Financing Options for Nontraditional Eligibilities in the Clean Water State Revolving Fund Programs

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Note to Reader

This paper is a technical document prepared primarily as a reference for the 51 Clean Water State Revolving Fund (CWSRF) programs and EPA's Regional Offices. The paper focuses on how varied types of financial assistance available to the CWSRF program can be deployed to fund eligibilities that do not fall within the mainstream of traditional grey infrastructure. It is intended to complement the May 2016 "Overview of Clean Water State Revolving Fund Eligibilities" paper, which includes the expansion of eligibilities in the program stemming from enactment of the Water Resources Reform and Development Act (WRRDA), particularly in regard to nontraditional eligibilities. Prominent examples include privately owned green infrastructure, privately and publicly owned projects for reusing or recycling municipal and industrial wastewater and stormwater, and a wide range of watershed projects. Eligibilities and financing options in the program continue to evolve as greater experience is gained with WRRDA provisions, implementation of the Water Infrastructure Finance and Innovation Act program, and other developments. As such, both this and the Overview paper should be viewed as reference works in progress that will be updated periodically. Our sincere appreciation to all who contributed.

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Background

I. Nontraditional Funding Background and Challenges

The Clean Water State Revolving Fund (CWSRF) (www.epa.gov/cwsrf/) is a significant source of funding for a wide range of watershed protection and restoration efforts. The program's flexibility and broad range of funding authorities enable states to target CWSRF funds to their specific water quality priorities. Despite this flexibility, the majority of CWSRF funding is used for traditional wastewater infrastructure projects, while funding for nontraditional projects is an area that is still being developed and explored. Nontraditional projects are those projects that go beyond conventional pipe and plant, like nonpoint source (NPS) and green infrastructure projects.[1] Eligible assistance recipients may include municipalities, farmers, non-profit organizations, individual home owners, commercial businesses, and many more. There are also certain types of pipe and plant projects that may be considered nontraditional since they have not historically received a relatively large amount of CWSRF funding, such as energy efficiency and water efficiency projects. Nontraditional projects are not meant to take the place of conventional wastewater treatment projects. Instead, integrating traditional and nontraditional approaches can provide cost effective solutions to managing wastewater and stormwater needs.

Funding nontraditional projects with the CWSRF can pose several challenges, including:

- **Many nontraditional projects lack a revenue stream**. This makes it difficult to repay a CWSRF loan. A stream restoration project, for example, does not generate user fees like a wastewater treatment plant does. Although loans must be secured by a dedicated sources of revenue, it is important to note that the project itself does not have to serve as the source of repayments.
- **Administrative challenges for state programs**. Nontraditional projects are often smaller in scale than traditional projects, but require the same, or more, CWSRF staff resources to usher them through the funding process. The borrowers involved with these types of projects are not always familiar with the CWSRF program and might require additional assistance. The additional administrative resources required to get each of these small scale projects funded make it difficult for CWSRF programs to provide assistance to nontraditional projects. It requires less resources to fund one large traditional project than several small nontraditional projects.
- **Barriers to scaling**. Nontraditional projects usually do not scale in terms of size and revenue generation potential. There may be efficiencies gained with consolidating nontraditional projects with revenue generating projects that are better able to scale.
- **State restrictions.** Some nontraditional eligibilities may face state statutory or policy restrictions to their funding by the CWSRF. For example, one state until recently prohibited the financing of stormwater projects. Also, nontraditional eligibilities might have difficulty in getting ranked high enough on a state's priority list for funding. Whether it is by law, policy, rating criteria, or simply lack of demand, no state has taken full advantage of the eligibilities available to it under Title VI of the Clean Water Act. Most states, however, do fund a variety of nonpoint source projects.

[1] Nonpoint source (NPS) projects have been funded for some time in the program by most states. However, half of the state programs (25) have provided less than 2% of their cumulative financial assistance to NPS projects, while 19 states have provided less than 1%. There is room to grow particularly where NPS pollution is causing major water quality problems.

The CWSRF program has an extensive record of using its statutorily described financial mechanisms to fund high priority projects. Within each of type of assistance there is a wide array of options for states to consider for their program, and Title VI of the Clean Water Act is designed to encourage states to be innovative in designing financial programs and assistance delivery mechanisms within the assistance options. Such efforts on the part of the states have resulted in numerous options for funding nontraditional projects, many of which can be found in this paper.

II. History of Nontraditional Funding

Nontraditional projects have been a part of the CWSRF since 1990, as seen in the following history.

