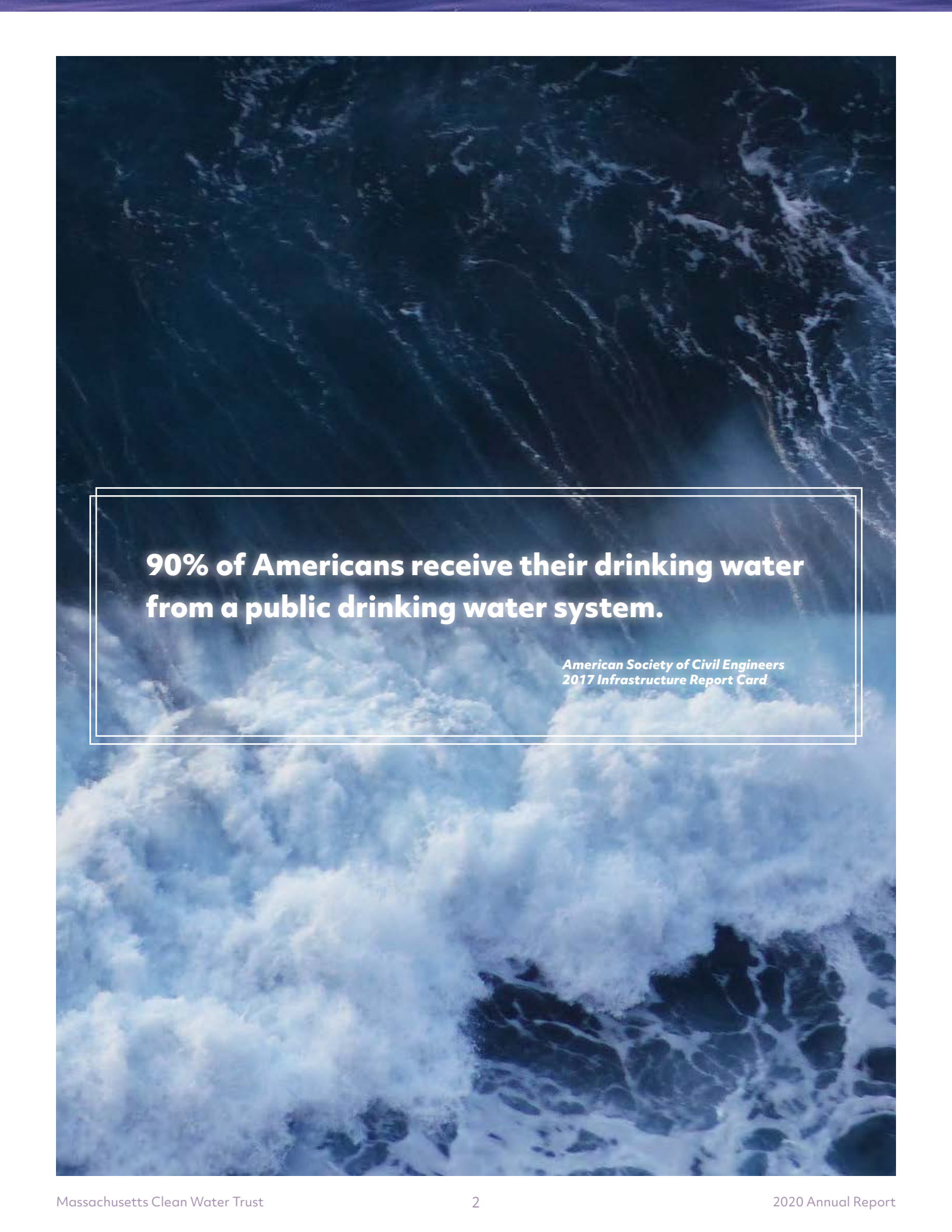




MASSACHUSETTS
CLEAN WATER TRUST

2020 ANNUAL REPORT

Office of the State Treasurer
Executive Office for Administration and Finance
Massachusetts Department of Environmental Protection
1 Center Plaza , Suite 430 | Boston, MA 02108 | (617) 367-9333

An aerial photograph of a river with white water rapids. The water is dark blue and turbulent, with white foam from the rapids. The perspective is from above, looking down at the river's course.

90% of Americans receive their drinking water from a public drinking water system.

*American Society of Civil Engineers
2017 Infrastructure Report Card*

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Message From The Chair

The Massachusetts Clean Water Trust (the Trust) is pleased to submit our Clean Water and Drinking Water State Revolving Fund Annual Report for State Fiscal Year (SFY) 2020. The Trust's loan program is a collaborative effort between the State Treasurer's Office, the Executive Office for Administration and Finance, the Massachusetts Department of Environmental Protection (MassDEP) and communities across the Commonwealth.

With its AAA credit rating, the Trust finances vital infrastructure projects that enhance ground and surface water resources, ensures the safety of drinking water, protects public health and develops resilient communities. Access to below-market rate financing and the nearly \$267.3 million of additional subsidies provided, makes improvements to water infrastructure more feasible while reducing the overall financial impact on communities and ratepayers. To date, approximately \$2.6 billion in federal grants and state matching funds have supported over \$7.6 billion in water infrastructure planning and construction projects through a leveraged financing program.

During SFY 2020, the Trust provided cities and towns approximately \$363 million in commitments for low interest rate loans to 79 projects, which will support an estimated 2,178 construction and engineering jobs. We are proud to report the first round of the Asset Management Planning (AMP) grant program executed 15 agreements totaling approximately \$1.6 million in grants supporting over \$2.8 million in AMP projects. These activities assist communities in creating plans for asset repairs, replacements, or rehabilitation. This investment by the Trust, helps communities deliver the required level of service, while making informed decisions on where to make vital infrastructure investments.

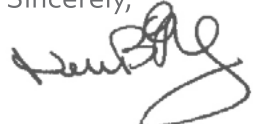
Additionally, I am excited to report the successful launch of School Water Improvement Grant (SWIG) program, which provides funding to school districts to replace water fountains that tested positive for lead with filtered bottle filling stations. In SFY 2020 over \$700,000 was awarded to schools supporting over 56,000 students in the Commonwealth. This program in conjunction with the Trust's continued funding of drinking water lead testing and related training for school districts demonstrates our commitment to safe drinking water for our children.

Lastly, the Trust streamlined how loan forgiveness is awarded to Disadvantaged Communities by providing fixed percentages of loan forgiveness based on an annual affordability calculation. This change allows communities to more accurately project costs and realize the concrete advantage of working with the Trust, which will hopefully result in more projects moving forward to construction.

To provide more flexibility to our local partners dealing with COVID-19, MassDEP and the Trust extended the project qualifying deadline for Loan forgiveness. Unfortunately, the Trust is unable to report the Loan Forgiveness numbers for SFY 2020 but expects to commit approximately \$20 million to eligible projects in the next fiscal year.

During these challenging times, I would like to sincerely express my appreciation for the staff of the Environmental Protection Agency Region 1 for their efforts during SFY 2020, and congratulations to the staff of the Trust and MassDEP for a job well done. To the cities and towns in Massachusetts, thank you for your commitment to this vital mission while also facing the unprecedented challenges of COVID-19. Without your dedication, our program would not be a success. Thank you and I look forward to continuing this critical work together.

Sincerely,



Deborah B. Goldberg
Chair, Massachusetts Clean Water Trust
www.mass.gov/treasury



Introduction

The Massachusetts Clean Water Trust (the Trust), in collaboration with the Massachusetts Department of Environmental Protection (MassDEP), helps communities build or replace water quality infrastructure that enhances ground and surface water resources, ensures the safety of drinking water, protects public health and develops resilient communities. It accomplishes these objectives by providing low-interest loans and grants to cities, towns and water utilities through the Massachusetts State Revolving Funds (SRFs). The SRF programs are partnerships between the United States Environmental Protection Agency (EPA) and the Commonwealth. SRFs function like an environmental infrastructure bank by financing water infrastructure projects.

The Trust administers two SRFs, the Clean Water and Drinking Water SRFs. The Clean Water SRF (CWSRF) was established in 1987 under the Clean Water Act. The Drinking Water SRF (DWSRF) was established in 1996 under the Safe Drinking Water Act. MassDEP manages project development and oversight while the Trust manages the flow of funds to borrowers.

SRFs receive funding from the EPA in the form of annual capitalization grants, supplemented by state matching grants and the repayment of loans. When loans to local governments are paid back, the funds are then loaned out again, which is how the fund “revolves.”

The Trust uses a “leveraged model” to provide funding in excess of the federal and state grants. Bonds are issued in the capital markets and are secured by borrower repayments and reserve funds. The proceeds from bonds are used to provide capital for new below market rate loans to borrowers for water infrastructure. This model has allowed the Trust to finance approximately \$7.6 billion in water infrastructure projects from nearly \$2.6 billion in federal grants and state matching funds.

The Trust is administered by a three-member board of trustees that is chaired by the Treasurer of the Commonwealth. The Secretary of the Executive Office for Administration and Finance and the Commissioner of MassDEP serve as trustees. The Board of Trustees approves all financial commitments and program decisions during monthly meetings. Meeting agendas, minutes, and other board materials can be found on the Trust’s website.

About This Report

The EPA requires reporting on both programs through the CWSRF Annual Report and the DWSRF Biennial Report. These reports have been combined into this report, which covers the state fiscal year (SFY 2020) ending June 30, 2020. The content of this report is divided into four sections. To comply with 40 CFR § 35.3570(a)(4), each section will label reported information by the specific SRF program.

The first section, Financial Report, covers loans made and financial assistance provided through both the CWSRF and DWSRF programs throughout the state fiscal year. The second section, Grant Programs, provides updates and highlights two new grant programs the Trust is proud to be offering to our communities. The third section, State Revolving Fund Financial Summary, explains how the Trust finances these projects. The fourth section, Program Specific Reporting, discusses EPA grant requirements and outlines how the Trust and MassDEP meet those federal requirements. In addition, program highlights have been placed throughout the report to provide context and insight on the operations of the SRF programs.







Financial Report

Clean Water and Drinking Water Annual Summary

The Trust continues to provide subsidized financing projects that focus on the development and rehabilitation of wastewater and drinking water infrastructure with the aim of promoting sustainability, energy efficiency and green infrastructure. The CWSRF and DWSRF programs provide additional subsidies to designated Disadvantaged Communities. The Trust and MassDEP perform outreach activities to help communities realize opportunities to implement energy efficient and alternative energy projects. These activities are balanced with the promotion of cost-effective projects that maximize the protection of the environment and public health.

In SFY 2020, the Trust continued to expand its programs by providing binding commitments for 56 clean water projects totaling \$255.5 million and 23 drinking water projects totaling \$107.5 million. The total dollar amount for the CWSRF includes the Community Septic Management Program (CSMP). The CSMP provides low-interest financing to the Commonwealth's cities and towns to assist homeowners with repairing or replacing failed septic systems.

Binding Commitments

A binding commitment for a project is defined as a legal obligation by the Trust to a community that defines the terms and timing for assistance through the SRF program. Please see Appendix B for a complete list of SFY 2020 binding commitments.

Binding Commitments by Program and SFY

Dollar Amount in Millions

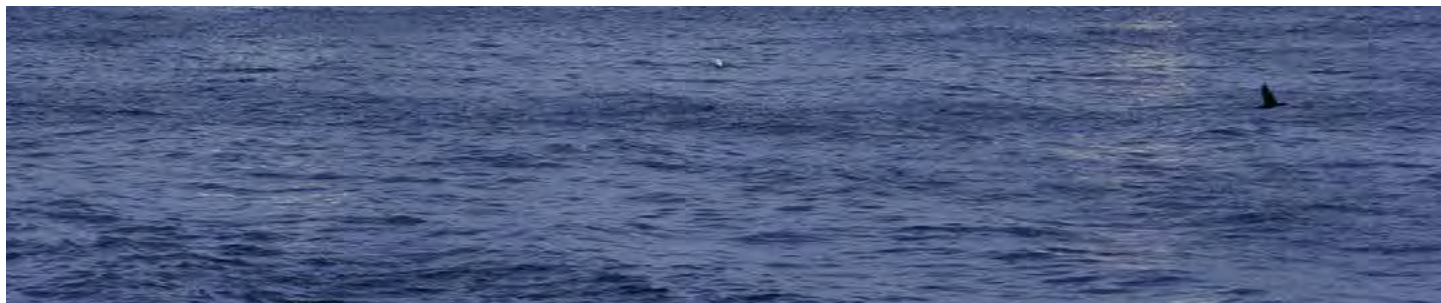
| SFY | CWSRF | | DWSRF | |
|------|---------|-------|---------|-------|
| | Amount | Loans | Amount | Loans |
| 2020 | \$255.5 | 56 | \$107.5 | 23 |
| 2019 | \$299.0 | 45 | \$72.1 | 17 |

Loan Interest Rates

| | Clean Water | Drinking Water |
|-------------------------------------|-------------|----------------|
| Standard Interest Rate | 2% | 2% |
| Extended Term (up to 30 Years) | 2.20% | 2.20% |
| Housing Choice | 1.50% | 1.50% |
| Nutrient Enrichment Reduction Loans | 0% | N/A |
| PFAS Loans | N/A | 0% |

Loan Programs

Most of the Trust's loans are subsidized to a 2% interest rate set by statute. However, recent legislative changes have allowed the Trust to identify priority projects and/or initiatives to receive a higher rate of subsidy. The subsidies used for these programs is supplied by the Commonwealth through contract assistance, and not counted as additional subsidy for the purposes of federal reporting. The following loan programs work to further various program or state goals by providing a higher rate of subsidy.



0% Interest Rate Nutrient Enrichment Reduction Loans

This loan program is for CWSRF loans. Due to Massachusetts' geographic location and population distribution, many communities are coastal or on rivers that flow into saltwater bodies. This leads to wastewater pollution and additional nitrogen being deposited into saltwater areas. An increase in nitrogen in affected saltwater bodies can create algae blooms which negatively affect animal habitats, cause fish kills, and cause a reduction in shellfish. The decrease in water quality is both an environmental and economic issue for coastal communities. This 0% interest rate loan program helps increase the chance of these projects moving forward by providing access to low-cost financing.

.50% Housing Choice Community Loan Reduction

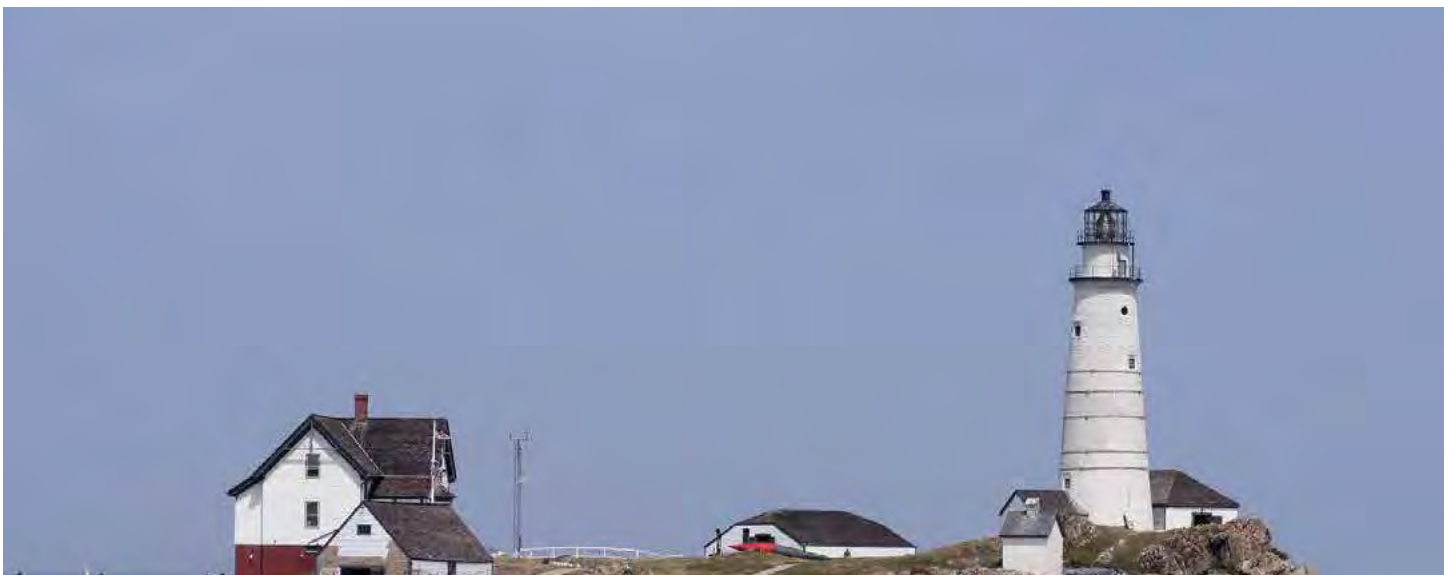
The Baker-Polito Administration has focused on creating affordable housing in the Commonwealth. The Trust has joined other state agencies in providing incentives to communities to participate in the Housing Choice Initiative by providing a .50% interest rate reduction to both Clean Water and Drinking Water loans. Loans cannot have less than 0% interest.

0% PFAS Remediation Loans

On January 31, 2020, the Board of Trustees approved a 0% interest rate loan pilot program for projects that remediate per- and polyfluoroalkyl substances (PFAS) in public water supplies for the 2020 calendar year. The program was made permanent by the Board on July 8th. These 0% interest DWSRF loans will help communities that have identified PFAS in their water to expedite and complete the remediation projects that are vital to providing clean drinking water to residents.

Average Interest Rate for Loans Closed in 2020

| Average Interest Rate | Clean Water | Drinking Water |
|--|-------------|----------------|
| Standard Term Loans (Up to 20 Years) | 1.80% | 2.00% |
| All Loans (Includes Extended Term Loans - Up to 30 Years) | 1.85% | 2.05% |

