



US Army Corps  
of Engineers  
New England District

# Update Report for Connecticut



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BUILDING STRONG®

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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, streambank 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, with 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, it processes nearly 2,500 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. Other Corps of Engineers employees serve at Corps projects and offices throughout the region. For information on the New England District check the website at: [www.nae.usace.army.mil/](http://www.nae.usace.army.mil/); on Facebook: [facebook.com/CorpsNewEngland](https://www.facebook.com/CorpsNewEngland); 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

**BRIDGEPORT HARBOR DREDGE MATERIAL MANAGEMENT PLAN (4th CD)** – The city of Bridgeport has requested maintenance dredging of Bridgeport Harbor. In response to this request, the New England District performed a Preliminary Assessment for Bridgeport Harbor, which concluded that continued maintenance of Bridgeport Harbor is likely justified, but that a detailed Dredge Material Management Plan (DMMP) for Bridgeport Harbor should be developed. A Draft DMMP and Draft Environmental Assessment have been prepared and are available on the Corps website. A public notice announcing the availability of the Environmental Assessment and DMMP was released on Feb. 24, 2010. The state and city of Bridgeport have requested that dredging of the Black Rock Harbor Federal navigation project (in Bridgeport, Conn.) be included in the Bridgeport DMMP. Investigations are being conducted and the DMMP and EA will be revised to include Black Rock Harbor. The revised draft DMMP and EA will then be sent out to Public Notice, coordinated with resource agencies, and then submitted to NAD for approval.

**HOUSATONIC RIVER, STRATFORD AND MILFORD (3rd CD)** – The state of Connecticut is the sponsor for the maintenance dredging of about 270,000 cubic yards of sand from the 18-foot channel of the lower portion of the Housatonic River, and the placement of the sand directly onto Hammonasset Beach State Park in Madison, in order to renourish the beach which has been eroding. Dredging may be done by mechanical

means or by hopper dredge. Environmental approvals have been obtained. The contract was advertised for bids Dec. 19. Bids for the work were opened Feb. 22, 2017. The contract was awarded on March 23, 2017 for \$9.3 million to Cashman Dredging and Marine Contracting Company, LLC of Quincy, Mass. *Dredging and beach placement began in October 2017 and was completed the first week of December 2017. The project was successfully completed ahead of schedule and under budget.*

**NEW HAVEN HARBOR, NEW HAVEN AND WEST HAVEN (3rd CD)** – The existing Federal navigation project at New Haven Harbor consists of a 35-foot deep mean lower low water channel approximately 5 miles in length that extends from deep water in Long Island Sound to the terminals at the north end of the inner harbor. The Federal navigation project also includes a turning basin, anchorage areas and other smaller navigation features.

New Haven handles about 10 million tons of commerce a year, including 7.1 million tons of domestic commerce and 2.9 million tons of foreign cargo, making it the 52nd largest port in the United States in terms of total tonnage in 2015. The principal commodity is petroleum and petroleum products (about 8.2 million tons), followed by crude material, chemicals and related products, and manufactured and other goods at about 0.9, 0.5 and 0.4 million tons, respectively.

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A project to deepen the port to 40 feet was authorized in WRDA 1986 but was never funded for construction and the authority expired in 2002. Resolutions of the U.S. Senate in 2007 called for a new study to examine navigation improvements at New Haven Harbor. The USACE and the New Haven Port Authority signed a feasibility study cost sharing agreement in December 2015 to conduct the requested study.

The study will consider navigation improvements including deepening and widening the federal navigation project. Inadequate channel depths result in navigation inefficiencies in transporting goods into and out of the harbor. To reach the terminals, large ships must lighter outside the breakwaters, or be light-loaded at their port of origin, and/or experience delays while waiting for favorable tide conditions, or some combination of all three. Deeper and wider navigation features (main channel and turning basin) are needed to increase the navigation efficiency and safety of New Haven Harbor.

The feasibility study is evaluating and will recommend to decision-makers an appropriate, coordinated and workable solution to the navigation inefficiencies at New Haven Harbor. The study is examining deepening the existing main ship channel from Long Island Sound to the north end of harbor, together with deepening the maneuvering and turning areas. The study is also considering some widening of the main channel, the bend at the breakwaters, and the turning basin to accommodate the larger ships using the port. Alternatives under consideration range from a -37-foot to a -42-foot MLLW deepening project. Initial quality calculations for the 40-foot alternative indicates that about 4.3 million cubic yards of material would be excavated with about 33,000 cubic yards of rock.