HISTORY OF NONTRADITIONAL CWSRF PROJECTS, FUNDING, AND EPA GUIDANCE

1990	The first nonpoint source projects are funded by the Maryland and Washington CWSRF programs. Maryland's $152,300 loan funds a nonpoint source project in the "urban" category, and Washington's $169,200 loan funds decentralized sewage treatment projects.
1994	The Ohio CWSRF develops a linked-deposit loan program. The linked-deposit structure is subsequently used by many states to reach individual borrowers for small-scale water quality projects such as septic replacement and agricultural best management practices. More information can be found on page 14.
1995	The CWSRF funds over 100 nonpoint source projects in one year (129 projects totaling $160.6 million).
1995	The Washington CWSRF begins providing loans to the Spokane Conservation District for a direct seed revolving fund that serves counties in Washington and Idaho, the first known example of the CWSRF lending across state lines via an interstate agency. More information can be found on page 23.
1996	EPA publishes *The Clean Water State Revolving Fund Funding Framework* (Funding Framework), which established guidance for identifying and prioritizing nontraditional projects in an effort to move toward a watershed approach.
1999	More than 500 nonpoint source projects receive CWSRF loans in a single year (529 projects for $143.2 million).
2000	The Arizona CWSRF provides the first loan guarantee, in the amount of $5.5 million.
2000	The Ohio CWSRF develops the first nonpoint source sponsorship program, which allows borrowers to pay for a nonpoint source project along with a traditional treatment works project in exchange for an interest rate discount. The model is subsequently adopted by several other states, including Indiana and Iowa.
2006	More than 1,000 nonpoint source projects are funded by CWSRF programs in a single year (1,183 projects for $370.3 million).
2007	The Maine CWSRF initiates a linked-deposit program with the Maine Forest Service and commercial banks to provide subsidized loans as incentive financing to “Green” trained loggers for the purchase of “Green” timber harvesting equipment and other best management practices to reduce the risk of non-point source pollution from silviculture activities.
October 2007	EPA issues "The Clean Water State Revolving Fund Program: Tapping its Untapped Potential," a paper outlining CWSRF-eligible projects that are supported by statute but not historically funded by states.
2008	The Pennsylvania Infrastructure Investment Authority (PENNVEST), the lead state agency for the Pennsylvania CWSRF, establishes the first clearinghouse for nutrient credit trading. For all credit-generating projects funded by the CWSRF or commonwealth funds, PENNVEST owns credits up to the value of the loan subsidy.

February 2009	The American Recovery and Reinvestment Act (ARRA) creates the Green Project Reserve (GPR), increasing the focus on green infrastructure, water and energy efficiency, and environmentally innovative projects.
2010	EPA issues a "Sustainability Policy for Clean Water and Drinking Water Infrastructure," encouraging CWSRF investment in green infrastructure by highlighting "natural or green systems" as a key project alternative to consider in planning sustainable water infrastructure.
2014	The CWSRF is amended by the Water Resources Reform and Development Act (WRRDA) of 2014, which further expands the program's eligibilities from three project categories to eleven.
2014	The New York CWSRF provides a first of its kind guarantee for loans offered by the New York State Energy Research and Development Authority (NYSERDA) under the Green Jobs-Green New York program, which supports energy efficiency improvements. More information is available on page 26.
October 2015	The largest GPR assistance agreement to date is signed between the Wisconsin CWSRF and the Green Bay Metropolitan Sewerage District. $98 million in GPR funding (out of a $138 million loan agreement) will be used for Phase 2 of Resource Recovery Electrical Energy Project.
January 2016	EPA issues a national Green Infrastructure Policy for the Clean Water State Revolving Fund program, encouraging states to adopt priority setting systems and financial incentives to promote green infrastructure projects.
May 2016	EPA issues the "Overview of Clean Water State Revolving Fund Eligibilities," a paper clarifying the expanded eligibilities afforded by WRRDA and providing practical project examples.

The establishment of the Green Project Reserve (GPR) in 2009 encouraged investment in additional nontraditional projects. From 2009-2016, $4.4 billion of assistance provided went towards GPR projects, which include green infrastructure, energy efficiency, water efficiency, and environmentally innovative projects. The graph below shows annual spending for each GPR category.

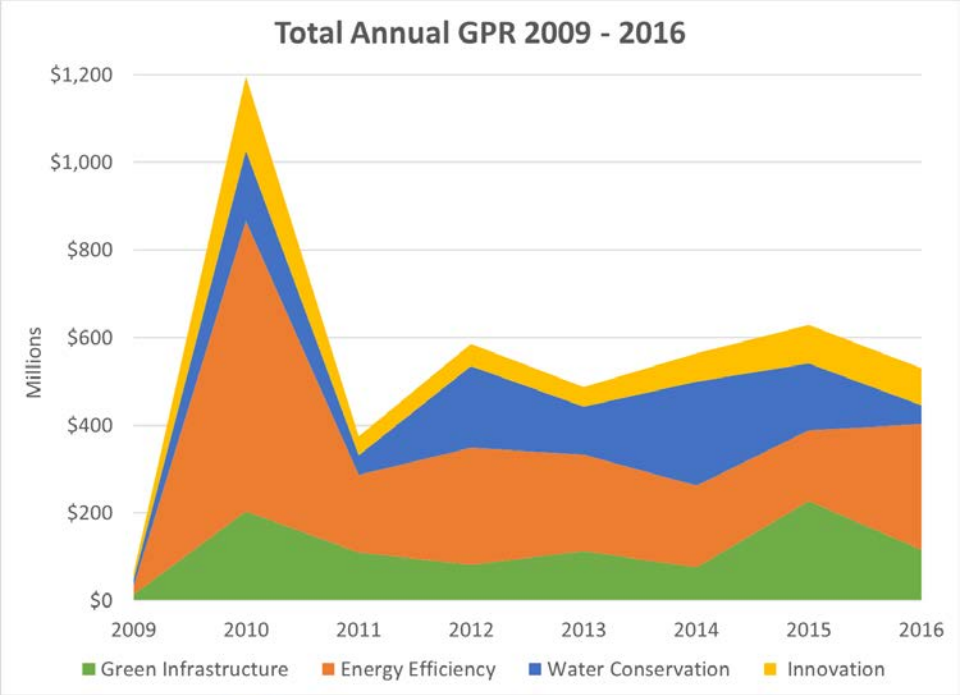

Figure 1 - Green Project Reserve

CWSRF Types of Assistance and Their Application to Nontraditional Eligibilities

The state CWSRF programs can finance a variety of projects through a multitude of funding mechanisms. Some of those financing mechanisms are better suited to specific projects and will depend on decisions made by the state programs.

