

# AWIA Best Practices for Administration of Drinking Water State Revolving Funds

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<b>INTRODUCTION</b>	<b>2</b>
<b>A. EFFORTS TO STREAMLINE THE PROCESS FOR APPLYING FOR DWSRF ASSISTANCE</b>	<b>5</b>
Colorado: Reducing the loan application processing time by 85 percent	6
Alaska: Lean exercise reduces process time by 12 percent	7
Pennsylvania: Paperless loan process allows funding within 6 months	9
<b>B. PROGRAMS THAT HELP BORROWERS COMPLETE DWSRF ASSISTANCE APPLICATIONS</b>	<b>11</b>
<b>C. INCENTIVES FOR LARGER PUBLIC WATER SYSTEMS TO HELP SMALL PUBLIC WATER SYSTEMS WITH THE DWSRF APPLICATION</b>	<b>15</b>
<b>D. PRACTICES TO ENSURE THAT DWSRF LOAN FUNDS ARE USED TO PROVIDE LOANS, LOAN GUARANTEES, OR OTHER AUTHORIZED ASSISTANCE IN A TIMELY FASHION</b>	<b>19</b>
Hawaii: Ensuring Steady Demand in the Aloha State	21
Utah: Rising to the Occasion to Grow Demand	22
<b>E. PRACTICES THAT SUPPORT EFFECTIVE MANAGEMENT OF DWSRF LOAN FUNDS</b>	<b>24</b>
North Carolina: New SOPs Uncover Efficiencies and Help Smooth Transitions	24
Illinois: Innovations in Long-Term Oversight of Assistance Recipients	26
<b>F. PRACTICES AND TOOLS TO ENHANCE FINANCIAL MANAGEMENT OF DWSRF LOAN FUNDS</b>	<b>29</b>
North Dakota: Active Management since 2005 Helps Ensure Consistently Low Cash Balances	30
<b>G. KEY FINANCIAL MEASURES FOR EVALUATING DWSRF OPERATIONS</b>	<b>33</b>
Metrics to Gather the Effectiveness of the State’s Efforts to Sign Loans and Disburse Capital	34
Metrics to Evaluate a Program’s Internal Growth	35
<b>REFERENCE RESOURCES</b>	<b>37</b>



## Introduction

This report highlights best practices in seven key areas, as required under the America’s Water Infrastructure Act of 2018 (AWIA) Section 2015. Section 2015(g) of the AWIA amended Section 1452 of the Safe Drinking Water Act by adding a new subsection (s) that requires EPA to collect state best practices administering the Drinking Water State Revolving Fund (DWSRF) program. Water infrastructure is essential to delivering reliable, affordable, and safe water. When water infrastructure fails, it threatens people’s health, peace of mind, and the environment. EPA will ensure that communities receive this federal water infrastructure investment—especially disadvantaged communities. This report highlights states' programs that assist disadvantaged communities and small public water systems in completing their SRF applications.

The 1996 Amendments to the Safe Drinking Water Act (SDWA) created DWSRF to help communities finance infrastructure improvements needed to protect public health and ensure compliance with drinking water standards. Each of the 50 states and Puerto Rico operate their own DWSRF programs. Since 1996, each of the 51 DWSRF programs have utilized the flexibilities in the federal statutes and regulations to craft financing solutions that best meet the public health needs of their states and to implement practices that ensure effective stewardship of the funds.

***This report highlights case studies in seven key areas that emphasize the accessibility and effective management of DWSRF programs. The report and included topics are pursuant to America’s Water Infrastructure Act of 2018 (AWIA) Section 2015(g).***

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The activities highlighted in the case studies in this report offer insight into some of the innovative concepts developed by states' DWSRF programs. Since the inception of the DWSRF program, states have learned from each other and adopted practices from other states where they make sense, helping all states improve their performance and increase public health protection. DWSRF programs are encouraged to review the practices in this report and to consider how they may be implemented in their own states, when appropriate.

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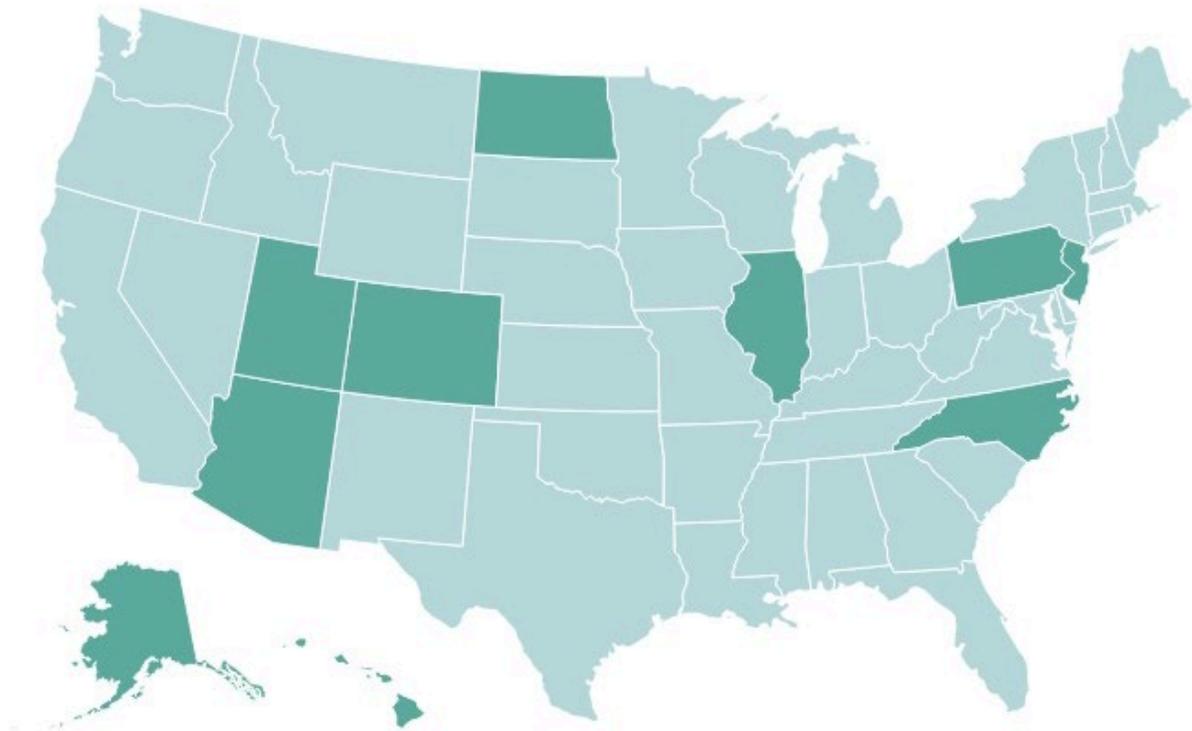
## About the DWSRF

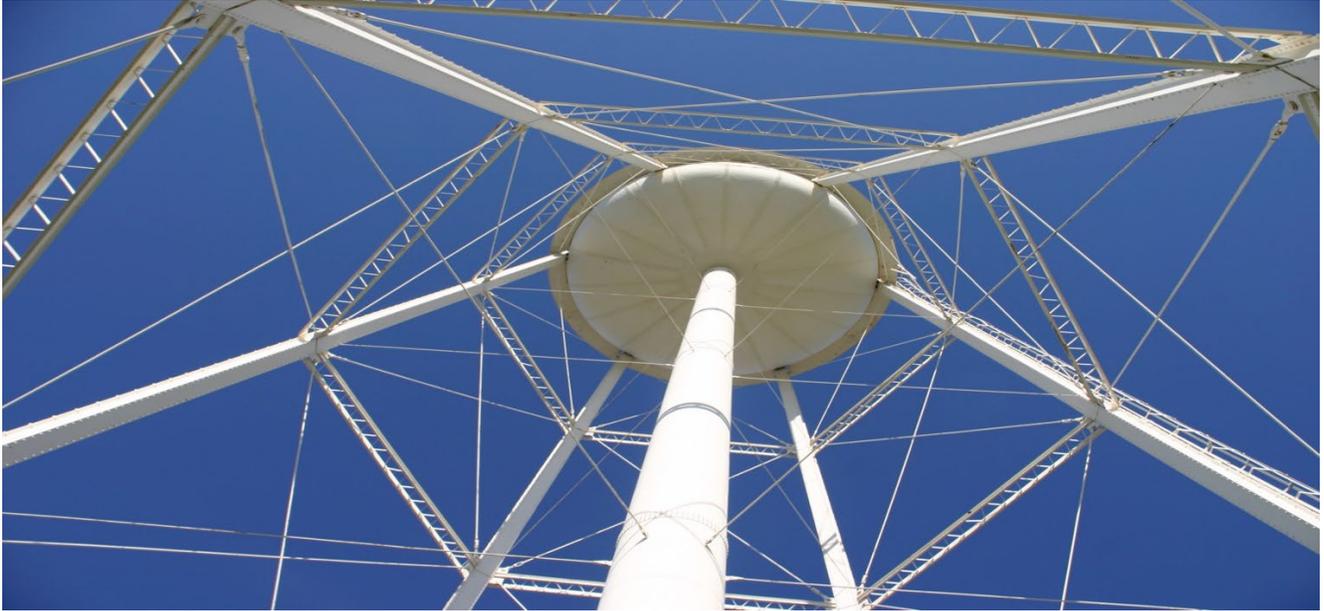
The Drinking Water State Revolving Fund (DWSRF) can provide financial assistance to publicly owned and privately owned community water systems, as well as non-profit non-community water systems, for drinking water infrastructure projects including cybersecurity measures. Projects must either facilitate the system’s compliance with national primary drinking water regulations or significantly further the health protection objectives of the Safe Drinking Water Act. Each of the 50 states and Puerto Rico operates its own DWSRF program. They receive annual capitalization grants from EPA, which in turn provide low-interest loans and other types of assistance to water systems. Repayments of DWSRF loans begin up to 18 months after project completion, with loan terms up to 30 years for most communities or up to 40 years for disadvantaged communities. Additionally, states may use a portion of their capitalization grant from EPA as “set-asides” to help communities build the technical, managerial, and financial capacities of their water systems. With an emphasis on small systems, these funds help ensure sustainable infrastructure and public health investments.