In addition, the study will evaluate various dredged material disposal alternatives including beneficial use (e.g., *oyster habitat* and marsh creation, beach nourishment, historic disposal mound capping, and beach nourishment) and open water placement.

The New England District and the New Haven Port Authority held a public information meeting for the New Haven Harbor Navigation Improvement Feasibility Study and Environmental Impact Statement (EIS) in January 2017 in New Haven, Conn. The next public information meeting is *scheduled for Jan. 10, 2018 in New Haven to present a status update on the study.* The Draft Integrated Feasibility Report and Environmental Impact Statement (IFR/EIS) are scheduled to be completed in April 2018 and will be available for public review and comment. Significant

issues to be discussed in the Draft EIS include the effects of dredging, disposal *and beneficial use of dredged material* on the physical, biological, cultural, and socioeconomic environment of the project area. More information on the New Haven Harbor Improvement study is available on the Corps website at: <http://www.nae.usace.army.mil/Missions/Projects-Topics/New-Haven-Harbor/>.

**NORTH COVE, CONNECTICUT RIVER BELOW HARTFORD, OLD SAYROOK (2nd CD)** – The state of Connecticut is the sponsor for the maintenance dredging of about 286,000 cubic yards of silty material from the 11-foot entrance channel, 11-foot anchorage, and 6-foot anchorage. Dredging will be completed using a mechanical dredge. Environmental approvals/permitting were obtained in June 2017. The contract was advertised for bid on July 21, 2017. Bids for the work were opened Aug. 24, 2017. The contract was awarded on Sept. 20, 2017 for \$4,283,562.50 to DonJon Marine Company, Inc., of Hillside, N.J. The work window is Oct. 1, 2017 to Jan. 31, 2018, for the 11-foot channel and anchorage, while the 6-foot anchorage can be dredged from Oct. 1, 2017 to March 31, 2018. *The dredging work started on Nov. 14, 2017 and is scheduled to be completed by the end of January 2018.*

**TREATMENT OF DREDGED MATERIAL FROM LONG ISLAND SOUND DEMONSTRATION, BRIDGEPORT (2nd, 3rd, & 4th CDs)** – The Corps has been working with the Bridgeport Port Authority, CT DEEP and CT DOT on an Innovative Technologies for Dredged Material Demonstration Project under the provisions of Section 345 of the Water Resources Development Act of 2000 (WRDA 2000). This authority requires that material treated under this authority be considered for beneficial reuse. Dredged material that was treated using a soil washing technology is being used in a blending operation that hopefully will result in a material that can be used in an unrestricted manner to meet landscaping needs. The demonstration effort was initiated with sampling performed on treated material. Sampling results were provided to project sponsors and the processors cooperating in the project. Treated material was provided to processors for additional treatment and blending. Post processing testing was completed and samples analyzed. Results of additional treatment were disappointing since blended material did not meet unrestricted use. After additional blending was conducted the material was again analyzed. Blended material has been moved to Silver Sands State Park and seeded to determine the viability to grow vegetation. A report documenting the demonstration project and results is being prepared.

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## Shoreline/Streambank Protection

**MIDDLETOWN, CT (2nd CD)** – A Section 14 streambank protection project along the Connecticut River has been requested by the city of Middletown. The stabilization is needed to prevent riverine erosion from threatening a city-owned water supply well field. Design efforts are complete. A \$1,282,550 contract was awarded on June 19, 2014. Work consisted of stabilizing approximately 1,300 feet of riverbank

along the right bank of the Connecticut River adjacent to the John S. Roth Municipal Well Field. Construction was conducted during the seasonal low flow period in the wet. An operational and maintenance manual will be completed. The completed project will be turned over to the city of Middletown.

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## Beach Erosion and Hurricane and Storm Damage Reduction

**BROADWAY AND BAYVIEW BEACHES, MILFORD (3rd CD)** – An initial appraisal of storm damage reduction along these two shoreline areas in Milford has been initiated. Funding for the analyses was provided through the Disaster Relief Appropriations Act of 2013. The initial appraisal for Bayview Beach was completed in 2014 and approved by North Atlantic Division (NAD) in January 2015. We are awaiting a determination from NAD on Broadway Beach.