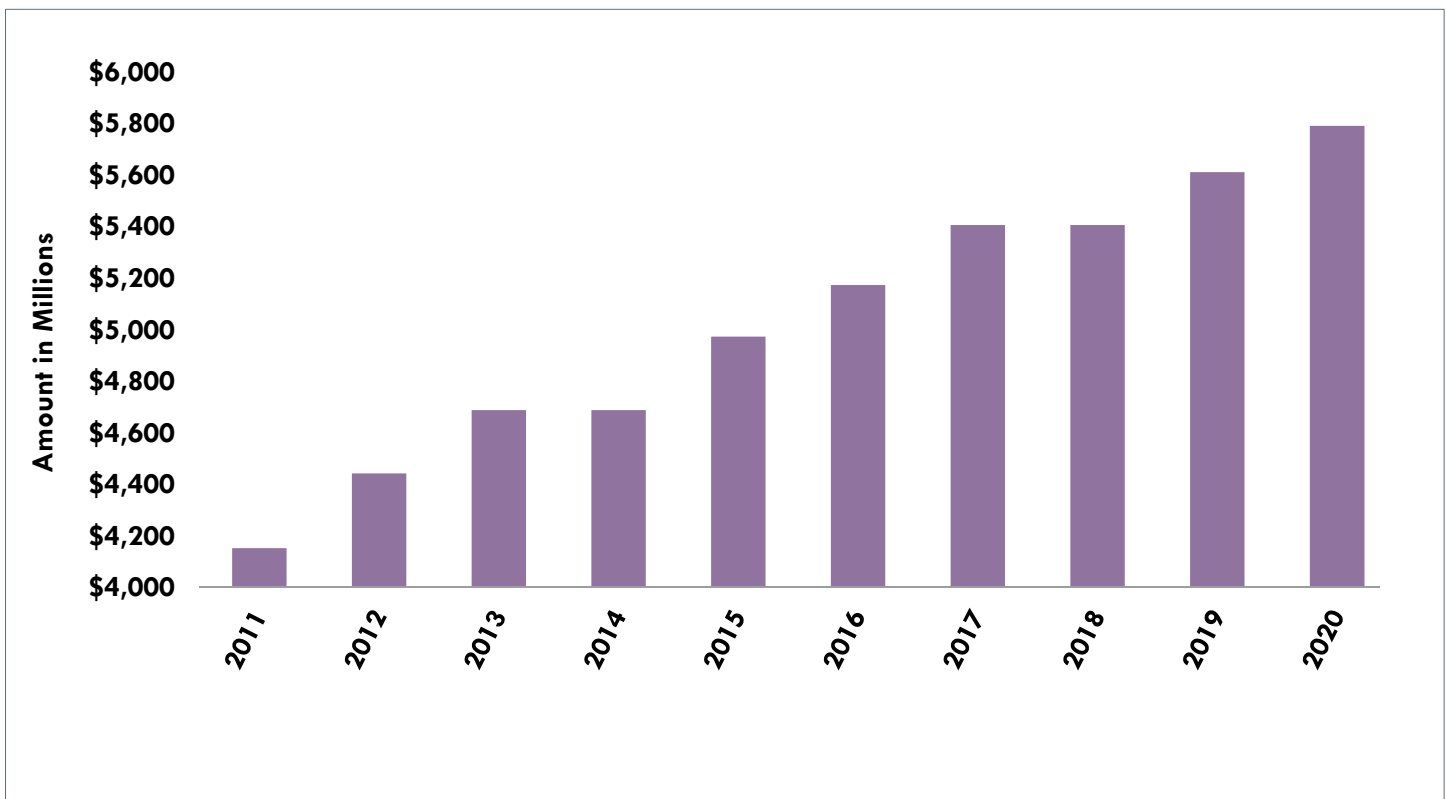


CWSRF Grant Awards

CWSRF Grant Amount by Year

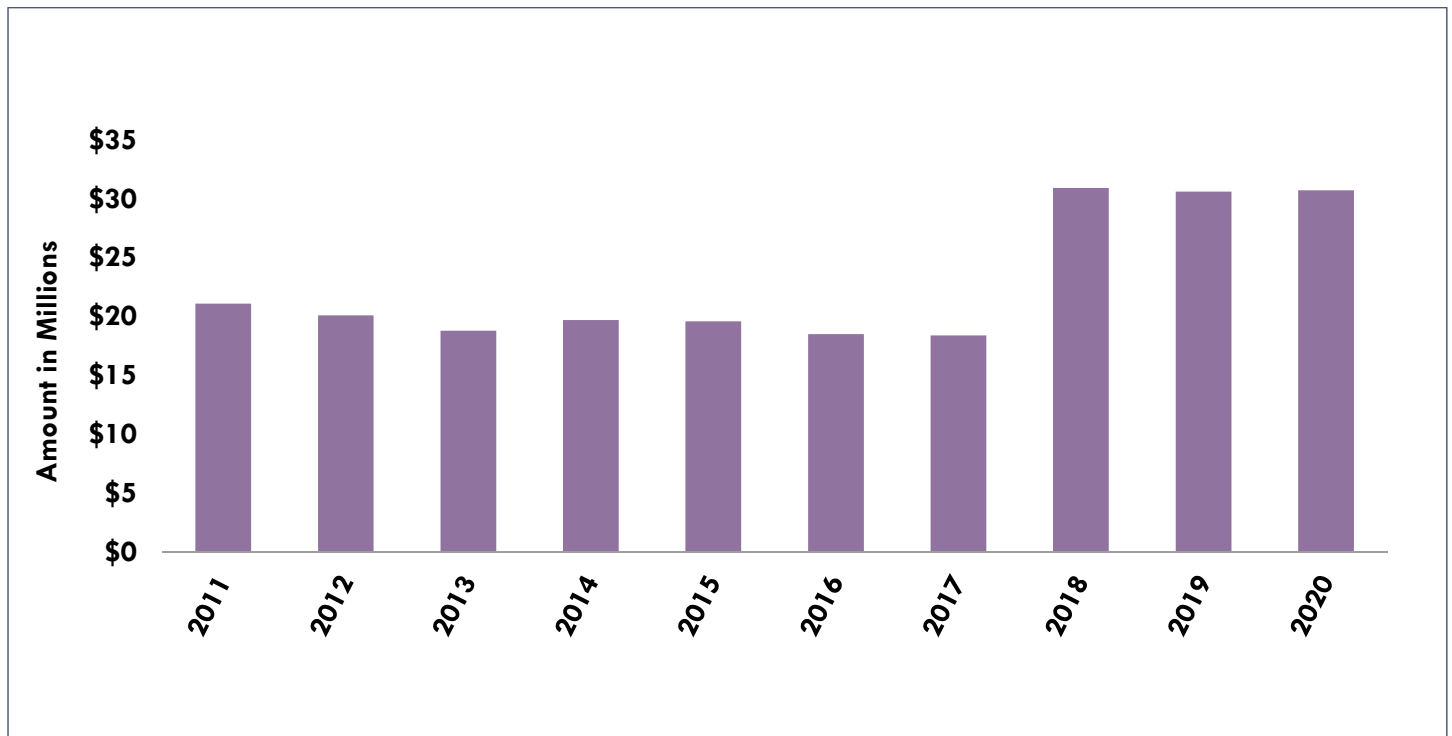


CWSRF Cumulative Loans by Year

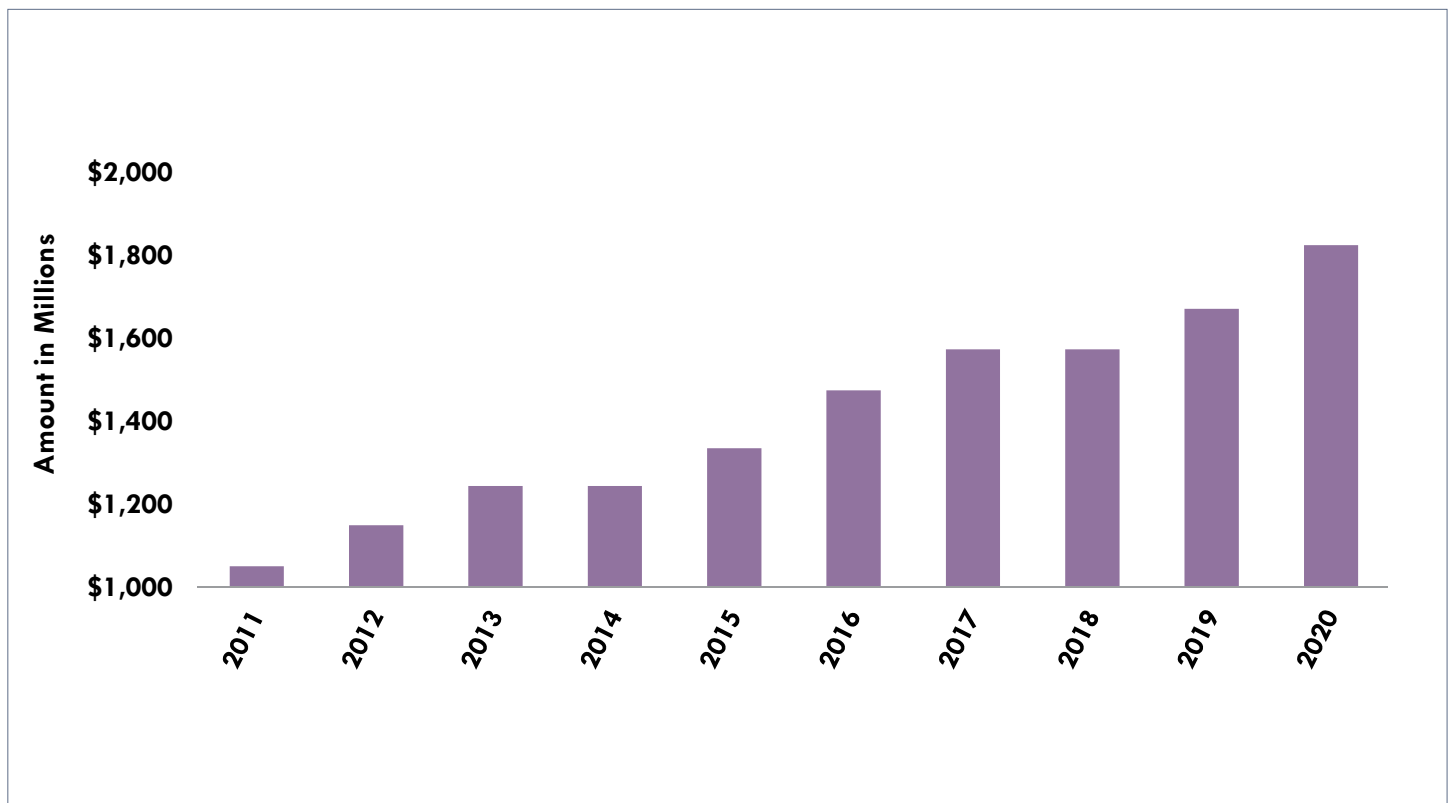


DWSRF Grant Awards

DWSRF Grant Amount by Year



DWSRF Cumulative Loans by Year



Disbursements

During SFY 2020, the Trust disbursed the following amounts for projects to borrowers through program project funds and interim loans.

Amount Disbursed and Number of Projects by Program and SFY

Dollar Amount in Millions

| SFY | CWSRF | | DWSRF | |
|------|---------|-------|---------|-------|
| | Amount | Loans | Amount | Loans |
| 2020 | \$241.4 | 150 | \$95.9 | 66 |
| 2019 | \$194.0 | 119 | \$148.4 | 46 |

Interim Loans

Through the Trust's interim loan program, funds are available to projects on the IUPs throughout the year to provide construction financing, similar to a bond anticipation note. Borrowers can enter a short-term loan that enables projects to proceed prior to a Trust bond sale. The Trust can operate this program by extending the use of funds that have revolved back from loan repayments along with its state and federal grants ("SRF Program Funds") as a source of capital. To make Trust financing even more appealing to borrowers, the Board of Trustees removed the interim loan interest rate and any associated fees in 2016. This change to the program makes interim loans from the Trust the least expensive way for local communities to access capital during construction.

Interim Loan Information by Program and SFY

Dollar Amount in Millions

| SFY | CWSRF | | | DWSRF | | |
|------|--------------------|---------------------|--------------------|--------------------|---------------------|--------------------|
| | Number of Projects | Amount Drawn in SFY | Total Loan Amounts | Number of Projects | Amount Drawn in SFY | Total Loan Amounts |
| 2020 | 101 | \$201.6 | \$638.5 | 40 | \$77.8 | \$259.3 |
| 2019 | 77 | \$139.1 | \$423.9 | 25 | \$108.5 | \$188.8 |

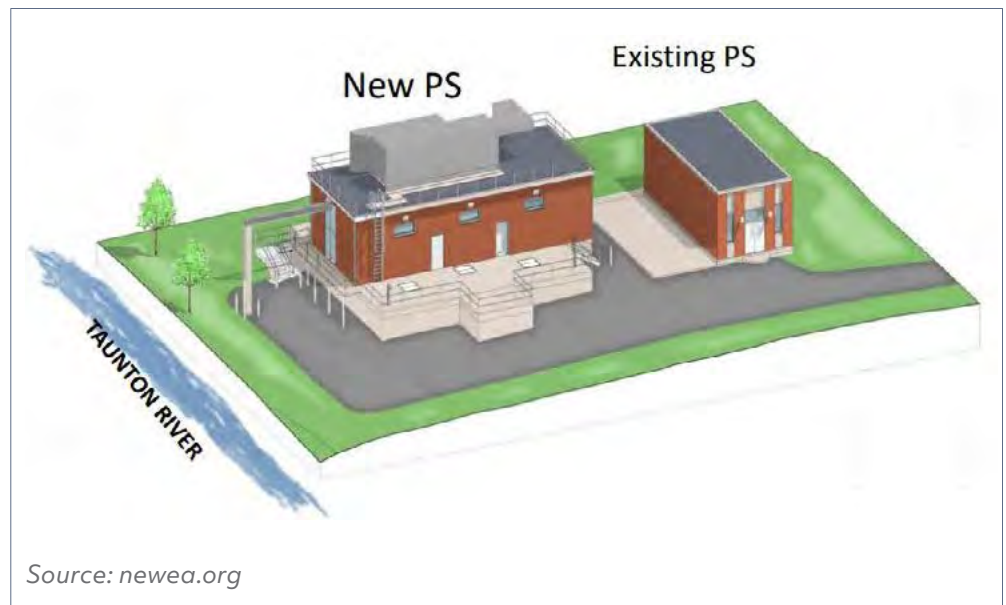




Source: beta-inc.com

Highlighted Project

**TAUNTON MAIN
LIFT PUMP STATION
IMPROVEMENTS -
\$4,293,481**



Source: newea.org

The Taunton Wastewater Treatment Facility (WWTF) receives all its flow from the Main Lift Pump Station. The station was constructed in the 1950's and had reached the end of its useful life. Improvements to the station were required to provide reliable operation. This project will replace the existing station and relocate the facility above the 100-year floodplain and includes new pumps, a force main, electrical equipment, and controls.

The primary goals of the project are to provide more reliable pumping service, increase capacity, and reduce combined sewer overflows (CSOs) to the Taunton River. Currently, when flows exceed the capacity of the existing Main Lift Station, the system surcharges and excess flow overflows into the river untreated. Pumps frequently clog with debris, which would be reduced with the installation of non-clog pumps. This project is being done in conjunction with future upgrades to the WWTF.



Additional Subsidy

On March 10, 2020, Governor Baker declared a state of emergency for the Commonwealth of Massachusetts to respond to COVID-19. To provide more flexibility to our local partners dealing with COVID-19 state and local health restrictions, MassDEP and the Trust extended the deadline for qualifying projects to August 14, 2020. The Trust expects to award approximately \$20 million in loan forgiveness in compliance with EPA 2019 grant requirements and congressional appropriations.

Additional subsidy is dedicated to communities that would not otherwise be able to afford projects. Loan forgiveness reduces the total principal cost and interest costs paid over the life of the loan. The Trust chooses to apply all subsidy funds to communities that are deemed Disadvantaged Communities. The Trust uses the methodology detailed below to identify Disadvantaged Communities, as outlined by the Water Resources Reform and Development Act (WRRDA) of 2014 for the CWSRF, and the America's Water Infrastructure Act of 2018 (AWIA) for the DWSRF.

Using guidance outlined in WRRDA and AWIA the Trust's formula, which was approved by EPA Region 1, considers the per capita income, population trend from 2000-2010 and the employment rate for each municipality to develop an adjusted per capita income. Each municipality is then ranked against the state average and municipalities below the state average are sorted into three tiers. Tier 3 is less than 60% of the state average, tier 2 is 60%-79.99% and tier 1 is 80%-99.99%. The Trust's formula provides the subsidy to communities that are most in need and provides all communities below the state average with an additional incentive to use Trust financing.

Beginning with the 2019 IUPs, the Trust changed how it provides loan forgiveness. Previously, the Trust used a loan forgiveness allocation method that calculated the loan forgiveness based on available funds as a percent of total project cost. The method would produce a different percentage of loan forgiveness for communities in all three tiers year over year and borrowers would not know how much they could expect to receive in any given year. Now, the Trust fixes the percentages of loan forgiveness for communities in each tier and program. The fixed percentages are published each year in the IUPs. This simplifies financial planning for communities by letting them know their approximate loan forgiveness and provides a more concrete incentive to move forward with projects. The table below shows the fixed percentages.

Loan Forgiveness by Program and Affordability Tier

| Tier | Clean Water | Drinking Water |
|------|-------------|----------------|
| 1 | 3.3% | 6.6% |
| 2 | 6.6% | 13.2% |
| 3 | 9.9% | 19.8% |

Only for projects appearing on the 2019 IUP and beyond

Number of Eligible Communities by Affordability Tier and SFY

| Tier | 2020 | 2019 |
|--------------|------------|------------|
| 1 | 72 | 79 |
| 2 | 91 | 91 |
| 3 | 71 | 69 |
| Not eligible | 117 | 112 |
| Total | 351 | 351 |

Regarding previous grants, of the \$21.5 million of additional subsidy funds from the 2018 grant, \$20.4 million have been expended. All additional subsidy funds from the 2017 grant have been expended. Once the Trust's Board of Trustees votes to award 2019 grant and state contract assistance funds, the projects will be available on the Massachusetts Clean Water Trust's website. Additionally, the Trust will include this information in the next year's annual report.







Grant Programs

Asset Management Planning Grant Program

Asset Management for water, wastewater, and stormwater utilities is a systematic approach to physical infrastructure cataloging, process management and criticality tracking that allows the utility to make informed financial decisions that are most likely to achieve long-term sustainability and deliver consistent cost-efficient service.

Approved by the Board of Trustees in June 2018, the Asset Management Planning Grant (AMP Grant) program provides up to \$2 million annually beginning with the 2019 IUP. The purpose of this grant program is to assist eligible applicants with completing, updating, or implementing an asset management program for wastewater, drinking water, stormwater utilities or any combination of the three. Finally, the program is aimed at assisting applicants with meeting federally required Fiscal Sustainability Planning. The Trust provides a maximum grant award of \$150,000 or 60% of the total estimated planning cost, whichever is less. The applicant provides the remaining amount with In-Kind Services (IKS) and/or a cash contribution. The IKS contribution is limited to 50% of the local match, except for small systems, that are limited to an IKS contribution of 70% of the local match. Projects may use short-term Clean Water or Drinking Water SRF loans to finance local contributions.

AMP grants applications were requested through the annual SRF project solicitation, and the Trust offered 20 Grants totaling nearly \$2 million in the 2019 IUP. Of these, the Trust executed 15 agreements totaling approximately \$1.6 million in grants which helped to fund \$2.9 million in asset management project activities. The Trust has continued this program in its 2020 IUP, offering 20 Grants totaling nearly \$1.8 million.

AMP Grant Executed Agreements SFY 2020

| Community | Loan/Grant Number | Agreement Date | Grant Amount | Project Cost |
|--|-------------------|----------------|--------------------|---------------------|
| Adams Fire District | DWA-19-21 | 01/30/2020 | \$19,500 | \$32,500 |
| Avon | DWA-19-07 | 09/16/2019 | 67,200 | 112,000 |
| Brockton | CWA-19-25 | 02/04/2020 | 150,000 | 250,000 |
| Canton | DWA-19-08 | 09/23/2019 | 150,000 | 250,000 |
| East Longmeadow | CWA-19-20 | 02/04/2020 | 84,000 | 140,000 |
| Gardner | CWA-19-18 | 10/07/2019 | 141,000 | 235,000 |
| Gloucester | CWA-19-24 | 12/02/2019 | 150,000 | 250,000 |
| Hopkinton | CWA-19-15 | 10/21/2019 | 103,800 | 173,000 |
| Ipswich | CWA-19-08 | 11/22/2019 | 150,000 | 250,000 |
| Leicester Water Supply District | CWA-19-14 | 10/01/2019 | 45,000 | 75,420 |
| Medford | CWA-19-19 | 12/03/2019 | 141,445 | 235,741 |
| Millis | CWA-19-10 | 09/18/2019 | 88,500 | 147,500 |
| New Bedford | CWA-19-17 | 10/21/2019 | 150,000 | 410,000 |
| Oak Bluffs | CWA-19-11 | 11/12/2019 | 22,800 | 38,000 |
| Springfield Water and Sewer Commission | DWA-19-09 | 12/27/2019 | 150,000 | 260,000 |
| Total | 15 | | \$1,613,245 | \$ 2,859,161 |





MASSACHUSETTS
SWG
SCHOOL WATER IMPROVEMENT GRANTS

The School Water Improvement Grants Program

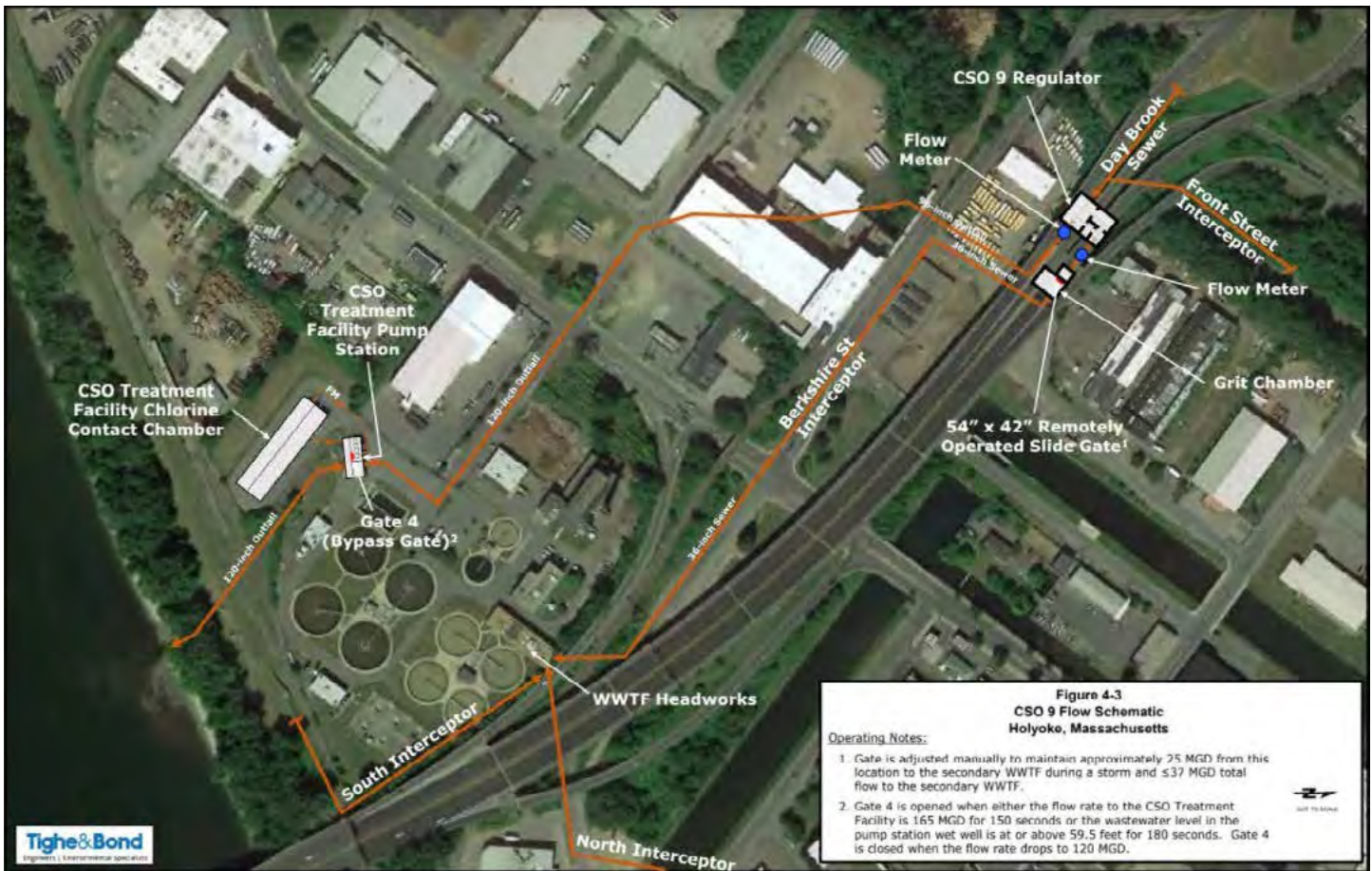
In April 2016, Governor Baker and State Treasurer Goldberg launched the Assistance Program for Lead in School Drinking Water. This first-in-the nation program was highly successful and resulted in a total of 67,913 samples collected at 991 public schools and group-based Early Education and Childcare

Facilities, with 65% of the participating facilities had lead detected above 15 parts per billion (ppb) and over 95% had at least one detection above 1 ppb. The Assistance Program was implemented by MassDEP with \$2.75 million in funding from the Trust.

On January 8th, 2020, the Trust's Board of Trustees approved the first round of the School Water Improvement Grant (SWG) program. The goal of the SWIG program is to reduce lead in school drinking water to the lowest levels possible by incentivizing schools to test their drinking water fixtures and remediate any lead exceedances that are detected. It accomplishes this by providing funds to purchase and install point-of-use filtered water bottle filling stations to replace drinking water fixtures that tested above the remediation lead Action Level of 1 ppb. SWIG was launched in concert with MassDEP's expanded version of the lead testing program using funds from the EPA's Lead Testing in School and Child Care Program Drinking Water Grant.