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## DWSRF State Models for Success

### State Case Studies





## **A. Sec - 1452(s)(1)(A)- Efforts to Streamline the Process for Applying for DWSRF Assistance**

The amount of DWSRF assistance provided and number of loan agreements signed has grown exponentially over the 24-year life of the DWSRF program. In such an environment, reducing the administrative tasks associated with completing and processing a DWSRF loan application can help free staff resources for the valuable work of funding public health protection projects. In addition, it increases the accessibility of DWSRF financing for eligible borrowers, helping the funds reach where they can have the greatest benefit.

DWSRF programs in Colorado, Alaska, Hawaii, Illinois, Arkansas (and many others) have undergone Lean-type process improvement<sup>1</sup> exercises to streamline the DWSRF experience for borrowers and staff. The results of these exercises in two states are shared in this section. In addition, Pennsylvania has created an entirely digital loan process, which is highlighted in this section.

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<sup>1</sup> [https://en.wikipedia.org/wiki/Lean\\_enterprise](https://en.wikipedia.org/wiki/Lean_enterprise)

# Colorado: Reducing the Loan Application Processing Time by 85 Percent

In 2012, the Colorado DWSRF program undertook a Lean effort to streamline the application process and now accepts applications, project submittals, and disbursement requests electronically. This effort reduced the loan application processing time by 85 percent. Colorado’s efforts were unique because they quantified the level of effort before and after the streamlining changes and identified some of the following areas as common culprits for excessive staff time:

- Incomplete and incorrect information on loan applications;
- Multiple hand-offs of documentation between the three agencies that administer the DWSRF;
- Excessive formatting and reworking of documents;
- Lack of established deadlines and timelines for submittals; and
- Coordinating with communities that are entering the program with conceptual projects that are not ready to proceed, rather than bona fide projects.

Going through the Lean exercise allowed the DWSRF team to restructure the loan application procedures in a way that would help redirect control back to the three state agencies administering the DWSRF program. This was done by creating a standardized process through which applicants enter the program, changing how applicants are evaluated, introducing Readiness-to-Proceed indicators prior to being offered a loan application, and establishing firm commitment dates and performance deadlines. This restructuring was designed to get more applicants to a financing agreement through the development of a self-service oriented platform that allows them to assume more accountability for their projects. The Lean exercise also highlighted the importance of creating more concurrent or parallel application reviews, as opposed to linear processing.

The “ideal process” identified in the process improvement exercise reduced major steps from 14 to 10 and transferred more preliminary project planning activities toward the front end of the process, thereby providing clearer directions to applicants who indicate a serious intention of coming to the DWSRF program for financial assistance within the next fiscal year. Water systems that require additional assistance preparing a DWSRF financing

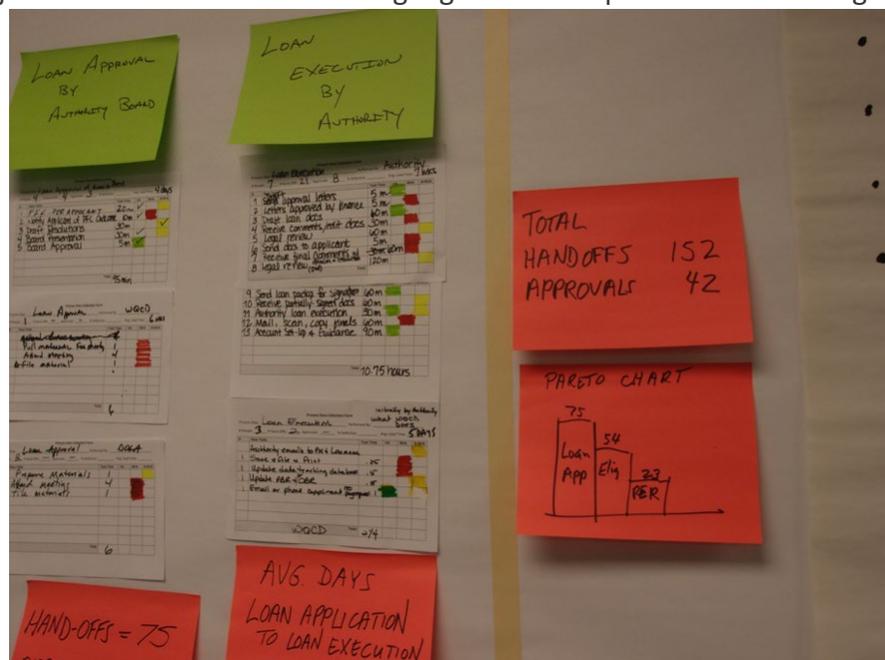


Figure 1: Mapping the Application Process in Colorado's Lean Exercise

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application may apply for planning grants and design/engineering grants, with the understanding that they will pursue a DWSRF loan for project construction.

***“Having a standard way to gather information has been significant since it allows us to aggregate the information very quickly and efficiently.”***  
***– Colorado SRF Section Manager***

According to the State Revolving Fund (SRF) Section Manager, “The most impactful change that came from our 2012 Lean implementation was the redevelopment of the Preliminary Engineering Report (PER) into a standardized form called the Project Needs Assessment. This allowed us the opportunity to standardize the information as we received it regardless of the type of project. Prior to this, we would receive various “types” of the PER that didn't have a constant format, which made it challenging to find specific information with respect to the programs. In addition, the new Project Needs Assessment allowed us to integrate the required Drinking Water Technical, Managerial and Financial questions into the form. Having a standard way to gather information has been significant since it allows us to aggregate the information very quickly and efficiently.”

## **Alaska: Lean exercise reduces processing time by 12 percent**

In 2017, the Alaska DWSRF program underwent a Lean process, which examined processes throughout the SRF program. As a result of this comprehensive program review, staff estimate resulted in a 12 percent overall reduction in processes within the program. This was achieved by reducing the steps in the processing steps in different processes by 27 percent, reducing handoffs by 47 percent, and dramatically reducing redo loops by 83 percent reduction in redo loops. Potentially, lead time for various processes could be reduced by 96 percent.<sup>2</sup>

The Lean event was organized in response to significant staffing changes at the Alaska Department of Environmental Conservation (DEC), the agency that administers the state DWSRF program. The long-time manager had just retired, DWSRF accounting staff were consolidated with the state grant staff, and several new DWSRF engineers had been hired. The new staff were trying to learn the process but documentation was limited and responsibilities were not clearly delineated. The five-day Lean event was facilitated by a DEC staff member from a different division and EPA Region 10. The team arrayed the entire DWSRF process on the wall, starting with the publication of an Intended Use Plan (IUP)(Figure 2). They walked through the process and checked for agreement on how each step was

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<sup>2</sup> Figures based on an internal analysis of the prior and new process steps, and the time spent on each step.

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to be completed, identified where there was conflict in understanding, and talked about which steps could be eliminated. The purpose was to seek common understanding so the DWSRF team could

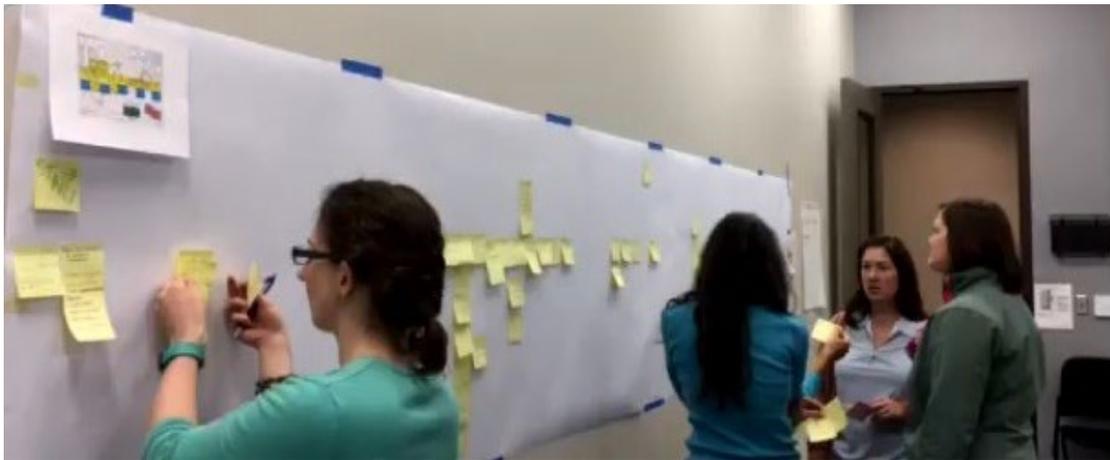


Figure 2: Participants in Alaska's Lean Exercise Identify the Steps in their Loan Process document the entire process and improve efficiency.

