



# Update Report for Massachusetts



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## Mission

The missions of the New England District, U.S. Army Corps of Engineers include flood risk management protection, emergency preparedness and response to natural disasters and national emergencies, environmental remediation and restoration, natural resource management, stream bank and shoreline protection, navigation maintenance and improvement, support to military facilities and installations, and engineering and construction support to other government agencies. The six New England states cover 66,000 square miles and have 6,100 miles of coastline, 171 federal navigation projects (13 deep draft commercial waterways), 13 major river basins, and thousands of miles of navigable rivers and streams. The District operates and maintains 31 dams, three hurricane barriers and the Cape Cod Canal. Through its Regulatory program, the District processes nearly 3,000 applications per year for work in waters and wetlands of the six-state region. We employ about 510 professional civilian employees, with about 300 stationed at our headquarters in Concord, Mass. The other Corps of Engineers employees serve at Corps projects and offices throughout the region. For information on the New England District visit the website at: [www.nae.usace.army.mil/](http://www.nae.usace.army.mil/); or on Facebook: [facebook.com/CorpsNewEngland](https://www.facebook.com/CorpsNewEngland); or on Twitter: [twitter.com/corpsnewengland](https://twitter.com/corpsnewengland); or on Flickr: [www.flickr.com/photos/corpsnewengland](https://www.flickr.com/photos/corpsnewengland).

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## Navigation

**BOSTON HARBOR (7th & 8th CDs)** – Improvement deepening of Boston Harbor has been authorized for construction by the 2014 Water Resources Reform and Development Act 2014 (WRRDA). The WRRDA references a Chief of Engineers Report, signed Sept. 30, 2013, which was transmitted to Congress on Feb. 26, 2014. The authorized plan calls for the deepening of the Broad Sound North Channel to -51 feet MLLW, the deepening the Main Ship Channel (MSC), President Roads Anchorage and lower Reserved Channel to -47 feet, the deepening of the MSC that services the Massport Marine Terminal to -45 feet MLLW, the deepening of the Mystic Channel that services the Medford Street terminal to -40 feet, and deepening of the Chelsea River Channel to -40 feet MLLW.

Since neither the Medford Street terminal nor the Massport Marine Terminal currently have tenants, we would be required to prepare a Limited Re-evaluation Report (LRR) prior to deepening these segments.

About 8 million cubic yards of ordinary material and 240 thousand cubic yards of weathered rock will need to be removed to deepen these channels. These improvements would cost about \$340 million, of which the Non-Federal Sponsor (Massport) would be required to contribute about \$130 million.

Additionally, the Corps is planning on performing O&M

dredging in the Inner Harbor. While the Corps fully funds the dredging, the O&M dredge material will need to be placed in a Confined Aquatic Disposal cell (CAD cell). The construction of the CAD cell must be cost-shared with a Non-Federal Sponsor (Massport). *Completion of plans and specifications are underway and we plan to issue the solicitation in the summer of 2016.*

For details on the April 2013 Final Feasibility Report for the Improvements visit: [www.nae.usace.army.mil/Portals/74/docs/topics/BostonHarbor/DeepDraftFeasibilityStudy2013.pdf](http://www.nae.usace.army.mil/Portals/74/docs/topics/BostonHarbor/DeepDraftFeasibilityStudy2013.pdf). For details on the April 2013 Final Supplemental Environmental Impact Statement/ Massachusetts Final Environmental Impact Report for Deep Draft Navigation Improvement visit: [www.nae.usace.army.mil/Portals/74/docs/topics/BostonHarbor/DeepDraftFSEIS2013.pdf](http://www.nae.usace.army.mil/Portals/74/docs/topics/BostonHarbor/DeepDraftFSEIS2013.pdf).

**CAPE COD CANAL BOURNE AND SAGAMORE HIGHWAY BRIDGES (9th CD)** –The District is conducting a multiyear Major Rehabilitation Evaluation Study of the Bourne and Sagamore highway bridges to determine whether major rehabilitation or replacement of either or both bridges is justified. The existing bridges were constructed 80 years ago and require increasingly frequent maintenance, which is costly and causes significant impact to traffic crossing the Cape Cod Canal. The study will evaluate the risk and reliability of the structures as well as the economic impacts/benefits of several major rehabilitation alternatives

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and bridge replacement alternatives versus continuing to repair the bridges as needed.

**COHASSET HARBOR (8th CD)** – After receiving no bids on a solicitation posted in FY14 to complete maintenance dredging during the winter of 2014/15 the District re-issued a solicitation on April 19, 2015 to complete the work during the 2015/16 dredge window. Bid opening was May 21, 2015. Agreements between the town of Cohasset, Sandy Beach Association, and the District to gain access to all appropriate staging and disposal areas during the 2015/16 dredge season have been completed. A \$1.7 million contract was awarded on July 13, 2015 to H2H Associates LLC of Troy, N.Y. Dredging was initiated in mid-October and, after extensions to the water quality certification (WQC) permit, stopped at the end of the environmental window on Feb. 26, 2016. The contractor dredged approximately 47,500 cubic yards of material, but did not complete all maintenance dredging required under the contract during the fall 2015 / winter 2016 season. An amendment to the WQC permit was granted by the state to allow the Government-owned dredge CURRITUCK to remove a hazardous shoal in the entrance channel in May 2016 and change the dredge type from hydraulic cutterhead to mechanical dredge for the material remaining. The District is currently in negotiations to have H2H remove the remaining shoal material in the fall of 2016 with a mechanical dredge. Funding for maintenance dredging was appropriated in the Disaster Relief Appropriations Act of 2013 (Public Law 113-2).

**GREEN HARBOR (9th CD)** – An 80-foot section of the east jetty that was repaired in 2014 was damaged during winter storm Juno and subsequent winter Nor'easters; \$1,000,000 was identified in the FY 16 Work Plan to effect repairs. *We are currently preparing plans and specifications for the work and anticipate the work to be done in the fall/winter of 2016/2017.*

**LYNN HARBOR, LYNN (6th CD)** – At the request of the city of Lynn, federal funds were made available to examine the feasibility of creating a new federal channel and anchorage along the Lynn Harbor shoreline. The proposed channel would connect the existing Lynn Harbor and Saugus River channels, reducing commercial navigation delays and providing boat access to the commercial properties along the Lynn Harbor shoreline targeted for redevelopment. The initial site visit was conducted on Sept. 29, 2010 by the Corps and representatives of the city of Lynn, serving as the Local Sponsor. Information gathered will be used to determine if a complete feasibility study is warranted. That determination will be documented in an Initial Appraisal Report (IAR) and submitted to USACE's North Atlantic Division for approval to proceed with the feasibility study. Completion of the study would require execution of a Feasibility Cost Share Agreement (FCSA) to share the study costs with the city of Lynn. The study could be completed within about 18 months of FCSA execution.

**MENEMSHA CREEK, MARTHA'S VINEYARD (9th CD)** – The District met with local officials from the towns of Aquinnah and Chilmark, and Wampanoag Indian Tribe in early March 2013 to discuss the dredging of the Menemsha

Creek federal navigation channel, and repair of the entrance channel jetties. Design for the repairs of the jetties were completed during the summer of 2014, and all required environmental permitting obtained. A contract for jetty repair work was solicited in October 2014 and awarded to RC&D, Inc. on Dec. 16, 2014. Construction repairs to the West Jetty started on March 17, 2015 and were completed on May 21, 2015 bringing the structures back to their authorized dimensions.

Environmental coordination for the dredging portion of the project was completed in February 2015. Design documents were completed in March 2015, and a contract for the work solicited on April 6, 2015. Bids were opened on May 19, 2015 and a contract awarded to J-Way Southern Inc., of Avon, Ohio, on June 30, 2015 in the amount of \$2,170,798. Dredging started in late December and stopped at the end of the dredging window on Jan. 31, 2016. An extension to the dredging window was requested but was denied by the state of Massachusetts permitting agencies. Approximately 15,800 cubic yards was dredged from the southern portion of the 8-foot channel and placed on Lobsterville Road beach. However, the contractor did not complete all 60,000 cubic yards of maintenance dredging required under the contract.

*The contract was terminated for default and we are currently working with the bonding company to complete the work. We hope to have another contractor in place to complete the work in the fall/winter of 2016.* Funding for maintenance dredging and repair to the jetties was appropriated in the Disaster Relief Appropriations Act of 2013 (Public Law 113-2).

**NANTUCKET HARBOR (9th CD)** – The District met with Nantucket officials and congressional staff from Massachusetts to hear the town's concerns over the current condition of the jetty system at the entrance of Nantucket Harbor in late 2012. The Nantucket officials reported continued issues with vessel collisions to the jetties due to their disrepair and design construction to half-tide height. Damage from Hurricane Sandy and the subsequent Nor'Easter caused concern for the safety of navigation and initiated a 2013 request for Hurricane Sandy funding to repair the areas of most significant need. Coordination with appropriate State/Federal agencies began in 2013 and was completed in April 2015. An Environmental Assessment, including a Damage Assessment and Mitigation Plan, to analyze alternatives and reduce potential impacts to environmental resources in the footprint of the jetty repair construction area was completed and reviewed by the state/Federal resource agencies. A Coastal Zone Consistency (CZM) Determination was received from the state of Massachusetts in March 2015. Design of the repairs to the East and West Jetty were completed in April of 2015 and a contract for construction services to repair the jetties was solicited on May 21, 2015. A contract in the amount of \$10,545,000 was awarded to Mohawk Construction on Sept. 17, 2015. A protest from one of the other bidders was dismissed by the Government Accountability Office (GAO) pending a corrective action undertaken by the District. Revised proposals from all firms were received

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in late December and reviewed by the District in January 2016. Resolution of the corrective action was completed in April 2016. Notice to Proceed was given in May 2016 and construction *will start in the fall of 2016*. Funding for repair of the jetties was appropriated in the Disaster Relief Appropriations Act of 2013.

**NEW BEDFORD AND FAIRHAVEN HARBOR (9th CD)**

– The District is currently preparing a dredged material management plan (DMMP) for maintenance dredging of the New Bedford and Fairhaven Harbors Federal Navigation Project (FNP). The main deep-draft channel to New Bedford has an authorized depth of 30 feet, while the shallow draft channels for the fishing fleet at Fairhaven have depths of 15 and 10 feet. Following dredging performed under contract to the Commonwealth of Massachusetts, an updated hydrographic survey of the FNP identified a total dredge volume requirement of 751,000 cubic yards (cy) of shoal material to restore the project to authorized dimensions. The District has determined that none of the identified shoal material in the FNP is suitable for disposal in open waters outside the harbor.