I. WRRDA CWSRF Amendments Affecting Eligibilities and Financing

The 2014 WRRDA amendments greatly expanded the array of eligibilities in the CWSRF program. Taken from the WRRDA Guidance of September 14, 2014, summarized briefly below are the main provisions of interest. In general, these provisions, in addition to expanding the universe of CWSRF eligible projects, introduce a sharper focus, allow greater flexibility and provide more resources to the challenge of paying for nontraditional eligibilities. The bolded text indicates a provision's relevant application.

i. The statute requires that any municipal, intermunicipal, interstate, or state agency that is a recipient of CWSRF assistance conduct a cost and effectiveness analysis of the processes, materials, techniques, and technologies for carrying out the proposed project or activity and **selects, to the maximum extent practicable, a project or activity that maximizes the potential for efficient water use, reuse, recapture, and conservation, and energy conservation,** taking into account the cost of constructing the project or activity; the cost of operating and maintaining the project or activity over the life of the project or activity; and the cost of replacing the project or activity (section 602(b)(13)).

ii. CWSRF programs may now provide financial assistance for the construction, repair, or replacement of **decentralized wastewater treatment systems** that treat municipal wastewater or domestic sewage. Publicly and privately owned decentralized wastewater treatment projects are eligible. **Eligible projects include, but are not limited to, the construction of new decentralized systems** (e.g., individual onsite systems and cluster systems), as well as the upgrade, repair, or replacement of existing systems (section 603(c)(4)).

iii. CWSRF programs may now provide financial assistance for **measures to manage, reduce, treat, or recapture stormwater or subsurface drainage water. Publicly and privately owned, permitted and unpermitted projects that manage, reduce, treat, or recapture stormwater or subsurface drainage water are eligible**. This language eliminates ownership constraints on regulated stormwater projects. For example, projects that are specifically required by a Municipal Separate Storm Sewer System (MS4) permit are now eligible, regardless of ownership. Projects may include, but are not limited to green roofs, rain gardens, roadside plantings, porous pavement, and rainwater harvesting (section 603(c)(5)).

iv. CWSRF programs may now provide financial assistance to any municipality or intermunicipal, interstate, or state agency for **measures to reduce the demand for publicly owned treatment works capacity through water conservation, efficiency, or reuse.** Assistance for water conservation, efficiency, or reuse may be provided to municipalities, intermunicipal, or state agencies. Only the specified public entities are eligible for assistance; however, **project activities may take place at publicly or privately owned properties, provided the project reduces demand for publicly owned treatment works (POTW) capacity.** Other eligible projects include, but are not limited to, the installation, replacement, or upgrade of water meters; plumbing fixture retrofits or replacement;

and gray water recycling. Water audits and water conservation plans are also eligible. Equipment to reuse effluent (e.g., gray water, condensate, and wastewater effluent reuse systems) is eligible (section 603(c)(6)).

v. CWSRF programs may now provide **financial assistance for the development and implementation of watershed projects in one of the six areas: watershed management of wet weather discharges, stormwater best management practices, watershed partnerships, integrated water resource planning, municipality-wide stormwater management planning, or increased resilience of treatment works. Assistance recipients may be public or private entities** (section 603(c)(7)).

vi. CWSRF programs may provide financial assistance to any municipality or intermunicipal, interstate, or state agency for **measures to reduce the energy consumption needs for publicly owned treatment works.** Projects to reduce the energy consumption needs for POTWs are eligible. Only the specified public entities are eligible for assistance; however, project activities may take place at public or private properties, provided the project reduces the energy consumption needs for a POTW. Projects may include, but are not limited to, the installation of energy efficient lighting, Combined Heat and Power (CHP), HVAC, process equipment, and electronic equipment and systems at POTWs. Planning activities, such as energy audits and optimization studies are also eligible (section 603(c)(8)).

vii. CWSRF programs may now provide financial assistance to **both public or private entities for reusing or recycling wastewater, stormwater, or subsurface drainage water. Projects involving the reuse or recycling of wastewater, stormwater, or subsurface drainage water are eligible**. This includes, as part of a reuse project, the purchase and installation of treatment equipment sufficient to meet reuse standards. Other eligible projects include, but are not limited to, distribution systems to support effluent reuse, including piping the effluent on the property of a private consumer, recharge transmission lines, injection wells, and equipment to reuse effluent (e.g., gray water, condensate, and wastewater effluent reuse systems) (section 603(c)(9)).

viii. CWSRF programs may now provide **financial assistance to any qualified nonprofit entity, as determined by the Administrator, to provide assistance to owners and operators of small and medium publicly owned treatment works** (A) to plan, develop, and obtain financing for eligible projects, including planning, design, and associated preconstruction activities; and (B) to assist such treatment works in achieving compliance with this Act. Projects to provide assistance to small and medium POTWs are eligible. The definition of small and medium POTWs shall be determined by the state. Assistance recipients must be a nonprofit entity. A nonprofit entity is one which has Federal tax-exempt status. The CWSRF cannot fund ongoing O&M activities; however, **planning, design and construction costs for capital projects, as well as broader water quality planning projects, are eligible. The development and initial implementation of training activities are also eligible** (section 603(c)(11)).