Several major changes to the internal DWSRF process resulted from the Lean event. These include:

- Alaska began using equivalency procedures to manage certain federal requirements.<sup>3</sup> They typically have one loan that meets all the equivalency requirements, so other DWSRF projects are exempt from these requirements.
- The team developed more detailed SRF training materials for borrowers (and a “borrower’s handbook” is planned).
- The SRF team developed a better process for tracking additional subsidy and special loan conditions and assigning responsibility for tracking these items.
- An email template was developed with a checklist that the SRF engineer fills out when an application is complete. The email is then routed to the program coordinator to add subsidy information, then to the SRF manager for approval and finally, to the grants team to draft the loan agreement. This chain of handoffs did not formerly have a comprehensive, standardized process.
- The SRF team developed several process maps, which they periodically revisit (such as the process for closing out a loan).

According to the Alaska SRF manager, the biggest challenge was having the entire staff take five days from work to go through the Lean process. The most important outcome of the Lean effort was that the SRF staff developed more of a sense of team, responsibility, and ownership in each of the functional groups. Each functional group started to understand how critical their contribution was to

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<sup>3</sup> “Equivalency” is the ability of SRF programs to apply certain federal requirements only to financing agreements in an amount equal to the capitalization grant. These include: Disadvantaged Business Enterprise (DBE), Single Audit, and Project Signage.

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the entire DWSRF team. The process also helped empower staff to put forth ideas when they saw something that wasn't working well. The DWSRF team continued to meet over the next few months to talk about how everything was going and suggest new ideas, and there is general agreement that

### **Best Practices and Lessons Learned**

1. Prior to the process improvement exercise (whether Lean or a similar type of exercise), consider which steps in the DWSRF process are the greatest bottlenecks.
2. Ensure all staff involved with the processes being evaluated are included in the process improvement exercise. Staff at all levels should be empowered to offer solutions.
3. While taking the time from day-to-day work can be challenging, it is a key factor in a successful process improvement exercise because it allows staff to fully focus on the process steps and solutions being discussed.
4. Creating standardized processes and templates for applicants and staff can help create a faster, smoother application process.
5. Process improvements do not end after the process improvement exercise. The identification of process bottlenecks and solutions should be encouraged daily.

the program is more efficient after the Lean effort.

## **Pennsylvania: Paperless loan process allows funding within 6 months**

The Pennsylvania Infrastructure Investment Authority (PENNVEST), which implements the DWSRF program jointly with the Department of Environmental Protection (DEP), uses an all-digital loan application, settlement, and disbursement process, which was developed in-house to ensure maximum functionality and timeliness for the DWSRF program. The system uses the Pennsylvania Infrastructure Investment Authority Login Portal (PV Portal), which is powered by Keystone Login, a program that is shared by other agencies across the Commonwealth, so local entities can use a single account for many types of business with the state government. The online application system has sections for borrower application submission, PENNVEST financial and legal reviews and approval, DEP technical review and approval, and PENNVEST online loan settlement.

PENNVEST has four board meetings throughout the year in which applications are considered for funding, with four corresponding application deadlines. Accepting applications at several points during the year results in more timely implementation of projects as opposed to accepting applications once a year, as is done by other state SRF programs. Five PENNVEST Project Specialists located throughout the state shepherd each project in their Region through the loan process from beginning to end – from application through the final disbursement and closeout.

The electronic process allows the DWSRF to move quickly to complete the process, which currently averages about six months until funds can be drawn. A new Small Projects Program has been added

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where staff have been authorized to approve projects up to \$500,000 within certain criteria on a running basis. The goal is to issue an approval within two weeks of receiving a complete application to further expedite project implementation.

### **Best Practices and Lessons Learned**

1. Online systems (if designed well) can help streamline the application process and coordinate multiple review activities.
2. Accepting applications at several points during the year can result in more timely implementation of projects.
3. Assigning a dedicated project manager (ideally one who is geographically near to an applicant) can make the loan process smoother for applicants.





## **B. Sec - 1452(s)(1)(B) Programs That Help Borrowers Complete DWSRF Assistance Applications**

Several states have programs to assist public water systems, particularly those serving small and/or disadvantaged communities, with applying for DWSRF financing. These options are often funded through the DWSRF set-asides. Many states use contracts with circuit riders<sup>4</sup> to provide technical assistance to small public water systems, including assistance with DWSRF applications. For example, New Jersey's DWSRF uses set-asides to provide no-cost engineering assistance to small water systems.

Many states also offer financial assistance – often as principal forgiveness from the loan fund or grants from set-asides or fees – directly to eligible borrowers for project planning, design, and compliance with DWSRF requirements. Arizona's DWSRF program, implemented by the Water Infrastructure Finance Authority of Arizona (WIFA), retooled its technical assistance program in 2019 to strengthen the link between planning assistance and construction financing. Between fiscal years 2019 and 2021, WIFA awarded technical assistance funds to 28 water systems for assistance with various aspects of the DWSRF application process.

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<sup>4</sup> Circuit riders are roving technical experts employed by state rural water associations to provide training and assistance to rural and small water utilities within their state.

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Arizona WIFA's changes were informed by efforts to better understand how water systems perceive the DWSRF program. Two of these efforts were a 2018 survey and a 2019 focus group of current and potential borrowers. The feedback from water systems was that for the small and disadvantaged water systems, the federal requirements were often roadblocks to DWSRF financing, and for others, they were strong deterrents. The primary concerns were with the environmental review and Davis-Bacon Act wage rate compliance. These results led WIFA to explore options to assist water systems in satisfying these requirements.

To provide targeted assistance where it is needed most, WIFA offers three types of technical assistance with different purposes: project design assistance, support for federal requirements, and assistance from regional Councils of Government for Davis-Bacon Act compliance. Funding is made available from the DWSRF Local Assistance and Other State Programs Set-Aside (the 15 percent set-aside). Water systems that qualify for project design assistance and support for federal requirements may receive up to \$50,000 in assistance, while Davis-Bacon Act support may receive up to \$20,000 in assistance.

Figure 3 (next page) illustrates the three technical assistance programs offered by Arizona's WIFA and their eligibility requirements.

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### **New Jersey: Engineering Assistance at No Cost via a Key Partnership**

The New Jersey DWSRF program uses the Small Systems Technical Assistance (2 percent) set-aside to contract with the New Jersey Water Association (NJWA) to provide water systems with fewer than 1,000 customers with no-cost engineering design assistance. This option is available to water systems on New Jersey's DWSRF Fundable List that need assistance completing the technical portion of their financing applications. Many of these water systems are also eligible for principal forgiveness financing for their projects. The objective of the program is to assist these water systems in obtaining DWSRF financing without delays due to a lack of resources.

NJWA subcontracts with engineering firms to provide the assistance. Subcontracts for the engineering design assistance are typically approximately \$60,000, although some water systems require less assistance. The New Jersey DWSRF allocated \$400,000 in set-aside funds for this program in the most recent three-year contract with NJWA.

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### WIFA Technical Assistance Eligibility Matrix

Project Design	Support for Federal Requirements	Assistance from Councils of Governments
<b>Requirements</b>		
<ul style="list-style-type: none"> <li>• Service population of 10,000 or less</li> <li>OR</li> <li>• Meets WIFA's criteria as a disadvantaged community</li> </ul>	<ul style="list-style-type: none"> <li>• No population requirement</li> <li>• Only available if required as a condition of WIFA funding</li> </ul>	<ul style="list-style-type: none"> <li>• Service population of 10,000 or less</li> <li>• Disadvantaged community</li> <li>OR</li> <li>• Privately-owned water companies</li> </ul>
<b>Types of Assistance</b>		
<ol style="list-style-type: none"> <li>1. Design of an infrastructure project</li> <li>2. Selection of design alternative</li> </ol>	<ol style="list-style-type: none"> <li>1. Environmental Assessment</li> </ol>	<ol style="list-style-type: none"> <li>1. Assistance with construction contractor procurement</li> <li>2. Davis-Bacon prevailing wage rate monitoring</li> </ol>

Figure 3: Technical Assistance Programs Offered by Arizona's WIFA and their eligibility requirements

Arizona’s technical assistance program is unique because the DWSRF program contracts directly with the technical assistance service providers. Their contracting process only takes about one month:

- When an eligible borrower is approved for technical assistance, WIFA prepares a Request for Qualifications (RFQ), which is directed to 3-5 consultants on the state’s Professional Services list;
- Consultants typically have one to two weeks to respond; and
- WIFA reviews, ranks and scores the consultants by qualification, and signs a contract directly with the top-scoring consultant after negotiating costs.