SWIG provides \$3,000 per eligible fixture that tests positive for lead. The funding covers the purchase of bottle filling stations, installation and post installation testing of the unit, and allows the school district to use the remaining funds for future operation and maintenance cost. The Trust solicited applications for the SWIG pilot funding round from February 3 to March 6, 2020. As of the end of SFY 2020 the Trust has provided \$702,000, to replace 234 drinking water fixtures in 103 schools serving over 56,000 students.

| SWIG Pilot Round Results SFY 2020 | | |
|--|-------------------------|---------------------|
| District Name | Fixtures Awarded | Award Amount |
| Middleborough Public Schools | 7 | \$21,000 |
| Canton Public Schools | 11 | 33,000 |
| Salem Public School | 28 | 84,000 |
| New Salem Wendell | 2 | 6,000 |
| Triton Regional School District | 4 | 12,000 |
| Wareham Public Schools | 1 | 3,000 |
| Amherst Public Schools | 8 | 24,000 |
| Longmeadow Public Schools | 7 | 21,000 |
| Mohawk Trail Regional School District | 4 | 12,000 |
| Littleton Public Schools | 2 | 6,000 |
| Pathfinder Regional Vocational Technical High School | 1 | 3,000 |
| Blackstone-Millville Regional School District | 11 | 33,000 |
| Douglas Public Schools | 2 | 6,000 |
| Easton Public Schools | 1 | 3,000 |
| Braintree Public Schools | 9 | 27,000 |
| Greenfield Public Schools | 5 | 15,000 |
| Hopkinton Public Schools | 11 | 33,000 |
| North Andover Public Schools | 7 | 21,000 |
| Groton Dunstable Regional School District | 2 | 6,000 |
| Gardner Public Schools | 13 | 39,000 |
| Amherst-Pelham Regional School District | 2 | 6,000 |
| North Adams Public Schools | 3 | 9,000 |
| Mansfield Public Schools | 12 | 36,000 |
| Hampden Wilbraham Regional School District | 4 | 12,000 |
| Melrose Public School District | 8 | 24,000 |
| Wachusett Regional School District | 24 | 72,000 |
| Wakefield Public Schools | 2 | 6,000 |
| Arlington | 2 | 6,000 |
| Methuen Public Schools | 5 | 15,000 |
| Fitchburg Public Schools | 19 | 57,000 |
| South Hadley Public Schools | 4 | 12,000 |
| Lawrence Public Schools | 6 | 18,000 |
| Holyoke Public Schools | 5 | 15,000 |
| Worcester Public Schools | 2 | 6,000 |
| 34 Districts | 234 | \$702,000 |



Source: Tighe & Bond

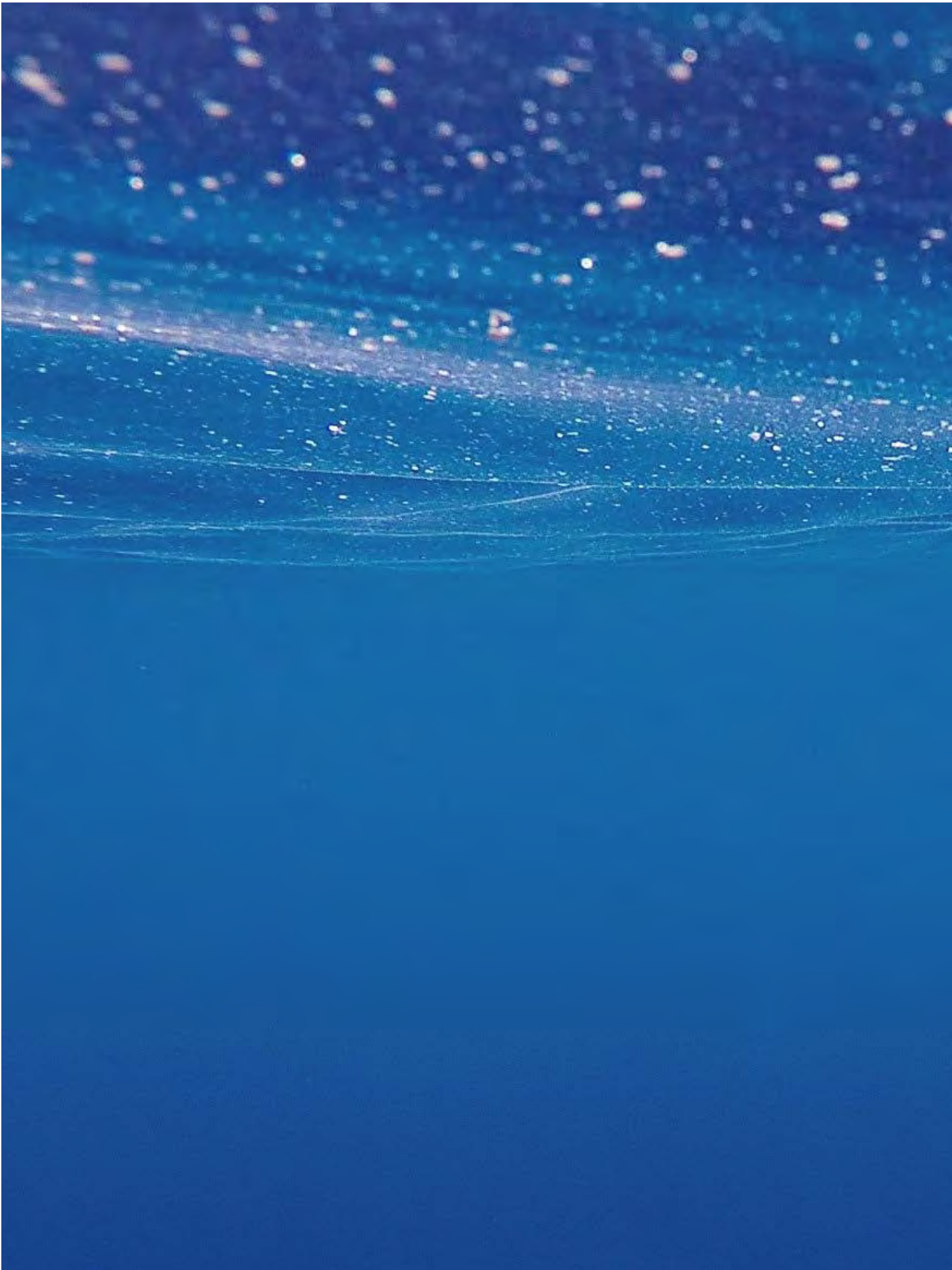
Highlighted Project

HOLYOKE JACKSON STREET AREA SEWER SEPARATION PROJECT - \$8,906,000

The Connecticut River is an important resource in New England. The City of Holyoke, Massachusetts occupies about 21 square miles of land area abutting the west bank of the Connecticut River in Hampden County. Many of the sewers constructed for the city prior to the late 1960s/early 1970s were designed to convey stormwater runoff as well as sanitary sewage. At that time, the design and construction of combined sewer systems was an acceptable and common practice. Due to continued expansion of the sewer system over the past 100+ years, the sewer system has become quite complex. As an example, in many areas of the City it is common to find two or three pipes parallel to each other along the same street to accommodate increased wastewater flows.

The City of Holyoke wastewater collection system consists of approximately 137 miles of pipeline, approximately 61% of which is combined. These sewers range from brick conduits, concrete pipes and vitrified clay (VC) pipes in the older portions of the sewer system to reinforced concrete pipes, asbestos cement (AC) pipes and polyvinyl chloride (PVC) pipes in the newer sections of the sewer system.

Sewer separation was determined to be the most appropriate combined sewer overflow (CSO) abatement alternative for this drainage area in the draft CSO LTCP. Based on the draft CSO Long-Term Control Plan (LTCP) recommendations and input from MassDEP and EPA, the City is already proceeding with sewer separation in this drainage area. In fact, the City was issued an Administrative Order by EPA in August 2016 that includes specific milestone dates for the initiation and completion of sewer separation construction in this drainage area.





State Revolving Fund

State Revolving Fund

Annual Financial Summary

The following discussion provides additional details on the financial management activities of the SRF loan program.

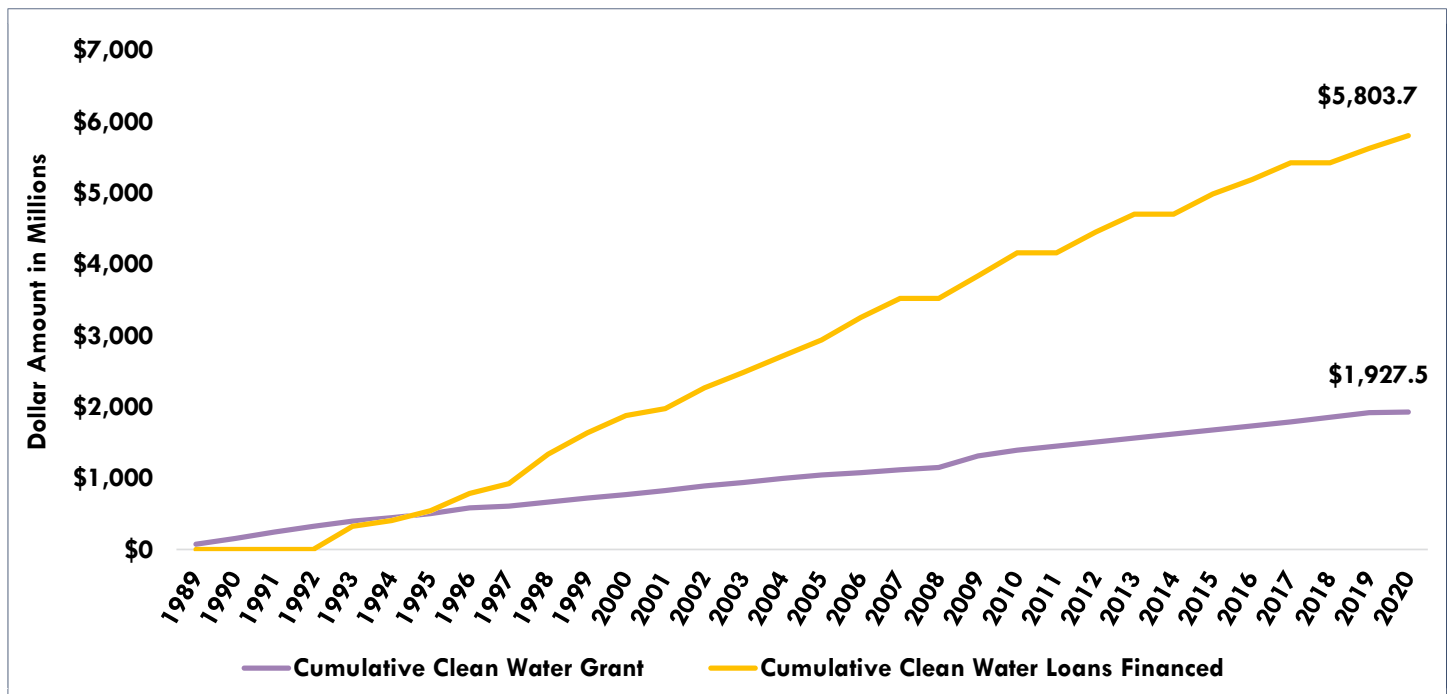
Leveraged Financing Model

The SRF loan program receives funding from the EPA in the form of an annual grant, supplemented by a 20% state matching grant and the repayment of funds from borrowers. The Trust's SRF loan program utilizes a "leveraged" financing model, under which SRF Program Funds are used as a source of security for revenue bonds ("SRF Bonds") issued by the Trust. Proceeds from the SRF Bonds are used to finance loans to local cities, towns and other eligible borrowers for project costs.

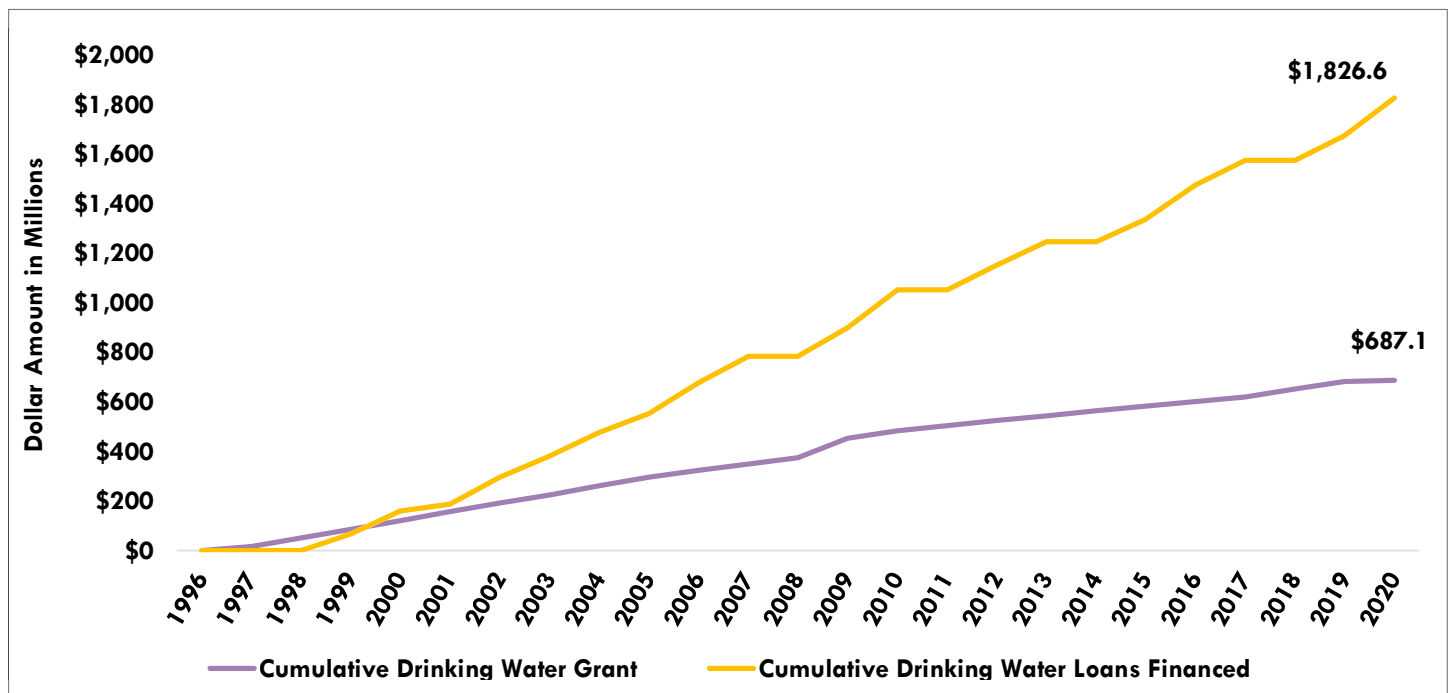
The leveraged structure of the Trust's program permits the Trust to substantially increase the amount available to finance eligible project costs across the Commonwealth. Each federal grant and associated state matching grant dollar contributed to the program results in at least three dollars of project cost financing while assuring the perpetual nature of the revolving fund.

The following charts demonstrate the lending ability of the Trust by comparing state and federal grants received, throughout the life of the program to total loans provided.

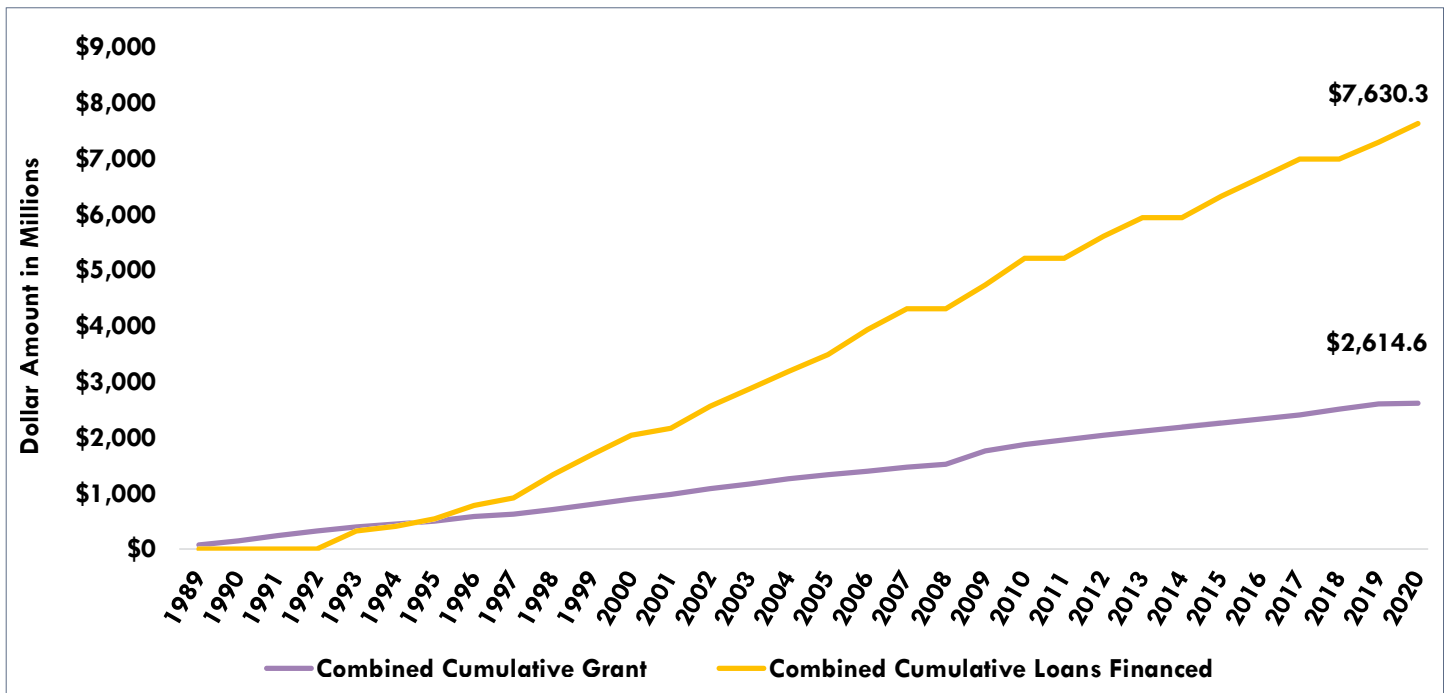
CWSRF Grant Amount Compared to Cumulative Loan Amounts by SFY



DWSRF Grant Amount Compared to Cumulative Loan Amounts by SFY



Combined Cumulative Loan Compared to Cumulative Grants Combined



The Trust's lending and bond issuance programs are structured to ensure adequate cash flows for financing its loans and repaying bonds to maturity. Depending on the type of projects being financed, the terms of the loans to borrowers and the subsidy levels to which the borrowers are entitled, the Trust applies its SRF Program Funds to finance either direct loans to borrowers or invests in reserve funds, which are then pledged as a source of payment and security for the SRF Bonds.

SRF Bonds: Sources of Repayment

The sources of repayment for the Trust's SRF Bonds are made from loan repayments from borrowers; interest earnings on debt service reserve funds pledged to secure such bonds; and, subsidy payments provided by the Commonwealth, known as contract assistance.

Pledged Direct Loans

The Trust uses its SRF Program Funds rather than bond proceeds to finance certain loans to borrowers. These direct loans are pledged as additional security to SRF Bonds. As the direct loans are repaid, the interest payments on those loans are applied to debt service on the bonds, thus providing the borrowers' interest rate subsidy. Since 2012, the Trust has used the Pledged Direct Loan approach. As of June 30, 2020, the Trust has \$607.6 million in pledged direct loans.

CWSRF

As of June 30, 2020, the Trust has \$448.4 million of pledged direct loans outstanding.

DWSRF

As of June 30, 2020, the Trust has \$159.2 million of pledged direct loans outstanding.



Commonwealth Contract Assistance Payments

The Commonwealth makes assistance payments for borrowers by paying a portion of debt service on the related series of the Trust's SRF Bonds. This reduces the borrower's loan repayment obligation. The contract assistance pays the difference between the market rate of the bonds and the subsidized interest rate on the loans of 2% or less. The obligation of the Commonwealth to make such payments to the Trust is a general obligation of the Commonwealth, for which its full faith and credit are pledged. Contract assistance is appropriated annually in the Commonwealth's operating budget.

CWSRF

To date, the Trust has received \$1.1 billion in clean water contract assistance with a future commitment of \$162.3 million, for a total cumulative commitment by the Commonwealth of \$1.3 billion. Revenue from Commonwealth contract assistance contributed 11.8% toward SFY 2020 debt service, totaling \$33.4 million in assistance applied.

DWSRF

To date, the Trust has received \$176.7 million in drinking water contract assistance with a future commitment of \$39.8 million, for a total cumulative commitment by the Commonwealth of \$216.5 million. Revenue from Commonwealth contract assistance contributed 9.9% toward SFY 2020 debt service, totaling \$10.1 million in assistance applied.

Deallocation of Funds

As the Trust makes principal payments on its SRF Bonds the amount of its program assets pledged to the bonds are reduced proportionately, or deallocated, according to each bond's scheduled cash flows. These released funds are available to cure borrower payment defaults, if any. If not needed to cure a default, the deallocated funds are released to the Equity Fund and are then available to be disbursed to new loans, thus assuring the perpetual nature of the revolving fund.

Borrower Repayments

Each borrower is obligated to repay the principal amount of its loan at a subsidized interest rate of 2% or less. Those with extended term financing, greater than 20 years, receive a subsidized interest rate that is higher than 2%. Series 22 which closed on October of 2019, had a subsidized interest rate of 2.2% for extended term financing loans.