ix. CWSRF loan **terms may extend up to 30 years, but must not exceed the useful life of the project.** Existing CWSRF loans may be restructured to reflect the change to loan terms. For example, an existing 20-year loan with 10 years left to maturity could be restructured to add another 10 years to the maturity date provided the useful life of the project is 30 years or more. For a CWSRF project that has multiple components each with a different useful life, the state may use a weighted average of the components in determining the useful life of the project (section 603(d)(1)),

x. **CWSRF loan recipients must implement a fiscal sustainability plan that includes an inventory of critical assets that are part of the treatment works; an evaluation of the condition and performance of inventoried assets or asset groupings;** a certification that the assistance recipient has evaluated and will be implementing water and energy conservation efforts as part of the plan; and a plan for maintaining, repairing, and, as necessary, replacing the treatment works and a plan for funding such activities (section 603(d)(1)(e)).

xi. CWSRF programs may **increase funding of their administrative costs and other eligible activities.** The maximum annual amount of CWSRF money (not including any fees collected that are placed in the fund) that may be used to cover reasonable costs is the greatest of the following: an amount equal to 4 percent of all grant awards received by a state CWSRF less any amounts that have been used in previous years to cover administrative expenses; $400,000 or .2 percent of the current valuation of the fund (section 603(d)(7)).

xii. CWSRF programs may provide additional subsidization to a municipality or intermunicipal, interstate, or state agency. Eligible recipients of a principal forgiveness or negative interest loan may use a "pass through" loan structure to pass the subsidy along to any eligible recipient of CWSRF assistance, including non-profits and other private entities. Additional subsidization may only be provided to eligible recipients for the following: to benefit a municipality that meets the state's affordability criteria as established under the FWPCA section 603(i)(2); to benefit a municipality that does not meet the state's affordability criteria but seeks additional subsidization to benefit individual ratepayers in the residential user rate class**; or to implement a process, material, technique, or technology that addresses water or energy efficiency goals; mitigates stormwater runoff; or encourages sustainable project planning, design, and construction** (section 603(i)).[2]

[2] Restrictions for additional subsidies were modified with the passage of the "Water Infrastructure Improvements for the Nation Act" (WIIN) in December 2016. Recipients are now eligible for additional subsidy if they implement a process, material, technique or technology to address water-efficiency goals, to address energy-efficiency goals, to mitigate stormwater runoff, or to encourage sustainable project planning, design, and construction.

II. Types of CWSRF Assistance

A. Loans

Terms and Conditions

A perceived factor in the limited loan assistance that has been made available to nontraditional eligibilities in the CWSRF program has been that loans were not affordable or were impractical – that only grant funding would work economically. If grant funding is available, it makes sense to use that funding. However, federal sources of grant money are on the decline. On the other hand, the CWSRF programs have considerable flexibility in setting the conditions for loan assistance, an authority that can be exceptionally helpful in financing nontraditional eligibilities. Maturities can range up to 30 years or useful life of the project, and repayment schedules can be structured to suit the needs of the nontraditional borrowers.

Interest rates can vary from market rates to zero percent, and more attractive rates can be electively targeted to desired recipients such as disadvantaged communities. Many states currently index their interest rates to a measurement of financial capability, giving the lowest interest rates to poorer communities. In addition to targeting low rates to disadvantaged communities, interest rate reductions can be used to incentivize a variety of goals such as nonpoint source projects, green projects, and the use of innovative technologies.

Importantly, the project itself does not have to serve as the source of repayments. Any dedicated source of revenue will do (see Sources of Revenue on page 29). Nonpoint source projects typically do not charge user fees, but a NPS loan can be repaid from any number of alternative sources. In addition, embedding a nontraditional project with a loan to a project secured by user fees is another alternative. Lastly, since the passage of ARRA, CWSRF programs have been able to use a portion of their capitalization grants to forgive loan principal, award grants, or apply negative interest, all techniques that in effect reduce the loan balance to be repaid.

Lending Options

A.1. Direct Loans

The CWSRF programs are able to make direct loans to any municipality, intermunicipal, interstate, or state agency for construction of publicly owned treatment works. These loans are available for the full range of eligibilities outlined in section 603(c) of WRRDA 2014.

Additionally, CWSRF programs can make direct loans to private borrowers under certain circumstances. For example, section 603(c)(3) of the Clean Water Act (CWA) allows CWSRF programs to make loans to private borrowers for the implementation of a Section 320 Comprehensive Conservation and Management Plan (CCMP), as described in the example below. More information on which eligibilities allow for assistance to private entities can be found in the "Overview of Clean Water State Revolving Fund Eligibilities," published May 2016 and available on the CWSRF website.

State Example: **Delaware Decentralized Wastewater Treatment Systems**

The Delaware CWSRF program has been providing direct loans to privately owned decentralized wastewater treatment systems successfully for many years under their Septic Loan Rehabilitation Program (SLRP). The Delaware Department of Natural Resources and Environmental Control (DNREC) established a partnership with the First State Community Action Agency to assist with much of the administrative work associated with providing financial assistance directly to individual borrowers to reduce the burden on CWSRF staff resources, which has been a critical element to the SLRP attaining their goal of replacing 100 failing septic systems each year.