WIFA does its best to request statements of qualifications from a range of consultants to spread the funding and increase familiarity with the DWSRF, providing long-term benefits beyond the technical assistance program. By taking charge of the RFQ process and paying the consultants directly, WIFA can offer a valuable service to small water systems that may not have the resources to oversee this process. In addition, by creating a streamlined process that takes only one month, the assistance does not cause delays in project development.

WIFA has contracted with four regional Councils of Government (COG) since 2019 to assist borrowers with Davis-Bacon Act procurement and monitoring. The Arizona COGs already provide this service to U.S. Housing and Urban Development (HUD) projects and are very familiar with the entire process.

While the program is still young, Arizona’s WIFA has seen evidence that these offerings have made the DWSRF more appealing to eligible borrowers and have helped communities overcome hesitancy to seek DWSRF financing due to concerns about compliance with the program’s requirements.

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***In the three years since Arizona’s WIFA rolled out the technical assistance program, it has assisted with 28 projects, for a total of \$200,000 to \$330,000 each year.***

***Assistance with Davis-Bacon compliance and environmental assessment support are the two most requested types of support.***

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An increasing number of states assist with specific aspects of the DWSRF process that certain water systems may struggle with. For example:

- South Dakota: Regional Planning Districts assist communities with Davis-Bacon Act compliance.
  - Oklahoma: Offers software to DWSRF assistance recipients that automates Davis-Bacon Act compliance oversight.
  - Kansas: Reviews project plans and specifications and flags all products subject to the American Iron and Steel requirement.
  - Iowa: Employs four environmental review (ER) specialists that conduct the environmental review process for applicants. The ER specialists review the projects and gather any necessary crosscutter clearances, advise the applicant on permits needed, prepare the Environmental Information Document, and coordinate with the applicant on any necessary public hearings.
  - Texas: Through the “CFO to Go” program, the Texas DWSRF contracts with Certified Public Accountants to support assistance recipients ensure compliance with DWSRF requirements, such as financial reporting, internal control procedures, and monitoring allowable costs.
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### **Best Practices and Lessons Learned**

1. Reaching out to public water systems (both those that have and have not sought DWSRF financing) allows DWSRF programs to understand the perceptions of the program and identify areas of concern to water systems.
2. By focusing on the primary areas of concern to water systems, such as Davis-Bacon Act compliance in Arizona, South Dakota, and Oklahoma, and environmental review in Iowa, DWSRF programs can implement targeted improvements that can help increase demand for DWSRF financing.
3. While there is a cost to offering technical assistance, it is typically outweighed by the potential benefit of greater DWSRF program demand and increased public health protection.



## **C. Sec - 1452(s)(1)(C) Incentives for Larger Public Water Systems to Help Small Public Water Systems with the DWSRF Application**

Small and disadvantaged communities often lack the technical, managerial, and financial capacity, as well as institutional knowledge, to easily navigate the DWSRF loan process. This creates a barrier for some of the very water systems for which DWSRF financing would be most critical and beneficial. Larger water systems, in contrast, often have more resources and expertise to devote to applying for DWSRF financing. Furthermore, many large water systems are already familiar with the DWSRF application and compliance process and can apply for loans more quickly and with less effort than a smaller water system applying for the first time.

As the previous section illustrated, many DWSRF programs across the country offer technical assistance of various kinds to current and prospective borrowers, either directly from DWSRF staff or through consultants/circuit riders. A largely untapped option is peer-to-peer (P2P) assistance, where a more experienced water system assists a smaller, less-resourced water system with its DWSRF application or project. This can be particularly beneficial in neighboring water systems, as the economic, health, and social benefits can accrue across borders.

The case study below highlights a successful P2P relationship where a sophisticated wastewater utility assisted a smaller utility in completing a Clean Water State Revolving Fund (CWSRF) application. This assistance could be applied to the DWSRF program. State DWSRF programs could

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provide incentives such as reduced interest rates or funding from the set-asides to help promote these relationships.

***EPA encourages state DWSRF programs to create incentives to water systems for engaging in P2P assistance, and for water systems to contemplate what role they can play in providing technical assistance to nearby water systems, particularly those serving small and disadvantaged communities.***

The Camden County Municipal Utilities Authority (CCMUA) is a large regional utility in Southwestern New Jersey, just across the Delaware River from Philadelphia. CCMUA serves 500,000 customers and 37 municipalities, including Camden City. CCMUA regularly accesses the CWSRF to finance improvements to its treatment plant and collection system.

The City of Camden is an economically-distressed community, with a median household income (MHI) of \$27,015 and 36 percent of the population below the poverty line in 2019.<sup>5</sup> The city does not have ample resources to apply for grants and loans for infrastructure projects. In contrast, Camden County – CCMUA’s service area – is much more affluent than the city itself, with a median household income of \$70,451 in 2019. CCMUA also has a large and experienced staff.<sup>6</sup>

CCMUA has applied to the CWSRF on behalf of Camden City to help the city secure financing for high priority projects. As a regular borrower, “[t]o do the City of Camden’s [CW]SRF application took me hardly any time at all because I’ve done it so many times. But for someone doing it for the first time it could take forever,” explains Andrew Kricun, former Executive Director and Chief Engineer of CCMUA.

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The Mississippi Department of Public Health offers a Peer Review program for technical assistance. From 2002 to 2020, 283 peer reviews have been conducted through this program. This program is funded using the DWSRF Small Systems Technical Assistance Set-Aside (the 2% set-aside).

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For project implementation, the city and CCMUA have taken two approaches. For simple, straightforward projects, the city would implement the project on its own once the CWSRF loan was secured. For more complex projects, CCMUA has acted as the city’s agent. Under this arrangement,

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<sup>5</sup> <https://www.census.gov/quickfacts/camdennewjersey>

<sup>6</sup> <https://www.census.gov/quickfacts/fact/table/camdennewjersey/INC110219>

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CCMUA implemented and incurred the costs for the project. By agreement between the parties, CCMUA could submit disbursement requests and receive payments directly from the New Jersey CWSRF program. As the borrower, the city remains responsible for the repayment of the loan.

Another example of P2P assistance is the creation of Phoenix Park (Figure 4) from an abandoned brownfield site on the Camden waterfront. The new park is an invaluable community asset in an area with little green space. The park captures 100 million gallons of stormwater per year to help alleviate the severe combined sewage overflow issues that had plagued that particular area of the city. CCMUA's assistance allowed the city to access Camden County's Open Space Trust Fund, which provides funding to preserve parks, natural areas, historic sites, and farmland for their scenic value as well as the cultural and ecological enrichment and enjoyment of county residents. Due to a lack of a parks department or in-house engineer, Camden City had been the only municipality in the county not to receive any of the Open Space funding. CCMUA applied for these funds on behalf of the city, and together with a \$5.6 million CWSRF loan created the Phoenix Park Project.

P2P assistance is a win-win for both the City of Camden and CCMUA. First, Camden City's collection system is connected to CCMUA; improvements to the city's collection system benefits CCMUA through operational cost savings. In addition, the assistance comes at nearly no cost to CCMUA – only staff time is incurred.



Figure 4: Phoenix Park in May 2018.

Source: Camden County Municipal Utilities Authority

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As a disadvantaged community, Camden City qualifies for significant principal forgiveness and a very low interest rate on CWSRF loans. The partnership with CCMUA has allowed the city to pursue projects at a substantially lower cost than would have otherwise been possible. CCMUA managers recognized the public health, environmental, and economic benefits they could provide by offering P2P assistance to a neighboring disadvantaged community.

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Drinking water utilities can replicate this relationship, and DWSRF programs can help promote this assistance through various means, including:

- The DWSRF can offer an interest rate reduction or principal forgiveness to the larger water system on a DWSRF project (e.g., the larger water system could qualify for the same interest rate as the water system it is assisting).
- DWSRF programs can play a “matchmaker” role, pairing larger water systems with nearby under-resourced water systems.

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### **Best Practices and Lessons Learned**

1. Funding is necessary but not sufficient for small communities to succeed with water infrastructure projects. Knowledge and staff capacity are also required.
2. Many hands make lighter work. Building partnerships is key to making the needed resources available to disadvantaged communities.
3. Find win-win scenarios that benefit multiple parties. Projects between Camden City and CCMUA made a huge difference to residents of the city and didn’t cost CCMUA rate payers anything in the end.



## **D. Sec - 1452(s)(1)(D) Practices to Ensure that DWSRF Loan Funds are Used to Provide Loans, Loan Guarantees, or Other Authorized Assistance in a Timely Fashion**

As DWSRF programs grow in funding availability and water systems' needs continue to increase, states are regularly assessing how they can finance projects in a more efficient and timely manner, manage their cash flows effectively, and ensure a stable or increasing level of demand for financing. An increasing number of DWSRF programs are implementing cash flow modeling to enable more efficient utilization of their funds; this is described further in Section F.