The District is developing and evaluating a range of disposal alternatives with potential disposal locations in the upper and lower harbors and beneath the outer harbor entrance channel. The District will be considering several layouts of confined aquatic disposal (CAD) cells within the New Bedford inner harbor and beneath the outer harbor entrance channel for disposal of proposed dredged material. Some of these potential cell locations were identified in a Massachusetts state DMMP completed in 2004 by the Massachusetts Office of Coastal Zone Management (MACZM). The District plans to have a draft DMMP prepared late in 2016. The DMMP will be accompanied by an environmental assessment.

**PLYMOUTH HARBOR (9th CD)** – The Corps proposes to dredge the Plymouth Harbor Federal Navigation Project (FNP) in Plymouth, Mass. The Congressionally authorized FNP provides for a 200-foot-wide by 18-foot-deep main channel (approximately 2.5 miles in length); a 150-foot-wide by 15-foot-deep channel extension with turning basin; and a 60-acre by 8-foot-deep anchorage. All depths refer to mean lower low water (MLLW). Approximately 340,000 cy of sediment are proposed to be dredged from the project and placed at the Massachusetts Bay Disposal Site (MBDS). Project approvals have been obtained and the project Environmental Assessment has been completed. Contract plans and specifications will be developed and a dredging contract will be issued to perform the work when sufficient funds become available. The Corps proposes to repair sections of Plymouth Long Beach Dike that were damaged during Blizzard Juno in 2015. Displaced stones will be recovered and re-set into the structure. Contract plans and specifications are being developed and a contract award is anticipated sometime late in FY16.

**ROCKPORT HARBOR, ROCKPORT (6th CD)** – A contract solicitation was issued in July 2014 for the repair of the 540-foot-long Bearskin Neck Jetty that was damaged during Hurricane Sandy. The jetty extends into the ocean from

the end of Bearskin Neck Road to the east and provides protection to Rockport Harbor. The existing jetty consists primarily of 3-5 ton armor stone. The ocean side of the jetty has retained its shape/authorized dimension while 400 feet of the jetty contains voids 5 feet deep along the crest profile and voids of 5-10 feet deep along the harbor side slope. The head at the east end of the jetty is missing along with the U.S. Coast Guard Aid to Navigation that was mounted there. Specific work tasks are intended to reconstruct severely deteriorated areas of the 540-foot long jetty. These tasks include: delivery and installation of approximately 4,000 tons of 14-19 ton armor stone and 6,000 tons of 4-8 ton armor stone to repair the jetty to authorized dimensions. Work also includes installation of a new base at the head of the jetty for a new Aid to Navigation to be installed by the Coast Guard. A \$2,889,400 contract was issued on Sept. 15, 2014. Construction was completed on May 20, 2015.

**WELLFEET HARBOR, WELLFLEET (9th CD)** – At the request of town representatives the District completed a conditions survey of the FNP in April 2015. Results of the survey show that areas of the 10-foot-deep channel and the 6-foot-deep anchorage are significantly shoaled; with some parts of the project, specifically the 6-foot-deep anchorage having less than 0.5 feet of draft in large reaches of the project. District staff met with local officials in conjunction with state/Federal resource agencies to discuss potential disposal alternatives and permit requirements for completing a maintenance event as soon as funds were authorized by Congress. A draft Environmental Assessment is being prepared and will be coordinated with the Federal and state resource agencies during the late summer of 2016. Permitting is expected to be acquired and in place by the winter of 2016/2017.

**WEYMOUTH FORE AND TOWN RIVERS, WEYMOUTH & QUINCY (8th CD)**

– A contract to perform several borings to characterize hard areas in the 35-foot-deep channel in the Weymouth Fore River portion of the project was issued and field work was performed in June 2010. We estimate that about 3,000 cubic yards of rock needs to be removed from two areas in the authorized 35-foot-deep channel. A draft Environmental Assessment has been prepared and coordination with the Federal and state resource agencies was done in conjunction with the Boston Harbor rock removal project. No funds were included in the FY 2016 President's Budget for this work.

**WOODS HOLE GREAT HARBOR, FALMOUTH (9th CD)**

– At the request of the town of Falmouth and NOAA Fisheries, funds were made available in FY06 and FY07 to begin a study examining deepening the entrance channel and harbor basin at Great Harbor in Woods Hole, principally to accommodate new classes of deeper draft research vessels on order by NOAA Fisheries. Preliminary studies were initiated in the spring of 2007, but preparation of an initial appraisal report (IAR) was deferred pending completion of the NOAA project for the same harbor described below.

Concurrently, the New England District is preparing design, environmental compliance and contract documents in

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three phases for a project funded by NOAA for the Great Harbor channel and basin deepening and construction of a new wharf for NOAA's Northeast Fisheries Science Center research facility at Woods Hole. NOAA desires completion of the project to provide access for its newer class of fisheries research vessels in a quicker timeframe than would be possible under a Corps civil works improvement. All studies are complete and required Federal and state permits for the NOAA project were obtained in August 2008. The first phase of the project, the entrance channel, was constructed. Dredging of the entrance channel began in November 2008

and was completed in January 2009. Work on design of the final phases of the project is underway. Construction of the remaining project features awaits additional funding by NOAA.

A \$305,000 contract to repair the breakwater was issued on Sept. 19, 2014. Construction started on Dec. 11, 2014 and has been completed. Work involved repairing those sections of the NOAA-owned breakwater that were damaged by Hurricane Sandy in October 2012.

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## Shoreline/Streambank Protection

**CHELSEA RIVER, EAST BOSTON (7th & 8th CDs)** – A Section 14 streambank protection project along the Chelsea River has been requested by the city of Boston. Without permanent erosion protection, the riverbank will continue to erode which eventually will threaten the integrity of the 15-inch sewer main. The city of Boston is participating as the nonfederal project sponsor. Approximately 300 linear feet of riverbank requires stabilization. The project consists of the placement of a stone rip rap slope revetment along the bank to stabilize the base of the slope and protect it from scouring during high flows. The project's Environmental Assessment/ Finding of No Significant Impact (EA/FONSI) *was completed in May 2016. Due to ongoing city of Boston activities at the project site, the sponsor indicates that proposed project design and permitting efforts will be on hold until the summer of 2018.*

**NANTASKET BEACH, HULL (8th CD)** – This investigation examines potential solutions to coastal erosion and backshore flooding at the Massachusetts Department of Conservation and Recreation (MADCR)'s Nantasket Beach Reservation in Hull. Work in response to the deteriorated condition of Massachusetts DCR's seawall prompted emergency construction activity at Nantasket Beach,

changing the without project condition. The final feasibility report has been approved. The Corps and MADCR *executed* a Project Partnership Agreement in *April 2016* for the final design and construction of the project. *Design efforts are ongoing.*

**SLACK BROOK, LEOMINSTER (2nd CD)** – The city of Leominster requested Corps assistance in providing emergency storm bank stabilization, to stabilize approximately 310 feet of riverbank along Slack Brook. A section of Exchange Street is in close proximity to the riverbank. Riverbank slumping and subsequent erosion, particularly during high water and flow events, have endangered Exchange Street to exposure. The project consists of the construction of emergency riverbank erosion protection along the right bank of Slack Brook, adjacent to Exchange Street. The riverbank erosion protection consists of a stone revetment on the lower bank and a geocell structure with topsoil and infill on the upper bank. *The awarded contract was terminated at the convenience of the government. A new contract solicitation will be reissued near the end of 2016. Construction is scheduled to commence during the summer of 2017.*

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## Coastal Storm Damage Reduction

**FIELDSTON AND BRANT ROCK SECTIONS, MARSHFIELD (9th CD)** – A Section 103 feasibility study has begun to investigate storm tidal flooding issues in the Fieldston and Brant Rock sections of Marshfield, Mass. At the completion of the study, a feasibility report will document the results of the investigation and will provide the basis

for recommending a flood damage reduction project. The *draft* report is anticipated to be completed in *August 2016* with release of a Public Notice Environmental Assessment/ Finding of No Significant Impact (EA/FONSI) *in the fall of 2016.*

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## Flood Damage Reduction

**BLACKWATER RIVER, SALISBURY (6th CD)** – The District conducted studies concerning the feasibility of providing local flood protection along the Blackwater River in Salisbury. Preliminary studies indicated that flood control measures would be economically justified, and further detailed studies were conducted to fully evaluate flood control alternatives and impacts. A draft Detailed Project Report/Environmental Assessment (DPR/EA) that evaluates potential improvements and recommends a plan

to reduce flood damages in the low lying area between Ninth Street and Florence Avenue was completed in May 2006. The Project Partnership Agreement (PPA) for the project was signed by the Commonwealth and the District in May 2009.

A \$4.3 million construction contract was awarded on Nov. 30, 2015. Construction *began in early 2016* and will take about 12 months to complete.

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## **MUDDY RIVER FLOOD RISK MANAGEMENT AND ENVIRONMENTAL RESTORATION PROJECT (4th, 7th & 8th CDs)**

In response to an October 1996 storm event that resulted in severe flooding along the Muddy River as well as several tributary areas, particularly Stony Brook, the city of Boston, town of Brookline and the Commonwealth of Massachusetts proposed a plan called “the Emerald Necklace Environmental Improvements Master Plan, Phase I Muddy River Flood Control, Water Quality and Habitat Enhancement,” dated January 1999. The objectives were to increase flood control, improve water quality and enhance aquatic/riparian habitat within the Muddy River by dredging accumulated sediment, providing flood damage reduction through improvements to restrictive drainage culverts, removing nuisance vegetation, improving fisheries/wildlife habitat and water quality, bank stabilization and promoting and enhancing recreational use of emerald necklace parklands.