**COSEY BEACH, EAST HAVEN (3rd CD)** – An initial appraisal of storm damage reduction along the Cosey Beach area has been initiated. Funding for the analysis was provided through the Disaster Relief Appropriations Act of 2013. The initial appraisal for Cosey Beach was completed in 2014 and approved by North Atlantic Division in January 2015.

**ENDERS ISLAND, MYSTIC (2nd CD)** – St. Edmund's Retreat, Inc., a non-profit organization operating on Enders Island, requested the Corps of Engineers assistance in protecting property and resources on the island from storm damage and erosion in 2008. Enders Island is a 12-acre island located in Fishers Island Sound. The island is connected to Mystic, Conn., via a causeway and is protected by a seawall constructed in the early 1900s. The seawall is in poor condition and no longer provides protection against

waves and erosion during large storms. The Corps received funds in 2010 to initiate a feasibility study to determine the Federal interest in assisting the Retreat with protection alternative analysis and construction. The seawall was further damaged during Hurricane Sandy. We are assessing the damage and adjusting the preliminary alternative plans. We expect to execute a cost-sharing agreement. A public notice on the proposed shoreline erosion protection project was issued on July 6, 2017 with a public comment period ending Aug. 6, 2017. The public notice, draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI), with more detailed information, are available for review on the Corps website at <http://www.nae.usace.army.mil/Missions/Civil-Works/Shore-Bank-Protection/Connecticut/Enders-Island/>. The public notice also is available for review at <http://www.nae.usace.army.mil/Missions/Public-Notices/>.

**FAIRFIELD BEACH, FAIRFIELD (4th CD)** – An initial appraisal of storm damage reduction along the Fairfield Beach area has been initiated. Funding for the analysis was provided through the Disaster Relief Appropriations Act of 2013. The initial appraisal for Fairfield Beach was completed in 2014 and approved by North Atlantic Division in January 2015. We are currently working on signing a Feasibility Cost Sharing Agreement (FCSA).

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## Ecological Restoration/Watershed Projects

**CONNECTICUT RIVER ECOSYSTEM RESTORATION STUDY (1st & 2nd CDs)** – 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. A draft report is currently undergoing peer review. It is anticipated that the draft report will be available for public review *in early 2018*.

**MILL RIVER RESTORATION, STAMFORD (4th CD)** – The city of Stamford and the Corps partnered to restore aquatic resources on the lower two miles of the Mill River (Rippowam River) under the Corps Aquatic Ecosystem Restoration Program (Section 206 of the Water Resources Development Act of 1996). Degradation of this urban river resulted from two dams, channel modifications, and excess sedimentation related to urban stormwater runoff. Construction was completed in October 2011. The project removed Main Street Dam and more than 1,000 feet of concrete retaining walls, restored ¼-mile of the river channel and floodplain impacted by the dam, restored the riparian corridor along portions of the lower two miles of river, removed a concrete impoundment structure under Pulaski Street Bridge to restore the river channel, and restored approximately one acre of tidal salt marsh habitat. In addition to restoring river and salt marsh habitats, this project opened the lower Rippowam River to anadromous fish passage. The Corps will monitor the project to ensure restoration success.

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## Special Studies

**LONG ISLAND SOUND NATIONAL ESTUARY PROGRAM** – The District is actively participating in the Long Island Sound National Estuary Program by attending meetings and providing water resource planning support

and expertise. A paper titled “Remediation Techniques for Contaminated Sediment in Long Island Sound” has been provided to the Long Island Sound National Estuary Program for its use in decision-making.

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## Interagency and International Support

**SUPPORT TO THE U.S. DEPARTMENT OF VETERANS AFFAIRS** – The New England District has teamed up with a sister federal agency in an effort to improve the care Soldiers are receiving at military hospitals.

The U.S. Department of Veterans Affairs (VA) and the Corps of Engineers 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 Connecticut, NAE has VA rehabilitation projects underway. The Inpatient Unit on the 6<sup>th</sup> floor of the West Haven Medical Center has been completed. In addition, the Phase I of the Mental Health Corrections on the 8<sup>th</sup> floor was completed in September 2013. The modified Phase II of the 8<sup>th</sup> floor was completed in October 2015.

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## Conservation and Environment

**DEFENSE ENVIRONMENTAL RESTORATION PROGRAM (DERP)** – This congressionally directed program (PL 98-212) provides for environmental restoration. It emphasizes the identification, investigation and cleanup of hazardous and toxic waste; unexploded ordnance; and unsafe buildings, structures and debris at current and former military facilities.