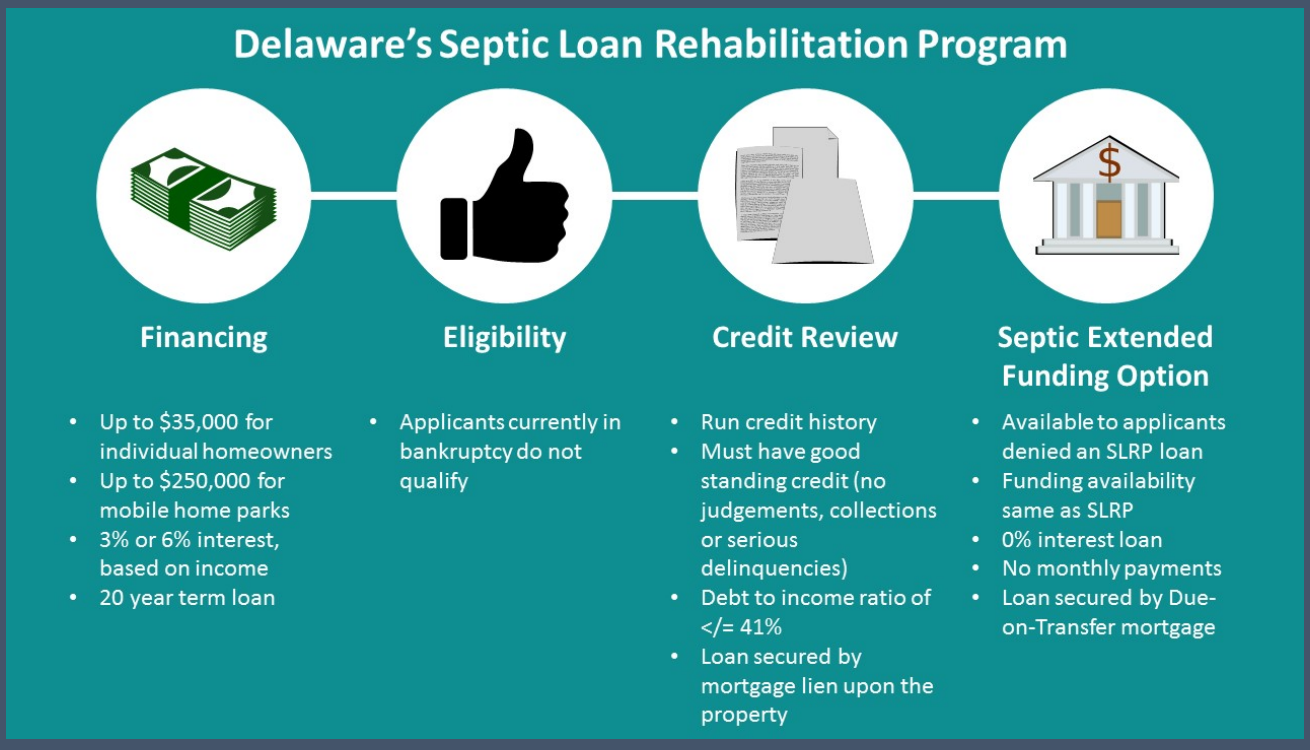

Figure 2 - Delaware's Septic Loan Rehabilitation Program

State Example: Delaware Privately Owned Wastewater Treatment Systems

For the first time in its history, the Delaware CWSRF program provided a direct loan to a privately owned wastewater treatment system. DNREC awarded over $8 million in loan funds to Allen Harim Foods, LLC for the Harbeson Poultry Processing Plant in southern Delaware. As the 18th largest producer of chicken products in the world, Allen Harim's operations are sophisticated and complex, generating significant wastewater flows as well as nutrient loads from nitrogen and phosphorus. The facility currently discharges into Beaver Dam Creek, which is included in a Section 320 national estuary, thus opening up eligibility for CWSRF assistance to this private enterprise. Even for an entity with a balance sheet as robust as Allen Harim's, DNREC performed a thorough credit review that examined:

- Comprehensive credit report furnished by Dunn and Bradstreet Credit Reporting Service;
- Statement of Cash Flows;
- Profit and Loss Statements;
- Historical ratio analysis (including cash, profitability, liquidity, and debt service coverage);
- Cash Flow Pro Forma Projections.

Figure 3 - Delaware Private Wastewater System

A.2. Co-Financing

Aside from the CWSRF, local communities use a variety of state and federal funding sources to help finance infrastructure improvements. These sources might include the United States Department of Agriculture, the Department of Housing and Urban Development, and additional state funding programs. These varied funding sources offer opportunities for the CWSRF to co-fund projects. This can be especially useful for large projects that cannot be entirely funded by the CWSRF, or if there are project costs that are not eligible under the CWSRF but are eligible under another funding program. Another clear advantage of co-funding is that by partially funding projects, states can leverage the CWSRF funding to assist a greater number of eligible projects. An important note is that all CWSRF requirements apply to any project that receives any amount of CWSRF funding.

The CWSRF can also partner in a co-financing arrangement with other state agencies and programs to reach new potential borrowers. The advantage of such partnerships is that many state agencies already have a close relationship with potential borrowers for nontraditional projects. Instead of CWSRF programs having to build new relationships with potential borrowers, partnerships allow them to utilize existing relationships between communities and state and local agencies and programs. Several states have used this approach to reach borrowers for NPS projects by partnering with state agricultural offices that already have an existing relationship with landowners.

A subset of co-financing is “blended lending,” where at least two parties (the CWSRF program and another entity) make a loan, but at different interest rates. The “blended” rate is the final interest rate, and could even be a second loan from the same CWSRF program.

