

# 2020

## YEAR-END REVIEW

### NORTH DAKOTA STATE REVOLVING FUND



### **BISMARCK INITIATES LEAD SERVICE LINE REPLACEMENT PROGRAM**

Lead was a commonly used material in drinking water service lines installed before the 1940s. Drinking water's chemistry can cause lead to leach out of the pipe material and into water. While most cities, including Bismarck, can control their water chemistry to keep lead levels in compliance with the Safe Drinking Water Act, replacing the lead service line provides a higher level of assurance that lead levels are kept low.

In 2020, work began on a project to replace corroded cast iron water mains in downtown Bismarck. The city was aware that they would come across lead service lines during their work, so they applied for a loan through the DWSRF program. Since Bismarck would use part of the loan for lead service line replacement, the city was eligible for up to 90% loan forgiveness for that portion of the project.

The contractor performing the water main replacement also replaced the lead service lines from the water main to the curb stop, which is city-owned. City public works staff contacted those residents to inform them of the risks of lead in drinking water and notify them that assistance was available to help pay for the lead service line replacement cost from the curb stop to the main. The resident was only responsible for 10% of the costs of replacement and the city used their loan forgiveness funds for the remainder.

The city encountered more lead service lines than anticipated and interest in the program greatly exceeded their expectations. The city expects to use all the loan forgiveness funds awarded to them and plan to pursue additional loan forgiveness in 2021 in conjunction with another water main replacement project.

### **PLANNING ASSISTANCE REIMBURSEMENT (PAR)**

In 2020, the CWSRF and DWSRF Programs began offering the Planning Assistance Reimbursement (PAR) grants to promote a proactive approach to water and wastewater project development. This program provides small communities with less than 2,500 people with grant funds to hire an engineering consultant to develop a project-specific engineering report. Planning grants are awarded to systems that intend to follow through with the study's recommendations and anticipate seeking a CWSRF or DWSRF loan to do so. The grant may cover up to 80% of the costs for completion of a project-specific engineering report. The maximum reimbursement a community may receive is \$15,000. Grants will be funded from the state administrative account.



## DID YOU KNOW? FREE ASSISTANCE FOR DRINKING WATER SYSTEMS

Your system has just lost its only drinking water system operator... new city council members are unfamiliar with the requirements of managing a drinking water system... drinking water utility rates don't cover the system's expenses. Have you been in one of these situations? What do you do? Who do you turn to?

The NDDEQ has contracts with North Dakota Rural Water Systems Association (NDRWSA) and Midwest Assistance Program (MAP) to provide FREE technical assistance to drinking water systems serving 10,000 or fewer persons. Assistance may include training on:

- How to follow sampling and reporting protocols
- Managerial responsibilities of a drinking water system
- Rate studies
- Preparation for operator certification exams
- Leak detection studies
- Vulnerability assessments and emergency response plans
- SRF loan application preparation assistance

The NDDEQ utilizes compliance data to identify systems that may need assistance and assigns NDRWSA or MAP to meet with the system. In many cases, they can come to you! Please contact the NDDEQ or PFA if you feel your system may benefit from assistance and staff will take your request under consideration.



## WASTEWATER DISINFECTION



Did you know some wastewater treatment plants in the state use ultraviolet (UV) disinfection? Grand Forks and Fargo recently converted from chlorine disinfection to UV disinfection with CWSRF funds. Unlike chlorine or other chemical approaches to disinfection, UV provides a rapid, effective inactivation of microorganisms through a physical process. This process results in no bulk chemical storage, providing safer work conditions for operators and no chemical residuals in the effluent, which is better for the environment when discharging. The six installed UV systems in North Dakota range from 32 bulbs (0.5 mgd) to 288 bulbs (50 mgd), depending on the technology used and the wastewater quality and flow. A single bulb could cost up to \$900 to replace and lasts about 15,000 hours.

**Pictured is the Grand Forks UV wastewater treatment system.**



## CENTER SANITARY SEWER AND WATER MAIN IMPROVEMENTS

The project consists of improvements to the sanitary sewer collection and water distribution systems for the City of Center. Both systems were constructed around 1920 and have had some updates in the 1980s, but still contain outdated and improperly functioning components. The sanitary sewer collection system is comprised mostly of vitrified clay pipe and is functioning well. However, multiple areas with sags, cracks, and fractures allow inflow and infiltration. The sanitary sewer system also contains an inverted siphon under Square Butte Creek that does not function properly due to lack of sewer flows, causing the siphon to become plugged until enough head pressure builds up to clear the plug. The water distribution system is in good condition overall; however, old designs and lack of updates have resulted in areas with dead ends and pressure issues.