Section 522 of the Water Resources Development Act (WRDA) of 2000 authorized the Corps to, “carry out the project for flood damage reduction and environmental restoration, Muddy River, Brookline and Boston, Mass.,” substantially in accordance with the plans, and subject to concurrence it met federal guidelines. Corps headquarters

prepared a Chief’s report recommending federal participation and forwarded the report to the Assistant Secretary of the Army (ASA) for Civil Works on Dec. 29, 2003. The ASA approved federal participation in the flood damage reduction component of the project. However, due to its high unit cost, the environmental restoration portion of the project is not recommended for federal implementation. NAE completed design efforts and prepared plans and specifications for the Phase 1 effort. A project partnering agreement was signed with the project sponsors. A \$30.9 million contract for Phase I was awarded on Aug. 10, 2012. A groundbreaking ceremony was held in October 2012 and construction started in early 2013. Information updates are posted at: [http://www.nae.usace.army.mil/portals/74/docs/topics/muddyriver/June\\_2016\\_Muddy\\_River\\_90\\_Day\\_Info\\_Revised.pdf](http://www.nae.usace.army.mil/portals/74/docs/topics/muddyriver/June_2016_Muddy_River_90_Day_Info_Revised.pdf). For more project information visit: [www.nae.usace.army.mil/Missions/ProjectsTopics/MuddyRiver.aspx](http://www.nae.usace.army.mil/Missions/ProjectsTopics/MuddyRiver.aspx).

*The construction of Phase 1 of the project is generally complete. In the months of July and August, final inspection and correction of punchlist (minor deficiencies) items will be completed throughout the project. Design of Phase 2 of the project continues with the preparation of 65% set of plans and specifications in September.*

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## **Ecological Restoration/Watershed Management**

### **BASS RIVER ECOSYSTEM RESTORATION (9th CD)**

The town of Yarmouth requested Corps assistance with restoring tidal flow to the upper reaches of the Bass River in 2001 under Section 206. Preliminary data suggest that an existing railroad bridge restricts tidal flow. The Corps developed a Preliminary Restoration Plan in 2004 that included various measures to restore approximately 385 acres of tidal wetlands and estuarine habitat. The Corps determined that widening both the former rail bridge and Route 6 would help restore tidal flushing. The towns of Yarmouth and Dennis are working with the Massachusetts Department of Transportation (MADOT) to remove the former rail bridge abutments and provide a wider opening for the Cape Cod Rail Trail currently in design. As a result of this work, the towns no longer have an interest in proceeding with a Corps Section 206 Feasibility Study.

### **BIRD ISLAND TERN NESTING HABITAT RESTORATION, MARION (9th CD)**

Working with the local sponsor, which is the Massachusetts Executive Office of Energy and Environmental Affairs (Office of Coastal Zone Management and Division of Fisheries & Wildlife, Natural Heritage & Endangered Species Program), the New England District completed a feasibility study under the Section 206 Aquatic Ecosystem Restoration Program that recommended a plan to restore and protect roseate tern nesting habitat on Bird Island in Buzzards Bay. The northeastern population of roseate terns is listed as endangered at both the federal and state levels of jurisdiction, and Bird Island supports over 20 percent of the Northeastern population. The revetment that protects the island is in poor condition, and coastal

storms are eroding the vegetation and sand that roseate terns need for nesting. The Corps completed the Detailed Project Report and Environmental Assessment in October 2006 and received a letter of support for the project from the sponsor in 2008. The report recommends reconstructing the revetment and restoring substrates for tern nesting. The Corps and the Massachusetts Department of Fish and Game executed a project partnership agreement on June 30, 2011 and completed the project design, real estate agreements, and all necessary permits by August 2015. An invitation for bids for a construction contract was advertised in August 2015 and awarded in September 2015 for \$3,120,000. The Federal government contributes 65% of the project costs and will oversee the contract. The sponsor contributes the remaining 35% of total project costs. The awarded contract requires the work to be completed over two seasons, from October 2015 to April 2016 and then from September 2016 to April 2017. Construction of the new revetment on the island was started in December 2015.

**BLACKSTONE RIVER (2nd CD)** – A feasibility study of environmental restoration opportunities was initiated in 1999 with the Commonwealth of Massachusetts Executive Office of Environmental Affairs (MAEOEA). Key components of this study include an assessment of the threat from contaminated sediments, an inventorying of environmental restoration opportunities in the watershed, a determination of the role of impoundment’s on water quality and sediment re-suspension, and an inventorying of dams and their condition. An interim report that recommends restorative measures for Fisherville Pond has been prepared. Remaining funding

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is being used to examine the potential removal of Milbury Dam and prepare a summary document of all the efforts under this study.

**BROAD MEADOWS SALT MARSH RESTORATION, QUINCY (8th CD)** – The District completed a feasibility study and design for the restoration of salt marsh at Broad Meadows Marsh. The city of Quincy is the sponsor for this Section 1135 project. The restored salt marsh will replace the low value common reed (*Phragmites australis*) marsh that occupied the site, restoring estuarine fish and wildlife communities. A construction contract was awarded to an 8(a) HUB-Zone contractor in November 2009. The Corps issued a Notice to Proceed in February 2010. We received additional funds from the city in July 2011 to expand the marsh habitat restoration. A major milestone was reached on Dec. 21, 2011 when the marsh was flooded by tidal water for the first time after being buried under dredged material for more than 80 years. The Corps and the city will make improvements to the walking paths. Management of *Phragmites* is on-going.

**CHATHAM STAGE HARBOR SEDIMENT MANAGEMENT (9th CD)** – The town of Chatham requested a study to evaluate beneficial reuse of Stage Harbor channel sediment to lessen impacts of beach erosion and restore endangered bird habitat. The study will require an assessment of long shore transport of sand, the effects associated with jetties and groins, historic and projected erosion rates, and dredging and disposal practices. The Corps will use historic aerial photographs and data collected during targeted field surveys to develop sediment transport models. The project also will evaluate potential habitat improvement alternatives for protected birds and other coastal species on Chatham lands and islands within the Monomoy National Wildlife Refuge. The Monomoy National Wildlife Refuge and other shoreline areas on Cape Cod serve as important habitat to federally protected species such as the piping plover (*Charadrius melodus*) and roseate tern (*Sterna dougallii*). The sediment transport modeling report is complete. The study team is evaluating potential benefits of dredged material reuse based on the modeling conclusions.

**CONNECTICUT RIVER ECOSYSTEM RESTORATION STUDY** – Authority to conduct an ecosystem restoration study in the upper Connecticut River watershed is provided through a resolution adopted by the Committee on Environment and Public Works of the U.S. Senate on May 23, 2001. A reconnaissance report identified several ecosystem restoration opportunities along the main stem of the Connecticut River. Since then the Water Resources Development Act of 2007 authorized the Corps to partner with The Nature Conservancy (TNC). A feasibility study was initiated with TNC in 2008. The study is investigating alternatives to manage flow for the 70 largest dams in the basin with the goal of improving aquatic habitat while maintaining human uses such as flood control, hydropower, water supply and recreation. Various tools (e.g. operation and optimization computer models) have been developed to assess these management measures. The study is expected to be completed by the end of 2016.

**GULF OF MAINE INITIATIVE** – The New England District is a member of the Gulf of Maine working group, providing this joint U.S./Canadian committee with water resource planning expertise. Technical support in applications of sediment chemical mapping for Boston Harbor is being provided. District staff members are participating in Gulf of Maine workshops and these workgroups are discussing ways in which the U. S. and Canada can partner through the Gulf of Maine program.

**LONG POINT DIKE ECOSYSTEM RESTORATION (9th CD)** – The town of Provincetown requested Corps assistance with restoring ecological resources in West End Marsh under Section 1135 – Project Modifications to Improve the Environment Program. The Corps completed a Federal Interest Determination in May of 2014. The study is considering creating openings in Long Point Dike to restore the connection between Cape Cod Bay and West End Marsh for fish and invertebrates and to improve salt marsh and estuarine habitats. We expect to release a draft report for public review in the fall of 2017.

**MALDEN RIVER ECOSYSTEM RESTORATION PROJECT (7th CD)** – In October 2002, the Corps and the Mystic Valley Development Commission (MVDC) executed a Feasibility Cost Sharing Agreement (FCSA) for the Malden River Ecosystem Restoration Feasibility Study. The study considered opportunities to restore wetlands, benthic habitats, and fish passage in the Malden River. North Atlantic Division approved the Detailed Project Report/ Environmental Assessment on Nov. 24, 2008. MVDC and the Corps executed the project partnership agreement on Oct. 8, 2009. We are preparing the plans and specifications for the project, which will restore freshwater wetlands on the lower river.

**MERRIMACK RIVER WATERSHED STUDIES (SECTION 729) (3rd & 6th CDs)** – The overall purpose of the watershed assessment study is to conduct a comprehensive field program and data collection effort combined with watershed and river modeling to provide information to stakeholders to guide local water resource management decisions. The assessment of the Merrimack River and its watershed is a multi-phase effort that is being conducted in collaboration with multiple partners and stakeholders. This study is being conducted under the authority provided in Section 729 of WRDA 1986 as amended and titled “Water Resources Needs of River Basins and Region.” The Section 729 study requires (75 percent federal/25 percent nonfederal) cost sharing. The Lower Merrimack River Assessment Phase 1 efforts were performed at a cost of about \$2 million and cost shared with nonfederal interests in Massachusetts and New Hampshire. The study was initiated in the spring of 2002 and the Phase 1 report was completed in September 2006. Phase II efforts on the Upper Merrimack River Basin in New Hampshire began in 2007 and were completed in 2014. The Phase II report will be available in 2016. The estimated cost for the Phase II Merrimack study efforts is about \$1.6 million. In 2013 the Corps started the final phase (Phase III) studies on the Lower Merrimack River Watershed. Field Sampling Plans for the Merrimack River and tributaries were

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completed in 2014. Water quality sampling events were conducted in 2014 and 2015. Final river and tributary water quality sampling will occur in 2017.

#### **MILFORD POND RESTORATION, MILFORD (4th CD)**

– The Massachusetts Department of Conservation and Recreation on behalf of the town of Milford, Mass., requested that the Corps investigate alternatives to restore the health of the 120-acre degraded Milford Pond ecosystem. This project is being conducted under the Corps' Section 206, Aquatic Ecosystem Restoration Program. The recommended plan identified in the final report is to dredge 45 + acres of Milford Pond to achieve an open water depth of 12 feet. The Corps' North Atlantic Division approved the project on June 29, 2005. The Plans and Specifications phase was initiated in July 2005, with the town of Milford as the sponsor. The team developed a lower-cost alternative that would reduce the area of dredging and use dredged sediment to restore wetlands. This revised project will dredge approximately 200,000 cubic yards from a 17-acre section in the southern half of the pond and place the dredged material in the shallow northern portion of the pond to restore emergent wetland habitat. The New England District and the town of Milford executed a project partnership agreement on March 25, 2013 to implement this revised plan. The Corps revised and completed an Environmental Assessment and Finding of No Significant Impact in April 2014. A \$3.6 million contract was awarded on Sept. 29, 2014. Construction took 14 months to complete, with completion of the project in December 2015.