Fifty-five formerly used defense site (FUDS) *properties* have been identified in Connecticut. *Thirty-three (33) eligible projects were identified at the FUDS properties; 32 of the 33 eligible projects are complete. The remaining project, Bombing Area, Barn Island MMP, will be completed when priorities and funding allow.* There currently are no active FUDS projects in Connecticut.

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

### First District

Cromwell Nike Site, Tank Removal

East Windsor Nike Site, Tank and Transformer Removal

Manchester Nike Missile Site

Bradley International Airport, Tank Removal

### Second District

Groton Pine Island, Pit Closure

### Third District

New Haven Army Airfield, Transformer Removal

Ansonia Nike Site, Tank/Transformer Removal, Silo Closure

### Fourth District

Fairfield Nike Site, Tank Removal and Silo Closure

Westport Nike Site, Tank Removal and Silo Closure

### Fifth District

Waterbury Naval Reserve Rehab Center, Tank Removal

Farmington Nike Site, Tank Removal and Silo Closure

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## Base Realignment and Closure

**STRATFORD ARMY ENGINE PLANT (3rd CD)** – *Stratford Army Engine Plant was selected for closure under the Department of Defense Base Realignment and Closure (BRAC) of 1995 (Public Law 101-510).*

*The facility is located in the town of Stratford. On behalf of the Army BRAC Office, USACE has implemented a focused feasibility study to develop alternatives for the remediation*

*of the contaminated tidal flats and Outfall 0008 adjacent to the Site. The volume of sediment requiring remediation is approximately 300,000 cubic yards. To expedite the schedule, the design of the dredge prisms will begin in January 2018.*

*The Final Decision Document is scheduled for completion in December 2018. Construction is scheduled to begin in 2020.*

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## Support to the U.S. Environmental Protection Agency (EPA)

**SUPERFUND ASSISTANCE** – The New England District provides support to the U.S. Environmental Protection Agency (EPA) Region I's (New England) Superfund program. This includes responsibility for site investigations, design work, construction execution, and some operation and maintenance at Federal lead sites when our support

is requested.

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 I.

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**DURHAM MEADOWS SUPERFUND SITE, DURHAM, CT (2nd CD)** – The Durham Meadows Superfund Site is located in the town of Durham, Middlesex County, Conn. The Site is centered around the currently operating Durham Manufacturing Company (DMC) and the former locations of Merriam Manufacturing Company (MMC), which was destroyed by fire in 1998. Both companies manufactured metal cabinets, boxes and other items. During their respective operating histories, both companies used various solvents, including trichloroethene (TCE), 1,1,1-trichloroethane, and methylene chloride. The companies' past disposal of wastewater in lagoons or sludge drying beds, spills at both facilities, and inadequate drum storage practices at MMC contributed to the contamination at each facility and in the overall area of groundwater surrounding both facilities. Although soil cleanup has been completed, contaminants that continue to be detected in residential drinking water wells include TCE, 1,4 dioxane; dichloroethene; vinyl chloride; tetrachloroethene; trichloroethane; and dichloroethane. In 2005, EPA signed a Record of Decision declaring the drinking water contamination in Durham an unacceptable threat to human health that requires a cleanup response. A key component of the cleanup plan is to provide a new water supply for the contaminated area of Durham, which will be accomplished by extending the municipal water from the neighboring city of Middletown. The Corps of Engineers

New England District (CENAE) assisted the EPA with water distribution system design reviews and public hearings. Once the final design is approved by the city of Middletown, CENAE will be responsible for system construction award, supervision and administration on behalf of the EPA. CENAE is also currently negotiating a contract award to Koman Government Solutions, an Alaskan Native Small Business, for install and monitoring of groundwater wells to assess impacts of the new water distribution system operation. Construction of the water distribution system and install of the monitoring wells is expected to start in CY18.

**RAYMARK INDUSTRIES, INC. SUPERFUND SITE, STRATFORD (3rd CD)** – U.S. EPA recently approved one Record of Decision (ROD) that specified the selected remedies for four operable units (OUs) of the Raymark Superfund Project located in the town of Stratford. The Raymark Industries, Inc. Superfund Site includes areas that have been contaminated as a result of manufacturing processes and presents a threat to human health. In accordance with the objectives of the ROD, the remedial action requires the excavation and transportation of Raymark waste material for consolidation and capping. New England District has been authorized to secure a Remedial Action Contract. Initial construction is tentatively scheduled for June 2018.