State DWSRF programs have developed several lending options to help them reach key demographics and achieve high priority public health protections. For example, using a portfolio financing approach, Florida's DWSRF program finances large infrastructure projects in segments over several years. This reduces the annual commitment level for those large projects, since they may take several years to construct, and makes additional funds available for other projects. This helps ensure an equitable distribution of funds throughout the state while helping to stabilize cash flows by financing large projects over time. Massachusetts has allowed public water systems to add the cost of private lead service line replacement to their DWSRF project loan. At the same time, the DWSRF is reducing the interest rate on the loan, keeping the total cost to the water system the same. This essentially allows

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for no-cost lead service line replacement, helping communities increase the pace with which lead service lines are replaced.

Programmatic Financing (Pro-Fi) is gaining steam around the country. Pro-Fi is a funding mechanism that operates similarly to a municipal bond. It provides financing for any eligible capital improvements that a water system wants to fund within an established timeframe. This is a different approach than the "one loan: one project" approach typically used in the DWSRF programs. DWSRF financing is provided to implement the water system's capital improvement plan (CIP) and can be used for any DWSRF-eligible cost incurred within the timeframe covered by the financing agreement (typically one year). Unfunded project activities can be rolled into a new loan agreement each year.

***Pro-Fi is a different approach than the “one loan: one project” approach typically used in DWSRF programs.***

***DWSRF financing is provided to implement the water system’s capital improvement plan and can be used for any DWSRF-eligible cost incurred within the timeframe covered by the financing agreement.***

As of 2021, several states are implementing Pro-Fi loans, with additional states expressing an interest in offering this option. Each state has adapted Pro-Fi to its own needs; two states’ processes are highlighted on the next pages.

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### **How do DWSRF programs and water systems benefit from Pro-Fi?**

For a DWSRF program, Pro-Fi can help reduce staff's administrative workload by consolidating many projects into a single loan agreement. Because the water system can request a DWSRF disbursement for any sub-project that is currently undergoing work, Pro-Fi can help make DWSRF cash flow more consistent and reliable by eliminating the impacts of project delays.

For a water system, Pro-Fi reduces the administrative burden of seeking multiple financing sources and completing applications for multiple projects. It brings predictability to the water system's long-term budgeting process and CIP planning and gives the water system the flexibility to move forward with any eligible planning, design, and construction activities on its CIP, knowing that any activity can receive a DWSRF disbursement.

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## Hawaii: Ensuring Steady Demand in the Aloha State

The Hawaii DWSRF program began offering Pro-Fi in 2016 as a strategy to combat a growing balance of unspent federal capitalization grant funds (unliquidated obligations). The state's largest water utility, the Honolulu Board of Water Supply (HBWS), quickly signed on for the first Pro-Fi loan agreement. HBWS has continued to renew its Pro-Fi financing agreement every year, and the Hawaii County Department of Water Supply has since begun signing Pro-Fi agreements as well. The Hawaii DWSRF program has refined the Pro-Fi approach after several years of experience (Figure 5).

To satisfy certain DWSRF requirements, Hawaii made several adjustments to its programs to incorporate Pro-Fi. One priority was the technical review portion of the Pro-Fi application, because the loans include many individual sub-projects. Under the current process, DWSRF staff wait until the water system requests a disbursement to begin the technical review for the sub-project. The environmental review documents, plans and specifications, construction contracts, and American Iron and Steel certifications (among others) are reviewed prior to paying the invoices for the costs that have been incurred on the sub-project. This ensures that all aspects of the sub-project comply with DWSRF requirements prior to making any disbursements.

In addition, HBWS screens the CIP projects to remove sub-projects in culturally sensitive areas. As a result, the Pro-Fi activities can progress through the DWSRF loan process with fewer delays.

The existing loan agreement was adapted to Pro-Fi with just a few minor changes. First, the repayment period for Pro-Fi loans is set to begin the October following the end of the one-year disbursement period, which is aligned with the state's fiscal year. This helps avoid the end-of-the-year workload that the borrowers face at the end of the fiscal year, and it was appreciated by the Pro-Fi borrowers. They also changed the verbiage in the loan agreement to refer to "activities" funded by the agreement, rather than "projects." This is to allow Hawaii's DWSRF program to be as broad and flexible as possible in financing a variety of projects from the water system's CIP, whether it be planning, design, or construction. For their part, the HBWS had to change its budget authorization

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### Getting the Lead Out

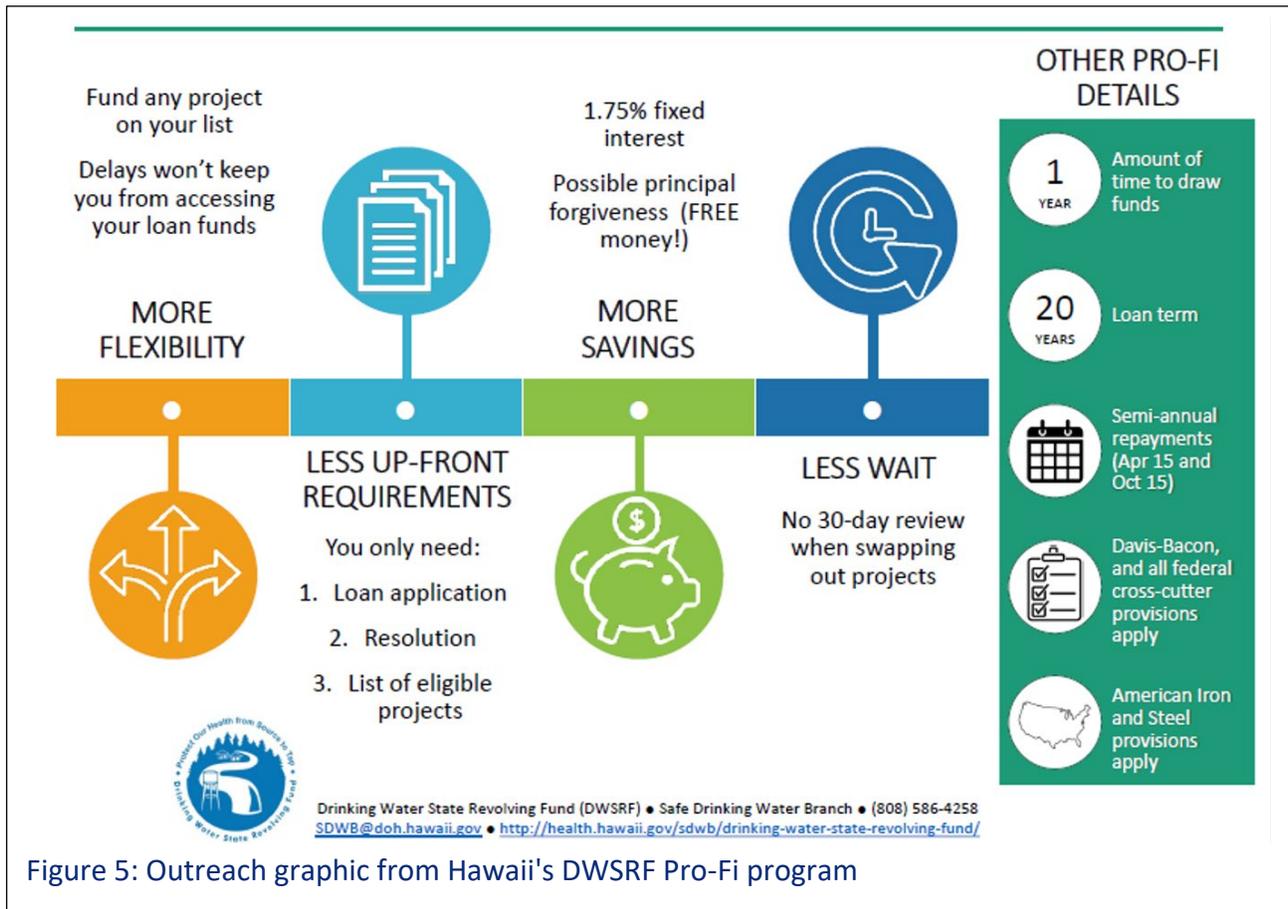
Wisconsin and Massachusetts are among several DWSRF programs that have implemented innovative programs to incentivize the removal of lead service lines (LSL), including the privately owned portion.

**Wisconsin:** Since 2017, the DWSRF has provided more than \$25 million in principal forgiveness loans to replace the private portion of LSL, including homes, daycares, and schools. The assistance is 100% subsidy and covers the portion from the curb stop to the building.

**Massachusetts:** Water systems can add the homeowner owned portion of LSL replacement to the principal of their DWSRF loans. The DWSRF reduces the interest rate on the loan to compensate the water system for the homeowner LSL replacement, so the total borrowing cost remains the same.

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process, so individual projects on the CIP were not tied to a specific financing source, a change that some other water systems have been unable to make.



## Utah: Rising to the Occasion to Grow Demand

The Utah DWSRF program introduced Pro-Fi in 2017 after watching the program's cash balances grow steadily for several years, indicating that DWSRF funds were not reaching as many public health protection projects as they could. DWSRF staff approached several large water conservancy districts within the state and by 2019 had three of these districts signed up for Pro-Fi loans worth \$60 million. The Utah DWSRF program also offers a twist on the Pro-Fi approach that they call "Portfolio Financing," in which the DWSRF program signs one bond agreement (that may include several projects) per water system. The bond is valid for the length of project construction (up to five years), repayment begins one year after loan closing, and the borrower only repays the amount borrowed to date.