#### **MILL POND RESTORATION, LITTLETON (3rd CD)**

– The town of Littleton requested that the Corps conduct a study of Mill Pond and its tributaries to investigate alternatives to restore the ecology and health of this 48-acre degraded freshwater pond. This study is being conducted under the Corps' Aquatic Ecosystem Restoration Program, Section 206 of WRDA of 1996. The aquatic habitat of Mill Pond is degraded as a result of sedimentation and excessive nutrient loads into the pond from the surrounding 4,500-acre watershed. An estimated volume of 200,000 cubic yards of soft sediment has accumulated in the pond, reducing its average depth from 6 feet deep to 3 feet. The current shallowness of the pond and excessive nutrient concentrations contribute to extensive growth of aquatic weeds and degraded fish habitat. The objectives of the restoration study are to address methods to remove and dispose of accumulated sediment from the pond to reduce the recycling of phosphorous, reduce nutrient influx,

and increase water depth. The Corps is assessing the environmental benefits and costs of several restoration alternatives to determine the most cost-effective and acceptable solution. In 2008, the town of Littleton completed an investigation of nutrient loading in Mill Pond and is completing documentation of basin-wide best management practices that are now in place or will be implemented to reduce nutrient loads into the pond. Adequate reduction in nutrient loading in the basin is necessary for proposed aquatic habitat restoration alternatives to be effective. With limited Federal funding received in 2014, the Corps is proceeding with the draft Detailed Project Report (DPR) by incorporating the results of the town's study and additional sediment analysis, and the Corps plans to issue a public notice, once a draft DPR is completed.

#### **MILL RIVER, NORTHAMPTON (2nd CD)**

– The Corps initiated a Section 1135 feasibility study to look at restoration of the historic river channel, fish passage and other habitat improvements with funding made available in the Section 1135 program. We provided a project management plan and cost estimate for a feasibility report to the city in 2011. The city is considering the plan but does not have funding to move forward at this time.

#### **NATIONAL ESTUARY PROGRAM**

– The District is currently supporting implementation of the comprehensive conservation and restoration plans of the Massachusetts/ Cape Cod Bays and the Buzzards Bay National Estuary Programs (NEP). Activities include attendance at committee meetings and transfer of our data to the NEP Geographic Information Systems (GIS). Additionally, we continue to work to identify habitat restoration opportunities.

#### **NEPONSET RIVER, BOSTON/MILTON (7th & 8th CDs)**

– The New England District worked with the Massachusetts Department of Fish and Game's Division of Ecological Restoration to explore options to restore the degraded aquatic ecosystem of the Neponset River to a less degraded, more natural condition. This work was being conducted under the Corps Aquatic Ecosystem Restoration Program, Section 206 of the WRDA of 1996. The study evaluated alternatives for fish passage at the Walter Baker and Tilestone and Hollingsworth dams along the river, as well as opportunities for channel improvements and habitat restoration. There are unresolved issues surrounding responsibility for contaminated sediment removal. As a consequence, the study will be terminated.

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## **Flood Plain Management Services**

**WILBRAHAM, MA (1st CD)** – The New England District is conducting an investigation of the drainage area of Spear Brook to assess the effects of storm runoff contributing to downstream flooding conditions along Main Street and the

Woodland Dell area. The study will offer recommendations to reduce the risks and severity of future flooding. The investigation is scheduled to be completed by *August* of 2016.

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## **Defense Environmental Restoration Program (DERP)**

This Congressionally directed effort (PL 98-212) provides for

expanded work in environmental restoration. It emphasizes the identification, investigation and prompt cleanup of

hazardous and toxic waste; unexploded ordnance (UXO); and unsafe buildings, structures and debris at current and former military facilities. A total of 325 formerly used defense sites (FUDS) have been authorized in Massachusetts. There is the potential for several other properties to be eligible for the program. Site and project eligibility will be scheduled in the future when funding priorities and resource availability allow. Of the 119 sites where work was needed, the following efforts are underway:

**Camp Goodnews (9th CD)** – The New England District issued the Final Closeout Report to the Regulators in June 2008. No additional action is anticipated. Site closeout is in process.

**Camp Wellfleet (9th CD)** – The New England District will continue to work with the National Park Service to establish an awareness program for the identification of ordnance related items as part of the institutional controls for the site. Annual ordnance identification/safety briefings are held with the National Park Service in the spring. USACE is currently soliciting a contract to perform munitions response actions at the Former Camp Wellfleet. Remedial Investigation activities will be conducted at the site, and the results will be documented in a Remedial Investigation Report. A Feasibility Study Report will be developed to evaluate remedial alternatives to address residual contamination in soil and groundwater. Based on the results of the Feasibility Study, a remedial alternative will be selected for implementation. The objective of the project is to conduct sufficient investigation and remediation to demonstrate that residual contamination at the site does not pose an unacceptable risk to human health or the environment. A signed Decision Document will be prepared at the conclusion of the project to close out the site.

**Hingham Former Burning Ground (Wompatuck State Park, 8th CD)** – The project consists of investigating military munitions and munitions constituents where the Navy formerly burned/detonated explosive materials. Contracts were awarded March 31 and June 30, 2008 and Aug. 27 and Dec. 1, 2009 to conduct additional investigations at the site to fill data gaps. Field work was completed in October 2009. Groundwater, soil and sediment sampling were conducted as well as subsurface soil sampling using multi-increment sampling. Samples were collected at depths of 1-6 feet below ground surface for munitions constituents. Subsurface soil sampling also was conducted in a specific area to characterize diesel contamination and to determine the areal extent of soil that potentially needs to be excavated. Excavation of the diesel contaminated soil has been put on hold pending evaluation of sampling results which will determine whether excavation is required. A data gaps analysis was performed in 2012, with additional field work to install 9 additional wells and perform additional sampling (groundwater, surface water, surface and subsurface soil and sediment sampling and geophysical work) was conducted in 2013, 2014 and 2015. All additional data collected will be incorporated into the Draft Final RI/FS report in 2016. The Draft Final RI/FS Report is being revised and the risk assessments updated to comply with CERCLA. Both

the Proposed Plan and Decision Document will be updated accordingly as well.

**Lonczak Drive Area (LDA) Site of the former Westover Air Force Base in Chicopee (1st CD)** – Further studies and remediation of the southern portion of LDA included an LNAPL Mass and mobility assessment as well as completion of a Method III risk assessment, the results of which found that NAPL present at the site is not mobile and there is no risk to Human Health or the environment from its presence. CENAE's contractor completed and submitted to the MassDEP a combined MCP compliant Release Abatement Measure (RAM) Completion Report and Response Action Outcome (RAO) statement for the project in fall 2011. In summer 2012, MassDEP responded that approval of site closure would require the following items: 1) a Feasibility Study be completed at the site to demonstrate that a permanent solution is not feasible; 2) an Activity and Use Limitation (AUL) be completed for the site; and 3) additional characterization work be completed to define the extent of impact. The A-E firm performing the investigations went out of business; subsequently a new firm (FS Engineering) was brought on board and they are performing a "Nature and Extent Characterization Evaluation" Report to comply with the preceding item "3".

The "Nature and Extent Characterization Evaluation" Report was reviewed by USACE. The findings of the report are to perform supplemental field work before completing the Phase III Evaluation (Feasibility Study), RAO Statement and AUL to achieve site closure. The USACE team met with the contractor in early October 2014 to refine the scope for the supplemental field work. In March 2015, the task order with FS Engineers was "Terminated for Convenience". This action was necessary due to the Government not exercising an option year extension (an administrative error which invalidated the FS Engineers' task order). The Government obtained sole source justification to solicit and award the uncompleted work back to FS Engineers. This contract was awarded in September 2015. Additional field characterization work is planned for the summer of 2016.

**Martha's Vineyard Projects (9th CD)** – (Cape Poge Little Neck, South Beach Moving Target Machine Gun Range, and Tisbury Great Pond) A Time Critical Removal Action (TCRA) was completed on the Cape Poge Little Neck project and the South Beach Moving Target Machine Gun Range project from April to September 2009. The TCRA resulted in the removal of many inert ordnance items. A Site Investigation was performed at the Tisbury Great Pond project site under the Military Munitions Response Program. All three sites required additional investigation to delineate the extent of the munitions. Due to the close proximity of these sites, coupled with the fact that they are all ordnance related projects, all 3 projects are currently being executed simultaneously by the New England District. Field work started in November 2010, and ended in March 2012. An Environmental Security Technology Certification Program (ESTCP) Demonstration project using innovative geophysical technology to perform geophysical surveys offshore to locate munitions was conducted in June 2010 at South Beach by Tetra Tech. The

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data from this demonstration project have been incorporated into the overall RI/FS. The Final RI and FS Reports have been reviewed/approved for Cape Poge, Tisbury Great Pond, and South Beach. The Final Decision Documents for Cape Poge and South Beach have been signed. The Final DD for Tisbury Great Pond is currently under review for back check of comments. Public meetings for all three projects were held in 2015. A contract action has been awarded to execute the Cape Poge Remedial Action. A scope of work is being developed for the South Beach Long Term Monitoring Program. Award is scheduled for 2016.

**Nantucket, Former Tom Nevers Facility (9th CD)** – A contract was awarded in September 2011 to conduct a Remedial Investigation on the Former Tom Nevers Facility, an ordnance project under the Military Munitions Response Program. The first Technical Project Planning meeting was held on Nantucket on Oct. 27, 2011. Field work was conducted from March through June/July 2012. Follow on TPP meetings were held in 2013 and 2014. The Final RI Report has been reviewed/approved along with the Proposed Plan (PP). The Final PP was released to the general public for public comment through Dec. 4, 2014. The public comments were reviewed and addressed in the Responsiveness Summary. The Draft Decision Document has been finalized and is ready for signature. LTM is the chosen remedy. A scope of work is currently being developed for the Nantucket Beach Long Term Monitoring Program. Signs also have been installed at designated beach access locations.