CWSRF

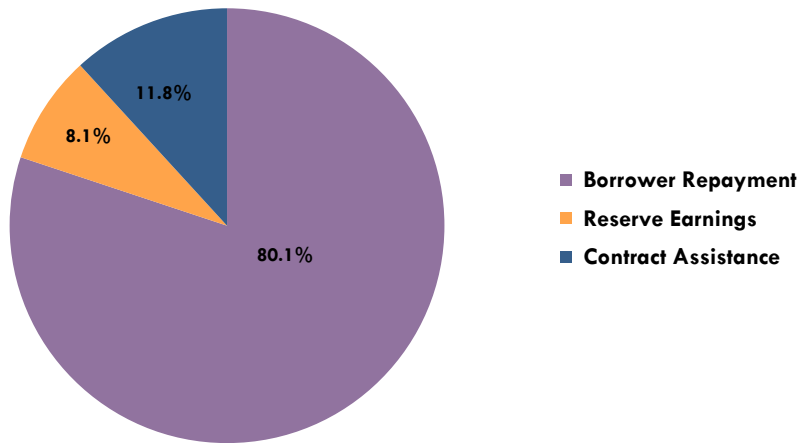
In SFY 2020, borrower principal and interest loan repayments accounted for approximately 80.1% of debt service, totaling \$220.9 million.

DWSRF

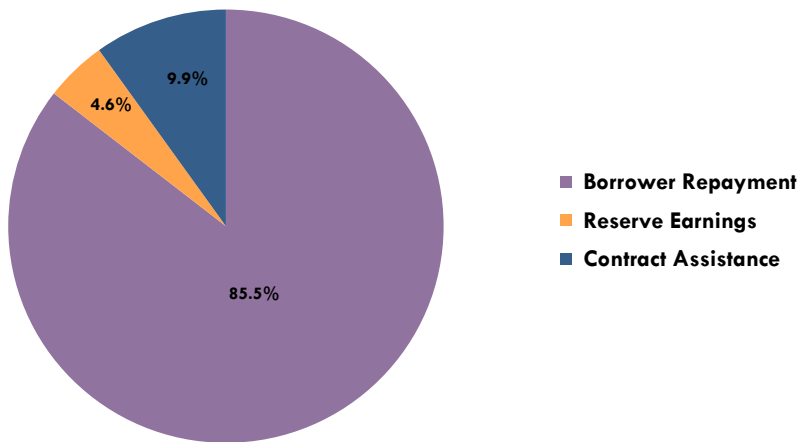
In SFY 2020, borrower principal and interest loan repayments accounted for approximately 85.5% of debt service, totaling \$86.7 million.



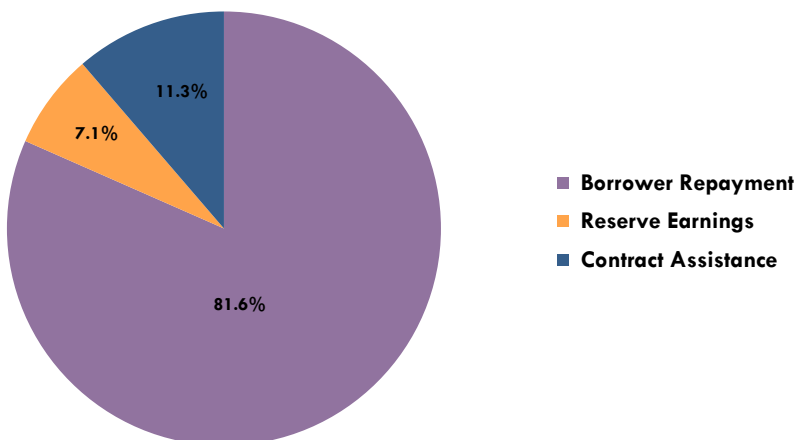
Total Sources of Debt Service Payments for CWSRF SFY 2020



Total Sources of Debt Service Payments for DWSRF SFY 2020



Total Sources of Debt Service Payments for SRF SFY 2020



Reserve Fund

In the past, the Trust has pledged a portion of its SRF Program Funds to establish debt service reserve funds to secure a series of its SRF Bonds. The investment earnings from these reserve funds are used to pay a portion of the debt service on the related SRF Bonds while the fund balances are available as additional security and recycled back to the SRF Program Fund after debt service obligations have been met.

Summary of Debt Service Reserve Fund Balance for SFY 2020

Dollar Amount in Millions

| | CWSRF | DWSRF | TOTAL |
|-------------------------|----------------|---------------|----------------|
| GIC Investments | \$282.9 | \$58.1 | \$341.0 |
| US Treasury Investments | 118.9 | 38.5 | 157.4 |
| Total | \$401.8 | \$96.6 | \$498.4 |

Interest Earnings

Earnings on these investments are applied to pay a portion of the debt service on the related series of SRF Bonds. In SFY 2020, reserve fund earnings applied to current debt service payments are listed in the table below. As bonds are repaid, reserve funds are released and returned to their respective equity fund.

Debt Service Reserve Fund Interest Earnings

Dollar Amount in Millions

| SFY | CWSRF | | DWSRF | |
|------|-------------------------|--------------|-------------------------|--------------|
| | Percent of Debt Service | Total Amount | Percent of Debt Service | Total Amount |
| 2020 | 8.1% | \$22.3 | 4.6% | \$4.7 |
| 2019 | 9.8% | \$27.8 | 6.9% | \$6.9 |

Highlighted Project

**FRANKLIN
TREATMENT PLANT
AT WELL STATIONS
NO.3 AND 6 -
\$12,579,500**



Source: franklinmatters.org

The Franklin Water Department began the design process of building a new water treatment plant for iron and manganese removal for Wells No. 3 and No. 6, as well as replacing water mains to comply with the corrective action order by MassDEP in 2014. Many treatment options were pilot tested, and the Greensand media was chosen as the best method in iron and manganese removal through filtration systems. This system will be accompanied by centralized chemical feed equipment for the well stations, emergency back-up power, and replacement of the Well No. 6 vacuum suction system with submersible pumps in the well heads. The new plant construction and design has continued from 2018-2019, with groundbreaking in 2020.

90% of the new Grove Street plant has been designed, equipped to fully treat 1.22 million gallons per day (MGD) from both combined wells (3 and 6). Currently, Well No. 3 is only pumping .25 MGD, while .5 MGD is permitted. Well No.6 has been offline due to elevated levels of iron and manganese, and pumping 0 MGD since 2016, while .72 MGD is permitted. In addition, a replacement well has been installed in both wells to increase production within permitted volumes. The plant is designed for expansion if ground water continues to deteriorate.

Upon completion of this project, drinking water quality will be improved due to the reduced manganese and iron concentrations, and the town will have the capacity to meet its drinking water needs into the future.







Program Specific Reporting

Clean Water State Revolving Fund (CWSRF)

The following discussion provides additional details that are specific to the CWSRF program and its related activities.

Administrative Expenses

For SFY 2020, \$1.5 million of annual CWSRF grant administration funds were spent by MassDEP. This consisted of \$0.2 million in federal funds and \$1.3 million in state matching funds. These costs were associated with construction management of the CWSRF program. An additional \$3.1 million was spent from the Trust's Administrative Fund to supplement MassDEP administrative costs for both the CWSRF and DWSRF programs.

Green Project Reserve (GPR)

Under the FFY 2016 Omnibus Appropriations Bill, Congress required that at least 10% of the CWSRF grant be used to fund "green infrastructure, water or energy efficiency improvements, or other environmentally innovative activities." For SFY 2020, this required that \$5.4 million be allocated towards GPR projects. For SFY 2020, there are a total of nine green projects.

Most of these projects were not entirely green; therefore, MassDEP had to determine the value of the GPR portions. The total value of these projects was approximately \$76.4 million with GPR components being valued a \$37.3 million. MassDEP expects these projects to meet the minimum for GPR projects.

Community Septic Management Program

The CSMP provides loans to the Commonwealth’s cities and towns for assisting homeowners in the repair or replacement of failed septic systems. With the CSMP, the Trust issues low-interest rate loans to communities who, in turn, issue loans directly to homeowners for up to 20 years. Loans to homeowners are secured through a betterment on their properties. This program allows municipalities to provide access to capital for home septic repair or replacement at a subsidized, below market value interest rate.

This program was originally funded through a onetime appropriation by the State Legislature. Those funds have been fully expended, and the program is incorporated as a non-point source program within the CWSRF program as non-point source projects.

Transfer of Funds to the Drinking Water State Revolving Fund

Section 302 of the 1996 Safe Drinking Water Act Amendments allows states the flexibility to move funds between CWSRF and DWSRF programs to better address specific state priorities. The EPA allows an equivalent of up to 33% of the DWSRF grant to be transferred between the SRF programs.

The capacity within the CWSRF has allowed the Trust to finance all the clean water projects on the CWSRF IUP that request financing each year. In contrast, one third to one half of the proposed projects go unfunded each year for the DWSRF IUP. The level of federal grant funding of the Massachusetts DWSRF is insufficient to meet the need for project financing.

Transferring a limited amount of funds from the CWSRF to the DWSRF this year and in the future allows for modest increases in the capacity of the DWSRF and reduces the imbalance in the ability to provide financing.

| CWSRF to DWSRF Fund Transfer by SFY | | | |
|-------------------------------------|------------|---------------------|---------------|
| SFY | Grant Year | Transfer Amount | Transfer Date |
| 2020 | 2019 | \$8,425,890 | 11/07/2019 |
| 2019 | 2018 | 8,505,420 | 11/15/2018 |
| 2018 | 2017 | 5,055,270 | 09/21/2017 |
| 2017 | 2016 | 5,098,830 | 12/15/2016 |
| 2016 | 2015 | 5,389,890 | 12/03/2015 |
| 2015 | 2014 | 5,425,530 | 12/04/2014 |
| 2014 | 2013 | 5,180,670 | 06/12/2014 |
| Total | | \$43,081,500 | |

Drinking Water State Revolving Fund (DWSRF)

The following discussion provides additional details that are specific to the DWSRF program and its related activities.

Small Systems

A requirement associated with the DWSRF program establishes that states are required to commit 15% of total available funds for loan assistance to small systems. The EPA defines a small system as a “public water system that regularly serves 10,000 or fewer persons.” The total DWSRF funds available for the 2019 IUP was \$147 million, of which approximately \$22 million would be required for small system loan assistance.

As reported in the DWSRF National Information Management System (NIMS), the Trust committed to \$28.4 million in small system financing.

Drinking Water Set-Asides

MassDEP continues to use set-aside funds as outlined in the annual IUP. The following sections describe the basic programs and accomplishments.

4% — ADMINISTRATION

MassDEP uses ten (10) fulltime equivalent (FTE) staff members to administer the DWSRF program. These FTEs utilize 4% set-aside funding to accomplish the following tasks: developing program selection criteria, application ranking and rating, project development, construction inspections, invoice payment, data management and administrative support functions.

2% — SMALL SYSTEM TECHNICAL ASSISTANCE

MassDEP uses four (4) FTE staff members for Municipal Services Support. These FTEs provide training and technical assistance (compliance and operational issues) to small systems throughout the Commonwealth. During the past year, MassDEP also worked with outside training and technical assistance providers. The Massachusetts Rural Water Association, New England Water Works Association, and EPA’s Environmental Finance Center also provided training to public water suppliers.

The DWSRF program uses significant outreach efforts for small system projects throughout the Commonwealth. The 2% Small Systems Technical Assistance set-aside is used to emphasize the SRF as a low-cost source of financing. Even with these efforts to reach and recruit small system communities, the Trust is concerned about an insufficient number of applications to meet the 15% requirement.

10% — STATE PROGRAM MANAGEMENT

MassDEP used approximately fourteen (14) FTE staff members to administer the DWSRF program. These FTEs utilized the remaining portion of the 2018 DWSRF grant 10% set-aside in addition to the Trust’s administrative funds for public water system support, including the following programs: sanitary survey, source and wellhead protection, emergency response, capacity development, operator certification, consumer confidence report assistance, adoption and implementation of new regulations, evaluation and maintenance of existing federal rules, planning, outreach, MassDEP and data management, engineering and construction supervision, compliance supervision and other DWSRF program activities. Some highlights of the programs in SFY 2020 include:

Sanitary Survey Program. MassDEP Drinking Water staff is responsible for evaluating the technical, financial and managerial capability of community, non-transient non-community and transient non-community public water systems. During the last year the Drinking Water staff has completed 180 evaluations on existing systems.

| Sanitary Surveys Completed in SFY 2020 | |
|--|-----------------------------------|
| Type of Public Water System | Total Number of Surveys Completed |
| Community Systems | 96 |
| Non-Transient Non-Community Systems | 63 |
| Transient Non-Community System | 21 |
| Total | 180 |

Operator Certification. MassDEP has a very active operator certification program. The program activities have been integrated into daily staff activities. Program activities range from chairing the Board of Certification of Drinking Water Operators to providing general and specialized assistance for drinking water operators at all levels.

Wellhead Protection Program. Technical assistance was provided to water supply systems for wellhead protection compliance, the development of protection plans, and determining monitoring waiver eligibility.

Capacity Development. During the course of conducting sanitary surveys on public water systems, MassDEP staff identified 631 technical, financial, or managerial deficiencies and provided corrective action assistance to ensure compliance. MassDEP’s capacity development strategy focuses on improving the technical, financial, and managerial operations of both new and existing public managerial operations.

15% — LOCAL ASSISTANCE

MassDEP used twenty-one (21) FTEs from the 15% local assistance set-aside to support the public water system supervision programs. These programs include sanitary surveys, adoption and implementation of new regulations, registration of new systems, evaluation and maintenance of existing federal rules, planning, outreach, data management, engineering and construction supervision. Some highlights of the programs in SFY 2020 include:

Source Protection Support. The registration of 9 new small public water systems, along with continuing the implementation and monitoring of the chemical monitoring waiver program has incentivized source protection as well as promoted preparedness and sustainability. Source protection technical assistance was provided during the 180 sanitary surveys that were completed throughout the year.

| Registration of New Small Public Water Systems in SFY 2020 | |
|--|-------------------|
| Type of Public Water System | Number of Systems |
| Community Systems | 2 |
| Non-Transient Non-Community Systems | 2 |
| Transient Non-Community System | 5 |
| Total | 9 |



PROGRAM CERTIFICATIONS

Extended Term Financing

The Trust continues to offer extended term financing up to 30 years to its borrowers. Extended term financing is available for CWSRF and DWSRF projects that can demonstrate the project's useful life is at least as long as the term of the loan. By offering extended term financing, the Trust provides an equivalent interest rate subsidy for a 30-year loan, as it does for a 20-year loan, based off current market conditions near the time of the loan closing. The interest rate for extended term financing for SFY 2020 was 2.2%.

American Iron and Steel

MassDEP has incorporated the American Iron and Steel (AIS) requirements into its Loan Application and Plans and Specifications Preparation Package. The necessary language has also been added in the Project Regulatory Agreement and the Financing Agreement for loans. All projects during the reporting period were subject to the AIS requirements because all projects had plans and specifications submitted, or contracts finalized after the AIS effective date of January 17, 2014.

Federal Funding Accountability and Transparency Act

In compliance with the Federal Funding Accountability and Transparency Act (FFATA), the Trust reports recipient or subrecipient awards for any amount equaling \$25,000 or greater in the FFATA Subaward Reporting System (FSRS) at www.fsrs.gov. The loans used by the Trust for FFATA Reporting can be found in Appendix B of this report.

Davis-Bacon Act

The amendments to the Clean Water Act, as part of WRRDA, apply the Davis-Bacon Act requirements to all treatment works projects going forward. The Davis-Bacon requirements do not apply to nonpoint source or decentralized wastewater treatment projects. MassDEP ensures that the required Davis-Bacon language is included in contracts and conducts field verifications of project compliance with the wage rate requirements.

Disadvantaged Business Enterprise (DBE) Certifications

During 2016 and the first half of 2017, MassDEP and the Trust, completed a DBE review and submitted the results to EPA for approval. On July 27, 2017, EPA Region 1 approved new DBE goals of 4.2% for minority-owned business enterprises (MBE) and 4.5% for women-owned business enterprises (WBE). Projects receiving SRF financing must meet those goals. Proponents unable to meet the targets may seek a waiver for the requirement, if it can be demonstrated that a 'good faith effort' was undertaken to achieve those goals.

Compliance with Federal Crosscutters

The loan contract requires that loan recipients comply with applicable federal crosscutting authorities. The state is required to comply with applicable federal crosscutting authorities by the assistance and operating agreements it signs with the EPA and by applicable federal regulations.





Appendix A

Appendix A

Clean Water and Drinking Water Financial Tables



Clean Water Financial Tables

| Clean Water SRF | 2020 | | 2019 | |
|---|----------------------------|--|---------------------|--|
| | Annual Grant Awards | | | |
| Federal Clean Water SRF Grant | \$53,946,000 | | \$54,495,000 | |
| State Matching Funds | 10,790,800 | | 21,688,200 | |
| Total Federal & State Grant Awards | \$64,736,800 | | \$76,183,200 | |

| Annual Binding Commitments | | | | |
|-----------------------------------|---------------|----|---------------|----|
| Binding Loan Commitments Issued | \$255,477,038 | 56 | \$299,019,788 | 45 |

| Annual Disbursements | | | | |
|-----------------------------|----------------------|------------|----------------------|------------|
| Clean Water Interim Loans | \$201,632,357 | 101 | \$139,056,879 | 77 |
| Project Loans Financed | 39,727,940 | 49 | 54,974,215 | 42 |
| Total Disbursements | \$241,360,297 | 150 | \$194,031,094 | 119 |

| Financial Results from Program Inception | | | | |
|---|------------------------|--|------------------------|--|
| Federal Clean Water SRF Grant | \$1,619,428,761 | | \$1,565,482,761 | |
| State Matching Funds | 308,065,092 | | 297,274,292 | |
| Total Federal & State Grant Awards | \$1,927,493,853 | | \$1,862,757,053 | |
| Total Clean Water Assets & Deferred Outflows | \$4,083,864,000 | | \$4,106,999,519 | |
| Total Loans Financed | \$5,803,722,258 | | \$5,623,965,263 | |



Drinking Water Financial Tables

| Drinking Water SRF | 2020 | | 2019 | |
|---|----------------------------|--|---------------------|--|
| | Annual Grant Awards | | | |
| Federal Drinking Water SRF Grant | \$25,533,000 | | \$25,774,000 | |
| State Matching Funds | 5,109,800 | | 10,261,400 | |
| Total Federal & State Grant Awards | \$30,642,800 | | \$36,035,400 | |

| Annual Binding Commitments | | | | |
|-----------------------------------|---------------|----|--------------|----|
| Binding Loan Commitments Issued | \$107,552,510 | 23 | \$72,116,177 | 17 |

| Annual Disbursements | | | | |
|------------------------------|---------------------|-----------|----------------------|-----------|
| Drinking Water Interim Loans | \$77,780,585 | 40 | \$108,522,603 | 25 |
| Project Loans Financed | 18,089,189 | 26 | 39,925,327 | 21 |
| Total Disbursements | \$95,869,774 | 66 | \$148,447,930 | 46 |

| Financial Results from Program Inception | | | | |
|--|------------------------|--|------------------------|--|
| Federal Drinking Water SRF Grant | \$577,096,100 | | \$551,563,100 | |
| State Matching Funds | 110,085,820 | | 104,976,020 | |
| Total Federal & State Grant Awards | \$687,181,920 | | \$656,539,120 | |
| Total Drinking Water Assets & Deferred Outflows | \$1,386,312,000 | | \$1,275,412,773 | |
| Total Loans Financed | \$1,826,551,093 | | \$1,673,383,150 | |







Appendix B

SRF Binding Commitments for SFY 2020 by Program



CWSRF Binding Commitments for SFY 2020

| PRA No. | Borrower | Agreement Date | Project Description | Commitment Amount |
|------------|---|----------------|---|-------------------|
| CWT-19-13 | Bellingham | 08/01/2019 | Community Septic Management Program | \$300,000 |
| CWP-19-07 | Bourne | 11/01/2019 | Buzzards Bay Wastewater Treatment Facility | 4,660,410 |
| CWA-19-25 | Brockton | 11/01/2019 | Asset Management Plan Grant Program | 150,000 |
| CW-18-24 | Chatham | 10/01/2019 | Phase 1D - Chatham/Harwich Regionalization | 8,174,858 |
| CWA-19-20 | East Longmeadow | 01/01/2020 | Asset Management Plan | 84,000 |
| CW-18-45 | Fall River | 07/01/2019 | Fall River Asset Management | 500,000 |
| CW-18-44 | Fall River | 07/01/2019 | Stafford Square Collection System Evaluation | 400,000 |
| CWP-18-38 | Fall River | 07/01/2019 | Wastewater Treatment Facility Improvements | 22,372,932 |
| CWP-18-36 | Fall River | 07/01/2019 | President Avenue Sewer Pump Station Replacement | 4,117,500 |
| CWP-19-23* | Fall River | 05/01/2020 | South End Sewer Pump Station Replacement | 3,231,950 |
| CWP-19-23A | Fall River | 05/01/2020 | South End Sewer Pump Station Replacement | 570,000 |
| CWP-16-10B | Fitchburg | 10/01/2019 | Fitchburg WWTF Secondary Systems Upgrade | 2,785,640 |
| CWA-19-18 | Gardner | 09/01/2019 | Gardner Asset Management Plan | 141,000 |
| CWP-19-44 | Gloucester | 05/01/2020 | Sewer PS Rehabilitations & FOG Mitigation | 1,504,260 |
| CWA-19-24 | Gloucester | 11/01/2019 | Asset Management Plan | 150,000 |
| CWP-18-23 | Harwich | 07/01/2019 | Harwich Sewer Collection System - Phase 2 | 22,214,467 |
| CW-19-12 | Haverhill | 09/01/2019 | CSO Control Plan for the Locke Street CSO Area | 1,534,800 |
| CWP-19-04* | Holyoke | 05/01/2020 | Jackson Street Area Sewer Separation Project | 8,051,397 |
| CWP-19-04A | Holyoke | 05/01/2020 | Jackson Street Area Sewer Separation Project | 854,603 |
| CWA-19-15 | Hopkinton | 08/01/2019 | Town of Hopkinton Asset Management Plan | 103,800 |
| CW-18-22 | Hull | 07/01/2019 | Sanitary Sewer Evaluation Survey | 1,436,820 |
| CWP-18-29 | Hull | 07/01/2019 | Fiscal Sustainability Plan and CMOM Upgrades | 9,999,260 |
| CWA-19-08 | Ipswich | 11/01/2019 | Ipswich Asset Management Plan | 150,000 |
| CWP-19-06* | Lawrence | 03/01/2020 | Sewer and Drainage System Improvements | 4,400,000 |
| CWP-19-06A | Lawrence | 03/01/2020 | Sewer and Drainage System Improvements | 570,000 |
| CW-19-21 | Lawrence | 06/01/2020 | Sanitary Sewer Evaluation Survey Phases VI through VIII | 3,000,000 |
| CWA-19-14 | Leicester Water Supply District | 08/01/2019 | Sanitary Sewer Asset Mgt. Plans for 3 Districts | 45,000 |
| CWP-19-26 | Leominster | 11/01/2019 | Aeration Basin and Secondary Clarifier Upgrade | 11,294,000 |
| CWP-16-15B | Lowell | 03/01/2020 | CIP Phase - WWTF and Infrastructure Upgrades | 2,200,000 |
| CWP-19-27 | Lynn Water And Sewer Commission | 06/01/2020 | West Lynn Sewer Separation | 11,117,687 |
| CW-18-37 | Marion | 11/01/2019 | WWTP & Collection System Improvements | 7,663,309 |
| CW-19-50 | Massachusetts Water Resources Authority | 01/01/2020 | Wastewater Treatment Plant and Sewer Improvements | 3,350,379 |
| CW-19-51 | Massachusetts Water Resources Authority | 01/01/2020 | Remote Headworks Upgrade | 30,000,000 |
| CW-19-49 | Massachusetts Water Resources Authority | 01/01/2020 | Facility Asset Protection | 7,529,886 |
| CW-19-52 | Massachusetts Water Resources Authority | 01/01/2020 | Dorchester Interceptor Sewer Renewal Contract 7279 | 4,707,485 |
| CW-19-45 | Massachusetts Water Resources Authority | 01/01/2020 | Nut Island HW Odor Control & HVAC - Contract 7548 | 20,000,000 |
| CWA-19-19 | Medford | 11/01/2019 | Asset Management Planning | 141,445 |

