

Town of Winchester – Flood Mitigation Program Update to Spring 2015 Town Meeting

The Flood Mitigation Program continues to be one of the Town of Winchester’s highest priorities. Significant progress has occurred over the past 10-years in implementing the Program; however, several major projects still remain. The benefits of reduced flooding along the Aberjona River and its tributaries will not be fully realized until all the projects are complete.

Flood Mitigation Program - Overview

Over the past several decades, the Town of Winchester has experienced devastating flooding, which has imperiled public safety, disrupted businesses and schools, and led to significant economic losses totaling more than \$25 million. The frequency and severity of flooding along the Aberjona River prompted the Town to develop a Flood Mitigation Program to address these issues. The Program was subject to review under the Massachusetts Environmental Policy Act (MEPA), which concluded on April 2, 2010 with the issuance of a Certificate by the Secretary of the Executive Office of Energy and Environmental Affairs. This approval allowed the Town to move into the detailed design and construction phases for the respective projects.

The original Program called for 16 projects to be constructed within the Town of Winchester. However, several of the projects (Projects 7, 9, 11, 14, 15, and 16) were eliminated during the MEPA process, and three mitigation projects were added. The current status is described below:

Description		Status
Project 1	Siphon relocation at Wedgemere (MWRA).	Completed in 2007
Project 2	Channel widening between Waterfield Road and Manchester Road, removal of the weir at the former USGS gaging station, and removal of adverse channel slopes.	Completed in 2012
Project 3	Replacement of gate valves at Center Falls Dam.	Completed in 2013
Project 4	Construction of an additional culvert under the Mount Vernon Street bridge.	Construction expected Fall 2015
Project 5	Construction of an 8 x 4 foot culvert adjacent to the existing 6 x 15 foot culvert under Shore Road.	Completed in 2002
Project 6	Installation of a 4 th culvert under Skillings Field.	Funding subject to override
Project 8	Swanton Street bridge improvements.	Requires design and construction funding
Project 10	Culvert improvements at the railroad bridge near the Muraco School.	Requires design and construction funding
Project 12	Removal of a small dam upstream of the railroad bridge near Muraco School.	Completed in 2002
Project 13	Installation of a 5 x 12-foot supplemental box culvert at Cross Street.	Completed in 2005
Upstream Mitigation	Construction of a new outlet control structure at the Scalley Dam at Horn Pond in Woburn.	Construction expected Fall 2015
Downstream Mitigation	Improvements to the Mid-Lakes Dam (DCR).	Completed in 2011
	Improvements to the Craddock Locks in Medford.	Expected mid-2015

Completed Projects

As noted above, Projects 1, 2, 3, 5, 12 and 13 have been completed by the Town. The MEPA certificate requires the in-town projects to be completed generally in sequence from downstream to upstream; however, prior to approval of the FEIR, the Town received a waiver from MEPA to complete several of these projects out of sequence.

Most recently, the Town received funding in 2011 to replace the second gate valve at the Center Falls Dam (the first valve was replaced in 2004). Construction began in Spring 2013; however, during construction, the contractor discovered significant structural deficiencies in the dam cascade steps and the Main Street bridge abutments. As a result, the scope of the project was expanded to include repair of those deficiencies, thereby lengthening the project schedule. Construction of the new valve and bridge repairs was completed in summer 2014.

Project 2, which substantially improved the flood conveyance capacity of the Aberjona River downstream of Waterfield Road, was completed in Fall 2012. This project also resulted in significant improvements to the facilities at Ginn Field, including a new basketball court and playground, both of which were funded through private donations.

Improvements to the Mid-Lakes Dam at the Mystic Lakes (one of the downstream mitigation projects) were completed by DCR in spring 2011. Improvements to the dam included reconstruction of the primary and secondary spillways, and installation of a new fish ladder. The dam now includes operable gates, which allow the elevation of the Upper Mystic Lake to be drawn down ahead of a predicted storm event.

