  
Preparer/Title

  
David W. Coppes, P.E.  
Chief Operating Officer

*The MWRA assumes all the cost of the operation of the Department of Conservation and Recreation Division of Watershed Protection (DCR), which manages the watersheds. This includes the purchase of open space land for the protection of the water supply. Under an MOA with DCR, MWRA is also responsible for improvements to the major dams in the water system. MWRA has spent over \$20 million on major upgrades to the various dams and dikes, including Windsor, Goodnough and Wachusett. Over the years, the MWRA has also funded a number of small to medium size projects out of the watershed CEB to protect or improve the DCR infrastructure, like the repaving of roads or the installation of culverts. There remains, however, a number of major structures and projects, including the historic Quabbin Administration Building, maintenance facility, and the Quabbin Cemetery that are in disrepair and in need of a substantial investment, requiring funding beyond the operating budget. This staff summary outlines a list of these projects that are organized in a newly established multi-year capital budget. These projects will be designed, constructed and funded by MWRA.*

**RECOMMENDATION:**

For information only.

**DISCUSSION:**

The Department of Conservation and Recreation (DCR) is in need of several upgrades to buildings and facilities at the watersheds that are functionally obsolete and structurally deficient. MWRA's current year CIP and CEB have sufficient amounts budgeted for these projects. As the FY21 Proposed CIP and CEB Budgets are developed, these projects will be reevaluated for timing and amounts. Staff have received additional proposed CIP projects from the DCR Water Supply

Protection Division Office of Watershed Management and are reviewing the submittal for inclusion in the Proposed FY21 CIP. The following tables detail the amounts and timing of the projects, which are described in greater detail below.

FY2020 Capital Improvement Program Budget				
	Contract #	Notice to Proceed	Substantial Completion	Total Contract Amount
<b>Quabbin Admin Bldg. Rehab</b>				
QAB Concept Design Report	7569	Oct-20	Oct-21	\$200,000
Quabbin Admin Bldg. Rehab Des CA\RI	7564	Mar-22	Mar-27	\$2,800,000
Quabbin Admin Bldg. Rehab Construction	7565	Mar-24	Mar-26	\$12,000,000
<b>Maintenance Building</b>				
Maintenance Garage/Wash Bay/Storage Bldg. Design/CA/RI	7677	Oct-19	Oct-23	\$1,000,000
Maintenance Garage/Wash Bay/Storage Bldg. Construction	7577	Oct-20	Oct-22	\$3,900,000
<b>River Rd Improvement -Wachusett</b> <i>(funded from FY19 Watershed Protection budget surplus)</i>	7701	Oct-20	Oct-21	\$2,000,000
<b>Land Acquisition</b>	7069	Apr-06	Jun-23	\$29,000,000
<b>Dam Improvements</b>				
Dam Permits	7346	Jul-18	Dec-21	\$1,000
Quinapoxet Dam Removal - Design/ESDC/RI	7347	Jul-20	Dec-23	\$200,000 *
Quinapoxet Dam Removal - Construction	7348	Jul-21	Dec-22	\$600,000
Quinapoxet Dam Removal REI	7690	Jul-21	Feb-23	\$100,000 *
Sudbury/Foss Dam Design/CA/RI	7614	Mar-19	Jun-23	\$432,029
Sudbury/Foss Dam Construction	7615	Jul-20	Jun-22	\$1,600,000

\*Contract 7347 was awarded at the September BOD meeting for a value of \$425,442 for the Quinapoxett Dam Removal Design Contract. The estimated construction value for this work is \$1,200,000.

FY2020 Current Expense Budget	
	Amount
<b>Watershed Protection Indirect Expense</b>	
Clinton Crew Headquarters	\$1,100,000
Quabbin/Ware road and drainage reconstruction	\$125,000
Quabbin Admin Building interim roof repairs	\$105,000
Quabbin Admin Building interim water system corrosion control	\$150,000
New Salem restoration (gas tank & garage design)	\$75,000
<b>Maintenance Budget</b>	
Quabbin Park Cemetery water spigot / irrigation	\$15,000
Quabbin Park Cemetery lead abatement	\$45,000

## Maintenance Building

DCR has proposed building a new Maintenance Building at the Quabbin Reservoir to replace an existing facility that is currently housed in the West Garage at the main Quabbin Administration Building complex. After investigating the current maintenance facility, staff determined that considerable investment would be required to stabilize the deteriorating conditions and to repair the structural deficiencies. However, investments to repair the existing facility would not be enough to overcome the space constraints, operational limitations and building shortcomings that severely limit the effectiveness of the DCR fleet maintenance program. A rendering of the proposed maintenance building is below.