**Nantucket Memorial Airport Area Formerly Used Defense Site (FUDS) (9th CD)** – A contract was awarded in September 2014 to conduct a Remedial Investigation on the Former Nantucket Memorial Airport, an ordnance project under the Military Munitions Response Program. The first site visit and Technical Project Planning meeting were held on Nantucket on Sept. 24, 2014. The work was completed in October 2015. The contractor currently is developing the Draft RI Report that will undergo an internal Corps review.

**Naval Fuel Annex (8th CD)** – Environmental risk at the site was evaluated during the 1990s and found to be negligible. An updated file review was conducted and a Data Gap Analysis and Path Forward Report was prepared in March 2016. The data gap analysis identified supplemental site characterization sampling required to update the risk assessment and close out the project. The supplemental site characterization sampling is proposed for summer/fall 2016 and includes 23 soil borings and installation of 11 monitoring wells to be sampled quarterly for one year. Pending evaluation of the analytical results of the soil and groundwater samples, it is anticipated the project will be closed out through a Permanent Solution Report, formerly known as Response Action Outcome (RAO), under the MassDEP Massachusetts Contingency Plan (MCP) in FY17 or FY18.

**Osborne Pond (9th CD)** – The District completed field investigations in the Pond in July 2008. The Final Remedial Investigation Report was issued in March 2010. The

Feasibility Study was issued in January 2011. The Proposed Plan was released for public review and comment on Sept. 6, 2013 and a public meeting was held Sept. 26, 2013 in Bourne. The Proposed Plan is available for review at the Jonathan Bourne Public Library in Bourne and on the Corps website at [www.nae.usace.army.mil/Missions/ProjectsTopics/OsbornePond.aspx](http://www.nae.usace.army.mil/Missions/ProjectsTopics/OsbornePond.aspx). A public meeting was held May 13, 2015 in Bourne to discuss implementing the Proposed Plan. *The Site Specific Final Report (SSFR) was approved by EPA and Massachusetts DEP in June 2016. A public meeting and Safety Awareness Training (UXO education) was conducted on July 12, 2016 at JBCC.*

**Watertown Arsenal (5th CD)** – There have been 3 separate projects (Mall, Arsenal Park, GSA property) associated with this site. The Decision Document was signed in June 2012. The remedial action was awarded to Charter Environmental. Remedial action began in fall 2012 and includes building demolition, wetlands mitigation and soil remediation and capping. The remedial action was completed in 2014.

**Former Westover Air Force Base, Chicopee (1st CD)** – The Westover Bulk Petroleum, Oil and Lubricant (POL) Terminal and Salvage Yard site is currently being investigated with a Phase I/II Comprehensive Site Assessment. A final report was sent to MADEP in December 2007. Follow-up field efforts took place in fall 2008 to address data gaps and complete the remedial investigation effort. A Supplemental Remedial Investigation/ Feasibility Study was submitted to MassDEP in the summer of 2010, which presented the use of enhanced fluid recovery (EFR) to reduce the amount of LNAPL at the site. EFR field efforts were slated to commence in the winter of 2010; however, due to unfavorable site conditions, EFR events have been postponed indefinitely. In the interim, CENAE's contractor has been monitoring site conditions through quarterly groundwater gauging events. CENAE has conducted four consecutive quarterly groundwater gauging events in which no LNAPL has been observed in on-site monitoring wells. The A-E firm performing the investigations up to this point in time went out of business; subsequently a new firm (FS Engineering) was brought on board and they have developed Work Plans (under review by USACE) for conducting two additional rounds of GW sampling. The results will then be used to finalize the Risk Assessments, RAM Closure Report, RAO Statement, and AUL leading to project closure.

The contractor completed the fall GW event in September 2014. The USACE team worked with the contractor to develop the scope for additional characterization that is required for closure per the new MassDEP MCP requirements. In March 2015, the task order with FS Engineers was "Terminated for Convenience". This action was necessary due to the Government not exercising an option year extension (an administrative error which invalidated the FS Engineers' task order). The Government awarded the uncompleted work (and the additional characterization work necessary to be compliant with the MassDEP MCP) to a new contractor (TI2E) in September 2015. Additional field characterization work is planned for the summer of 2016.

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In the past number of years, dating back to the program's start in the mid-1980s, construction contracts have been completed at the following locations:

#### **First District**

Westover Light Annex #2, **Granby**  
Springfield Armory-Rail, **Springfield**  
Chapman Valve Exp, **Springfield**  
Westover AFB, **Chicopee**  
Westover AFB, **Ludlow**

#### **Second District**

**Hadley** Nike Site  
Westover Light Annex #3, **Amherst**  
New Salem Gap Filler Annex, **New Salem**  
Westover Remote Site, **Shutesbury**

#### **Fourth District**

**Needham** Nike Site  
Nike Site PR-19, **Rehoboth**  
**Swansea** Nike Site

#### **Fifth District**

**Lincoln** Nike Site  
Fort Strong, **Winthrop**

#### **Sixth District**

**Beverly** Nike Site  
Nike Site BO-84, **Burlington**  
**Danvers/Topsfield**, Nike Site  
Fort Ruckman, **Nahant**  
Nike Site BO-17, **Nahant**  
Ipswich Data Collection Lab Annex, **Ipswich**

Nike Site BO-03, **Reading/Wakefield**

#### **Eighth District**

**East Boston** Naval Fuel Annex  
**Charlestown** Navy Yard  
**Charlestown** Navy Yard, Tank Removal  
Fort Standish, **Boston**  
Fort Warren, **Boston**  
**South Boston** Naval Annex  
Hingham School Property, **Hingham**  
Fort Andrews, **Hull**  
**Hingham** Army Reserve Training Center  
**Hingham** Naval Ammunition Depot & Annex  
**Hingham** Nike Site  
**Hingham/Cohasset** Naval Ammunition Depot  
Nike Site BO-37, **Quincy**  
Nike Site BO-40, **Quincy**  
Fort Revere, **Hull**  
Point Allerton Military Reservation, **Hull**  
Point Allerton Surface Craft Detector Site, **Hull**  
Squantum Electronics Research Center, **Quincy**  
Strawberry Point Fire Control Station, **Scituate**

#### **Ninth District**

Camp Candoit, **Cotuit**  
**Martha's Vineyard** Airport  
**Martha's Vineyard** South Beach Moving Target Machine Gun  
Range and Cape Poge Little Neck  
**Camp Wellfleet**  
Misham Point Electronics Research Annex, **Dartmouth**  
Holly Hill Radar Station, **Marshfield**  
**Nantucket** NAVFAC, Tom Nevers Naval Base  
Camp Edwards, **Sandwich**  
Campbell School, **Bourne**

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## **Work for the U.S. Environmental Protection Agency (EPA)**

The New England District provides support to the U.S. Environmental Protection Agency (EPA) Region I (New England) Superfund program. This includes responsibility for site investigations, design work, construction execution, and some operation and maintenance at Federal lead sites. In addition, the District provides other technical assistance (5 year reviews, real estate support, etc.) at removal and national priority list sites being addressed by EPA Region 1.

### **Superfund Assistance**

**GENERAL ELECTRIC / HOUSATONIC RIVER, PITTSFIELD (1st CD)** – The General Electric (GE) facility encompasses an area of approximately 300 acres along the north bank of the Housatonic River in Pittsfield. Past operations by GE have caused significant contamination with PCBs and other compounds at this facility (soil, groundwater and buildings) and in the Housatonic River. In September 1998, EPA and GE reached an agreement in principle for the environmental and economic restoration of Pittsfield and southern Berkshire County. This agreement was approved by a Consent Decree entered in the U.S. Circuit Court on Oct. 27, 2000.

The New England District has performed over \$100 million in work at the site since that time. Our efforts have included

site investigations, the remediation of a 1.5 mile stretch of the river, risk assessments, modeling and oversight of GE activities. In September 2008, we awarded a professional services contract (\$25 million in capacity) to be used to support EPA as they work with GE to address the Housatonic River downstream from Pittsfield. Services currently being provided to EPA include the oversight of field activities being conducted by GE as well as the technical review of designs and reports prepared by GE.

**NEW BEDFORD (9th CD)** – The New England District has been supporting EPA at this site since the mid-1980s. Seven separate major dredging projects have been accomplished resulting in the removal of over 252,000 cubic yards of PCB-contaminated sediment. The process involves the hydraulic dredging of sediments, dewatering of the sediments followed by offsite disposal.

This is a long-term project with hundreds of thousands of cubic yards of contaminated sediments to be removed if the cleanup goals established by EPA's Record of Decision are to be achieved. EPA's funding constraints currently limit the project to a \$15 million annual effort. EPA continues to evaluate other approaches to more efficiently address the remaining contamination at the site and we continue to provide support to these efforts.

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## Support to the Military

### JOINT BASE CAPE COD (9th CD) – Support to the Impact Area Groundwater Study Program

In September 2000, the National Guard Bureau (NGB) announced its decision to use the Corps as supervisory contractor for the Impact Area Groundwater Study Program (IAGWSP). Investigations and remedial actions are being conducted in accordance with Administrative Orders issued by EPA under the Safe Drinking Water Act. The work is estimated to cost \$300-\$350 million, take 17 years and involves groundwater and soil investigations and remedial actions and the operation and maintenance of treatment facilities. Avoidance and/or removal of ordnance is incidental to all field work conducted at JBCC. The Army Environmental Command (AEC) was given responsibility for program management in 2002. Their program manager was on site at the Impact Area Groundwater Study Program (IAGWSP) office through August 2011 at which time the program was transitioned back to the National Guard Bureau.

The following significant actions have been completed.

\* A significant soil cleanup at the Southeast Ranges and Demolition Area 1 was completed in late 2004. Soil was treated on site in a mobile thermal treatment unit. Contaminated soil from other sites also was excavated and treated at this time. All soil was treated by January 2005 and the treatment unit was demobilized in April 2005.

\* Construction of a temporary treatment system to address the Demo-1 plume began early in 2004 and the Demo 1 interim pump and treat system went on line Sept. 8, 2004 and treated groundwater through June 2007. The permanent Demo 1 groundwater treatment facility came on line in late June 2007. This facility is expected to operate in excess of 10 years. A contingency system to contain plume migration at the base boundary went on line in June 2011. Construction of a leading edge Demolition Area 1 Offsite Treatment Facility began in November 2015 *and was completed in July 2016.*

\* In 2004, the IAGWSP connected three private residences in Bourne to town water. Hook-up was authorized as a result of low-level offsite contamination as a result of past military training at JBCC.