Direct outreach to the largest water systems in Utah is a key factor to the success of this financing option. Several of the large water systems were under the impression that DWSRF funds in Utah were reserved for small and disadvantaged water systems. The DWSRF manager made significant strides by scheduling sit-down meetings with the managers of large water systems, preparing presentation

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materials describing the benefits of Programmatic Financing and walking through the process in a straightforward manner.

Several years ago, the Utah SRF programs asked several engineering firms to estimate the additional cost of the American Iron & Steel (AIS) requirements and Davis-Bacon Act compliance for SRF projects. They found that the federal requirements increase the total project cost by 0.75 -1.25 percent. To compensate the water systems for these additional costs, the DWSRF lowered the interest rate on Pro-Fi loans from 3.25 percent to 1.25 percent. Pro-Fi borrowers have appreciated this incentive, and the Pro-Fi structure in general, for making DWSRF financing an attractive alternative to bonds. Michael Grange, the SRF Technical Assistance Section Manager, says of the program's turnaround, "the Utah DWSRF Team has really risen to the occasion and none of this would be possible without them."

### **Best Practices and Lessons Learned**

1. Cash flow modeling is necessary to accurately determine the amount of financing that can be committed to Pro-Fi loan agreements each year. Hawaii uses a cash flow model specifically designed for its DWSRF program, which incorporates Pro-Fi as a feature.
2. The technical review of sub-projects is conducted at the time that the DWSRF receives the first disbursement request for a sub-project. This helps streamline the Pro-Fi application process and ensures staff only review those sub-projects directly receiving DWSRF financing.
3. Tracking disbursements has proven challenging for states signing Pro-Fi agreements. Both Hawaii and Utah rely on the water systems to track spending across the sub-projects. This is possible because the Pro-Fi loans have been signed by sophisticated water systems with staff and consultants that have received substantial training in DWSRF requirements and processes.



## **E. Sec - 1452(s)(1)(E) Practices That Support Effective Management of DWSRF Loan Funds**

Effective management of DWSRF programs encompasses both programmatic and financial practices that promote high loan demand, efficient internal procedures, and successful financial controls. North Carolina and Illinois recently implemented new programmatic and financial controls that represent best practices among their peers.

### **North Carolina: New SOPs Add Efficiencies and Help Smooth Transitions**

The North Carolina DWSRF program recently overhauled its Standard Operating Procedures (SOP) to increase efficiency, improve coordination between the different programmatic sections (financial, technical, and administrative), and better preserve institutional knowledge. The process identified new opportunities for streamlining, benefiting both staff and assistance recipients. With several senior staff recently retired or planning to retire, this overhaul helps ensure that the DWSRF program is in a good position to make a smooth transition.

In 2013, the North Carolina state legislature created the Division of Water Infrastructure at the Department of Environmental Quality, which consolidated several funding programs into a single division that oversees grants and loans to local government units for water and wastewater infrastructure. The Division programs include the DWSRF, CWSRF, Community Development Block Grant – Infrastructure, and several state grant and loan programs. One purpose of the SOP project

was to merge and standardize processes across these programs. In addition, the library of DWSRF SOPs and guidance materials numbered over seventy documents, with significant areas of overlap and some holes in the processes.

***With several senior staff recently retired or planning to retire, North Carolina’s SOPs help ensure that the DWSRF program is in a good position to make a smooth transition.***

Rather than rewrite or replace the existing SOPs, which were largely current, the SOP project created a single database, the “Knowledge Base,” in Microsoft Excel that compiled and consolidated all the steps into a single overview of the entire DWSRF process from application to repayment (Figure 6). The development of the Knowledge Base will allow staff to identify shortcuts that were not reflected in the existing documentation, as well as bottlenecks that should be streamlined to increase efficiency.

The new SOP Knowledge Base outlines the North Carolina DWSRF program’s processes by integrating and updating its existing SOPs and cross-referencing the entire process map with the program’s public-facing documents (including guidance documents, checklists, videos, etc.). References to federal requirements were also incorporated into the product to provide additional background for new staff or outside audiences, such as auditors.

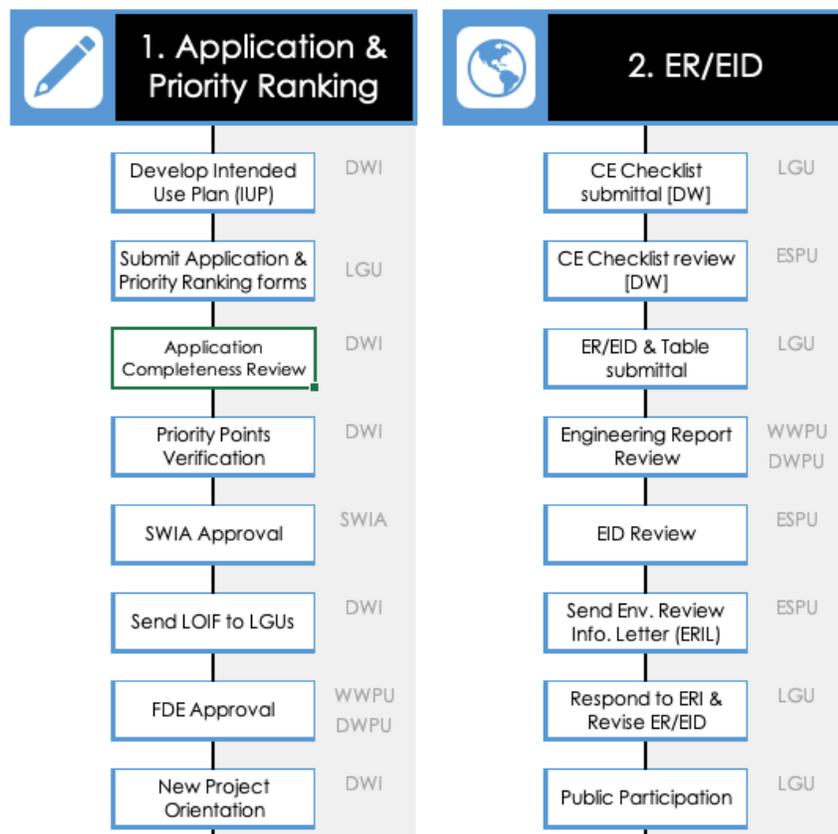


Figure 6: Outline of two categories from North Carolina's SOP database

The Knowledge Base maps out North Carolina’s DWSRF program into nine categories: Application and Priority Ranking, Environmental Review/Environmental Information Document, Loan Approval, Plans & Specifications Review, Contracting, Construction, Disbursement, Repayment, and Administration &

Management. Each category includes numerous phases outlining each step in the process, timing, and references to guidance or other documents (Figures 6 and 7).

<b>1.3 Application Completeness Review</b>
<b>1. Slot SRF and State Reserve applications into appropriate funding program</b>
<b>2. Supervisor meeting to discuss application review</b>
1. Division supervisors and program managers will meet to determine staffing needs and logistics associated with the upcoming round. Staffing needs will extend to both technical and administrative personnel. Once administrative requirements have been determined, the Section Chief will coordinate with the Administrative Services Unit supervisor regarding administrative staffing needs.
<b>3. Reviewer coordination/training</b>
1. Division supervisors and program managers will meet with technical review staff to go over logistics associated with the application review as well as any questions associated with the priority points system guidance.

Figure 7: Detail from North Carolina’s SOP Database

With several impending or recent retirements among senior program staff, the SOPs help ensure that the Division of Water Infrastructure is well-positioned to continue operating effectively and efficiently.

## Illinois: Innovations in Long-Term Oversight of Assistance Recipients

Effective oversight of DWSRF projects can stretch as much as 40 years, depending on the term of the financing. Economic downturns, financial obligations, natural disasters, and other events during those years can impact an assistance recipient’s ability to repay its DWSRF loans. The Illinois DWSRF program decided to take a comprehensive, proactive approach to monitoring assistance recipients long-term. In 2019, staff with the Illinois Environmental Protection Agency (IEPA), which implements the DWSRF program, began construction of a Microsoft Access database to track and monitor all loans. The database calculates and tracks nine different financial indicators for each assistance recipient. The objective of the database is to identify potential issues with financing agreements early on so that DWSRF program staff can begin communicating with the affected assistance recipients prior to the critical stages. The database also streamlines the financial capability review of new projects.

IEPA staff enter 22 data points from each assistance recipient’s annual audits, including operating revenues, current debt, user charges, and unrestricted and restricted cash. The Microsoft Access database calculates nine key ratios, including operating ratio, debt service coverage ratio, current ratio, and pension liability ratios. Each ratio is automatically scored as “strong,” “above average,” “average,” “below average,” or “weak,” with the borrower receiving an overall rating across all indicators (Figure 8). In addition, late payments, negative news, significant claims, litigation, or assessments against each DWSRF assistance recipient can be incorporated into an assistance recipient’s profile. As a public water system applies for a new assistance agreement, IEPA can

automatically assess its performance in prior years and identify key trends. The tool can produce reports on assistance recipients that are at risk or are falling short on specific metrics. When such “exceptions” to these indicators are noted for a particular water system, DWSRF staff can take various remedial actions, including calling the assistance recipient for a status check, sending a letter to notify the assistance recipient that it has fallen below the minimum debt service coverage and/or has been placed on a watch list. The data can also inform the appropriate corrective action plan, such as user rate increases or the development of updated five-year financial projections. A series of checkboxes associated with each loan allows DWSRF staff to coordinate its efforts by tracking the status and dates of remedial actions and follow-ups.