Figure 4 - Washington State Co-financing

A.3. Partnerships

Many types of partnerships are possible in the CWSRF program. As a form of leveraging, partnerships can extend the reach of the CWSRFs, for example, to fund projects that might otherwise not be in a position to receive assistance and to access the resources of a partner to help pay the cost of a loan. The Delaware CWSRF has entered into master lease/purchase agreements with another state agency to fund necessary infrastructure improvements such as wetland remediation. The arrangement is necessary because Delaware state agencies are prohibited from issuing debt[3], but they are permitted to enter into leasing arrangements. The CWSRF is the lessor and the state agency is the lessee under a joint memorandum of understanding. The loan is in the form of a lease paying project costs associated with the improvements while the loan repayments are in the form of rental payments. Without this arrangement the Delaware CWSRF would be unable to assist other state agencies in constructing worthy environmental projects.

Another example of a creative partnership is where a CWSRF program partners with another department, such as the U.S. Department of Agriculture, to create Credit Banks to fund agricultural best management practices (BMPs). Maryland and Virginia have both established agreements with Farm Credit Banks to help provide loans to farmers to implement BMPs.

State Example: Maryland and Virginia Farm Credit Banks

Farm Credit Banks were established to help meet the specialized needs of farmers. A CWSRF loan can provide the working capital to finance the entire cost of a project, usually within three days of submitting an invoice to the state CWSRF. After the project is built, the farmer receives the USDA grant reimbursement and uses it to pay down the loan. Repayment periods for the remaining loan balance, which represents the farmer's cost share, may be as long as twenty years but are typically seven to ten years.

[3] Only the Department of Finance can issue general obligation debt on behalf of the Delaware State government.

A.4. Conduit / Intermediary Lending

A.4.i. Pass Through Lending

The most common structure for intermediary lending in the CWSRF programs is frequently referred to as "pass-through lending." Pass-through lending channels CWSRF funds through a conduit entity to an end borrower, as shown in Figure 5. A variety of conduit entities have partnered with CWSRF programs in pass-through arrangements including state agencies, counties, conservation districts and local municipalities.

The benefits of pass-through lending include the following:

- This structure often takes advantage of existing relationships between the conduit organization and the end borrower, attracting borrower demographics that might not ordinarily use the CWSRF program.
- The conduit entity is frequently able to bundle several sub-loans and complete the CWSRF application requirements for all of them, reducing the administrative burden on individual end borrowers.
- Because the conduit organization is the loan guarantor, a pass-through arrangement provides a more secure financial capability assurance for the CWSRF program as opposed to making loans directly to the small, untested end borrowers.
- A pass-through structure makes it possible for CWSRF additional subsidy, such as principal forgiveness, to reach non-municipal, nontraditional projects. The WIIN Act allows any recipient to be eligible for additional subsidization if they are implementing a process, material, technique or technology to address water-efficiency goals, to address energy-efficiency goals, to mitigate stormwater runoff, or to encourage sustainable project planning, design, and construction. However, a pass-through structure also enables additional subsidy to be provided directly to an eligible public pass-through partner, who can then channel the savings through to a private or nonprofit end-user. For more information, see section F on Additional Subsidies.

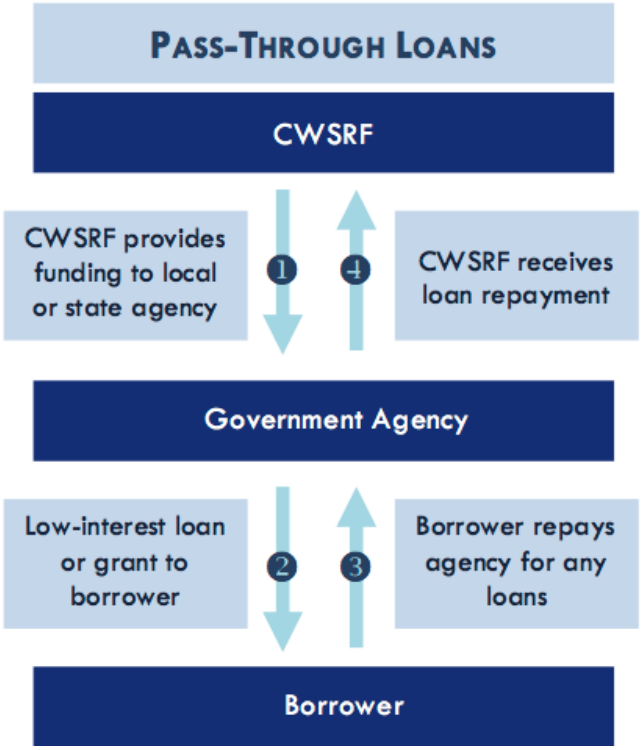

Figure 5 - Pass-Through Loans

State Example: The Washington Department of Ecology Channels CWSRF Funds through Several Pass-Through Entities for Agricultural BMP and Septic Repair Projects

CWSRF loans are signed with several Washington counties and conservation districts to address nonpoint water quality problems. The pass-through entities then provide sub-loans to local producers moving from conventional tillage practices to direct seed systems and to homeowners for repair and replacement of onsite septic tanks.

- **Financing Direct Seed Equipment**

Direct seed systems use equipment that disturbs only a narrow strip of soil, significantly reducing erosion, improving soil quality, reducing fuel consumption, and protecting water quality by reducing the sediment and nutrient load associated with conventional farming techniques.