\* The construction of 2 groundwater treatment facilities in the Southeast Ranges of JBCC began in September 2005. The J3 facility was an upgrade/retrofit of an existing groundwater treatment facility in the J3 Range, has been operational since July 2006 and is expected to operate for approximately 10 years. The second facility was constructed at the J2 North Range. It too has been operational since July 2006.

\* Construction of a groundwater treatment facility at the J1S Range began in June 2007 and was completed in October 2007. An additional extraction well and piping off-site was installed in December 2012. The new extraction well came on line Dec. 17, 2012.

\* Construction of a groundwater treatment facility at the J2

East Range began in September 2007, was completed in September 2008 and is expected to operate for 11 years.

\* Construction of the J1 Range North Treatment began in June 2013 and was completed in December 2013.

\* Construction of the Central Impact Area Groundwater Treatment Facility began in September 2013 and was completed in January 2014.

\* Construction of a leading edge Central Impact Area Groundwater Treatment Facility began in November 2015 and *was completed in April 2016. Start-up of the system was delayed 2 months until June 2016 due to Eversource delay in providing power.*

*Construction of the Demolition Area 1 Off-Site Leading Edge Groundwater Treatment Plant began in December 2015 and was completed in June 2016. Start-up of the system was delayed 3 weeks until the end of June 2016 due to Eversource delay in providing power.*

The following OUs have Decision Documents in Place:

\* BA-4 Disposal Area and Demolition Area 1 Source Area 2009.

\* Demolition Area 2, Northwest Corner and Western Boundary 2010.

\* Former A Range and Gun and Mortar Positions 2010.

\* L Range 2010.

\* J1 Range 2011.

\* Central Impact Area 2012.

\* J2 Range 2013.

The following OUs have Demonstration of Compliance Reports in place:

\* Western Boundary 2016

The program partnered with the Air Force Research Laboratory (AFRL) to conduct a robotics technology demonstration. The objective of the demonstration was to develop efficient methods to address contamination in an Unexploded Ordnance (UXO) environment while minimizing the safety risk to workers and the cost while maximizing the amount of explosives removed from the environment.

The program partnered with the Environmental Security Technology Certification Program (ESTCP) to conduct a classification technology demonstration. The objective of the demonstration was to evaluate the ability of geophysical tools to discriminate between potential UXO items and frag. This demonstration led to the partnering with the Baltimore District and the Huntsville Center for continued geophysical classification at JBCC using the MetalMapper. USACE is self-performing geophysical investigations/classification in the Central Impact Area. Use of the MetalMapper technology has reduced the number of anomalies intrusively investigated (dug) by approximately 70%.

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Ongoing work consists of site investigations, report preparation and the remedy and optimization and operation and maintenance of the groundwater treatment facilities and source/UXO removal actions.

**FORT DEVENS, AYER (3rd CD)** – Work to replace boilers at multiple buildings at Fort Devens in Ayer, Mass., will be completed under the terms of a \$1,911,898 contract. Work involves replacing boilers, water heaters and associated piping, gauges, valves and accessories in 13 buildings located on Fort Devens.

**HANSCOM AIR FORCE BASE (6th CD)** – A \$31.6 million contract was awarded to construct a new Middle School at Hanscom Air Force Base in Bedford, Mass. A groundbreaking ceremony, signaling the start of construction, was held in June 2014. *A ribbon cutting ceremony, signaling*

*construction completion, was held on June 2, 2016.*

**U.S. ARMY SOLDIER SYSTEMS CENTER, NATICK (5th CD)** – Work to repair/retrofit lighting fixtures and install occupancy sensors in multiple buildings at the U.S. Army Soldier Systems Center in Natick will be completed under the terms of a \$708,756 contract. A \$1,788,869 contract for a new 5,000-square-foot, pre-engineered research and development storage facility (warehouse) was awarded on Sept. 26, 2015.

**WESTOVER AIR RESERVE BASE, CHICOPEE (1st CD)** – A \$24.4 million replacement Fuel Hydrant System is being constructed at Westover ARB and is scheduled to be completed in 2016. This project is to construct a pressurized hydrant fuel system with 14 hydrant outlets and two 795-kiloliter above ground fuel storage tanks.

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## Base Realignment and Closure (BRAC)

**FORT DEVENS, AYER (3rd CD)** – Fort Devens was selected for closure under the Department of Defense BRAC of 1990 (Public Law 101-50). The fort is located in the towns of Ayer and Shirley (Middlesex County) and Harvard and Lancaster (Worcester County), approximately 35 miles northwest of Boston.

In 1991, the District began implementing BRAC 91 related environmental restoration work at Fort Devens (the site is on EPA's National Priority List) for the Army BRAC Office. This work continues.

**SUDBURY TRAINING ANNEX (5th CD)** – The District

completed environmental cleanup of the site in September 2000 and EPA deleted the site from the NPL on Jan. 28, 2002.

The District conducts annual field sampling and inspections as part of the Army's long term responsibilities at this site. Sampling and analyses of the groundwater from the monitoring wells began in June 1997 and is presently completed annually in the fall.

The District also completes spring and fall inspections of the landfill cap to monitor its protectiveness. The Annual LTMM reports prepared by the District capture the annual results of all groundwater monitoring results and site inspections.

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## Interagency and International Support

**SUPPORT TO THE U.S. DEPARTMENT OF VETERANS AFFAIRS** – NAE has teamed up with a sister federal agency in an effort to improve the care Soldiers receive at military hospitals.

The U.S. Department of Veterans Affairs (VA) and the Corps entered into an interagency agreement in 2001 for the goods and services the Corps may provide to the VA when needed. These include project management, design services, construction management services, environmental services, preliminary technical investigations, surveying, and historical presentation compliance at VA facilities.

In 2008, the VA started exercising its agreement with the Corps in New England and NAE is now supporting the VA with services at several VA facilities in New England.

In Massachusetts, NAE completed a much needed exterior masonry rehabilitation to Building #2 at the Veterans Administration hospital, the Edith Nourse Rogers Memorial Veterans Hospital, in Bedford. The majority of the masonry work was completed at the end of December 2012. In 2013,

work continued to renovate Wards 78F and 78G for an inpatient psychiatric ward, and Ward 2C for a hospice ward at the campus. Renovation was complete in 2014.

NAE awarded a \$3.4 million contract to renovate and expand the Community Based Outpatient Clinic at the VA Medical Center in New Bedford on July 16, 2013. Construction started in late fall of 2013 and was completed in late October 2014. A ribbon cutting ceremony took place on Dec. 22, 2014.

Additionally, NAE has completed design and construction projects in Brockton, West Roxbury, Jamaica Plain and Northampton. In Brockton, a Supply, Processing, and Distribution project was completed in September 2013. In Jamaica Plain, a Cryogenics Bio-Repository Unit (BRU) and the building to house it were completed in 2013. This unit will house the Million Veterans Program that is taking place across the county to collect and store veterans' blood samples. In addition, an approximately 400 space parking garage was constructed to provide needed parking at the Jamaica Plain campus in 2013.

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## Regulatory Program

Department of the Army permits are required from the Corps under Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection, Research and Sanctuaries Act. The Corps reviews permit applications for work affecting navigable waters under its Section 10 authority and the discharge of fill material into all waters, including inland wetlands, under Section 404. A list of Monthly General and Individual Permit Authorizations is provided at [www.nae.usace.army.mil/Missions/Regulatory/PermitsIssued.aspx](http://www.nae.usace.army.mil/Missions/Regulatory/PermitsIssued.aspx). Relevant environmental documents are available upon written request. For information on Corps jurisdiction and whether a permit is required for your work contact the Regulatory Division at 978-318-8338 or 978-318-8335 or by email to [cenae-r@usace.army.mil](mailto:cenae-r@usace.army.mil) or visit the website at: [www.nae.usace.army.mil/Missions/Regulatory.aspx](http://www.nae.usace.army.mil/Missions/Regulatory.aspx).

**GENERAL PERMITS** – The District has comprehensive Regional General Permits (RGPs) in place for each of the six New England states that authorize work with no more than minimal adverse effect on the aquatic environment. Up to 98 percent of all permits issued in New England are RGPs. Work eligible under the RGPs is generally approved in less than 60 days. The Massachusetts RGP is available at: [www.nae.usace.army.mil/Missions/Regulatory/StateGeneralPermits/MassachusettsGeneralPermit.aspx](http://www.nae.usace.army.mil/Missions/Regulatory/StateGeneralPermits/MassachusettsGeneralPermit.aspx). The Corps issued the statewide Massachusetts General Permits on Feb. 4, 2015.

**ALGONQUIN INCREMENTAL MARKET (AIM) PROJECT (2nd, 4th & 5th CDs in Massachusetts; 1st, 2nd & 5th CDs in Connecticut; and 2nd CD in Rhode Island)** – The Algonquin Gas Transmission (AGT), LLC was given authorization to conduct work in waters of the U.S. in conjunction with expansion of its existing pipeline system from Mahwah, N.J. and Ramapo, N.Y., to deliver up to 342,000 dekatherms per day of natural gas transportation service to the Connecticut and Massachusetts on June 15, 2016. Work is ongoing along the AGT MLV-19 pipeline in Danbury, Conn. and along the existing I-4 pipeline in Westwood, Dedham and West Roxbury, Mass. Work along the Line 36A in Cromwell and Rocky Hill and the E-1 system in Lebanon, Franklin, Norwich and Montville, Conn. has been completed and site restoration is under way and in compliance with Corps authorizations. Additional information on the status of the various pipeline legs can be found at [www.ferc.gov](http://www.ferc.gov). Use “eLibrary” link, select “General Search” from the eLibrary menu, enter FERC “Docket No.” (CP14-96).

**TENNESSEE GAS PIPELINE (1st CD in Mass. & 1st CD in Conn.)** – Tennessee Gas Pipeline Company (TGPC) is seeking a Corps permit to conduct work in U.S. waters in conjunction with expanding existing interstate natural gas pipeline systems in Massachusetts and Connecticut. The purpose is expansion of TGPC’s existing pipeline system to increase natural gas delivery capacity and transportation service up to 72,100 dekatherms per day to the U.S. northeast region. Work is proposed in various wetlands and U.S. waters adjacent to the 200-line and 300-line pipelines in the towns of Sandisfield and Agawam, Mass., and Suffield and

East Granby, Conn. for the Connecticut Expansion Project.