CWSRF Binding Commitments for SFY 2020

| PRA No. | Borrower | Agreement Date | Project Description | Commitment Amount |
|---|---|----------------|--|----------------------|
| CWA-19-10 | Millis | 08/01/2019 | Asset Management Planning | 88,500 |
| CWA-19-17 | New Bedford | 09/01/2019 | Asset Management Plan Grant Program | 410,000 |
| CWP-18-43 | Norton | 07/01/2019 | West Main Street Sewer Extension Project | 5,289,438 |
| CWA-19-11 | Oak Bluffs | 08/01/2019 | Oak Bluffs Asset Management Plan | 22,800 |
| CWT-20-02 | Plymouth | 05/01/2020 | Community Septic Management Program | 300,000 |
| CWP-19-29 | Quincy | 06/01/2020 | FY2020 Sewer Improvements | 3,781,735 |
| CWP-16-17A | Revere | 10/01/2019 | Phase VII Construction- I/I, IDDE, P.S. & Drainage | 9,027,431.00 |
| CWP-17-27A | Revere | 03/01/2020 | Phase VIII - I/I, IDDE, P.S., & Drainage | 373,953 |
| CW-18-19 | Revere | 08/01/2019 | Illicit Connection and Sump Pump Investigation | 500,000 |
| CW-18-26 | Revere | 08/01/2019 | Phase X Field Investigations - I/I and IDDE | 1,000,000 |
| CWP-18-28 | Revere | 07/01/2019 | Phase IX Construction - I/I, IDDE, P.S. & Drainage | 4,700,000 |
| CWP-19-31 | Saugus | 06/01/2020 | Lincoln Ave Pump Station Improvements, Phase 2 | 536,940 |
| CWP-18-18A | Springfield Water And Sewer Commission | 07/01/2019 | York St. Pump Station & Connecticut River Crossing | 12,341,902 |
| CWT-20-01 | Stoughton | 05/01/2020 | Community Septic Management Program | 400,000 |
| CW-19-16 | Sudbury | 12/01/2019 | Clean Water Master Plan Update | 500,000 |
| CWP-16-39B | Upper Blackstone Water Pollution Abatement District | 07/01/2019 | Nutrient Removal Improvements | 2,100,000 |
| CWP-19-41* | West Springfield | 05/01/2020 | Birnie Avenue and Piper Road Area Sewer Project | 6,066,000 |
| CWP-19-41A | West Springfield | 05/01/2020 | Birnie Avenue and Piper Road Area Sewer Project | 745,000 |
| CWP-19-05 | Winthrop | 11/01/2019 | Town Center - Sewer and Drainage Improvements | 7,786,451 |
| Total Clean Water Binding Commitments SFY 2020 | | | | \$255,477,038 |

**Loans used for FFATA Reporting*



DWSRF Binding Commitments for SFY 2020

| PRA Number | Borrower | Agreement Date | Project Description | Commitment Amount |
|--|---|----------------|--|----------------------|
| DWA-19-21 | Adams Fire District | 01/01/2020 | Adams Fire District - Asset Management Plan | \$19,500 |
| DW-19-13 | Andover | 06/01/2020 | Distribution System Improvements - Contract 1 | 3,253,219 |
| DWA-19-07 | Avon | 08/01/2019 | Integrated Water Resource Asset Management Plan | 67,200 |
| DWP-18-10* | Barnstable | 07/01/2019 | Maher Treatment Facility Upgrade | 10,480,061 |
| DWP-19-04* | Billerica | 01/01/2020 | Water Treatment Plant Upgrades | 9,974,561 |
| DWA-19-08 | Canton | 09/01/2019 | Asset Management Planning | 150,000 |
| DW-19-05 | Dunstable | 08/01/2019 | Dunstable Water Infrastructure Project | 2,640,000 |
| DWP-19-06* | Eastham | 04/01/2020 | Phase 2B of Town-Wide Water System | 10,538,250 |
| DWP-18-15 | Fall River | 07/01/2019 | Phase 18 - Water System Improvements | 1,407,170 |
| DW-19-02 | Franklin | 10/01/2019 | Treatment Plant at Well Stations No. 3 and 6. | 12,579,500 |
| DWP-18-06 | Haverhill | 07/01/2019 | Phase 2 - Transmission Main Improvements | 8,547,666 |
| DWP-19-01 | Lawrence | 08/01/2019 | Water Valve Replacement Project | 2,738,768 |
| DWP-19-03* | Lawrence | 09/01/2019 | Distribution System Improvements | 6,014,161 |
| DW-19-26 | Massachusetts Water Resources Authority | 01/01/2020 | Wachusett Aqueduct PS | 4,103,509 |
| DW-19-25 | Massachusetts Water Resources Authority | 01/01/2020 | SEH Redundancy and Storage | 10,896,491 |
| DWP-19-10 | Pepperell | 10/01/2019 | Bemis Water Treatment Plant | 8,500,000 |
| DWP-18-09 | Revere | 07/01/2019 | Oak Island Water Main Improvements | 875,242 |
| DW-19-18 | Scituate | 05/01/2020 | Scituate Well 17A Water Treatment Plant | 6,769,393 |
| DWP-18-12 | Southampton | 07/01/2019 | Southampton Water System Improvement Project | 1,700,000 |
| DWA-19-09 | Springfield Water And Sewer Commission | 12/01/2019 | Asset Management and Capital Improvements Plan | 150,000 |
| DWP-18-07* | Taunton | 07/01/2019 | 2018 Water Main Improvements Project | 4,000,000 |
| DWP-19-27 | West Boylston Water District | 05/01/2020 | North Main St. & Laurel St. Water Main Replacement | 1,549,777 |
| DWP-17-13A | West Springfield | 01/01/2020 | Drinking Water System Improvements Project | 598,042 |
| Total Drinking Water Binding Commitments SFY 2020 | | | | \$107,552,510 |

**Loans used for FFATA Reporting*



Highlighted Project

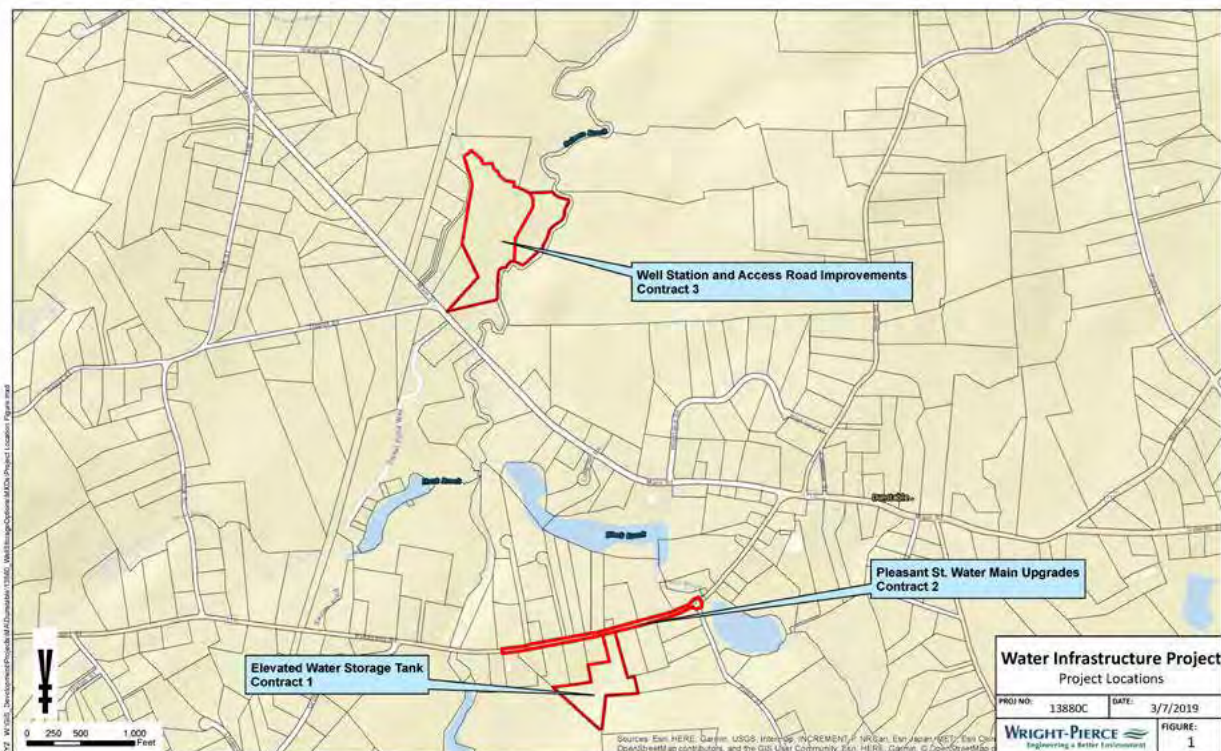
DUNSTABLE WATER INFRASTRUCTURE PROJECT - \$2,640,000

The Town of Dunstable has a limited centralized public water supply with 102 connections. Most of these connections are residential. However, an elementary school, municipal facilities and a small assortment of commercial properties are also connected to the system. This public water supply serves a drinking water population of approximately 230 people. In May 2018, MassDEP issued an Administrative Consent Order that identified inconsistent pH levels in existing well sites. Additionally, the notice noted the pre-existing hydro-pneumatic water storage tanks were failing to maintain pressure causing fluctuations in the pH levels. Inconsistent pH levels and failing tanks pose a serious threat to the public and the reliability of the system's supply.

The Town submitted a design for a water storage tank to replace the existing hydro-pneumatic system and for a water main replacement on Pleasant Street. This 75,000-gallon, pedestal type, elevated steel storage tank will meet MassDEP's guidelines. MassDEP also required corrosion control treatment to ensure that the pH level of water entering the system is 7.0 or greater.

The existing water main is an undersized 4-inch asbestos cement pipe. This project will add approximately 1,800 linear feet of 12-inch diameter piping and a 12-inch connection to the new elevated storage. Gate valves, fittings, hydrant assemblies, and road restoration will also be part of the upgrades. Finally, Various improvements to the Dunstable Well Site will optimize the existing potassium hydroxide feed system used to control the pH levels of source water. Upgrades include dedicated magnetic flow meters for chemical pacing.

Replacing the tanks with the new elevated atmospheric storage tank and optimizing the feed system are vital projects to ensure that the town is providing safe drinking water.



Source: dunstable-ma.gov



MASSACHUSETTS
CLEAN WATER TRUST

2020 GREEN BOND REPORT

Office of the State Treasurer
Massachusetts Clean Water Trust

1 Center Plaza, Suite 430 | Boston, MA 02108 | (617) 367-9333



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A Note from the Treasurer

As Chair of the Massachusetts Clean Water Trust (the Trust) Board of Trustees, I am pleased to continue the Commonwealth and the Trust's policy of openness and transparency by submitting our third annual Green Bond Report. To date, the Trust has completed five Green Bond issuances totaling approximately \$1 billion to support 229 local water infrastructure projects.

The Green Bond market is expanding rapidly. According to the Climate Bond Initiative, between 2013-2017, US Municipal Green Bond issues grew to comprise 27% of the total US Green bond market. Fundamentally, US municipalities are in a strong market position to issue Green Bonds, and as this marketplace continues to mature, issuers must commit to transparent and accurate reporting for the Green Bond label to continue to instill investor confidence.

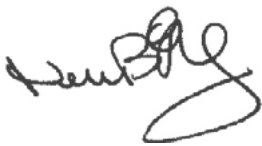
The Trust, with its AAA credit rating by all three major credit agencies, provides low interest loans to local governments and other eligible entities for water infrastructure projects across the Commonwealth. These vital projects enhance ground and surface water resources, ensure the safety of drinking water, protect public health, and develop resilient communities. Since its establishment, the Trust has financed approximately \$7.6 billion in projects for nearly three hundred borrowers, serving 97% of the Commonwealth's population.

We are pleased to contribute to this innovative marketplace and stay committed to improving our communications and transparency. We ask that you let us know if there are any additional ways that we can meet your informational needs. Your feedback is much appreciated and always welcome.

Finally, I am deeply thankful to the dedicated staff of the Trust and our program partners for their tireless work and commitment to the communities of the Commonwealth in these unprecedented times. The Trust has managed and is managing the hurdles of COVID-19 while remaining dedicated to their mission.

The impact of these investments may not always be visible to the public, but it is felt in every glass of water poured, in restored water bodies, and in homes and businesses that receive safe and reliable water.

Sincerely,



Deborah B. Goldberg
Treasurer and Receiver-General
Commonwealth of Massachusetts
[mass.gov/treasury](https://www.mass.gov/treasury)



Introduction to the Trust

The Massachusetts Clean Water Trust (the Trust), in collaboration with the Massachusetts Department of Environmental Protection (MassDEP), helps communities build or replace water quality infrastructure that enhances ground and surface water resources, ensures the safety of drinking water, protects public health and develops resilient communities. It accomplishes these objectives by providing low-interest loans and grants to cities, towns and water utilities through the Massachusetts State Revolving Funds (SRFs). The SRF programs are partnerships between the United States Environmental Protection Agency (EPA) and the Commonwealth. SRFs function like an environmental infrastructure bank by financing water infrastructure projects.

The Trust administers two SRFs, the Clean Water and Drinking Water SRFs. The Clean Water SRF (CWSRF) was established in 1987 under the Clean Water Act. The Drinking Water SRF (DWSRF) was established in 1996 under the Safe Drinking Water Act. MassDEP manages project development and oversight while the Trust manages the flow of funds to borrowers.

SRFs receive funding from the EPA in the form of annual capitalization grants, supplemented by state matching grants and the repayment of loans. When loans to local governments are paid back, the funds are then loaned out again, which is how the fund “revolves.”

The Trust uses a “leveraged model” to provide funding in excess of the federal and state grants. Bonds are issued in the capital markets and are secured by borrower repayments and reserve funds. The proceeds from bonds are used to provide capital for new below market rate loans to borrowers for water infrastructure. This model has allowed the Trust to finance approximately \$7.6 billion in water infrastructure projects from nearly \$2.6 billion in federal grants and state matching funds.

The Trust is administered by a three-member board of trustees that is chaired by the Treasurer of the Commonwealth. The Secretary of the Executive Office for Administration and Finance and the Commissioner of MassDEP serve as trustees. The Board of Trustees approves all financial commitments and program decisions during monthly meetings. Meeting agendas, minutes, and other board materials can be found on the Trust’s website.

About this Report

This report is separated into three sections. The first section, the Trust’s Green Bond Process, covers program specific project categories, how projects are selected and an overview of how the Trust operates. The second and third sections provide full project descriptions from the Trust’s latest issuance (Series 22), organized by the CWSRF and DWSRF programs. The appendices at the end of this report lists all loans by active Green Bond series, and additional information such as the percent of project funding drawn, loan numbers and other relevant information. Readers should note that the main report sections are organized by projects that in some cases were financed by multiple loans spanning multiple series of Green Bonds.

Full project descriptions, in this report, are limited to Series 22 Green Bonds. For full descriptions of projects financed in previous Green Bond issues, then please review previous editions of the Green Bond Report, the Trust’s Annual Reports, or the specific bond series official statements.

All reports and documents may be found on the Trust’s website:

www.mass.gov/orgs/the-massachusetts-clean-water-trust





Section 1 | The Trust's Green Bond Process

Since 2015, the Trust has issued over \$998.4 million of its bonds as Green Bonds in compliance with the federal Clean Water Act and the Safe Drinking Water Act. The Bonds were issued to finance 280 loans for 229 water infrastructure projects through the CWSRF and DWSRF programs. These projects protect public health, protect valuable aquatic resources, and help communities support local businesses while also ensuring that vital infrastructure meets environmental and health standards.

| Green Bonds Issued | | | |
|--------------------|------|---------------|-------------|
| Series | Year | Issue Amount | Total Loans |
| Series 18 | 2015 | \$228,155,000 | 81 |
| Series 19 | 2016 | 207,805,000 | 66 |
| Series 20 | 2017 | 207,350,000 | 51 |
| Series 21 | 2018 | 163,460,000 | 38 |
| Series 22 | 2019 | 191,610,000 | 44 |
| Totals | | \$998,380,000 | 280 |

Frequently Asked Questions

Q. Are Green Bond Proceeds Separated from Traditional Bond Proceeds?

Yes, all Green Bond proceeds are deposited into segregated Clean Water and Drinking Water accounts within the Project Fund for each individual series of bonds. The accounts are individually tracked for each project internally at the Trust and MassDEP. If it is determined that a project no longer needs loan proceeds that have been permanently financed with bonds, the remaining bond proceeds will be reallocated to additional green projects. Those new projects will be included in the Green Bond reporting.

Q. How Often Will the Trust Prepare Green Bond Reports?

The Trust will track the progress of projects and use of proceeds in its Annual Report along with this Green Bond report. The Trust will report on the bonds until the proceeds have been fully expended.

Q. Where Can I Find Your Green Bond Reports?

You may find this and previous reports in the *Investor Resources* section of the Trust's website. The Trust also posts all annual reports and this report to the MSRB's EMMA website, attached to their associated CUSIPs.

Q. Do You Make Use of Third-Party Opinions or Other "Green Certifications"?

Not currently. The Trust is in regular dialogue with investors and groups active in the green space. Based on continued and consistent feedback, due to our repeat-issuer status and robust reporting regimen, we have determined that third-party opinions are not necessary for our issuances. The Trust reports on the selection of projects, management of proceeds and use of proceeds following a bond sale. The Trust is committed to full disclosure and will continue to monitor the market and make any necessary changes to our approach as needed.

Project Selection

The Trust's loan process is dictated by an annual list of projects the Trust commits to finance called the Intended Use Plan (IUP). MassDEP compiles two IUPs annually, one for each SRF program. Project eligibility is determined by the Clean Water Act and Safe Drinking Water Act for the CWSRF and DWSRF, respectively. Projects that apply for financing are selected during an annual solicitation process. MassDEP engineers review detailed project specifications and rank them using an established set of criteria that measures the severity of the problem, the sensitivity of the environmental hazard, the public health risk, and the appropriateness of the proposed solution.

For CWSRF projects, the program emphasizes watershed management priorities, stormwater management, green infrastructure, and encourages communities to undertake projects with meaningful water quality and public health benefits. DWSRF projects emphasize compliance with federal and state water requirements to protect the public health while addressing the Commonwealth's drinking water needs. MassDEP compiles the annual IUPs using this rigorous selection process that establishes the Commonwealth's priorities for the upcoming year.

Project Categories

The SRF programs fund a wide range of projects. Eleven categories of projects are eligible to receive CWSRF assistance and six categories are eligible to receive DWSRF assistance. For the purposes of this report, the Trust has consolidated similar and related categories and omitted categories with no current projects to streamline the report's contents. Below the Trust has provided an overview of the categories listed within this report.

Clean Water Categories

Wastewater Treatment Projects

These projects involve the maintenance, upgrade, or construction of wastewater treatment facilities. A wastewater treatment facility receives all the sewage from a municipality or utility district service area and treats the water before releasing it back into the environment in accordance with National Pollutant Discharge Elimination System permits. The goal of these projects is to reduce or eliminate pollutants and nutrients found in wastewater for cleaner water ways.

Infiltration/Inflow (I/I) and Sewer System Rehabilitation Projects

These projects involve removing infiltration and inflow (i.e. water other than wastewater) from a sewer system, including construction associated with I/I rehabilitation. I/I is when groundwater or stormwater enters a dedicated wastewater or sanitary sewer system either by direct connections or through damaged parts of sewer pipes. I/I increases the flow to wastewater treatment facilities and leads to back-ups or overflows of the system. Sewer system rehabilitation and I/I correction projects are concerned with removing sources of water that are either illicitly being added to a sewer system, or from sources entering via defective pipes or manholes. Eliminating I/I and replacing sewer systems reduces the occurrences of overflows, meaning less untreated wastewater is released into the environment.