DWSRF staff also use the tool to establish a clear financial baseline based on their initial review of each assistance recipient. The DWSRF program can track annual trends in the strength or weakness of

Borrower Name: [REDACTED]		Program: Combined (Water and Sewer)			
Balance Sheet Date	12/31/2015	12/31/2016	12/31/2017	12/31/2018	
Operating Ratio with Depreciation:	Strong	Strong	Above Average	Strong	
Operating Ratio without Depreciation:	Strong	Strong	Strong	Strong	
Debt Service Coverage Ratio:	Strong	Strong	Strong	Strong	
Days of Cash on Hand:	Weak	Weak	Below Average	Strong	
Current Ratio:	Weak	Below Average	Average	Strong	
Median Household Income as % of State MHI:	Strong	Strong	Strong	Strong	
User Rates as a % of Median Household Income:	Strong				
Current Debt Per Capita:	Strong	Strong	Strong	Strong	
Operating Expense as % of Unrestricted Net Position:	Strong	Strong	Strong	Strong	
IMRF Net Pension %:					
Police Net Pension %:					
Fire Net Pension %:					
<b>OVERALL RATING AVERAGES</b>	Above Average	Above Average	Above Average	Above Average	

Figure 8: Example of a Borrower Trends Report from Illinois' Loan Monitoring Database

each assistance recipient’s financial indicators, helping identify problem areas or improvements over time. Eventually the database tool will allow IEPA to track overall trends across the DWSRF program’s entire portfolio of loans; this can greatly benefit Illinois as it issues leveraged bonds annually.

***Active, ongoing monitoring and early engagement with borrowers on their financial health helps IEPA avoid disruptive outcomes like workouts, delinquencies, or defaults, and reduces the risk to the DWSRF program’s high credit rating.***

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Active, ongoing monitoring and early engagement with assistance recipients on their financial health helps IEPA to avoid disruptive outcomes like workouts, delinquencies, or defaults, and reduces the risk to the DWSRF program's high credit rating. As previously stated, although it was originally intended for post-loan monitoring, the IEPA now uses the tool to streamline financial capability review of public water systems during the DWSRF application phase. This saves an estimated 1-2 hours per loan review, which, taken over the approximately 175 DWSRF and CWSRF loans IEPA processes per year, translates into 350 hours of staff time freed up for other activities.

### **Best Practices and Lessons Learned**

1. Standard Operating Procedures (SOPs) are a valuable tool to ensure continuity of DWSRF operations as staff changes. Reviewing SOPs on a regular basis to ensure they are up-to-date and analyzing them for streamlining opportunities help make sure DWSRF program staff can operate seamlessly during transitions.
2. While it can take time to develop, a comprehensive financial tracking database for municipalities can ultimately save staff time by streamlining credit reviews and long-term borrower oversight.
3. Including all the key staff in developing internal products is key to maximizing their value. Illinois' tracking system was not originally planned to be used for credit review, but staff realized many of the data points overlapped. In North Carolina, staff were able to identify shortcuts and bottlenecks after reviewing all the SOPs together in the Knowledge Base, rather than reviewing each SOP separately.



## **F. Sec - 1452(s)(1)(F) Practices and Tools to Enhance Financial Management of DWSRF Loan Funds**

State DWSRF programs collectively oversee more than \$46.8 billion in funds as of fiscal year 2020. By state, the range is from \$261 million in Delaware to \$5.2 billion in New York.<sup>7</sup> In addition, states administer millions of dollars in set-asides, which may be allocated across agencies, non-profits, and other organizations. States of all sizes require comprehensive financial management tools to ensure proper oversight of these DWSRF funds.

Effective fund management has been a top priority since the authorization of the DWSRF program in 1997. EPA has released several tools to assist states in optimizing DWSRF financial management:

- The “SRF Fund Management Handbook” (EPA-830-K-17-004, 2018) provides a comprehensive overview of high priority fund management topics, program financial risks, analytical tools, and financial indicators.
- The “Handbook for Drinking Water State Revolving Fund Programs: Cash Flow Modeling to Maximize Efficiency and Use” (2020) guides users through the process of developing a cash flow model for their DWSRF program.

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<sup>7</sup> EPA DWSRF Data Systems, “Row 395: DWSRF Funds Available for Projects,” 2020 data.

- DWSRF programs are offered training multiple times per year that covers a variety of topics, including effective financial management and cash flow modeling. Dedicated SRF financial workshops have also been offered to both state and EPA regional staff.

Cash flow modeling is a key tool to help states maximize the utilization of their DWSRF resources. The model incorporates cash inflows and outflows to create an accurate picture of the resources available for assistance agreements. DWSRF funds are disbursed to assistance recipients over time as they incur costs on their construction projects – often over two to three years. During that time, repayments are being received from other projects. By using a cash flow approach, states can commit financing to projects knowing that they will have the funds available for disbursements when they are needed.<sup>8</sup> As a result, DWSRF programs can commit their funds more efficiently and effectively to projects, minimizing uncommitted federal capitalization grant funds and idle cash that is better used for projects that further public health protection.



Some states utilize capacity models developed and operated by their financial advisors, while others seek models that can be utilized and operated internally. Such models can be used to understand how changes in demand, interest rates, and other factors may impact cash flows, allowing DWSRF managers to quickly adjust program operations when necessary. For states that leverage by issuing bonds through the municipal bond market, cash flow models can help more precisely manage the timing and size of the bond issue. More states are implementing these models each year, and it is expected that a majority will have a financial model in development or operational in the next several years.

## North Dakota: Active Management Since 2005 Helps Ensure Consistently Low Cash Balances

The North Dakota DWSRF program is a top performer on several of EPA’s key financial measures. The state’s idle cash balance is among the lowest of the 51 state DWSRF programs, as is its balance of

<sup>8</sup> Note that some states do not have this option due to state policies.

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uncommitted federal capitalization grant funds. North Dakota's DWSRF program performance has been consistently high since its inception. DWSRF staff utilizes a range of practices to help ensure that demand for program financing remains high and it expends all available funds efficiently. North Dakota DWSRF staff have been actively managing the program's cash flows since 2005. One of the program's key objectives is to disburse all federal capitalization grant funds to projects as quickly as possible. When a capitalization grant is awarded by EPA, North Dakota DWSRF staff draw from these funds for all subsequent project disbursement requests until the grant is exhausted. One year the program was able to draw down the entire capitalization grant (except for set-asides) within the first month of award. The DWSRF program also occasionally leverages by issuing municipal bonds. This is done when the program requires additional funds to satisfy cash flow needs for project disbursements. By leveraging only when required for cash flows and disbursing federal funds quickly, North Dakota's DWSRF program helps ensure all funds in the program are expended efficiently and idle cash balances remain low.

The North Dakota DWSRF program benefits from a consistent level of high demand for loans. Program staff use a personal, multi-faceted approach to developing and maintaining relationships with public water systems and consultants. Several of the largest water systems, including Fargo, borrow from the program annually and recognize that supporting the DWSRF benefits the entire state. DWSRF staff worked for several years to bring Grand Forks and Bismarck into the program, reaching out regularly and offering support following flooding events.

***North Dakota DWSRF staff use a personal, multi-faceted approach to developing and maintaining relationships with public water systems and consultants.***

To encourage this high level of demand, DWSRF staff are always looking for opportunities to better serve their assistance recipients. To continue improving the program and increase accessibility, state staff are working to create a single application that would cover multiple state funding options, including the DWSRF and state grants. Staff also meet regularly with the Bureau of Reclamation and U.S. Department of Agriculture Rural Development to discuss financing of water infrastructure projects. In addition, staff recently implemented a planning assistance grant program for water systems under 2,500 people. These water systems can receive grants of up to \$15,000 or 80 percent of the cost of a facilities plan utilizing DWSRF principal forgiveness financing.

The North Dakota DWSRF program has also taken advantage of new opportunities. With many events cancelled due to the COVID-19 pandemic in 2020-2021, the state pivoted to offering virtual training to the consulting engineering firms. It organized a series of five virtual roundtables with a maximum of ten engineers to discuss the process of applying for DWSRF and CWSRF financing. The small groups

allowed for substantial discussion and received significant positive feedback. DWSRF staff expects this outreach to result in additional applications for financing as it increases awareness of the program.

### Best Practices and Lessons Learned

1. Active management of program cash flows helps maintain idle cash balances at a level that is reasonable for DWSRF operations. Expending federal capitalization grant funds as quickly as possible after award, followed by prioritizing the disbursement of the remaining funds in the DWSRF, helps ensure that a program issues municipal bonds only when it is necessary to satisfy program cash flow needs.
2. A hands-on approach to outreach helps ensure stable DWSRF demand. Public water systems and consultants appreciate the direct contact from DWSRF program staff. In addition, regular meetings and training events (in person and virtual) help increase and maintain awareness of the program and its benefits.
3. Continuous improvement is a key to maintaining satisfied assistance recipients. Evaluating the program for opportunities to streamline and improve the program is a constant process. By partnering with other financing programs to coordinate the application process, the DWSRF helps improve the experience of public water systems and increase public health protection.