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## Regulatory Activities

**STATUS OF 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 about Corps jurisdiction of wetlands 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 Corps has issued the statewide Connecticut GPs for minimal impact activities to U.S. waters with a series of multiple GPs covering activity-specific categories. These GPs became effective on Aug. 19, 2016. The previous GP expired on July 15, 2016. The new GPs are organized into 21 activity-specific GPs. To view the public notice and the new GPs visit the website at <http://www.nae.usace.army.mil/Missions/Regulatory/PublicNotices.aspx>.

**ALGONQUIN INCREMENTAL MARKET (AIM) PROJECT (1st, 2nd & 5th CDs in Connecticut; 2nd, 4th & 5th CDs in Massachusetts)** – 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 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 Conn. & 1st CD in Mass.)** – The Corps issued an authorization under Section 404 of the Clean Water Act to Tennessee Gas Pipeline Company (TGPC) for work in waters and wetlands in conjunction with expansion of an existing interstate natural gas pipeline system in Massachusetts and Connecticut on Jan. 13, 2017. The permit authorized 18 temporary waterbody crossings, the placement of both permanent (0.11 acre) and temporary (55.20 acres) fill in wetlands and streams affiliated with, but not limited to, the Clam River, Lower Spectacle Pond, Spectacle Pond Brook, Clay Brook, Muddy Brook, DeGraves Brook and Stony Brook. The project also includes the establishment and future maintenance

of new pipeline right of way in wetlands and waters with conversion of 9.39 acres of habitat from one wetland type to another. Compensatory wetland mitigation under the permit authorization included in-situ restoration and revegetation of 24.07 acre of palustrine forested (PFO) wetland, 36.36 acre of palustrine scrub-shrub (PSS) and emergent (PEM) wetland, preservation of 86 acres of property with wetlands and waters for rare aquatic resources and riparian upland habitat, enhancement of 0.30 acre of PEM, creation of establishment of 0.55 acre PSS, and daylighting/restoration of 185 linear feet of previously piped waterway.

The regulated work proposed by TGPC involved 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 in conjunction with the installation of 12.1 miles of new gas pipeline loop known as the "Connecticut Expansion Project." New ROW (25.43 acres) will be established and maintained for both of the project segments. The purpose of the work authorized is an increase of natural gas delivery capacity and transportation service for up to 72,100 dekatherms per day to the U.S. northeast region. The work will occur in various wetlands and waterways 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.

The Federal Energy Regulatory Commission (FERC) was the lead Federal review agency for this project identified as Docket No. CP14-529-000 and an Order of Certificate Issuance was granted by the agency on March 11, 2016. FERC was responsible for completing the 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. State water quality certifications under Section 401 were issued on June 29, 2016 (Mass.) and Oct. 5, 2016 (Conn.). For more

information on this project (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 ILF programs preferred over permittee-responsible mitigation.

On Jan. 27, 2011, the National Audubon Society – Connecticut Chapter (NAS-CT) submitted a prospectus for an In Lieu Fee (ILF) program to provide an alternative form of compensatory mitigation for permit applicants in the state of Connecticut. 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 was issued on Feb. 8, 2011. After review of the public and Interagency Review Team (IRT) comments, on March 25, 2011 the Corps notified NAS-CT that they could proceed to develop a draft ILF instrument. On Aug. 21, 2013, the New England District commander signed the ILF Instrument, along with the sponsor, NAS-CT. The first payment to the program was received in November 2013.

In 2016, the program approved five projects in four service areas totaling \$680,825. The projects included tidal wetland restoration, stream enhancement, and preservation of aquatic resources and their upland buffers.

*In 2017, the program approved nine projects in five service areas totaling \$1,046,931. The projects included fish passage and preservation of aquatic resources and their upland buffers.*

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## Operating Flood Risk Management Projects and Natural Resource Management

The District has constructed 12 flood risk management protection dams and three hurricane protection projects in Connecticut. Information on each is provided below. The Corps, working with agencies of the state of Connecticut, provides quality outdoor recreational opportunities at each of the seven Corps-operated flood risk management reservoirs located in the state. Lands and waters of these civil works water resource projects are managed to conserve the natural resources as well as for the primary authorized purpose of flood risk management. For more information on Corps recreation in New England visit [www.nae.usace.army.mil/Missions/Recreation.aspx](http://www.nae.usace.army.mil/Missions/Recreation.aspx) or for Connecticut projects visit the link at [www.nae.usace.army.mil/Missions/Recreation/Connecticut.aspx](http://www.nae.usace.army.mil/Missions/Recreation/Connecticut.aspx).