Collector and Interceptor Sewer Projects

These projects involve the physical conveyance of wastewater. Collector sewers gather wastewater from the source, and interceptor sewers convey wastewater to a treatment facility. Extending capacity in an existing sanitary sewer system can help mitigate issues in communities that have insufficient infrastructure to meet local demand. These projects are generally implemented in conjunction with other project categories, such as combined sewer overflow correction which separates stormwater and wastewater collection systems to reduce untreated water being released into surface water bodies.

Combined Sewer Overflow (CSO) Correction Projects

These projects involve the reduction of untreated water discharged from combined sewer systems. Combined sewer systems are sewers that are designed to collect rainwater runoff, domestic sewage, and industrial wastewater in the same pipe. During wet weather events, the combined sewer systems can reach capacity and the excess overflows into surrounding waters, creating a combined sewer overflow (CSO). CSO correction projects work to reduce the amount of untreated water discharged from combined sewer systems. The elimination of CSOs is an EPA and Commonwealth priority goal that will reduce the amount of untreated wastewater that is released into the local environment.

Non-Point Source (NPS) Sanitary Landfill

These projects involve the reduction of NPS pollution from landfills by capping, installing leachate collection systems, or repairing insufficient or damaged landfill systems. NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into ground and surface waters.

Planning Projects

These projects involve developing plans to address water quality and related public health problems. Infrastructure management tracking, capital investment schedules, and the adoption of best management practices are also objectives. For example, comprehensive wastewater management plans provide strategies for addressing wastewater treatment and disposal issues in a city or town. Integrated municipal stormwater and wastewater resource management planning assists municipalities with meeting requirements that arise from distinct wastewater and stormwater programs. Fiscal sustainability and asset management planning assists communities with maintaining replacement schedules and forecasting capital needs.

Drinking Water Categories

Drinking Water Treatment Projects

These projects involve the upgrade, maintenance, and construction of water treatment facilities. These projects are meant to improve the overall quality of drinking water and are targeted at removing specific pollutants that are known health risks. Treatment plant upgrades can impact the overall efficiency of a plant's energy consumption. Replacing equipment at the end of its useful life will improve overall system efficiency. New pumping and filtering equipment are designed with energy efficiency in mind.

Drinking Water Transmission and Distribution Projects

These projects involve the infrastructure that brings raw water to treatment facilities and the infrastructure that conveys treated water for consumption. This includes everything from large transmission mains from reservoirs to the service lines that provide treated water to homes and businesses. Lines at the end of their useful life can lead to inefficiency in water transmission. Older pipes, made of lead or cast iron, can be severe health risks when corrosion occurs. Upgrades to pumping and booster stations make the transmission process more energy efficient and improve the overall efficiency of the system.

Drinking Water Source and Storage Projects

These projects involve two different categories. Source water projects are related to untreated water sources – such as rehabilitating surface water in a reservoir or drilling and maintaining wells. Storage projects deal with infrastructure for maintaining and storing treated water before it is distributed into a system.

Drinking Water Planning and Design Projects

These projects involve the activities needed to plan, design, and/or study drinking water infrastructure. Such projects are essential for maintaining and improving the key infrastructure that protects public health and water quality.

Project Funding

The Trust, MassDEP and EPA have entered into a Revolving Fund Operating Agreement for the CWSRF and the DWSRF. These agreements establish rules, procedures, and activities to be followed by the EPA and the Trust in administering federal grants. To date, the Trust has been awarded approximately \$1.6 billion in federal grants and \$308.1 million in state matching funds for the CWSRF program. Approximately \$577.1 million in federal grants and \$110.1 million in state matching funds have been awarded to the DWSRF program. Additionally, the Commonwealth appropriated \$30 million for funding or securing financing solely for local community septic management programs.



Section 2 | Clean Water State Revolving Fund Projects

Wastewater Treatment Projects

Wastewater treatment projects are eligible for SRF assistance under the Clean Water Act for facilities that provide, or are being upgraded to provide, secondary or advanced wastewater treatment. The distinction between secondary and advanced treatment projects is essentially the level of pollutant removal. For example, secondary treatment requires that a 5-day Biochemical Oxygen Demand (BOD5) be less than 30 mg/l. BOD5 is the amount of dissolved oxygen needed by organisms to break down organic materials present in a water sample over a period of 5 days and is listed as a pollutant under the Clean Water Act. Advanced treatment requires that the BOD5 level be less than 20mg/l. Advanced treatment facilities also address nitrogen, phosphorous, ammonia, metal and/or synthetic organic removal.

Water treatment facility upgrades or improvements can vary widely depending on the age of the infrastructure in question. These facilities are governed under National Pollutant Discharge Elimination System (NPDES) permits, which determine the level of water treatment required to discharge wastewater. Many of the upgrades financed by the Trust help facilities meet their NPDES requirements. These upgrades could include replacing inefficient mechanical equipment, upgrading pollutant removal systems or updating water storage facilities to reduce odor. Replacing equipment at the end of its useful life will improve overall system efficiency. New pumping and filtering equipment are designed with energy efficiency in mind.

Highlighted Project

Upper Blackstone Water Pollution Abatement District - Nutrient Removal Improvements - \$17,100,000

The Upper Blackstone Water Pollution Abatement District (UBWPAD) serves roughly 250,000 people in the greater Worcester area and manages biosolids for an additional 14 communities. The UBWPAD is currently under Administrative Order on Consent (AOC) with the EPA to comply with the 2012 National Pollutant Discharge Elimination System (NPDES) permit limits for total nitrogen and total phosphorus that may be discharged into the Blackstone River. The Blackstone River watershed has an area of approximately 480 square miles and originates at the confluence of Middle River and Mill Brook in Worcester and flows southeast for 46 miles into Rhode Island where it joins the Seekonk and Providence Rivers, which discharge to Narragansett Bay. The Blackstone river was impacted by its industrial past when it was dotted with mills that regularly discharged waste into the river. More recently, the river has been affected by sanitary sewer overflows and water temperature spikes that cause algal blooms and non-point source pollution.



Source: Telegram.com, Rick Sinclair

This project upgraded the treatment facility to meet these nutrient limits including the construction of a tertiary phosphorus removal system, secondary system improvements, sludge handling, chemical system improvements, and numerous ancillary systems and physical site improvements.

| Borrower | Project Description | Amount |
|---|--|--------------|
| Dartmouth | <p>Installation of New UV Disinfection System</p> <p>This project consists of providing treatment upgrades to the existing Water Pollution Control Facility. The scope includes upgrading the existing low pressure, low intensity ultraviolet (UV) disinfection system to a low pressure, high intensity UV system to improve bacterial kill. Upgrading the existing system will allow the facility to meet current National Pollutant Discharge Elimination System permit requirements, and consistently provide a high-quality effluent to Buzzards Bay.</p> | \$1,879,624 |
| Massachusetts Water Resources Authority (MWRA) | <p>Wastewater Treatment Plant and Sewer Improvements</p> <p>This project included upgrades to the Deer Island Wastewater Treatment Plant automation and central control systems as well as improvements and upgrades to several existing interceptors and pump stations that needed replacement and/or modernization. The project extended current asset life and improved system operability.</p> | \$2,971,701 |
| Upper Blackstone Water Pollution Abatement District | <p>Nutrient Removal Improvements</p> <p><i>Highlighted Spending Project</i></p> | \$17,100,000 |



Infiltration/Inflow (I/I) and Sewer System Rehabilitation Projects

These projects correct sewer system infiltration and inflow problems. Infiltration includes water (usually groundwater) penetrating a sanitary or combined sewer system from the ground through defective pipes or manholes. Inflow includes controlling the penetration of water (usually stormwater) into a system from sump pumps, drains, storm sewers, and other improper entries.

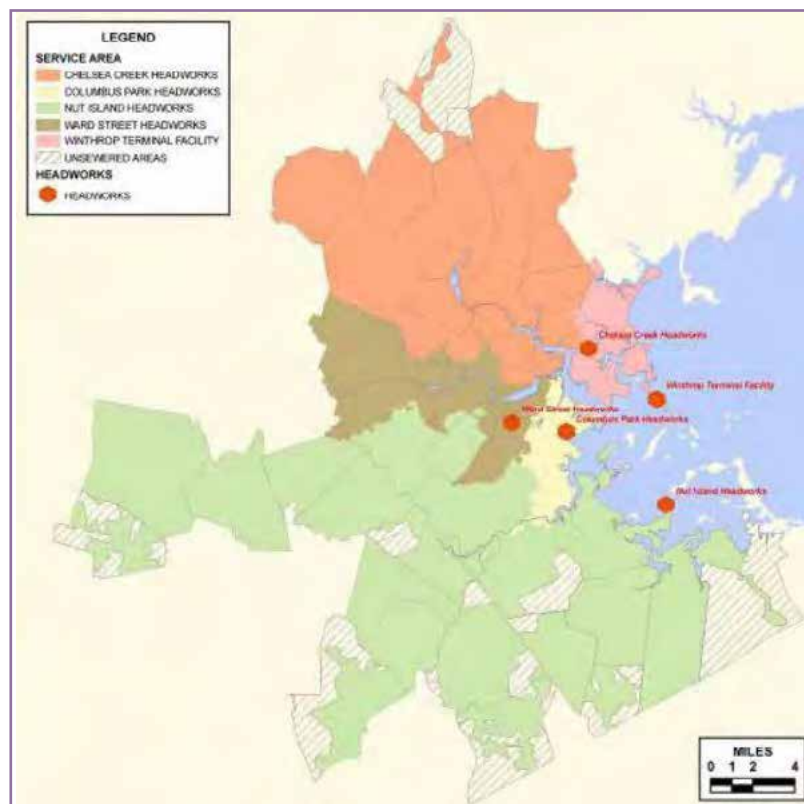
Sewer system rehabilitation projects maintain, reinforce, or reconstruct deteriorating or undersized sewer systems. The corrective actions are necessary to maintain the functional integrity of the system.

Highlighted Project

Massachusetts Water Resources Authority (MWRA) - Remote Headworks Upgrade - \$28,727,859

The MWRA operates three remote headworks facilities that provide preliminary treatment and flow control of the wastewater from MWRA's Northern Service Area before reaching the Deer Island Treatment Plant. The Chelsea Creek, Columbus Park, and Ward Street headworks were built and placed into operation in the 1960's, with major equipment replaced in 1987. In 2009, a Concept Design Report that included a complete inventory and evaluation of equipment and components at each headwork found that there was an urgent need for extensive upgrading of all three facilities.

This project will upgrade the influent gates used for managing flows, replace the odor control system and HVAC system, automate all solids handling equipment including screens, grit collector systems, and solids conveyance systems. Improvements to the building exterior, grounds, and security will be completed with all requirements needed to meet applicable Massachusetts State Building Codes. All this construction, repair, and replacement must be completed while facilities maintain full capacity and remain fully operational.



Source: MWRA.com

| Borrower | Project Description | Amount |
|-----------|--|--------------|
| Chicopee | <p>Phase 5B Sewer Separation Project</p> <p>This project is a part of a long-term control plan created by the City to address the environmental and public health impacts caused by combined sewer overflows into the Connecticut and Chicopee Rivers. The Phase 5B of this project includes approximately 100 acres of the City, which encompasses a total of 20,530 linear feet of combined sewer. Sewer separation will be achieved by providing a new storm drainpipe and catch basins and utilizing the existing combined sewer pipe for the conveyance of sewage. This should significantly relieve the capacity problem in the existing sewer. The separation of the combined sewer systems in Phase 5B will eliminate sewage backups as well as eliminate the mixing of sanitary sewage with stormwater resulting in a much cleaner stormwater release to receiving waters.</p> | \$832,718 |
| Lowell | <p>West St. Flood Protection, Storage, and Stations</p> <p>This project is for flood protection upgrades at the West Street Pump Station, in-line storage of wet weather flows in the Read Street interceptor and remote station improvements. The West Street flood pump station improvements will address the potential for neighborhood flooding upstream of the station, while the in-line storage and remote station upgrades will address combined sewer overflow (CSO) mitigation in the overall system as identified in the CSO Long-Term Control Plan.</p> | \$12,168,345 |
| MWRA | <p>Facility Asset Protection</p> <p>The MWRA Contract for Cottage Farm CSO Facility Improvements was one of the most critical wastewater system improvements projects identified by MWRA. The Cottage Farm CSO Improvements Project addressed critical needs for system rehabilitation, reliability, and optimization of the MWRA wastewater collection system.</p> | \$1,070,733 |
| MWRA | <p>Remote Headworks Upgrade <i>Highlighted Spending Project</i></p> | \$28,727,859 |
| Nantucket | <p>Sea Street Pump Station Upgrade</p> <p>This project replaced the existing pumps and internal discharge piping and valves, provided provisions for additional pumping capacity, new electrical and instrumentation control systems, heating, ventilation, and air conditioning and plumbing systems, and required internal and external structural and architectural improvements, thereby bringing the facility up to local building codes. The pump station provides reliable and redundant sewage pumping capacity for the downtown area, thereby preventing potential failures that would cause raw sewage backups from the municipal collection system.</p> | \$5,873,812 |
| Revere | <p>Illicit Connection & Sump Pump Removal Program</p> <p>The continuation of the implementation through construction contracts of the Illicit Connection and Sump Pump Removal Program is essential for the City of Revere to meet its goals and comply with the US EPA Consent Decree. There is a significant number of illicit sump pumps, roof drains, roof leaders, driveway drains, yard drains connections from private homes and businesses that must be removed from the sewer in order to remove inflow and increase the wastewater capacity of the City's sewer system.</p> | \$783,027 |

Borrower**Project Description****Amount**

Saugus

Sewer System and Pump Station Rehab/Improvements

\$829,583

This project involved the rehabilitation of pipelines, manholes, and the removal of private inflow sources to eliminate infiltration/inflow from the sewer system. The project aimed to significantly reduce or eliminate sewer system overflows from occurring at the Lincoln Avenue Pumping Station. Approximately 34,000 feet of 8-inch and 12-inch pipe and 1,500 feet of 15-inch pipe was rehabilitated using cured-in-place pipe lining. Approximately 865 sewer services and 222 manholes were lined as part of the project. The replacement of the existing Morris Place Pump Station and improvements to the Bristol Street Pump Station was completed. The equipment within many of the Town's wastewater pump stations was operating beyond its useful life and exhibited signs of failure in some cases. Replacing the existing Morris Place Pump Station was required due to the poor structural conditions and the need to restore useful life and the station's proximity to environmental receptors. Improvements to the Bristow Street Pump Station were required to restore the useful life of the station, improve operator safety, alleviate flooding concerns, and improve system reliability.



Collector and Interceptor Sewers Projects

According to the EPA, millions of gallons of human and industrial waste are sent through complex underground collections systems. These systems operate all day, every day and most municipal sewer systems are at least 60 years old. Many communities have sewers that are more than 100 years old. Collection systems consist of pipelines, conduits, pumping stations, force mains, and other components to collect wastewater and convey it to treatment facilities before being discharged into the environment. Design, operation, and maintenance are critical for system efficiency and public health. System expansions can be used to mitigate issues with combined sewer overflows and septic systems.

New Collector Sewers

These are projects associated with new pipes used to collect and carry wastewater from a sanitary or industrial wastewater source to an interceptor sewer that will convey the wastewater to a treatment facility.

New Interceptor Sewers

These are projects for constructing new interceptor sewers and pumping stations that convey wastewater from collection sewer systems to a treatment facility or to another interceptor sewer. This category includes costs for relief sewers, which are designed to handle the excess capacity of an existing system.

Highlighted Project

Nantucket - Shimmo & PLUS Parcels Sewer Extension - \$1,587,750

The Massachusetts Estuaries Project was created to help identify current nitrogen loads to southeastern Massachusetts estuaries and evaluate local control solutions for reducing the nitrogen loading. The data from this analysis is utilized by MassDEP to establish the total maximum daily loads for the area. In 2006, MEP reported that septic system reduction could greatly reduce nutrient enrichment and degradation of the Nantucket Harbor Watershed and increase the water quality.

A 2014 MassDEP-approved comprehensive wastewater management plan (CWMP) update identified the Nantucket Harbor Shimmo and Nantucket planning and land use services needs areas (these areas are either within or directly abutting the Town's sewer district that were left out of the sewer district and includes 4 infill areas) as the highest rated needs areas. Both needs areas are within the Nantucket Harbor Watershed and contribute nutrient load to the Harbor via septic systems. The CWMP recommended that the Town collect, treat, and discharge the wastewater from these two adjacent needs areas at the Town's Surfside Wastewater Treatment Facility (WWTF).

Connecting these needs areas with the Surfside WWTF requires a hybrid approach of gravity sewers and low-pressure sewers to connect approximately 360 properties. For areas served by gravity sewers approximately 13,000 feet of sewer, two pump stations, and an additional 5,000 feet of force sewer mains will be installed. For areas served by low pressure sewers, 32,000 feet of sewer will be installed, and each property will be required to install an individual pump unit. The low-pressure approach was required due to the area topography.

| Borrower | Project Description | Amount |
|-----------------|---|---------------|
| Nantucket | Shimmo & PLUS Parcels Sewer Extension <i>Highlighted Spending Project</i> | \$1,587,750 |

Combined Sewer Overflows Correction Projects

Combined sewer overflows (CSOs) are events where a combined sewer system fails to collect rainwater, domestic sewage, and industrial wastewater in the same pipe as intended. When these systems exceed their capacity, untreated water can discharge directly into a water body. CSOs are a major source of water pollution for approximately 772 cities in the US that have combined sewer systems. CSO correction projects are associated with measures used to achieve water quality objectives by preventing or controlling periodic discharges that occur when the capacity of a sewer system is exceeded during a wet weather event.

Highlighted Project

Lowell - CIP Phase - WWTF and Infrastructure Upgrades - \$12,666,941

The City of Lowell water's sewer system consists of approximately 220 miles of gravity sewers and 12 sewage pumping stations. Ten miles of large-diameter (48" to 120") interceptors that run along the banks of the Merrimack and Concord Rivers collect wastewater from the sewer system and convey it to the Duck Island Wastewater Treatment Facility (WWTF). According to the City, on a dry day, Lowell's collection system conveys an average 23 million gallons of wastewater to the treatment facility for reclamation. On a wet day, flow rates of greater than 100 million gallons are possible causing CSO events. These flows can take a toll on the aging infrastructure used to convey wastewater through the system. The City has implemented a capital improvement program to address equipment life cycle and maintenance requirements to improve overall reliability for treatment of sewage and wet weather flow. This project made improvements to the WWTF as part of an ongoing phased implementation program. The focus of the work includes replacing equipment in the WWTF and six wastewater pumping stations, which have outlived their expected service life and are no longer reliable.



Source: Lowellma.gov

Borrower**Project Description****Amount**

Fall River

Cress Brook Drainage Improvements

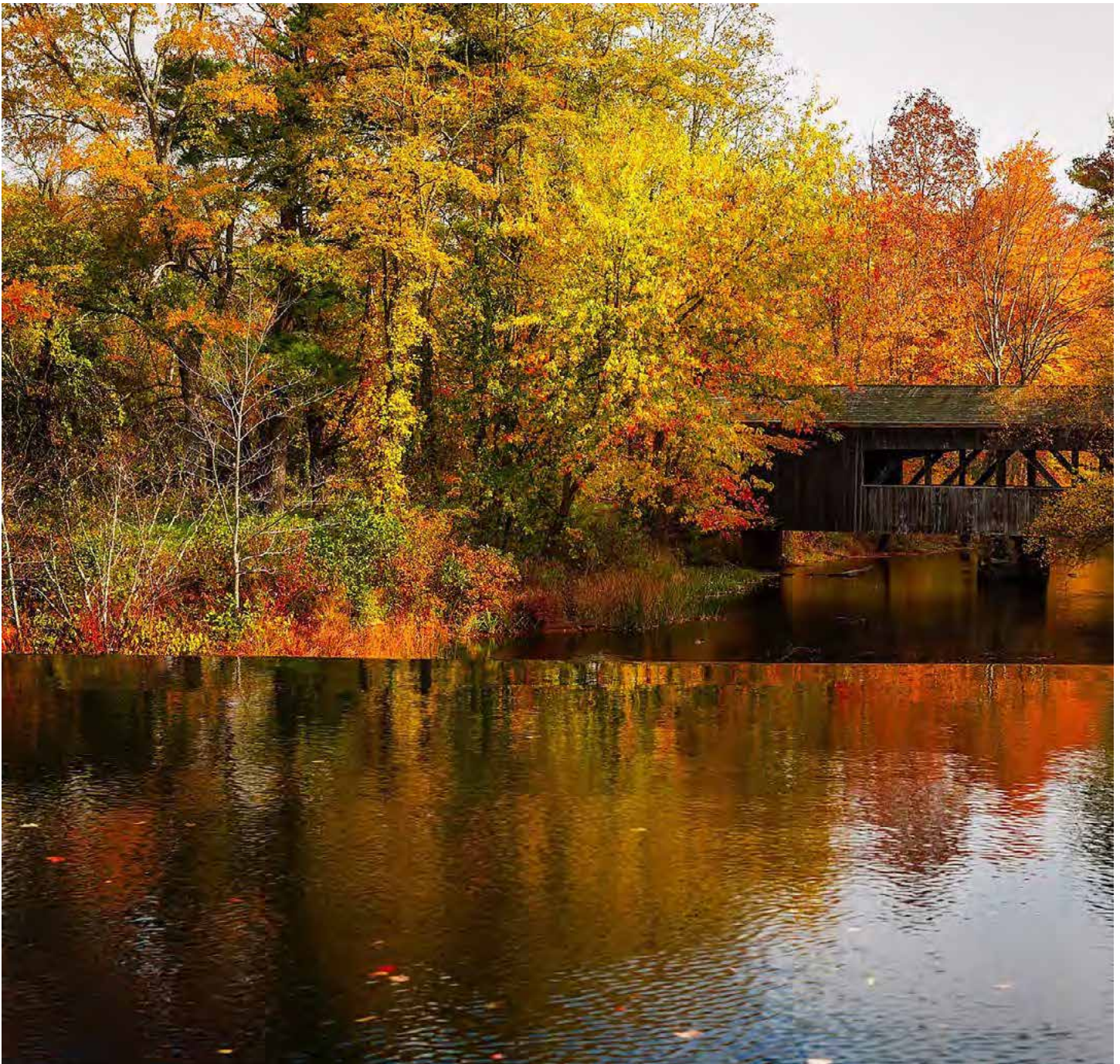
The proposed project involves modifications of storm drain infrastructure, including: enlargement and rerouting of storm drains to relieve public health risks and nuisance flooding; reactivation of abandoned drainage swale; sewer separation; and water quality improvements with best management practices retrofits where possible. The project will increase storm drain capacity for a future sewer separation project.