In Massachusetts, the project includes 3.8 miles of new 36-inch pipeline looping in conjunction with the “Massachusetts Loop” and 8.3 miles of new 24-inch pipeline looping in Connecticut for the “Connecticut Loop” project segment. Minor work at an existing compressor station (number 261) in Agawam, Mass., and fill for a single permanent access road also is proposed. Work regulated by the Corps involves water body crossings and the placement of permanent or temporary fill in wetlands and streams along the proposed natural gas pipeline route for construction and temporary work areas. Other portions of the proposed project with impact to U.S. waters will be undertaken in the state of New York and this work is the subject of a concurrent permit application to the Corps’ New York District (NAN-2014-00869-UDA).

TGPC includes other facilities that are outside the purview of the Corps such as pipe storage yards, cathodic protection and access roads in upland. These facilities will not impact U.S. waters and therefore do not require a Corps permit.

The Federal Energy Regulatory Commission (FERC) is the lead Federal review agency for this project identified as Docket No. CP14-529-000. FERC is preparing a Draft Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). FERC issued a Draft Environmental Assessment for the project on Oct. 24, 2015 which described the potential environmental impacts of the project and evaluates alternatives and includes a review and required consultations under Section 7 of the Endangered Species Act and Section 106 of the National Historical Preservation Act, as well as other applicable Federal regulations.

Regulated work proposed by TGPC involves temporary impacts from the discharge of backfill and construction activities over approximately 54.58 acres of waters and wetlands as pipeline trench backfill and discharge of temporary fill or associated disturbance in wetlands and waters for construction in conjunction with the installation of 12.1 miles of new gas pipeline loop known as the “Connecticut Expansion Project.” Included in the project is the construction of 11.91 miles of new pipeline with associated rights-of-way (ROW). New ROW will be obtained and maintained for both of the project segments.

This work will result in direct temporary impact to 54.58 acres of wetlands and 205 linear feet of waters and temporary secondary impact to 25.43 acres of wetlands. The aquatic resources affected by this project are affiliated with, but not limited to the Clam River, Lower Spectacle Pond, Spectacle Pond Brook, Clay Brook, Muddy Brook, DeGraves Brook and Stony Brook. In all it is estimated that 27 water bodies (11 in Massachusetts and 16 in Connecticut) and 68 wetland areas (16 in Massachusetts and 52 in Connecticut) will be impacted.

The Corps is currently evaluating the impacts of the proposed work on aquatic resources. The public notice and

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other project related information can be viewed at: [www.nae.usace.army.mil/Missions/ProjectsTopics.aspx](http://www.nae.usace.army.mil/Missions/ProjectsTopics.aspx) and clicking on Connecticut Projects, Tennessee Gas Pipeline Project. For more information on this permit application (file #NAE-2013-02329) contact the U.S. Army Corps of Engineers, New England District, Regulatory Division (ATTN: Cori Rose), 696 Virginia Road, Concord, MA 01742-2751.

**THIRD PARTY MITIGATION** – In April 2008, the Corps and EPA issued regulations (33 CFR Part 332 Compensatory Mitigation for Losses of Aquatic Resources; Final Rule) on mitigation which became effective in June 2008. These regulations established a “soft” preferential order for mitigation types with mitigation banking and in-lieu fee (ILF) programs preferred over permittee-responsible mitigation. This is the reverse of previous guidance, now obsolete. These new regulations have provided impetus to potential sponsors of banks and ILF programs.

On Sept. 26, 2012, the Massachusetts Department of Fish and Game (DFG) submitted a prospectus for an In Lieu Fee (ILF) program to provide an alternative form of compensatory mitigation for permit applicants throughout the Commonwealth of Massachusetts. Applicants would pay a fee for impacts which would be used by the ILF sponsor

to develop ecologically suitable and appropriate mitigation sites in the same watershed as the impacts. A public notice on the prospectus for the expanded program was issued on Oct. 2, 2012. The final ILF instrument was signed by DFG and the Corps on May 23, 2014. The program is now available for use by applicants for Corps permits and authorizations.

A small pre-Mitigation Rule program where permittees qualifying for a general permit with impacts in Essential Fish Habitat could choose to make a payment to a fund overseen by the Division of Marine Fisheries (DMF), a division within the DFG, expired June 9, 2013. No additional payments can be accepted by DMF. The Steering Committee approved four projects for funding. Three of the projects were started in 2013. A fourth, a dam removal, is expected to start in 2016. The Steering Committee monitors the progress of all the projects.

*The first project under the current ILF program was proposed in June 2016 by DFG, the program sponsor, for review by the Interagency Review Team prior to issuing a public notice. To date, most of the payments into the program have been from permitted coastal projects so a coastal mitigation project has been offered.*

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## Operating Flood Risk Management Projects & Recreation/Natural Resource Management

The District provides flood risk management project benefits and, in cooperation with state agencies, provides diverse quality outdoor recreational opportunity at the 11 flood risk management reservoirs it has constructed in the Bay State, the Cape Cod Canal, and the Charles River Natural Valley Storage Area. Information on each is provided below. For information on Corps recreation in New England visit [www.nae.usace.army.mil/](http://www.nae.usace.army.mil/) and select “recreation.”

**BARRE FALLS DAM (2nd CD)**, on the Ware River in Barre, was completed in 1958 at a cost of \$2 million. The 885-foot-long and 62-foot-high dam can impound a lake, which can store 7.8 billion gallons of water. Barre Falls has prevented \$53.2 million in flood damages. Over 70,000 annual visitors enjoy picnicking, hiking, fishing and hunting at Barre Falls Dam. Activities available include canoeing, picnicking, volleyball, 18-hole disc golf course, fishing, geocaching, hiking, bike riding, wildlife observation, scenic viewing and cross country skiing in season from sunrise to sunset. Hunting during season is permitted. For scheduling events call (978) 928-4712; to arrange a group tour contact Park Ranger Brianna Green, Barre Falls Dam, Hubbardston, Mass.; (phone: 978-318-8263); [brianna.j.green@usace.army.mil](mailto:brianna.j.green@usace.army.mil); or visit [www.nae.usace.army.mil/Missions/Recreation/BarreFallsDam.aspx](http://www.nae.usace.army.mil/Missions/Recreation/BarreFallsDam.aspx).

**BIRCH HILL DAM (2nd CD)** is situated on the Millers River in Royalston. Completed in 1942 at a cost of \$4.8 million, the 1,400-foot-long, 56-foot-high dam can store 16.2 billion gallons of water. To date, damages amounting to more

than \$80.3 million have been prevented. Birch Hill Dam is popular for walking, biking, fishing, paddling and picnicking. Most of the 4,400-acre property is leased to the state for recreation, and fish and wildlife purposes. A baseball field located in Baldwinville is operated by Narragansett Area Youth Baseball. About 25 miles of snowmobile trails are maintained by the Coldbrook Snowmobile Club.

The Lake Dennison Recreational Area, managed by the Massachusetts Department of Conservation and Recreation, provides camping, swimming, picnicking, boating and fishing. The Lake Dennison Campground *opened* in the spring. The Massachusetts Division of Fisheries and Wildlife manages much of the remaining reservoir as part of the Birch Hill Wildlife Management Area. Popular activities include hiking, hunting, fishing, mountain biking and snowmobiling and cross country skiing in season. There is a fish consumption advisory on the Millers and Otter Rivers due to polychlorinated biphenyls (PCBs) from past paper mill pollution. The Birch Hill Dam and reservoir area attract more than 185,000 visitors annually. For details call 978-249-4467 or visit [www.nae.usace.army.mil/Missions/Recreation/BirchHillDam.aspx](http://www.nae.usace.army.mil/Missions/Recreation/BirchHillDam.aspx).

**BUFFUMVILLE LAKE (1st CD)** on the Little River in Charlton was completed in 1958 at a cost of \$3 million. The 12,700 acre-feet of storage at Buffumville is equal to 3.9 billion gallons of water and is impounded by a 3,255-foot-long, 66-foot-high earthen dam. Buffumville Dam has prevented more than \$133.7 million in cumulative damages,

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through *June* 2016. Picnicking, swimming, boating, fishing, hunting, a 27-hole disc golf course, volleyball, horseshoes, two rental shelters and sight-seeing are just some of the activities visitors can enjoy at Buffumville Lake. Portions of Buffumville Park are handicap accessible.

The team at Buffumville Lake has concentrated on repairing, replacing and revitalizing aging infrastructure with as much in-house labor as possible and writing and executing contracts. Projects completed this spring were: *an overhaul of the aging entrance station at Buffumville Park and electrical service and phone upgrades coming into the park.* The project publicized the updated changes to our recreation use fees. Current projects include *revitalization of the mini-9 disc golf course at Buffumville Dam site.* Upcoming contracts consist of *a targeted aquatic herbicide treatment at Buffumville Lake following two successful winters of pool drawdowns that eliminated much of the nuisance weeds.* Volunteer and interpretive events can be found at: [www.nae.usace.army.mil/Missions/Recreation/BuffumvilleLake.aspx](http://www.nae.usace.army.mil/Missions/Recreation/BuffumvilleLake.aspx) or call (508) 248-5697. *On Sept. 24<sup>th</sup> we will host our 25<sup>th</sup> annual National Public Lands Day. Come join us on the largest single-day volunteer effort to care for public lands in the United States.*

**CAPE COD CANAL (9th CD)** – The Cape Cod Canal, one of the widest sea-level canals in the world, extends 17.4 miles across the narrow neck that joins Cape Cod to the mainland. The Corps operates and maintains the Canal from a field office in Buzzards Bay, about 50 miles south of Boston. The canal, with a 32-foot-deep by 700-foot-wide approach channel, saves commercial and recreational vessels 65-150 miles from the route around Cape Cod and the Nantucket shoals, where shoals and treacherous currents have made navigation hazardous for centuries. The toll-free waterway, with two mooring basins, is open for passage to all vessels that are properly equipped and seaworthy. Private interests sold the Canal to the U.S. government in 1921 for \$11.5 million (title obtained in 1928). Responsibility for operating and maintaining the Canal was assigned to the Corps, which has maintained and improved it since then. In 1933, three bridges were authorized and constructed over the Canal – the Sagamore and Bourne highway bridges and the Railroad Bridge at Buzzards Bay. The Corps operates and maintains all three bridges. More than three million visitors annually enjoy the Canal and its adjacent lands for diverse outdoor activities, including interpretive programs run by Corps rangers, and the Canal Visitor Center. Service roads are popular for biking, hiking, roller blading and walking. The Marine Traffic Control Center monitors and controls vessels transiting the canal and monitors vessels in Buzzards Bay in accordance with a memorandum of agreement with the Coast Guard. For details call 978-318-8816 or the Visitor Center at 508-833-9678 or visit [www.nae.usace.army.mil/Missions/Recreation/CapeCodCanal.aspx](http://www.nae.usace.army.mil/Missions/Recreation/CapeCodCanal.aspx).