The proposed project consists of replacing the sanitary sewer and water mains in the areas with the worst existing pipe conditions and replacing the unreliable inverted siphon with a lift station and force main. The new sanitary sewer mains will eliminate the inflow and infiltration. The lift station will greatly reduce the amount of maintenance while increasing the sanitary sewer system's reliability. Likewise, the new water mains, with proper looping, will increase pressure and reliability to the homes in the area.

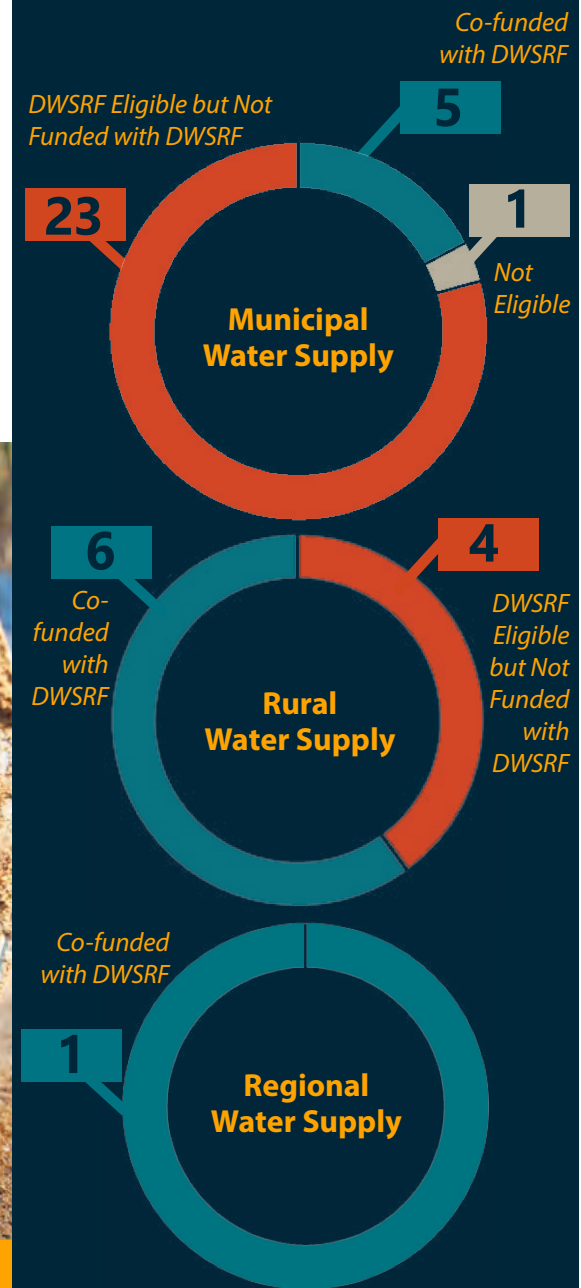
The proposed project will begin construction in Spring 2021, with expected completion in September 2021 at the cost of \$1,814,000. The city was awarded CWSRF and DWSRF loans of \$547,000 and \$102,000, respectively, with the United States Army Corps of Engineers providing the remaining \$1,165,000.



A new sanitary sewer line will prevent inflow and infiltration, saving in maintenance costs.