**BLACK ROCK LAKE (5th CD)** on Branch Brook in

Thomaston and Watertown was completed in 1971 at a cost of \$8.2 million. More than 2.8 billion gallons of water can be stored behind the 933-foot-long, 154-foot-high dam. To date, \$217.1 million in damages have been prevented. An estimated 150,000 visitors annually enjoy hiking, fishing and hunting on the 319 acres of land and water at Black Rock Lake. Visitors spend an estimated \$0.95 million within 30 miles of the lake. An estimated 27 jobs in the local community are supported by visitors to Black Rock Lake. *A contract was awarded to Pequot Group in Bridgeport, Conn., to install mini-split systems in the amount of \$4,597.87.* For more information call 860-283-4900 or 860-283-5540 or visit [www.nae.usace.army.mil/Missions/Recreation/BlackRockLake.aspx](http://www.nae.usace.army.mil/Missions/Recreation/BlackRockLake.aspx).

**COLEBROOK RIVER LAKE (1st CD)** on the West Branch

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of the Farmington River in Colebrook was completed in 1969 at a cost of \$14.3 million. At capacity, the 1,300-foot-long, 223-foot-high dam can impound a lake of 1,185 acres containing 16.5 billion gallons of water. To date, the project has prevented damages of \$92.7 million. Recreational opportunities abound at Colebrook and include boating (with a launching ramp), fishing, ice fishing and hunting. Nearly 158,000 visitors enjoy the recreational pursuits at Colebrook River Lake each year. Visitors spend an estimated \$1.86 million within 30 miles of the lake. An estimated 52 jobs in the local community are supported by visitors to Colebrook Lake. For more information call 860-379-8234 or visit [www.nae.usace.army.mil/Missions/Recreation/ColebrookRiverLake.aspx](http://www.nae.usace.army.mil/Missions/Recreation/ColebrookRiverLake.aspx).

**EAST BRANCH DAM (1st & 5th CDs)** is situated on the East Branch of the Naugatuck River in Torrington. The 700-foot-long, 92-foot-high earthfill dam was completed in 1964 at a cost of \$3.3 million. With a storage capacity of 1.4 billion gallons of water, the dam can impound a 158-acre lake. To date, more than \$30.6 million in damages have been prevented by East Branch Dam. The state of Connecticut is responsible for operation and maintenance of the 158-acre facility.

**HALL MEADOW BROOK DAM (1st & 5th CDs)**, located on the brook of the same name in Torrington, was completed in 1962 at a cost of \$3.1 million. The 1,200-foot-long, 73-foot-high earthfill dam can impound a 372-acre lake capable of storing 2.8 billion gallons of water. The facility has prevented damages of \$105.7 million to date. The state of Connecticut is responsible for operation and maintenance of the 9.4-acre facility.

**HANCOCK BROOK LAKE (5th CD)**, on the brook of the same name, was constructed at a cost of \$4.2 million in Plymouth. The 630-foot-long, 57-foot-high earthen dam can create a lake of 266 acres capable of holding 1.3 billion gallons of water. Since it was placed in operation in 1966, it has prevented \$52.5 million in flood damages. More than 110,000 visitors annually enjoy the hiking, fishing and hunting opportunities available at Hancock Brook Lake's 689 acres of land and water. Visitors spend an estimated \$0.13 million within 30 miles of the lake. An estimated four jobs in the local community are supported by visitors to Hancock Brook Lake. *A contract to perform concrete and diversion dike flap gate repairs was awarded to W. Martin from Taconic, Conn., in the amount of \$24,230.00. Work is expected to be completed in the spring of 2018.* For more information call 203-729-8840 or visit [www.nae.usace.army.mil/Missions/Recreation/HancockBrookLake.aspx](http://www.nae.usace.army.mil/Missions/Recreation/HancockBrookLake.aspx).