**CHARLES RIVER NATURAL VALLEY STORAGE AREA (CRNVS) (2nd, 4th, 5th & 8th CDs)** was authorized by Congress in March 1974. Federal funds of \$8.3 million were used to purchase 3,210 acres of fee land and 4,891 acres of restrictive easement. The CRNVS is located in 16 towns (Bellingham, Dedham, Dover, Franklin, Holliston, Medfield, Medway, Millis, Natick, Needham, Newton, Norfolk,

Sherborn, Walpole, West Roxbury and Wrentham) and lies within three counties. The CRNVS area acts as a flood control project by using the natural flood attenuation characteristics of the over 8,000 acres of wetlands purchased. The project attracts over 60,000 visitors a year. Visitors can bike, boat, fish, hike, hunt, view wildlife and partake in other passive recreational uses. The field office for the CRNVS Area is located at the West Hill Dam Project Office in Uxbridge. Staff patrol, investigate and resolve real estate inquiries, boundary inquiries, and requests for leases, licenses and easements. Staff provide the town and other agencies with assistance in the CRNVS area. For details call (508) 278-2511 or visit [www.nae.usace.army.mil/Missions/CivilWorks/FloodRiskManagement/Massachusetts/CharlesRiverNVS.aspx](http://www.nae.usace.army.mil/Missions/CivilWorks/FloodRiskManagement/Massachusetts/CharlesRiverNVS.aspx).

**CONANT BROOK DAM (1st CD)**, on the brook of the same name in Monson, can store 1.2 billion gallons of water behind the 1,050-foot-long, 85-foot-high impoundment. Completed in 1966 at a cost of \$3 million, the project annually attracts about 20,000 visitors to its scenic trails for hiking, horseback riding, cross-country skiing and for its fine trout fishing. Since placed in operation, Conant Brook has prevented damages of more than \$3.3 million. For details visit [www.nae.usace.army.mil/Missions/Recreation/ConantBrookDam.aspx](http://www.nae.usace.army.mil/Missions/Recreation/ConantBrookDam.aspx) or call (508) 347-3705.

**EAST BRIMFIELD LAKE (1st CD)** on the Quinebaug River in Sturbridge was constructed at a cost of \$7.1 million. The 520-foot-long, 55-foot-high dam can impound a 29,900-acre-foot reservoir, which is equivalent to 9.7 billion gallons of water. Since placed in operation in 1960, it has prevented damages of \$132.2 million. The reservoir area offers fine recreational opportunities, including swimming, picnicking, fishing, hunting, canoeing, boating, and nature study, and attracts more than 124,000 visitors annually. *The Aulson Company has completed deleading the bridge and entry doors to the East Brimfield Dam Gatehouse and has applied new primer and coatings to the same.* For details visit [www.nae.usace.army.mil/Missions/Recreation/EastBrimfieldLake.aspx](http://www.nae.usace.army.mil/Missions/Recreation/EastBrimfieldLake.aspx) or call 508-347-3705.

**HODGES VILLAGE DAM (2nd CD)**, across the French River in Oxford, was constructed at a cost of \$4.5 million. The 2,140-foot-long, 55-foot-high dam can impound a 13,200-acre-foot reservoir, which is equivalent to 4.2 billion gallons of water. Since placed in operation in 1959, it has prevented more than \$162.7 million in cumulative damages, through *June* 2016. The reservoir area offers fine recreational opportunities, including picnicking, fishing, hunting, mountain bike and horseback riding and nature study to its visitors. There is a 9-hole disc golf course.

The team has concentrated on repairing, replacing and revitalizing aging infrastructure with as much in-house labor as possible and writing and executing contracts. Projects completed this spring were: *added insulation to the utility building and conference center, the last of the buildings to receive this energy improvement.* Current projects include *finishing the Hodges Village Disc Golf Course map and tee signs, trail widening, and chain-link fence replacement on the gate tower bridge port.* Upcoming contracts consist of *tile gauge replacement on the side of Hodges Village Dam.*

Volunteer and interpretive events are listed on the website at: [www.nae.usace.army.mil/Missions/Recreation/HodgesVillageDam.aspx](http://www.nae.usace.army.mil/Missions/Recreation/HodgesVillageDam.aspx) or call (508) 248-5697. On Sept. 24<sup>th</sup> we will host our 25<sup>th</sup> annual National Public Lands Day, held at both Buffumville Lake and Hodges Village Dam. In conjunction with the Last Green Valley, we will again host the French River Paddle on Oct. 1 and a Full Moon Walk on Oct. 15.

**KNIGHTVILLE DAM (1st CD)**, on the Westfield River in Huntington, was constructed at a cost of \$3.3 million. The 1,200-foot-long, 150-foot-high dam can impound a 49,000-acre-foot reservoir (equivalent to 15.8 billion gallons of water). Since its construction in 1941, it has prevented damages of \$338 million. More than 41,000 visitors enjoy the variety of recreational pursuits available at Knightville, including picnicking, hiking, fishing, hunting, horseback riding and cross country skiing and snowmobiling in season.

The Indian Hollow Group Campground *opened* in the spring. The campground includes two group site loops (15 sites, each loop), a waterborne comfort station with hot showers, drinking water, hiking trails and a riverside environment. The North loop may be reserved for a fee of \$90 per night and the South loop for a fee of \$85 per night. Both loops may be reserved for a fee of \$175 per night. Reservations are on a first-come, first-serve basis and one or both loops may be reserved. Reservations may be made through the National Recreation Reservation Service at [www.recreation.gov](http://www.recreation.gov) or by calling 1-877-444-6777. For up-to-date information call (413) 667-3430 or visit the website at [www.nae.usace.army.mil/Missions/Recreation/KnightvilleDam.aspx](http://www.nae.usace.army.mil/Missions/Recreation/KnightvilleDam.aspx).

**LITTLEVILLE LAKE (1st CD)**, on the Middle Branch of the Westfield River in Huntington and Chester, is 1,360 feet long, 164 feet high and cost \$6.8 million to construct. The reservoir can hold a 23,000-acre-foot pool or 7.5 billion-gallons. It has prevented damages totaling \$152.8 million since placed in operation in 1965. The reservoir area offers many fine recreational opportunities including picnicking, fishing, hunting, canoeing, boating, nature study and cross country skiing and snowmobiling (on marked trails) in season, and attracts more than 39,000 visitors annually.

Special interpretive programs are offered and include such topics as water safety, the water cycle, the history of the Corps and flood damage reduction. Rangers also can prepare a program that deals with the Corps and its missions, water resources or natural resources and tailor it to your needs. These programs can be given at the dam, or we can come to your group or school. Contact the park ranger for more information on any of these programs or to schedule a program. For details call (413) 667-3656 or visit [www.nae.usace.army.mil/Missions/Recreation/LittlevilleLake.aspx](http://www.nae.usace.army.mil/Missions/Recreation/LittlevilleLake.aspx).

**THE NEW BEDFORD-FAIRHAVEN-ACUSHNET HURRICANE PROTECTION PROJECT (9th CD)** was completed in 1966 at a cost of \$18.6 million and provides a gated barrier across New Bedford-Fairhaven Harbor and supplementary dikes in the Clarks Cove area of New Bedford and Fairhaven. The twin sector gates can seal the 150-foot-wide navigation opening in 12 minutes and were operated on 23 occasions in calendar year 2013. This barrier affords tidal-flood protection to an area of about 1,400 acres. The Project has prevented approximately \$25 million in flood damages through the end of FY 2013.

**TULLY LAKE (2nd CD)**, situated on the East Branch of the Tully River in Royalston, is 1,570 feet long and 62 feet high. Completed in 1949 at a cost of \$1.7 million, the dam has a reservoir storage capacity of 7.1 billion gallons of water. Tully Lake has prevented damages of \$29.1 million. Over 100,000 visitors annually enjoy picnicking, hiking, boating, mountain biking, disc golfing, fishing, hunting and cross country skiing in season at Tully Lake. For details call (978) 249-9150 or visit [www.nae.usace.army.mil/Missions/Recreation/TullyLake.aspx](http://www.nae.usace.army.mil/Missions/Recreation/TullyLake.aspx). The Tully Campground, operated under a lease by the Trustees of Reservations, *opened* in the spring. The campground offers restrooms with showers, drinking water, primitive walk-in or boat-in campsites and hiking trails. For details, call the Trustees of Reservations at (978) 249-4957 or (978) 840-4446 or visit [www.tullylakecampground.org](http://www.tullylakecampground.org).

**WEST HILL DAM (2nd CD)**, on the West River in Uxbridge, was completed in 1961 at a cost of \$2.3 million. The 2,400-foot-long, 51-foot-high dam can impound a 12,400-acre-foot lake capable of storing four billion gallons of water. It has prevented damages of more than \$96.6 million. More than 90,000 annual visitors enjoy picnicking, swimming, hiking, fishing and hunting at the 1,401-acre facility. For more information, current events, upcoming programs, or shelter reservations, call (508) 278-2511 or visit the website at [www.nae.usace.army.mil/Missions/Recreation/WestHillDam.aspx](http://www.nae.usace.army.mil/Missions/Recreation/WestHillDam.aspx).

**WESTVILLE LAKE (1st CD)** dam in Southbridge and Sturbridge is 560 feet long and 78 feet high and cost \$5.7 million to construct. Its lake can store an 11,100 acre-foot reservoir, which amounts to 3.6 billion gallons of water. It has prevented damages totaling \$53.7 million since placed in operation in 1962. The reservoir area offers fine recreational opportunities, including picnicking, fishing, hunting, canoeing, boating, and nature study and annually attracts more than 55,000 visitors. Call (508) 347-3705 or visit [www.nae.usace.army.mil/Missions/Recreation/WestvilleLake.aspx](http://www.nae.usace.army.mil/Missions/Recreation/WestvilleLake.aspx).