## **G. Sec - 1452(s)(1)(G) Key Financial Measures for Evaluating DWSRF Operations**

Nationally, the DWSRF program uses a range of financial and programmatic measures to evaluate a state's operations. The measures are utilized by EPA headquarters and regional offices to prepare for annual reviews of state operations, as well as to identify nationwide trends. While the data and measures do not tell the entire story, they play an integral role in understanding state performance and highlight potential areas for improvement.

The DWSRF program has a robust data-collection operation. Financial and programmatic data are collected annually from each state for the July 1 through June 30 program year through EPA data systems. The data include more than 50 annual and cumulative measures that are used to understand a state's performance, including loan agreements signed, funds available for assistance, assistance provided, funds disbursed, and bonds outstanding. The data are updated annually, resulting in annual reports that go back to the beginning of the DWSRF program for each of the 51 DWSRF programs. The data are also used to calculate additional metrics that were developed in 2018 and are used to further evaluate state performance.

EPA has released several reports and memos outlining key program indicators and metrics:

- "Implementation of DWSRF Financial Indicators" (February 23, 2003 memo).
- "Implementation of Additional SRF Financial Indicators" (April 26, 2018 memo).
- "SRF Fund Management Handbook" (EPA-830-K-17-004, 2018), which describes 24 metrics and how they can be used to answer key DWSRF fund management questions such as, is the

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fund growing over time, should loan terms be adjusted, should the fund leverage, and are fund resources being utilized effectively?

EPA and state DWSRF staff are encouraged to use metrics to help understand trends in performance. The data and metrics are used to complement qualitative evaluations of state and national DWSRF performance. Indicators and trends help EPA and the states understand the outcomes of their decisions on factors such as interest rate setting, marketing and outreach, and leveraging. They can help DWSRF managers recognize potential weaknesses in their programs (e.g., slow pace of disbursements) as well as strengths (e.g., program growth). In addition, comparisons with similar states and benchmarks can help create an understanding of where improvements may be necessary.

Below is a selection of the financial metrics used to evaluate DWSRF performance, although it is not a complete list.

## Metrics to Gather the Effectiveness of the State's Efforts to Sign Loans and Disburse Capital

The following is a sample of the key measures that the DWSRF program uses to evaluate how effectively a state is committing and disbursing funds. States that are struggling are evaluated to understand how they could benefit from activities such as enhanced outreach, implementation of cash flow modeling, or streamlining opportunities. States that consistently perform well or make significant improvements on these measures are reviewed for best practices such as those discussed in this report.

**Executed Loans as a Percent of Funds Available (Pace):** This is an indicator of how successful a DWSRF program is at signing assistance agreements. The most successful DWSRF programs can put nearly 100 percent of all their available funds into signed loan agreements. Some states can reach a pace greater than 100% because they are able to commit funds to loans based on expected cash flows (using modeling), rather than based on funds on hand.<sup>9</sup> Nationally, states had 96 percent of their cumulative funds available in executed loans in 2020.

**Disbursements as a Percent of Executed Loans:** In addition to signing assistance agreements, states must ensure that the funds are disbursed to assistance recipients in a timely and expeditious manner. While some lag between this metric and executed loans as a percent of funds available (pace) is a natural feature of the construction cycle, a large or growing disconnect between the two metrics could indicate that there may be opportunities to revise the loan process to get more financing into

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<sup>9</sup> Note that some states do not have this option due to state policies.

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infrastructure projects, such as by splitting up planning and design from construction financing. The 2020 national average for this metric was 87 percent.

**Undisbursed Funds Balance:** This metric provides information about cash balances in DWSRF programs. While some working capital is necessary to smooth operations, large cash balances indicate that a state may not be effectively putting its funds to work. This metric is calculated by dividing undisbursed funds by the 3-year average of disbursements, resulting in the number of years of average disbursements that the state currently has on hand in cash. In 2020, the national average was 2.7 years. EPA works with states with above-average undisbursed cash balances to determine the best options for reducing those balances.

## Metrics to Evaluate a Program's Internal Growth

DWSRF programs grow through the addition of capitalization grants and state match, as well as through net interest earnings.<sup>10</sup> States that demonstrate long-term internal growth without the capitalization grants and state match (i.e., growth through net interest earnings) demonstrate effective financial management. This is particularly important for states that leverage by issuing bonds, as they must have sufficient interest earnings to pay off the bonds while ensuring the program can exist in perpetuity, as required by the Safe Drinking Water Act.

**Total Net:** Total Net measures the internal growth of a DWSRF program that occurs through interest earnings on assistance and investments and the revolving level, offset by bond expenditures. Depending on a state's bond issuing activities and market forces, Total Net can vary widely by year. However, positive Total Net in most years indicates overall internal growth of the DWSRF – a key factor in ensuring the program is available in perpetuity, per the Safe Drinking Water Act, Section 1452(c).

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**Some states have also developed their own performance metrics. Below are a few examples:**

Washington:

- Annual percentage of assistance agreements to bring water systems into compliance.
- Number of funded consolidation projects and how many small systems are inactivated through consolidation.
- Number of funded projects meeting 18-month notice-to-proceed to construction deadline.
- Number of funded projects meeting 48-month project completion deadline.

California:

- Disbursement rate equals 100 percent of available funds less minimum six-month's disbursement balance and restricted funds.

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<sup>10</sup> Net interest earnings: interest earned on assistance and investments, subtracted by interest paid on DWSRF bonds.

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**Net Interest Margin:** This metric further homes in on how interest earnings contribute to Fund growth. This measure is impacted by market forces. For instance, if DWSRF interest rates decline due to lower market rates, a program may see declining interest earnings while most of its bonds remain at higher rates. In most or all years, states and EPA seek positive net interest earnings.

No metric or indicator tells the entire story of a state DWSRF program's performance in financing public health protection. EPA and state DWSRF staff consider the indicators as a whole and evaluate trends to understand a program's data and performance. The factors behind the indicators must also be considered. For instance, states with many competing grant programs may face additional challenges in committing all their funds, or recessions can result in lower demand and lower earnings. Furthermore, the indicators are impacted by a state's specific program goals. For example, a state that is seeing the greatest need from disadvantaged communities may have lower interest rates and offer more principal forgiveness, resulting in lower internal growth of the fund.

As the Safe Drinking Water Act asserts, "...priority for the use of [DWSRF] funds [shall] be given to projects that (i) address the most serious risk to human health, (ii) are necessary to ensure compliance with the requirements of [the SDWA]; and (iii) assist systems most in need on a per household basis according to State affordability criteria."<sup>11</sup> State DWSRF programs are constantly evaluating whether they are achieving the greatest public health protection and SDWA compliance with their financing, while ensuring that earnings are sufficient to allow the program to exist in perpetuity, as SDWA requires, and cost to consumers is minimized. The case studies provided throughout this report demonstrate how state DWSRF programs are being innovative in achieving this balance. Since the beginning of the DWSRF program, states have learned from each other and adopted best practices from other states when it could benefit their program. Continuing down his path will result in DWSRF programs improving their performance over time and providing additional public health protection while ensuring the perpetuity of the DWSRF.

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<sup>11</sup> Safe Drinking Water Act, Section 1452(b)(3)(A).

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# Reference Resources

For additional information on the states features in the case studies, please visit their websites.

- Colorado Department of Public Health & Environment, <https://cdphe.colorado.gov/state-revolving-fund-information>
- Colorado Water Resources and Power Development Authority, <https://www.cwrpda.com>
- Alaska Department of Environmental Conservation, <https://dec.alaska.gov/water/technical-assistance-and-financing/state-revolving-fund/>
- PENNVEST (Pennsylvania), <https://www.pennvest.pa.gov/Pages/default.aspx>
- Water Infrastructure Finance Authority of Arizona, <https://www.azwifa.gov>
- New Jersey Department of Environmental Protection, <https://www.nj.gov/dep/dwq/cwpl.htm>
- New Jersey Infrastructure Bank, <https://www.njib.gov>
- Camden County Municipal Utilities Authority, <http://www.ccmua.org>
- Hawaii State Department of Health, <https://health.hawaii.gov/sdwb/drinking-water-state-revolving-fund/>
- Utah Department of Environmental Quality, <https://deq.utah.gov/drinking-water/federal-state-revolving-fund-srf-program-drinking-water>
- North Carolina Department of Environmental Quality, <https://deq.nc.gov/about/divisions/water-infrastructure/i-need-funding/drinking-water-state-revolving-fund>
- Illinois Environmental Protection Agency, <https://www2.illinois.gov/epa/topics/grants-loans/state-revolving-fund/Pages/default.aspx>
- North Dakota Department of Environmental Quality, <https://deq.nd.gov/MF/DWSRF/>

All federal DWSRF statutes, guidance, policies, memos, and publications referenced in this report can be found on EPA's website at <https://www.epa.gov/dwsrf>.