**HOP BROOK LAKE (3rd & 5th CDs)**, situated on the brook of the same name in the towns of Middlebury, Waterbury and Naugatuck was completed in December 1968 at a cost of \$6.2 million. The 520-foot-long, 97-foot-high embankment can hold back 2.2 billion gallons of water in a 270-acre pool extending 1.5 miles. Hop Brook Lake has prevented damages amounting to \$108.4 million. The year-round, 21-acre conservation pool annually attracts nearly 200,000 visitors who enjoy a variety of recreational pursuits on 536 acres including picnicking, swimming, hiking, fishing, and

special permit group events. Visitors spend an estimated \$2.05 million within 30 miles of the lake. An estimated 58 jobs in the local community are supported by visitors to Hop Brook Lake. *The state of Connecticut Department of Transportation completed repairs to the Shattuck Brook/Route 63 culvert. Work began in June 2017. A contract to install solar voltaic systems at the Hop Brook Lake and Naugatuck River Area Offices was awarded to Jody Builders from Astoria, N.Y. in the amount of \$132,624.68. Work is expected to commence in May 2018 and be completed by July 2018. A contract to remove asbestos vermiculite insulation was completed in October by Environmental Services, Inc., from South Windsor, Conn., in the amount of \$21,326.00.*

For more information call 203-729-8840 or visit [www.nae.usace.army.mil/Missions/Recreation/HopBrookLake.aspx](http://www.nae.usace.army.mil/Missions/Recreation/HopBrookLake.aspx).

The 940-foot-long, 178-foot-high **MAD RIVER DAM (1st CD)** is situated on the Mad River in Winchester. Construction of the \$5.4 million earthen dam was completed in 1963, and since that time the project has prevented an estimated \$16.0 million in damages. When full, the lake behind the dam covers 188 acres and can store more than three billion gallons of water. The state of Connecticut operates and maintains Mad River Dam.

**MANSFIELD HOLLOW LAKE (2nd CD)**, on the Natchaug River in Mansfield, was constructed at a cost of \$6.5 million. The 14,050-foot-long, 78-foot-high dam can impound a 49,200-acre foot reservoir, which is equivalent to 16 billion gallons of water. Since it was placed in operation in 1952, it has prevented damages of \$101.6 million. The reservoir area offers fine recreational opportunities, including picnicking, fishing, boating, hunting, and nature study and annually attracts more than 574,900 visitors. Visitors spend an estimated \$8.45 million within 30 miles of the lake. An estimated 237 jobs in the local community are supported by visitors to Mansfield Hollow Lake. The hydraulic gate operator valves were replaced in the control tower by Dependable Hydraulic Repair, Inc. for \$57,450. For more information call 860-923-2982 or visit [www.nae.usace.army.mil/Missions/Recreation/MansfieldHollowLake.aspx](http://www.nae.usace.army.mil/Missions/Recreation/MansfieldHollowLake.aspx).

The 810-foot-long, 118-foot-high **NORTHFIELD BROOK DAM (5th CD)** was completed in 1965 at a cost of \$2.9 million. Situated on Northfield Brook in Thomaston, the dam, which features an eight-acre recreation pool, can store an estimated 766 million gallons of floodwater and has prevented damages to date of \$75.8 million. More than 71,000 visitors annually enjoy fishing, picnicking, and hiking at Northfield Brook Lake. Visitors spend an estimated \$0.53 million within 30 miles of the lake. An estimated 15 jobs in the local community are supported by visitors to Northfield Brook Dam. For more information call 860-283-5540 or visit [www.nae.usace.army.mil/Missions/Recreation/NorthfieldBrookLake.aspx](http://www.nae.usace.army.mil/Missions/Recreation/NorthfieldBrookLake.aspx).

**SUCKER BROOK DAM (1st CD)**, on a brook of the same name in Winchester, was completed in 1971 at a cost of \$2.3 million. The 1,160-foot-long, 68-foot-high earthen dam can impound a lake covering 53 acres capable of storing 482 million gallons of water. The state of Connecticut is

responsible for the operation and maintenance of Sucker Brook Dam.

**THOMASTON DAM (5th CD)** is situated on the Naugatuck River in Thomaston. Completed in 1960 at a cost of \$14.3 million, the 2,000-foot-long, 142-foot-high earthen dam can impound a lake covering 960 acres capable of storing 13.7 billion gallons of water. Thomaston has prevented more than \$828.9 million in flood damages. An estimated 200,000 visitors annually enjoy picnicking, fishing, hunting, dirtbiking and snowmobiling at Thomaston Dam's more than 849 acres of land and water. Visitors spend an estimated \$1.33 million within 30 miles of the lake. An estimated 37 jobs in the local community are supported by visitors to Thomaston Dam. *A contract was awarded to Pequot Group in Bridgeport, Conn., to install mini-split systems in the amount of \$4,597.87.*

For more information call 860-283-5540 or visit [www.nae.usace.army.mil/Missions/Recreation/ThomastonDam.aspx](http://www.nae.usace.army.mil/Missions/Recreation/ThomastonDam.aspx).