Since 1995, the Washington CWSRF has provided more than $19.5 million for the direct seed pass-through program via the Spokane County Conservation District. The Spokane direct seed program benefits farmers in fourteen counties in Eastern Washington. The program has issued 300 loans, converting 700,000 acres of farmland to no-till and preventing 1.9 million tons of sediment and the nitrogen, pesticides and other chemicals from entering Washington waterways. **The** program is set up as a revolving fund. Direct seed equipment purchases are repaid to the Conservation District, which uses the landowner repayment to repay the CWSRF loan. The loans are secured through local tax assessment funds. 5-10-year loan terms are offered. The Conservation District also receives a grant from the Department of Ecology for the Direct Seed program. The grant funds are used to offset administration costs, and education, marketing, and outreach efforts.

- **Pass-Through for Failing Septic Systems**

The Washington CWSRF also funds a pass-through program with 15 counties or local health departments in the Puget Sound and marine counties, as well as the Spokane Conservation District, that provides financing to individual residents to repair failing onsite sewage systems. The loans may also pay for abandonment of septic systems and connection to sewer. The county or health department is responsible for local loan servicing, collecting payments, and payment tracking (but may contract these services to a lending institution). The pass-through entity also approves or denies loan requests and establishes the terms of the sub-loans to residents. Quarterly progress reports must be submitted to the CWSRF program providing schedules for project completion, loan marketing activities, data on loan applications and closures, and a final list of local loans provided to homeowners and small commercial enterprises. $15 million in CWSRF loans has been provided for the program since 1990, and over 600 homeowners have participated since 2007.

In 2016, the Washington CWSRF launched a unified program that provides financing to individual residents to repair or replace failing onsite sewage systems in 11 of the marine counties of Washington State. The State Department of Ecology has contracted with a financial institution on behalf of those 11 counties, and the financial institution provides affordable loans (including loan servicing, collecting payments, payment tracking, approval or denial of loan requests, and establishing the loan terms) to property owners within the 11-county region. The financial institution repays the CWSRF loan. The financial institution submits quarterly reports, loan marketing activities, data on loan applications and closures, etc. The participating counties refer homeowners to the financial institution. CWSRF funds have not yet been disbursed for this program, as of October 2016.

A.4.ii. Linked Deposit

Linked deposit financing takes advantage of the provision in the CWSRF authorizing statute allowing CWSRF funds to be used "to earn interest on fund accounts" (Title 33 Subchapter VI §1383(d)(6)). In a linked deposit arrangement, a state CWSRF program purchases a reduced-rate certificate of deposit from a private financial institution. The financial institution then loans out the deposited funds (at a slightly lower interest rate) to individuals for smaller-scale water quality projects. Many states have used linked deposits to successfully fund projects such as septic replacements, agricultural best management practices, or environmentally-friendly forestry equipment. Benefits of the linked deposit structure include the following:

1. Individual end borrowers can work directly with their own financial institutions instead of the CWSRF program, bringing familiarity and comfort to the process.
2. The financial institutions earn a fee that compensates them for the administrative task of administering the loans. The linked deposit arrangement also provides the bank with a new product to offer their existing customers, and potentially attract new customers.
3. The financial institution is responsible for reviewing and approving applications from the end borrowers (as well as collecting payment), removing much of the administrative burden that would otherwise fall to the CWSRF program. This allows the CWSRF program to assist many small, individual borrowers.

State Example: The Maine CWSRF Provides Linked Deposit Loans for Green Forestry Equipment

A long-running example of a linked deposit lending arrangement is provided by the arrangement between the Maine Bond Bank, the Maine Department of Environmental Protection, the Maine Forest Service (MFS), and several local banks to fund the purchase of "green" forestry equipment. The loans are intended to increase the use of best management practices and environmentally-friendly logging equipment in the Maine logging industry, which will in turn help protect and restore water quality around logging operations.

Eligible purchases include mulching machines, tractors, graders, flotation tires, GPS equipment tracking systems, bridges, and sediment and erosion control products. An MFS advisory committee reviews purchase proposals for equipment and structures to ensure that they are needed to implement environmentally sound logging operations. Qualified loggers may apply for loans up to $800,000 to purchase timber harvesting equipment and implement best management practices that reduce the risk of nonpoint source pollution from silviculture activities.

Since the three agencies signed the Memorandum of Understanding creating the linked deposit arrangement in 2007, a total of $23.6 million has been committed to this program. In total, 91 loans have been made equaling $21.2 million. In 2016, the Maine CWSRF provided $4.8 million for 19 silviculture loans through the linked deposit program.

Figure 6 - Maine Forestry Direct Link Loan Program

A.4.iii. Sponsorship Lending

CWSRF lending can combine assistance to both traditional and nontraditional projects in the same loan agreement. This allows user fees from the traditional portion of the project to serve as a repayment stream for the nontraditional project. For example, combined lending could be used to finance green infrastructure where an urban wastewater utility wants to reduce the high capital costs of traditional stormwater infrastructure by installing green infrastructure projects. A single assistance agreement could cover the cost of both.

Sponsorship lending pairs a traditional POTW project with a nontraditional one, usually a NPS project. A municipality receives a loan with a reduced interest rate as compensation for also undertaking (i.e., sponsoring) a nontraditional project thus allowing municipalities to address pressing watershed restoration or protection priorities without placing a repayment responsibility on NPS projects. This arrangement works best when the cost of the combined project is equal to or less than the cost of a stand-alone POTW project when financed at normal CWSRF interest rates. For example, a $1,000,000 loan at 3.8 percent interest would result in a total repayment of $1,436,707 over a 20-year term. A $1,393,442 loan at 0.3 percent interest results in the same repayment amount. A municipality could therefore borrow $1,000,000 for a traditional POTW project plus $393,442 to implement NPS projects at no additional cost. For added incentive, a CWSRF could further reduce the interest rate so that the municipality would save money rather than break even.