\$699,886

Lowell

CIP Phase - WWTF and Infrastructure Upgrades*Highlighted Spending Project*

\$12,666,941



Non-Point Source (NPS) Sanitary Landfill

NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into ground and surface waters. Ensuring that landfills are properly capped, maintained, and monitored are necessary steps to avoid water contaminants leaching into local waters. Projects could include purchase, installation, and repair of capping systems (gas venting layer, geosynthetics, barrier layer, top cover, etc.), leachate collection, storage, and treatment systems (onsite or off-site), side slope seepage prevention and control systems, gas condensation systems, monitoring wells and equipment, and stormwater runoff controls.

Highlighted Project

Goshen - Landfill Cap Repair - \$615,336

The Town of Goshen determined that the Town's sanitary landfill was experiencing erosion damage to the landfill capping system that prevents water from carrying pollutants into the nearby ground and surface water. This project progressed with the removal and replacement of unsuitable material, geosynthetic installation, drainage layer replacement, drainage pipe installation, and toe drain replacement, drainage berm/swale replacement, and downslope swale installation. This project included survey services before, during, and after construction. This project helped maintain the physical integrity of the cap and replaced the drainage and monitoring system. Work for this project was completed in 2019.

| Borrower | Project Description | Amount |
|----------|--|-----------|
| Goshen | Goshen Landfill Cap Repair <i>Highlighted Spending Project</i> | \$615,336 |



Source: Goshen Cap Repair Monthly Report October 2018

Planning Projects

Projects in this category are for developing plans to address water quality and water quality-related public health problems. Planning projects can consist of multiple types of investigations. Field investigations are used to view the state of current water infrastructure assets to identify and prioritize design, maintenance and replacement activities. Sensor and field analysis can be used as part of a larger analysis that consists of plans to adopt best management practices and capital improvements. These projects assist municipalities with determining environmental issues that may be affecting local water sources or endangering public health.

For example, comprehensive wastewater management plans provide strategies for addressing wastewater treatment and disposal issues in a municipality or utility district. Integrated municipal stormwater and wastewater resource management planning assists municipalities with meeting requirements that arise from distinct wastewater and stormwater programs. Fiscal sustainability and asset management planning assists communities with maintaining replacement schedules and forecast capital needs in the future.

Highlighted Project

Revere - Phase IX Field Investigations-I/I and Illicit Discharge Detection and Elimination (IDDE) - \$1,200,000

The City of Revere had been experiencing sewer blockages and capacity limitations in their wastewater sewers and wastewater treatment plant. The results were wastewater backing up into basements and untreated wastewater being discharged to surface waters. These events led to a violation of National Pollutant Discharge Elimination System permit requirements. In 2010, the City of Revere and the EPA entered a Consent Decree (CD) to remediate these issues. The CD required the removal of illicit and cross connections to its sanitary system and municipal separate storm sewer system to detect and eliminate sanitary sewer overflows. Additionally, the CD required the City to develop and implement a comprehensive wastewater management plan) and a comprehensive stormwater management plan. The City has launched several initiatives to come into compliance with these terms by the December 31, 2022 deadline.

The City's phased field Infiltration and Inflow (I/I) investigations and Illicit Discharge Detection and Elimination (IDDE) are vital planning projects for the City in its assessment of the City's wastewater and stormwater systems. The field investigations include IDDE, closed circuit television of both drains and sewers, dye testing, smoke testing, and private building inspections. These measures locate compromised pipes, discover illicit drainage connections to sump pumps and roof downspouts, and track flow rates. Deficiencies discovered in the system during the investigations are addressed and corrected by the City in future construction projects.



| Borrower | Project Description | Amount |
|------------|---|-------------|
| Brockton | <p>Sewer Flow Monitoring Program</p> <p>This project provides an update to the infiltration/inflow (I/I) study conducted by the City in 1998. There have been significant upgrades to the sewer system, but the system flow data shows that the collection system is still susceptible to both infiltration and inflow (I/I). The purpose of this project is to redevelop estimates of I/I contribution from the same drainage sub-areas within the City's sewer collection system which were metered in 1997 and 1998. The flow monitoring program will identify the general location and extent of I/I entering the sewer system. The findings will help prioritize and phase the follow-up sewer system evaluation survey work, which will identify areas throughout the sewer collection system which need to be rehabilitated or replaced. Reductions in I/I will create additional capacity for future connections to the wastewater collection system and treatment plant and minimize sanitary sewer overflows within the sewer collection system.</p> | \$1,100,000 |
| Brockton | <p>Stormwater Management Plan</p> <p>The goal of this planning project is to address the bacterial water quality impairments in the Taunton River watershed by constructing improvements to the drainage and/or sewer systems. The first step in addressing the bacteria within the stormwater discharges will involve the City developing a comprehensive watershed wide plan that provides recommendations to address and prioritize water quality concerns. It is intended that this planning project will develop the plan that identifies sources of cross contamination and allow for the development of further recommendations.</p> | \$400,000 |
| Fall River | <p>Combined Sewer Overflow Facilities Plan</p> <p>The City is under federal court order to control its combined sewer overflows (CSOs) to its receiving waters. This program, known as the Fall River CSO Abatement Program, is intended to provide a 3-month storm level of control. Discharges from two CSO outfalls, Alton Street and City Pier, have not yet been controlled. Additionally, the City Pier area experiences chronic street flooding in low-lying areas. The proposed facilities plan advanced previous planning efforts for sewer separation of the area's tributary to these outfalls and addressed flooding issues.</p> | \$1,000,000 |
| Lawrence | <p>Sewer System Evaluation Survey</p> <p>This project will evaluate up to 20% of the City's collection system using a combination of manhole inspections, closed circuit television inspection, smoke testing, dye tracing, dye flooding, flow isolation, and building inspections. The system will be assessed for structural, operational, and maintenance defects. Findings will be summarized in a database that will assist with capital improvement prioritization. Up to 100 municipal separate storm sewer system drainage catchment areas will be investigated to pinpoint illicit connections by means of rapid visual and olfactory inspections, wet and dry-weather sampling and bracketed ammonia, chlorine, and surfactant sampling to isolate pipe segments for follow up closed circuit television and confirmatory dye testing investigations.</p> | \$2,700,000 |

| Borrower | Project Description | Amount |
|--------------|--|-------------|
| New Bedford | <p>Supplemental Wastewater and Stormwater Plan</p> <p>The City of New Bedford's collection system is over 100 years old. Many of its critical components had far exceeded their useful life. This project developed the required planning documents and field investigations necessary to begin implementing future system rehabilitation efforts, address regulatory requirement needs, eliminate illicit connections, and reduce combined sewer overflows.</p> | \$4,646,600 |
| Revere | <p>Illicit Connection & Sump Pump Removal Investigations</p> <p>The continuation of the illicit connections and sump pump detection program is important in the City's efforts to remove inflow from the sanitary sewer system. This program will continue the inspections of private homes and businesses to identify sources of inflow from sump pumps, roof leaders, roof drains, driveway drains, yard drains, etc.</p> | \$600,000 |
| Revere | <p>Phase IX Field Investigations - I/I and Illicit Discharge Detection and Elimination (IDDE)</p> <p><i>Highlighted Spending Project</i></p> | \$1,200,000 |
| Taunton | <p>Comprehensive Water Resources Planning</p> <p>The project carried out comprehensive planning for all issues pertaining to the city's wastewater and stormwater systems. The specific project elements consisted of completing the Environmental Impact Report and Comprehensive Wastewater Management Plan that went through the draft stage several years ago. The City has a permitted combined sewer overflow that required planning for future operation. The project addressed the current municipal separate storm sewer system needs. The treatment plant was required to meet a new nitrogen limit, which was addressed for the technical issues. An update of the infiltration/inflow and sewer system evaluation study of the collection system, and an anti-degradation study were completed.</p> | \$760,000 |
| Tyngsborough | <p>Tyngsborough Infiltration/Inflow Program</p> <p>The Tyngsborough sewer system is comprised of approximately 116,000 linear feet of 8" to 24" separate sanitary sewers and 12 pump stations located in two major areas, one on either side of the Merrimack River. The project consisted of developing a 2018 Infiltration/Inflow (I/I) analysis program to comply with MassDEP regulations. The Town performed a metering program and prepared an I/I analysis report. This project reviewed an existing I/I study completed in 2009 by Stantec and identified potential sewer system rehabilitation work.</p> | \$250,000 |



Section 3 | Drinking Water State Revolving Fund Projects

Drinking Water Treatment Projects

Treatment projects include the construction, expansion, and rehabilitation of drinking water infrastructure that reduces contamination through various treatment processes. Such processes aim to condition water or remove contaminants. Treatment processes include filtration of surface water, pH adjustment, softening, disinfection, waste handling and other treatment needs (i.e., granular activated carbon which filters out chemicals, particularly organic chemicals, aeration and iron/manganese removal) along with chemical storage tanks.

Upgrades and maintenance to water treatment plants leads to improved water quality and system efficiency. Replacing equipment that has reached the end of its useful life along with upgrading filtering and purifying equipment makes these facilities less susceptible to failures that could endanger public health. Additionally, system improvements such as corrosion control, help keep the public safe from issues related to older cast iron pipes and lead service lines. Upgraded equipment generally leads to more efficient facilities that consume less power and improves worker safety.

Highlighted Project

Norton - New Water Treatment Plant - \$10,300,000

The Town of Norton's drinking water supply is ground water which comes from the Taunton River Basin. Iron and manganese are natural elements commonly found in ground water. High concentrations of these elements can lead to water discoloration and may have adverse health effects for infants and pregnant women. The Town used corrosion control and hydrant flushing to reduce the overall buildup of these elements. To help remedy this issue, the Town of Norton constructed a 2.5 MGD pressure filtration plant to remove high levels of iron (0.9 to 3.28 mg/l) and manganese (0.18 to 0.35 mg/l) from three wells that provide over 75% of the Town's water. All three wells have combined iron and manganese levels above the sequestering limit of 1.0 mg/l. The raw water pipeline from one well will be drilled directly under the Canoe River to reach the plant.



Source: Methuenconstruction.com

| Borrower | Project Description | Amount |
|--------------------------------|---|--------------|
| Adams Fire District | <p>Chemical Feed and SCADA Upgrades</p> <p>This project includes the installation of sodium hypochlorite chemical feed systems to Wells 4, 2a, and 3 stations including day tanks, chemical metering pumps, chemical feed piping, instrumentation, and controls. Additional activities include integrating the new chemical feed systems with the existing supervisory control and data (SCADA) acquisition system by installing a programmable logic controllers based control system at Wells 2a and 3 sites, adding a communication system to connect the three well sites, the Maple Street Storage Tank, and provide an alarm dialer and a connection to a human machine interface at the District’s office. This project is in accordance with two EPA Administrative Consent Orders – for unaccounted water and coliform hits. The completed project will install disinfection and provide for more accurate supply readings.</p> | \$766,794 |
| Dedham-Westwood Water District | <p>Bridge Street Water Treatment Plant Upgrades</p> <p>The Bridge Street Water Treatment Plant has performed reliably in the District for over one hundred years but needs significant rehabilitation and updating. This project will also improve the conditions and worker safety within the facility that include renovations to the existing treatment facility along with the addition of a new multi-purpose treatment building.</p> | \$8,841,400 |
| Haverhill | <p>Haverhill Water Treatment Plant Upgrades</p> <p>The Haverhill Water Treatment Plant has provided the city with service far more than its planned useful life. This project includes an upgrade to treatment capacity from approximately 10 million MGD to 12.1 MGD to provide much needed redundancy of primary treatment components and to replace outdated systems. The updated plant will meet the needs of the City under a variety of existing and future conditions.</p> | \$31,094,762 |
| New Bedford | <p>Quittacas Water Treatment Plant Rehabilitation</p> <p>This project will perform needed rehabilitation and upgrades at New Bedford's 40-year old Quittacas Water Treatment Plant. The Plant is the sole facility that treats water for the City’s water and is the backbone of the entire system. The upgrades will ensure the continued safety and reliability of the City’s drinking water supply.</p> | \$8,912,740 |
| Norton | <p>New Water Treatment Plant <i>Highlighted Spending Project</i></p> | \$10,300,000 |



| Borrower | Project Description | Amount |
|-----------------------|--|-------------|
| Wareham Fire District | <p>Maple Springs Water Purification Plant</p> <p>This project includes the construction of a 3.0MGD ground water treatment plant, expandable to 4.5MGD, which includes: iron and manganese removal for compliance with secondary standards; disinfection with ultraviolet light, and/or free chlorine to address the groundwater rule or possible reclassification as groundwater under the influence of surface water; and corrosion control. The project may also include treatment for pesticides and herbicides from nearby agricultural activity that have been detected in groundwater sources. This work will remove the public health threats posed by various contaminants and ensure excellent drinking water quality. The project will also include alternative energy generation using wind or solar power to reduce energy consumption from fossil fuel sources and will include passive solar design elements to reduce energy consumption.</p> | \$6,346,096 |
| Webster | <p>Memorial Beach Wells Water Treatment Plant</p> <p>This project includes the construction of the Memorial Beach Wells Water Treatment Plant and associated appurtenances. This project will return compromised drinking water sources to operation and will mitigate potential long-term public health threats by reducing elevated levels of manganese and ensuring corrosion control at the new entry point into the distribution system. In addition, this project will address elevated levels of iron above the secondary maximum contaminant limit, provide 4-log disinfection and additional system redundancy to ensure availability and flow capacity.</p> | \$9,688,617 |
| Whatley | <p>Manganese Removal</p> <p>The Whatley Water Department serves approximately 1,500 total residents along with a small number of retail businesses. The system is experiencing manganese levels in the water, exceeding 0.3 mg/L. Consequently, a manganese removal system is to be installed at the supply to bring the Town into compliance with current MassDEP Public Water Supply requirements.</p> | \$440,000 |



Drinking Water Transmission and Distribution Projects

These projects are for installing, replacing, or rehabilitating transmission lines that carry drinking water from the source to the treatment plant or from the treatment plant to the consumer. Items such as pipes for raw and finished water transmission, service lines, valves, backflow prevention, water meters, and pumping stations may be components of these projects.

Replacing or repairing transmission lines improve water quality, system pressure and reliability. Additionally, the replacement and relocation of lines may be needed to improve the overall efficiency of a system that was designed for a smaller and less expansive community. The older practice of grouping transmission lines can lead to water distribution issues if one begins to leak and causes physical damage to the surrounding soil and adjacent transmission lines. Replacement of lead service lines reduces the risk of lead exposure and removes a public safety risk.

Highlighted Project

Eastham - Phase 2A Town-Wide Water System - \$7,685,012

The Town of Eastham, in its 2014 annual meeting, approved the establishment of a municipal water system for one third of the Town. This would replace the small community public water systems and individual private wells that were previously in use. Sampling of the water in the Town had indicated impaired water quality. To meet the standards of the Safe Drinking Water Act, a municipal system had to be created. A second vote in 2015 expanded the project to be town wide. Starting in 2015, the first phase of water system development included the construction of two well fields, a 750,000-gallon storage tank, and 45 miles of water distribution piping.



Source: Easthamwaterproject.weebly.com

Phase 2 was used to construct the remainder of the distribution system so every property in the Town can connect to the water system. This included the installation of new well field equipment and approximately 19 miles of distribution system piping. Phase 2 expands upon Phase 1 by installing laterals to the transmission mains which will provide service to the remaining two-thirds of the Town's properties (approximately 4,600 parcels).

| Borrower | Project Description | Amount |
|----------|--|-------------|
| Brockton | <p>Transmission Main and Valve Replacement Project</p> <p>The City of Brockton has been working to locate, clean, and operate all crossover and mainline valves within the 24" transmission mains connecting Silver Lake Water Treatment Plant and the Brown's Crossing Pump Station (East Bridgewater). This assessment was ordered in response to a pipe failure within this line and the crossover valves could not be operated to isolate the pipe break. This caused a shutdown of the plant for a day and great concern for the integrity of these pipes and their valves. Through their assessment, several crossing locations have been identified that will be replaced to prevent these issues.</p> | \$1,402,890 |
| Eastham | <p>Phase 2A Town-Wide Water System <i>Highlighted Spending Project</i></p> | \$7,685,012 |

| Borrower | Project Description | Amount |
|------------|---|--------------|
| Fall River | <p>Water Main Rehabilitation - Phase 17</p> <p>The Phase 17 water main improvements included the rehabilitation or replacement of approximately 16,100 linear feet of cast iron water mains and the removal of 30 lead service lines. The cast iron mains were severely deteriorated and needed to be replaced to ensure adequate flow and capacity for supply and fire protection. Replacement of lead service lines addressed the critical health threats presented by lead in drinking water. This project will prevent a serious problem in the distribution system and will provide safe and reliable drinking water to customers of the City of Fall River.</p> | \$2,930,713 |
| Gloucester | <p>Babson Water Treatment Plant- Raw Water Systems Improvements</p> <p>The Babson Water Treatment Plant (WTP) Emergency Project is designed to address issues that were leading to unacceptable WTP shutdowns. These include problems with the generator transfer switch, the actuated WTP intake valve and meter vaults, and with eels clogging the pumps and sedimentation basin blow down valves. The scope of work encompasses the installation of a new generator automatic transfer switch, of a new accessible vault containing a new battery backed-up intake valve and inflow meter, and a new eel control vault with accessible screens and instrumentation. Ancillary work considered appropriate to complete in this project included new meters and vaults for the Goose Cove-Babson Reservoir Connector and for the Babson Waste Line, rehabilitation of the low lift pumps, and provision of a spare low lift pump.</p> | \$1,830,012 |
| Lawrence | <p>Water Main Replacement</p> <p>This project involves the replacement of approximately 45,000 linear feet of water mains, while also replacing broken and malfunctioning hydrants and valves.</p> | \$12,130,925 |
| Leominster | <p>Rehabilitation of Pump Stations</p> <p>This project rehabilitated the City of Leominster's Pond Street Pump Station and Wachusett Reservoir Pump Station. The Pond Street Pump Station is located at a hub of the City's three pressure zones and through this station, the City can transfer water between all three pressure zones as needed to meet demand. The Wachusett Reservoir Pump Station can withdraw about 5 MGD of water from the Wachusett Reservoir on an emergency basis. Equipment within both pump stations was well beyond its useful life. Rehabilitating these facilities ensures they are readily available for routine or emergency use and increase the overall reliability of the water system when needed.</p> | \$1,450,565 |
| MWRA | <p>Wachusett Aqueduct Pump Station</p> <p>This project constructed an emergency pump station to pump water from the Wachusett Aqueduct to the Carroll Water Treatment Plant (WTP). The pump station provides redundancy in the event of failure at the Cosgrove Tunnel or Intake and for the inspection/rehabilitation of the Cosgrove Tunnel. The pump station will be able to deliver 240 MGD of raw water to the WTP during a planned or emergency shutdown of the Cosgrove Tunnel.</p> | \$5,363,933 |

| Borrower | Project Description | Amount |
|-------------|---|-------------|
| New Bedford | <p>Lead Service Line Replacement Program - Phase I</p> <p>The Lead Service Line Replacement Program – Phase I is the first phase of an aggressive, multi-year program to replace all lead service lines in the City. The first phase of this program will replace 1,000 to 1,500 LSLs in a two-year period throughout the City’s water distribution system. The City is committed to protecting public health and continuing to provide safe drinking water to all its customers.</p> | \$5,698,174 |
| Revere | <p>The Water Meter AMR System</p> <p>The Automatic Meter Reading (AMR) system will fully replace the aging residential water meter system throughout the City with approximately 10,000 new residential meters, plus a city-wide fixed based AMR system. The system will provide automated readings of every new meter in the system which will minimize or eliminate the need for mobile or hand readings. The City of Revere has unaccounted-for water of 18.6%, well above the Massachusetts Standard of 10%. The current metering system uses handheld meter reading equipment that was installed between 1993 and 1994. The handheld equipment is labor intensive for City employees and only allows for meter readings biannually. Under the current system, the City is unable to reach the meters at certain commercial locations due to meter placement. Estimating the water usage at these locations may also be a contributing factor to the high unaccounted-for water. With the new AMR system, Revere will have the capability of retrieving daily (or hourly) readings of all meters. Revere can also receive leak detection indications, meter tampering warnings, meter malfunction warnings, and unaccounted-for water percentages.</p> | \$779,057 |
| Wayland | <p>Wayland 2018 Water Main Improvements</p> <p>The project will replace 2,500 linear feet of existing 6” unlined cast iron water main with new 12” ductile iron water main in Wayland. This major transmission main provides service to Wayland Town Center. The water main is classified as being in poor condition due to its size, material, installation year, and corrosive soils. The project will address potential public health threats from water quality issues associated with corrosion of the water main.</p> | \$700,000 |



Drinking Water Source and Storage

These projects are used for developing or improving sources of water used in public water systems. Project costs include those for constructing or rehabilitating surface water intake structures, drilled wells, wellhead pumps and spring collectors. Having multiple sources of raw water is a standard precaution to make sure that water supplies are not endangered or cut off. Source protection and testing are necessary to confirm that raw water quality can be properly purified at the intended water treatment plant. Excessive amounts of toxins or pollutants in raw water can cause efficiency issues once raw water reaches a water treatment plant. Pumping, well maintenance and water extraction must be monitored to ensure that water quality at the source is not impacted by these activities.

Storage projects in this category aim to provide finished water storage for public water systems. Examples may include systems involving elevated and ground level storage for treated water and covers for existing storage. Storage tanks and the systems they employ are vital components of a water distribution system. Tanks are used to ensure water supply when there may be issues with supply lines or when maintenance is being performed. Upgraded systems that chlorinate water or monitor water quality are more efficient with advanced systems. This means that water quality is more consistent and requires less human maintenance.