**WEST THOMPSON LAKE (2nd CD)** is located on the Quinebaug River in Thompson. Construction of the \$7 million facility was completed in 1965, and since that time the facility has prevented more than \$56.4 million in flood damages. The 2,550-foot-long, 70-foot-high dam can impound a 1,250-acre pool capable of storing 8.3 billion gallons of water. Picnicking, hiking, boating, fishing, camping and hunting are enjoyed by more than 96,300 visitors annually spending an estimated \$1.51 million within 30-miles of Thompson. Visitor trip spending supports 42 jobs in the communities surrounding the lake. The Corps manages 2,059 acres of land and water at West Thompson Lake stretching six miles from Putnam to the Massachusetts border. Three picnic shelters are popular for outdoor weddings, family reunions and other group functions. West Thompson Lake Campground offers 24 campsites (11 basic sites, 11 premium sites with electrical and water hookups, and two lean-to shelters) in a quiet, wooded environment.

The following maintenance related projects were completed in FY2017: the rubber membrane roof was replaced at the dam control tower by The Aulson Co., Inc. for \$32,642; asbestos insulation around the generator exhaust control tower was removed and replaced by Kelly Construction for \$13,900; the hydraulic gate operator valves were replaced in the control tower by Dependable Hydraulic Repair, Inc. for \$36,527; and the electrical service to the control tower along with critical electrical components inside the control tower were upgraded by Ironclad Services, Inc. for \$55,312.

For more information call 860-923-2982 or visit [www.nae.usace.army.mil/Missions/Recreation/WestThompsonLake.aspx](http://www.nae.usace.army.mil/Missions/Recreation/WestThompsonLake.aspx).

[www.nae.usace.army.mil/Missions/Recreation/WestThompsonLake.aspx](http://www.nae.usace.army.mil/Missions/Recreation/WestThompsonLake.aspx).

At **NEW LONDON (2nd CD)** facilities to provide hurricane protection to the Shaw Cove area of this northern Long Island Sound community were completed in 1984 at a cost of \$12 million. The project, operated and maintained by the city of New London, provides protection both from high tides caused by coastal storms and hurricanes, and from interior flooding caused by Truman Brook in the industrial and commercial area in the vicinity of Shaw Cove and New London Harbor. Rock protected earthfill dikes, concrete floodwalls, a pumping station and a pressure conduit to evacuate interior drainage are features of the project. In a storm of the magnitude of the 1938 hurricane, New London would afford \$9.6 million in damage prevention.

In Stonington, the **PAWCATUCK-STONINGTON HURRICANE PROTECTION PROJECT (2nd CD)** is located on the West Bank of the Pawcatuck River at the Rhode Island - Connecticut state line. The \$859,000 project was completed in 1963. The project consists of 1,915 feet of earthen dike, 940 feet of concrete wall, two vehicular structures and a pumping station. The works afford protection to a 31-acre industrial area and are operated and maintained by the town of Stonington.

Construction of the **STAMFORD HURRICANE PROTECTION BARRIER (4th CD)** at Stamford was completed in 1969 at a cost of \$14.5 million. The project consists of three principal features. The West Branch Barrier, which protects the area between the West and East Branches, includes a 1,340-foot concrete wall and a 1,950-foot-long, rock-faced earthen dike. The East Branch Barrier, which connects to the West Branch and extends across the mouth of the East Branch, includes 2,840 feet of rock-face earthen dike and a 90-foot-wide navigation gate. The Westcott Cove Barrier, which protects the residential area of Rippowam Street and skirts Westcott Cove in Cummings Park, includes 4,200 feet of rock faced earthen dike. Damages amounting to \$39.4 million have been prevented to date. *A contract to remove accumulated sediments and debris from the gate chambers of the navigation gate was completed in October 2017 by Renova Environmental Services Limited from Ocean, N.J. in the amount of \$113,768.22.*

For more information call 203-729-8840 Ext. 370 or visit [www.nae.usace.army.mil/Missions/CivilWorks/FloodRiskManagement/Connecticut/StamfordHurricaneBarrier.aspx](http://www.nae.usace.army.mil/Missions/CivilWorks/FloodRiskManagement/Connecticut/StamfordHurricaneBarrier.aspx).