Future Projects

The MEPA certificate requires that the upstream mitigation at the Scalley Dam in Woburn and the downstream mitigation at Craddock Locks in Medford be completed before the remaining in-town projects can be complete (*i.e.* Projects 4, 6, 8, or 10). The Craddock Locks are part of the Main Street bridge that crosses the Mystic River in Medford Square. The City of Medford is currently working with the Massachusetts Department of Transportation (MassDOT) and DCR on the design for a complete reconstruction of this bridge. Construction is expected to begin in early 2015 and removing the lock structure will be completed during the first phase of the project.

In 2014, the Town received a \$2.5 million grant from the State through the Environmental Bond Bill. That money will be used to complete the final design, permitting, and construction of improvements to Scalley Dam (approximately \$1 million) and to partially fund the construction of Project 4 – Mount Vernon Street bridge improvements (\$1.3 million). The total Mount Vernon Street project costs are estimated at \$1.8 million and the remaining \$500,000 was funded through a Town Meeting appropriation in Fall 2014. The Town has completed the design and begun permitting for Project 4 and the Scalley Dam improvements. Construction on both projects is expected to begin in Fall 2015.

Funding for a portion of Project 6 (Skillings Field culvert) design was appropriated by Town Meeting in Spring 2013. A preliminary design for the culvert has been completed; however, final design and permitting is not yet funded. Oil and/or hazardous materials (OHM) were identified in the soil at Skillings Field during the environmental testing associated with the culvert project. The presence of OHM above regulatory thresholds requires the Town to complete remediation activities in accordance with the Massachusetts Contingency Plan (MCP). Over the past year, the Town has evaluated various options for construction of the culvert, required environmental remediation, and potential synthetic multi-purpose athletic field. Funding for this work is the subject of the Spring 2015 Special

Town Meeting and June 9, 2015 override vote. A funding request for the final design and permitting of Project 6 is also part of the Special Town meeting. Pending the outcome of Town Meeting and the override vote, the Town is hoping to coordinate construction with the Winchester High School project, which is scheduled to be complete by September 2017. A cost savings of \$450,000 would be realized by coordinating Project 6 and the remediation work with the WHS project, and a cost savings of \$150,000 would be realized by coordinating the synthetic turf field project with the other projects. The Winchester High School and Town Center business district remain at a high risk from flooding events until Project 6 and the Scalley Dam improvements are completed.

Once this work is complete, only two projects will remain in the Town's Flood Mitigation Program – Project 8, which involves improvements to the Swanton Street bridge, and Project 10, which includes improvements to the culvert at the railroad bridge near the Muraco School.

Flood Insurance Benefits

In June 2010, the Federal Emergency Management Agency (FEMA) issued new maps revising the 100 and 500-year floodplains for the Town of Winchester. The previously effective maps were developed in the early 1980's and did not reflect the current flood risk posed along the Aberjona River and Horn Pond Brook. The 2010 map significantly expanded the extent of the floodplain boundaries and remapped many properties into the floodplain that had previously been outside of it.

The federal government requires that properties located within the 100-year floodplain, with a federally insured mortgage, purchase flood insurance. The Town participates in the National Flood Insurance Program (NFIP), which allows property owners to purchase flood insurance protection from the government. The average cost to insure a residential building in the 100-year floodplain is approximately \$3000 per year. Flood insurance for commercial properties may be significantly more expensive. Properties outside of the mapped floodplain may also purchase a flood insurance policy at a lower rate based on their reduced risk factor.

Currently, there are approximately 273 structures mapped in the 100-year floodplain in Winchester. After the Town's Flood Mitigation Program is implemented, the number of structures in the floodplain will be reduced by almost half to 145 structures. This will result in substantial savings to a large number of Winchester residents who will no longer need to purchase flood insurance, in addition to reducing the emotional toll that comes with the flooding of one's primary residence or business.