Highlighted Project

West Springfield - Drinking Water System Improvements Project - \$6,699,639

The Town of West Springfield undertook a major refit of its drinking water storage and metering system. These updates were due to sections of the water system experience extremely low pressure. This project created a new pressure zone while also updating the existing pumping station to service the existing high-pressure zone. A new 300,000-gallon elevated water storage tank was installed with a transmission main from the existing high-pressure service area to supply the new pressure zone. This project involved the replacement of approximately 2,200 existing meters and a Town wide leakage testing plan and implementation. This enables the Town to recover costs of under-registering meters and significantly reduce the amount of unaccounted for water while ensuring the town has the water and pressure to supply expanded housing, businesses, and fire department.

| Borrower | Project Description | Amount |
|------------------|---|--------------|
| MWRA | Southern Extra High (SEH) Redundancy and Storage The service area has been identified as being deficient in distribution storage and lacking redundant distribution pipelines. Correction of these deficiencies was a majority priority under the MWRA's 2006 and 2013 Water System Master plans due to the potential public health threat that could result from a failure in this single transmission main. | \$14,355,913 |
| West Springfield | Drinking Water System Improvements Project <i>Highlighted Spending Project</i> | \$6,699,639 |

Appendix A - Series 22 Projects¹

| Borrower | Loan No. | Project Name | Amount | Loan Drawn | Program | Category |
|--------------------------------|-------------|---|--------------|------------|---------|---|
| Adams Fire District | DWP-18-04 | Chemical Feed and SCADA Upgrades | \$766,794 | 97.20% | DW | Drinking Water Treatment |
| Brockton | CW-16-27 | Sewer Flow Monitoring Program | \$1,100,000 | 78.59% | CW | Planning |
| Brockton | CW-16-28 | Stormwater Management Plan | \$400,000 | 92.43% | CW | Planning |
| Brockton | DWP-17-10 | Transmission Main and Valve Replacement Project | \$1,402,890 | 89.46% | DW | Drinking Water Transmission and Distribution |
| Chicopee | CWP-16-25 | Phase 5B Sewer Separation Project | \$832,718 | 57.53% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| Dartmouth | CWP-16-32 | Installation of New UV Disinfection System | \$1,879,624 | 96.41% | CW | Wastewater Treatment |
| Dedham-Westwood Water District | DW-16-08 | Bridge Street Water Treatment Plant Upgrades | \$8,841,400 | 98.59% | DW | Drinking Water Treatment |
| Eastham | DW-17-01 | Phase 2A Town-Wide Water System | \$7,685,012 | 100% | DW | Drinking Water Transmission and Distribution |
| Fall River | CW-17-21 | Combined Sewer Overflow Facilities Plan | \$1,000,000 | 99.08% | CW | Planning |
| Fall River | CWP-18-07-A | Cress Brook Drainage Improvements | \$699,886 | 93.02% | CW | Stormwater Infrastructure |
| Fall River | DWP-17-08 | Water Main Rehabilitation - Phase 17 | \$2,930,713 | 100% | DW | Drinking Water Transmission and Distribution |
| Gloucester | DWP-18-03 | Babson WTP Raw Water Systems Improvements | \$1,830,012 | 97.68% | DW | Drinking Water Transmission and Distribution |
| Goshen | CWP-18-11 | Goshen Landfill Cap Repair | \$615,336 | 96.01% | CW | NPS Sanitary Landfills |
| Haverhill | DWP-16-05-A | Haverhill Water Treatment Plant Upgrades | \$31,094,762 | 84.13% | DW | Drinking Water Treatment |
| Lawrence | CW-16-14 | Sewer System Evaluation Survey | \$2,700,000 | 100% | CW | Planning |
| Lawrence | DW-13-05-A | Water Main Replacement | \$12,130,925 | 92.75% | DW | Drinking Water Transmission and Distribution |
| Leominster | DWP-16-13 | Rehabilitation of Pump Stations | \$1,450,565 | 100% | DW | Drinking Water Transmission and Distribution |
| Lowell | CWP-16-13 | West St. Flood Protection, Storage and Stations | \$12,168,345 | 92.29% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| Lowell | CWP-16-15 | CIP Phase - WWTF and Infrastructure Upgrades | \$12,666,941 | 100% | CW | Combined Sewer Overflow Correction |
| MWRA | CW-18-39 | Facility Asset Protection | \$1,070,733 | 100% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| MWRA | CW-18-40 | Remote Headworks Upgrade | \$28,727,859 | 100% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| MWRA | CW-18-41 | Wastewater Treatment Plant and Sewer Improvements | \$2,971,701 | 100% | CW | Wastewater Treatment |
| MWRA | DW-16-06-A | SEH Redundancy and Storage | \$14,355,913 | 100% | DW | Drinking Water Source and Storage |
| MWRA | DW-18-16 | Wachusett Aqueduct Pump Station | \$5,363,933 | 100% | DW | Drinking Water Transmission and Distribution |
| Nantucket | CW-16-35 | Sea Street Pump Station Upgrade | \$5,873,812 | 99.97% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| Nantucket | CW-17-01 | Shimmo & PLUS Parcels Sewer Extension | \$1,587,750 | 99.20% | CW | Collector and Interceptor Sewers |
| New Bedford | CW-17-10 | Supplemental Wastewater and Stormwater Plan | \$4,646,600 | 86.31% | CW | Planning |
| New Bedford | DWP-16-14 | Quittacas Wastewater Treatment Plant Rehabilitation | \$8,912,740 | 100% | DW | Drinking Water Treatment |
| New Bedford | DWP-17-03 | Lead Service Line Replacement Program - Phase I | \$5,698,174 | 100% | DW | Drinking Water Transmission and Distribution |
| Norton | DW-14-10 | New Wastewater Treatment Plant | \$10,300,000 | 97.51% | DW | Drinking Water Treatment |

Footnotes

¹ Series 22: All Amount and Loan Drawn sections are accurate as of July 31, 2020

Appendix A - Series 22 Projects¹

| Borrower | Loan No. | Project Name | Amount | Loan Drawn | Program | Category |
|-----------------------|-------------|---|--------------|------------|---------|---|
| Revere | CW-17-28 | Illicit Connection & Sump Pump Removal Investigations | \$600,000 | 92% | CW | Planning |
| Revere | CW-17-29 | Phase IX Field Investigations-I/I and IDDE | \$1,200,000 | 100% | CW | Planning |
| Revere | CWP-17-26 | Illicit Connection & Sump Pump Removal Program | \$783,027 | 80.85% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| Revere | DW-13-09-A | Water Meters AMR System | \$779,057 | 58.25% | DW | Drinking Water Transmission and Distribution |
| Saugus | CW-16-09-A | Sewer System and Pump Station Rehab/Improvements | \$829,583 | 96.61% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| Taunton | CW-17-08 | Comprehensive Water Resources Planning | \$760,000 | 98.73% | CW | Planning |
| Tyngsborough | CW-18-04 | Tyngsborough Infiltration/Inflow Program | \$250,000 | 100% | CW | Planning |
| Upper Blackstone WPAD | CWP-16-39-A | Nutrient Removal Improvements | \$15,000,000 | 99.96% | CW | Wastewater Treatment |
| Upper Blackstone WPAD | CWP-16-39-B | Nutrient Removal Improvements | \$2,100,000 | 82.57% | CW | Wastewater Treatment |
| Wareham Fire District | DWP-17-09 | Maple Springs Water Purification Plant | \$6,346,096 | 100% | DW | Drinking Water Treatment |
| Wayland | DW-18-01 | Wayland 2018 Water Main Improvements | \$700,000 | 100% | DW | Drinking Water Transmission and Distribution |
| Webster | DWP-17-04 | Memorial Beach Wells Water Treatment Plant | \$9,688,617 | 96.02% | DW | Drinking Water Treatment |
| West Springfield | DWP-17-13 | Drinking Water System Improvements Project | \$6,699,639 | 84.96% | DW | Drinking Water Source and Storage |
| Whatley | DW-16-11 | Manganese Removal | \$440,000 | 86.77% | DW | Drinking Water Treatment |

Footnotes

¹ Series 22: All Amount and Loan Drawn sections are accurate as of July 31, 2020

Appendix B - Series 21 Projects¹

| Borrower | Loan No. | Project Name | Amount | Loan Drawn | Program | Category |
|----------------------------------|-------------|---|--------------|------------|---------|---|
| Adams Fire District | DW-16-10 | Well 4 Pump Station Rehabilitation | \$538,518 | 97.90% | DW | Drinking Water Transmission and Distribution |
| Brockton | CWP-16-29 | Sewer Rehabilitation Project | \$2,975,722 | 91.60% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| Chatham | DW-14-06 | New Water Treatment Facility | \$9,274,815 | 90.80% | DW | Drinking Water Treatment |
| Fall River | CW-13-02-A | Combined Sewer Overflow Abatement Program Abatement Program | \$487,150 | 95.07% | CW | Combined Sewer Overflow Correction |
| Fall River | CWP-16-03 | Globe Street Sewer Improvements Project | \$4,105,174 | 90.25% | CW | Combined Sewer Overflow Correction |
| Fall River | DWP-13-06-A | Airport Road High Service Area Improvements | \$428,194 | 66.22% | DW | Drinking Water Source and Storage |
| Fall River | DWP-14-08-A | Water Main Improvements and WTP Residual Handling | \$139,747 | 100% | DW | Drinking Water Transmission and Distribution |
| Fall River | DWP-16-09 | Water Main Improvements - Phase 16 | \$3,512,338 | 91.99% | DW | Drinking Water Transmission and Distribution |
| Fitchburg | CWP-16-05 | Beech and Hazel Streets Sewer Separation | \$2,068,695 | 93.53% | CW | Combined Sewer Overflow Correction |
| Fitchburg | CWP-16-10 | Fitchburg WWTF Secondary Systems Upgrade | \$9,017,418 | 100% | CW | Wastewater Treatment |
| Hadley | DWP-16-03 | Water Infrastructure Improvement | \$172,998 | 100% | DW | Drinking Water Transmission and Distribution |
| Haverhill | DWP-16-07 | Transmission Main Improvements | \$2,549,127 | 98.64% | DW | Drinking Water Transmission and Distribution |
| Haverhill | DWP-16-05 | Haverhill Water Treatment Plant Upgrades | \$8,645,659 | 100% | DW | Drinking Water Treatment |
| Medway | CW-11-20 | IWRMP | \$500,000 | 99.98% | CW | Planning |
| MFN Regional Wastewater District | CW-15-25-A | WPCF Upgrades and Landfill Closure | \$17,911,611 | 100% | CW | Wastewater Treatment |
| Montague | CWP-14-28 | Pump Station Replacements | \$1,583,047 | 100% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| MWRA | DW-16-06 | SEH Redundancy and Storage | \$4,045,484 | 100% | DW | Drinking Water Source and Storage |
| MWRA | DW-16-23 | Low Service Storage | \$319,493 | 100% | DW | Drinking Water Source and Storage |
| MWRA | DW-17-15 | Wachusett Aqueduct PS | \$28,249,352 | 100% | DW | Drinking Water Transmission and Distribution |
| MWRA | CW-16-42 | Caruso Pump Station | \$2,194,852 | 100% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| MWRA | CW-17-35 | Remote Headworks Upgrade | \$4,786,700 | 100% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| MWRA | CW-16-43 | Wastewater Treatment Plant and Sewer Improvements | \$3,394,837 | 100% | CW | Wastewater Treatment |
| MWRA | CW-17-34 | Wastewater Treatment Plant and Sewer Improvements | \$3,249,355 | 100% | CW | Wastewater Treatment |
| MWRA | CW-17-36 | Clinton WWTP Phosphorous Removal | \$3,759,927 | 100% | CW | Wastewater Treatment |
| Nantucket | CW-16-36 | Shimmo & PLUS Parcels Sewer Extension | \$14,101,765 | 93.98% | CW | Collector and Interceptor Sewers |
| Nantucket | CW-15-26 | Surfside WWTF Improvements | \$8,472,975 | 86.62% | CW | Wastewater Treatment |
| New Bedford | CW-16-37 | Supplemental WW and SW Plan | \$1,000,000 | 100% | CW | Planning |
| Northampton | CWP-10-14-R | Pumping Station Improvements | \$86,222 | 84.74% | CW | Planning |
| Norwood | CWP-15-08-A | Underdrain Area Sewer Rehab | \$414,356 | 87.64% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| Quincy | CWP-15-06 | PS Renovation | \$3,634,026 | 97.18% | CW | Infiltration/Inflow and Sewer System Rehabilitation |

Footnotes

¹ Series 21: All Amount and Loan Drawn sections are accurate as of July 31, 2020

Appendix B - Series 21 Projects¹

| Borrower | Loan No. | Project Name | Amount | Loan Drawn | Program | Category |
|-----------------------|------------|--|--------------|------------|---------|---|
| Revere | DW-13-10 | GIS Implementation of AMR Program | \$250,000 | 75.30% | DW | Drinking Water Planning and Design |
| Revere | CW-16-19 | Phase VIII Field Investigations - I/I and IDDE | \$1,500,000 | 92% | CW | Planning |
| Revere | CW-16-23 | Illicit Connections & Sump Pump Detection | \$850,000 | 95% | CW | Planning |
| Saugus | CWP-16-09 | Sewer System and Pump Station Rehab/Improvements | \$3,197,219 | 99.67% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| Shrewsbury | DW-16-15 | Home Farm Water Treatment Facility Upgrade | \$12,074,031 | 95.95% | DW | Drinking Water Treatment |
| Taunton | CWP-16-38 | Sewer/Drain Separation and Inflow Removal | \$3,927,054 | 100% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| Upper Blackstone WPAD | CWP-16-39 | Nutrient Removal Improvements | \$8,842,079 | 100% | CW | Wastewater Treatment |
| Uxbridge | CW-16-26-A | Wastewater Treatment Facility - BNR and Infrastructure Upgrade | \$17,253,299 | 100% | CW | Wastewater Treatment |

Footnotes

¹ Series 21: All Amount and Loan Drawn sections are accurate as of July 31, 2020

Appendix C - Series 20 Projects¹

| Borrower | Loan No. | Project Name | Amount | Loan Drawn | Program | Category |
|--|-------------|---|---------------------------|------------|---------|---|
| Barnstable | CW-04-31-R | Nutrient Management Planning Project | \$255,941 | 100% | CW | Planning |
| Billerica | CW-14-21 | Contract 35 Sewers | \$8,847,833 | 100% | CW | Collector and Interceptor Sewers |
| Billerica | CW-14-20 | Wastewater Treatment Facility Upgrades | \$4,472,511 ² | 100% | CW | Wastewater Treatment |
| Brockton | CWP-15-22 | Sewer Rehabilitation | \$1,270,936 ² | 100% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| Charles River Pollution Control District | CW-13-09-B | Wastewater Treatment Facility Improvements Phase C | \$1,645,106 ² | 100% | CW | Wastewater Treatment |
| Chicopee | CW-14-05 | Combined Sewer Overflow | \$24,013,337 | 100% | CW | Combined Sewer Overflow Correction |
| Chicopee | CW-13-22 | Integrated Municipal Stormwater and Wastewater Resource Management Plan | \$996,457 ² | 100% | CW | Planning |
| Dracut | CW-13-24-A | Contract No. 32 Sewer Extensions | \$181,873 | 100% | CW | Collector and Interceptor Sewers |
| Eastham | DWP-16-02 | Water System Phase I | \$10,289,876 | 100% | DW | Drinking Water Source and Storage |
| Eastham | DWP-15-01-A | Water System Phase I | \$2,304,545 | 100% | DW | Drinking Water Transmission and Distribution |
| Easthampton | CW-14-13 | Integrated Wastewater Resource Management Plan | \$1,090,800 | 100% | CW | Planning |
| Everett | CW-08-14-A | Stormwater Illicit Discharge Detection | \$55,428 | 100% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| Everett | CW-14-24 | Storm Water/Sewer Evaluation | \$500,000 | 100% | CW | Planning |
| Falmouth | CWP-14-23-A | Sewer Extension and New Recharge Site | \$15,694,054 ² | 100% | CW | Collector and Interceptor Sewers |
| Falmouth | DWP-15-02 | Long Pond Water Treatment Facility | \$15,320,673 | 100% | DW | Drinking Water Treatment |
| Fitchburg | CWP-13-01-A | Combined Sewer Separation Area 4D | \$1,215,860 ² | 100% | CW | Combined Sewer Overflow Correction |
| Gardner | CWP-15-21 | Wastewater Treatment Plant Upgrade | \$4,352,204 | 100% | CW | Wastewater Treatment |
| Grafton | CW-15-14 | Wastewater Treatment Plant Improvements | \$14,613,300 | 100% | CW | Wastewater Treatment |
| Great Barrington | CWP-15-24 | Wastewater Treatment Facility Upgrades and Sewer Improvements | \$4,562,663 ² | 100% | CW | Wastewater Treatment |
| Haverhill | CWP-14-15 | CSO Improvements, Wastewater Treatment Facility and Sewer System | \$8,276,762 | 100% | CW | Combined Sewer Overflow Correction |
| Lawrence | CW-14-16 | Sewer System Rehabilitation | \$8,978,897 | 100% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| Lawrence | CW-13-13 | CMOM Program and Sanitary Sewer Evaluation Survey | \$3,840,000 | 100% | CW | Planning |
| Lowell | DWP-13-03 | Meter Replacement and AMR System | \$30,610 ³ | 100% | DW | Drinking Water Transmission and Distribution |
| Lynn Water and Sewer Commission | DW-13-19 | Low Service Reservoir Improvements | \$1,297,810 | 100% | DW | Drinking Water Source and Storage |
| Manchester by the Sea | DW-14-03 | Water System Improvements | \$1,440,000 | 100% | DW | Drinking Water Transmission and Distribution |
| Manchester by the Sea | CW-14-31 | Comprehensive Wastewater Management Plan | \$234,450 | 100% | CW | Planning |
| Mashpee | CW-00-50-C | Comprehensive Wastewater Management Plan | \$78,035 ² | 100% | CW | Planning |
| Middleborough | CWP-14-32 | Wastewater Treatment Facility Upgrades | \$24,346,341 | 100% | CW | Wastewater Treatment |
| MWRA | CW-15-27 | Combined Sewer Overflow Phase 16 | \$3,038,178 | 100% | CW | Combined Sewer Overflow Correction |
| MWRA | DW-15-13 | Low Service Storage | \$7,474,691 | 100% | DW | Drinking Water Source and Storage |

Footnotes

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² Amount was reduced following the completion of the project. Excess funds were reallocated to additional green projects and are listed within the Series 20 table.

³ Amount reflects Series 20 Bond proceeds reallocated from excess funds of completed Series 20 projects.

Appendix C - Series 20 Projects¹

| Borrower | Loan No. | Project Name | Amount | Loan Drawn | Program | Category |
|--|-------------|---|--------------------------|------------|---------|---|
| MWRA | DW-15-12 | Lower Hultman Aqueduct Rehabilitation | \$516,897 | 100% | DW | Drinking Water Transmission and Distribution |
| MWRA | DW-15-04 | Wachusett Aqueduct Pump Station | \$12,404,988 | 100% | DW | Drinking Water Transmission and Distribution |
| MWRA | DW-15-14 | Weston Aqueduct Supply Mains and Sec 36/101 | \$4,419,689 | 100% | DW | Drinking Water Transmission and Distribution |
| MWRA | CW-15-30 | Caruso Pump Station | \$2,031,614 | 100% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| MWRA | CW-15-32 | Clinton Wastewater Treatment Plant Phosphorous Removal | \$2,496,267 | 100% | CW | Wastewater Treatment |
| New Bedford | DWP-14-05 | Transmission Main Improvements | \$4,466,812 | 100% | DW | Drinking Water Transmission and Distribution |
| Norwood | CWP-15-08 | Underdrain Area Sewer Rehabilitation | \$2,212,267 | 100% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| Plainville | DWP-15-09 | Tank Rehabilitation | \$635,983 ² | 100% | DW | Drinking Water Source and Storage |
| Revere | DWP-13-09 | Water Meters Automatic Meter Reading System | \$6,370,373 | 100% | DW | Drinking Water Transmission and Distribution |
| Revere | CWP-15-29 | Sewer Rehabilitation | \$10,340,270 | 100% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| Revere | CW-13-14 | Capacity Management Operations and Maintenance Program Program | \$300,000 | 100% | CW | Planning |
| Revere | CW-14-25 | Illicit Connection Detection Program | \$700,000 | 100% | CW | Planning |
| Revere | CW-15-19 | Illicit Connection Detection Program | \$800,000 | 100% | CW | Planning |
| Revere | CW-14-11 | Comprehensive Wastewater Management Plan/CSMP Supplemental Plan | \$1,200,000 | 100% | CW | Planning |
| Revere | CW-15-18 | Sanitary Sewer Evaluation Survey | \$1,700,000 | 100% | CW | Planning |
| Springfield Water and Sewer Commission | CWP-14-27 | Dickinson Siphon/Main Interceptor Rehabilitation | \$3,054,020 ³ | 100% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| Stockbridge | DW-15-08 | Water System Improvements | \$1,771,785 | 100% | DW | Drinking Water Source and Storage |
| Taunton | CW-14-26-A | Sanitary Sewer Evaluation Survey Phases 10-12 | \$4,246,535 ² | 100% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| Taunton | CWP-13-18-A | Sanitary Sewer Evaluation Survey Phases 10-12 | \$95,249 | 100% | CW | Infiltration/Inflow and Sewer System Rehabilitation |
| Uxbridge | DW-14-12 | Rt. 122 Water Main Replacement | \$2,499,192 | 100% | DW | Drinking Water Transmission and Distribution |
| Uxbridge | CW-16-26 | Wastewater Treatment Facility - BNR and Infrastructure Upgrade | \$2,628,303 ³ | 100% | CW | Wastewater Treatment |

Footnotes

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³ Amount reflects Series 20 Bond proceeds reallocated from excess funds of completed Series 20 projects.



MASSACHUSETTS
CLEAN WATER TRUST

2020 ANNUAL REPORT

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