Figure 1: Maintenance Building Conceptual Design

A new maintenance facility is intended to provide up to 10,994 square feet of gross floor area to house and support vehicle fleet maintenance staff and equipment. The new space would accommodate oversized vehicles and heavy equipment, includes provisions for a vehicle wash bay, and offers the space necessary to support staff and equipment needs. Moreover, the facility would offer working conditions that improve safety, efficiency and operational capability.

The Authority has agreed to procure and manage both the design and construction services for the Maintenance Building on behalf of DCR. The Massachusetts Designer Selection Board (DSB) is responsible for the qualification-based selection of designers for state building projects undertaken by public agencies and as such, DCR is required to utilize the DSB process.<sup>1</sup> The DSB utilizes an advertised competitive process to solicit applications from designers to perform the design services requested. In response to the advertisement, designers submit applications to the DSB and the DSB screens applications for completeness, and forwards copies to the public agency. The DSB then ranks finalists based on pre-determined criteria, at which point the public agency can begin negotiations on cost with the first ranked firm.

For the proposed Maintenance Building project, it is anticipated that once the Authority reaches an agreement on all contractual terms, including a negotiated cost proposal, with the DSB ranked firm, a staff summary will be presented to the MWRA Board of Directors for approval. Like typical award staff summaries, this will include the details of the DSB's selection, a summary of the cost proposal, and request for award. This procurement process comports with the MWRA Procedures for Procurement of Professional Services for design services that are not exempt from the Designer Selection statute.

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<sup>1</sup> The Authority's projects typically fall outside of the jurisdiction of the DSB because the Authority's building projects are generally "appurtenant" to and required to be constructed as an "integral" part of the development of its water and sewer system. These projects are statutorily exempted from the DSB process. Since the DCR Maintenance Building is not "appurtenant" to and required to be constructed as an "integral" part of the development of the Authority's water and sewer system, the MWRA, on behalf of DCR, is required by statute to seek the assistance of the DSB to select the designer for this project.

## Administration Building

The Quabbin Administration Building supports DCR, Massachusetts State Police and MWRA lab employees and provides recreational opportunities and services to more than 500,000 visitors annually to the reservoir. The building was constructed in 1938 and many of the original system controls are still operational. One of the more pressing needs is the rehabilitation of critically important utilities and support systems that both distribute power and water throughout the facility. Most of these system components are exhibiting signs of deterioration (e.g. wiring, plumbing, heating) and preemptive actions are necessary to avoid catastrophic failures. A photograph of the building is below.



Figure 2: Quabbin Administration Building

A significant investment of capital into the restoration of the facility will also trigger necessary upgrades to satisfy today's more stringent standards for universal access, public safety and occupational standards. Examples of Building Code upgrades include added environmental safeguards for occupational safety (e.g. ventilation and hazard abatements), installation of fire alarms and expanded fire protection systems, universally accessible access routes to and from the building and special accommodations (e.g. elevator, public restrooms).

Additionally, mechanical control systems for the distribution of steam are very old, antiquated systems that need modernization to ensure continued reliable operation. The following building components do not satisfy current building code requirements and require upgrades:

- Electrical - retrofits /replacement of the main electrical panel and upgrade of power supply feeds to distribution areas including garage facilities and office areas. Upgrade of wiring, service feeds and power supply to Vehicle Parking and Maintenance garages.
- Structural - repair of exterior shell and structural supports including roofing, exterior masonry, chimneys and gutters. Install energy efficient replacement windows and upgrade doors for security and public safety/universal access reasons. Restore or retrofit hangar overhead door system including pulley and weight system.
- Heating and Cooling Systems - Installation of new HVAC distribution controls and cooling system. Provide replacement steam traps, upgrade condensate return system and oil/wood conveyance systems.
- Water Supply System - Install and develop a new water supply system. The DCR has received an Administrative Consent Order from MassDEP indicating that the existing well is not compliant with current Public Water supply standards and must be resolved within 2-3 years. DCR has initiated a study with Tighe and Bond to determine the optimal water supply alternatives. This study evaluated installation of a new well, withdrawal from the

Quabbin Reservoir with membrane filtration treatment, and connecting to the Belchertown water supply system. The costs for these alternatives range from \$1.25 to \$4.27 million.