## DWSRF PARTNERSHIP WITH THE STATE WATER COMMISSION

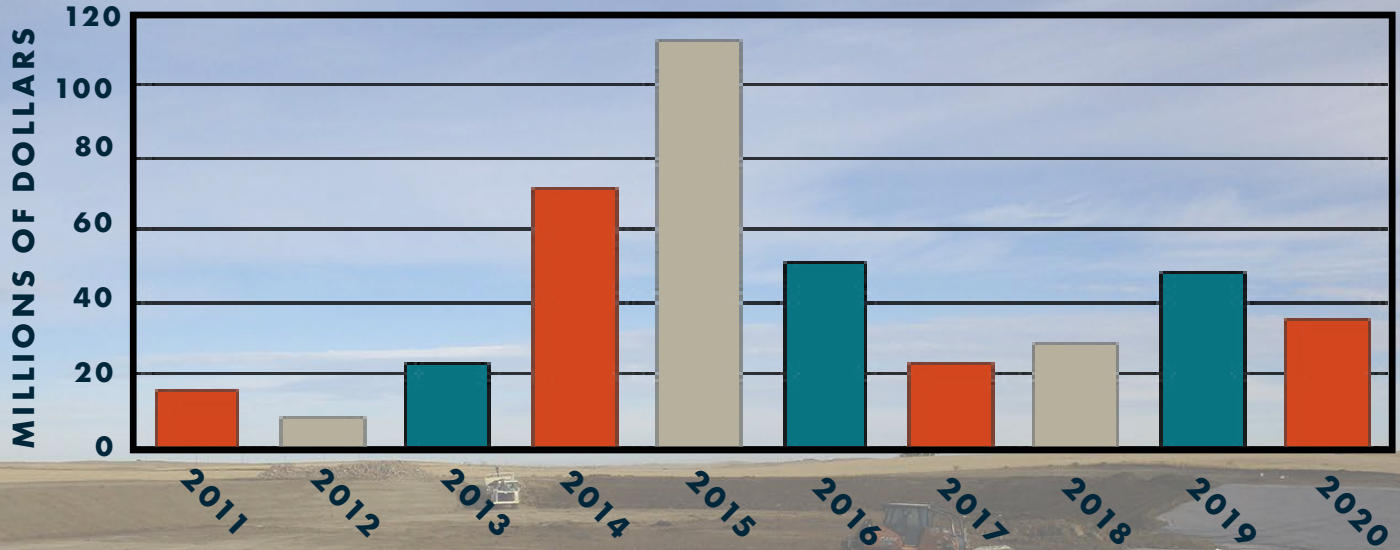
The State Water Commission (SWC) provides state funding (i.e., cost-share) to political subdivisions (i.e., project sponsors) for a variety of water-related projects. The cost-share typically ranges from 60-70%. Many projects in the SWC's Municipal, Rural, and Regional Water Supply categories are also eligible for the Drinking Water State Revolving Fund (DWSRF) program. The following graphs are a summary of the projects approved by the SWC during the 2019-2021 biennium.



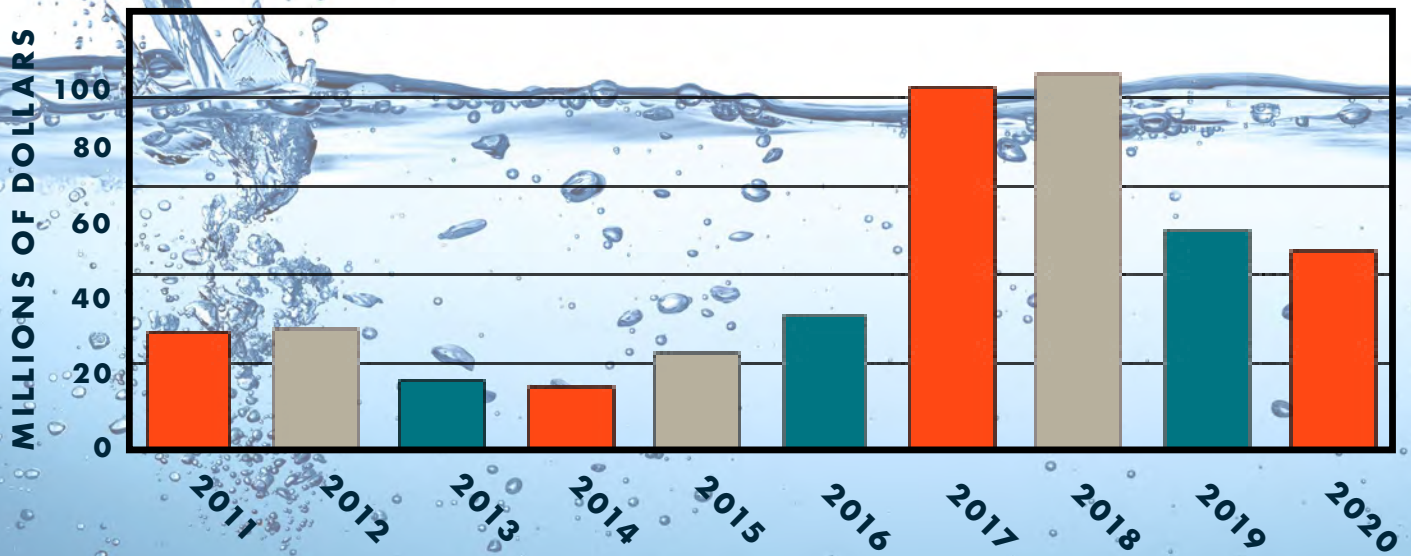


# STATE REVOLVING FUND LOANS FUNDED

## CLEAN WATER SRF LOANS



## DRINKING WATER SRF LOANS



	CWSRF	DWSRF	Total
Total Federal Grants Received	\$235,806,688	\$229,545,767	\$465,352,455
Total Project Assistance Disbursed	\$690,610,482	\$625,568,820	\$1,316,179,302
Return on Investment	293%	273%	283%
Number of Projects	316	278	594