- Septic System - Upgrade / retrofit or expand current septic system to satisfy MA DEP limits on daily discharges to the ground. Incorporate additional treatment and safeguards for wastewater flows discharged from the MWRA laboratory.
- Lead Paint and Asbestos Abatement - Install systems to meet today's occupational standards for ventilation and safety. Address abatement work for lead paint and asbestos containing material that exists throughout the building.

MWRA, on behalf of DCR, will procure a designer to conduct a study of the facility for review and certification by DCAMM. Once certified by DCAMM, the information contained in the certified study will serve as a basis in the preparation of the project's Final Design.

### Quabbin Park Cemetery

The Quabbin Park Cemetery was developed between 1931 and 1932 by the Metropolitan District Water Supply Commission as part of the Quabbin Reservoir Project to receive the remains of over 6,600 graves removed from 34 cemeteries originally located on land purchased for the Quabbin Reservoir. Along with graves, the commission moved War Memorials and markers from the former Swift River Valley towns of Dana, Enfield, Greenwich, and Prescott to the Quabbin Park Cemetery. This site was developed on 82 acres of former farmland and woodlands south of Route 9 in Ware on land that is just outside the Quabbin Reservoir watershed. It is still an active cemetery, but purchase of burial lots is restricted to former residents of the four towns, their direct descendants, or employees and former employees of MDC and DCR. A presentation on the condition of the facilities was made to the Board of Directors on September 18, 2019. A photograph of the administration building at the Quabbin Park Cemetery is below.



Figure 3: Quabbin Park Cemetery Administration Building

Original structures at the cemetery include an office/administration building (memorial portico), maintenance garage, well pump house, storage shed, and concrete receiving vault. Only the vault and maintenance garage are actively used. The well pump house and storage shed are used for some minimal storage. Since the original development of Quabbin Park Cemetery, these buildings have

deteriorated over time. Numerous upgrades are recommended for the office/administration building and maintenance garage, whereas building demolition of the well pump house and storage shed are recommended.

MWRA is procuring a contractor to drill a well in the cemetery shortly and then will procure a contractor to install piping to several watering connections points to be available next spring.

The Authority has agreed to procure the lead abatement services for the exteriors of the administration building and maintenance garage and demolition of the well house and storage shed. The DCR will be responsible for the upgrades to the administration building and maintenance garage.

### Other Capital Expenditures

The projects described above are in addition to the capital expenditures MWRA has been making in coordination with the DCR Water Supply Protection Division's Office of Watershed Management and the Water Supply Protection Trust. MWRA's Capital Improvement Program (CIP) includes funding for watershed land acquisition and dam improvements. Under the revised Memorandum of Understanding between MWRA and DCR, executed April 2004, MWRA will utilize its own bond issuances for the purpose of acquiring, in the name of the Commonwealth, parcels of real estate or interests in real estate and dam improvements for the purpose of watershed protection. The FY2020 CIP includes funding for the Sudbury and Foss reservoir repairs as well as the Quinapoxet dam removal project.

The FY2020 CIP also includes funding for the River Road improvements at the Wachusett Reservoir. This road has experienced two landslides, one in 2008 which required substantial repair, and a recent one (pictured at right) in November 2018. River Road is the primary access road to the MWRA's Lower Gatehouse at Wachusett Dam.



In addition to the projects contained in MWRA's CIP, MWRA's Current Expense Budget (CEB) provides funding for DCR Water Supply Protection Division Office of Watershed Management's major projects. While these are typically larger projects, they cannot be capitalized by MWRA and are therefore treated as operating expenses. The MWRA's FY2020 CEB provides funding for the Clinton Crew Headquarters construction, Quabbin Administration Building interim repairs to the roof and the water system corrosion control, New Salem facility restoration and road and drainage reconstruction.

### **BUDGET/FISCAL IMPACT:**

The FY20 CEB and CIP have sufficient amounts budgeted for these projects. As the Proposed CEB and CIP Budgets are developed in the coming months, these projects will be reevaluated for timing and amounts.