State Example: Ohio Sponsorship Program

The Ohio EPA originated the concept of sponsorship lending with its Water Resource Restoration Sponsor Program (WRRSP). The WRRSP offers communities very low interest rates on loans for wastewater treatment plant improvements if the communities also sponsor projects that protect or restore water resources. A community that participates in the WRRSP does not typically implement a restoration project itself. Instead, it enters into a sponsorship agreement with an implementing partner—such as a land trust or a park district—that develops and implements the project, while the sponsoring community repays the loan. The WRRSP has supported projects that have acquired wetlands and riparian lands, acquired conservation easements, restored habitat, and modified dams. Ohio's WRRSP reinforces the idea that wastewater treatment plant improvements and water resource restoration projects are complementary efforts.

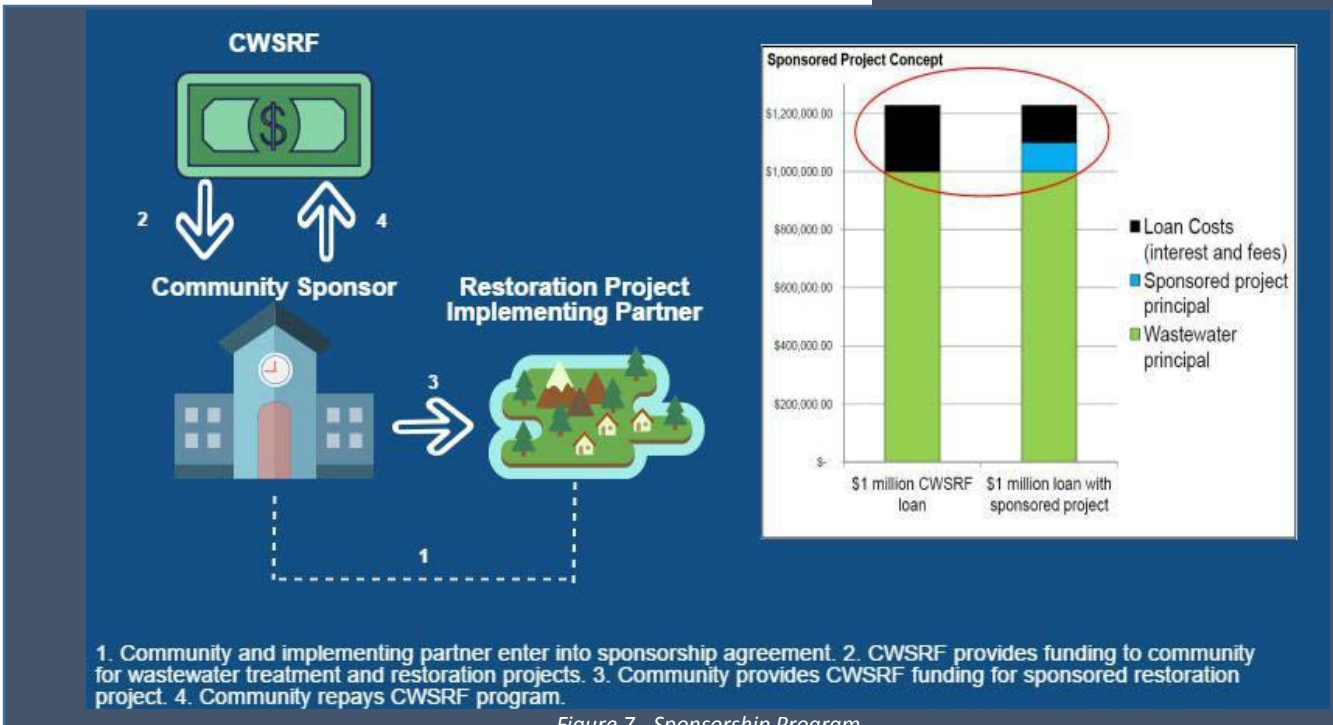

Figure 7 - Sponsorship Program

A.5. Programmatic Financing

In addition to using the CWSRF, many large wastewater utilities use the bond market to raise the revenues required to execute the many infrastructure projects identified in their comprehensive Capital Improvement Plans (CIP). They use general obligation or revenue bonds to fund their project cash needs, and this is a tried and true approach that has been used successfully for decades. In some cases, however, a few CWSRF programs have struggled to cultivate strong relationships with the large utilities as repeat borrowers. However, several states are pursuing an innovative approach to this challenge using a financing vehicle known as "programmatic financing." Programmatic financing shifts the traditional project-specific lending strategy to one that is more congruent with using bonds to finance an annual (or multi-year) cash flow for capital improvement projects. Instead of issuing a binding commitment for a certain amount of CWSRF dollars to a single project, a programmatic financing loan is designed to fund the utility's entire CIP (or any portion thereof) so long as the projects are eligible and prepared in compliance with CWSRF program requirements. This also encompasses nontraditional projects, and projects eligible under Section 319, that are included as part of the CIP. Often these types of projects include stormwater, green infrastructure applications, conservation easements, and various types of restoration projects for wetlands, streambanks, and watersheds. In the event that a project in the CIP is delayed or falls through for any reason, programmatic financing makes it easy for the borrower to direct the funding toward any other eligible project activity included in the CIP, thus ensuring that disbursements continue to flow uninterrupted.

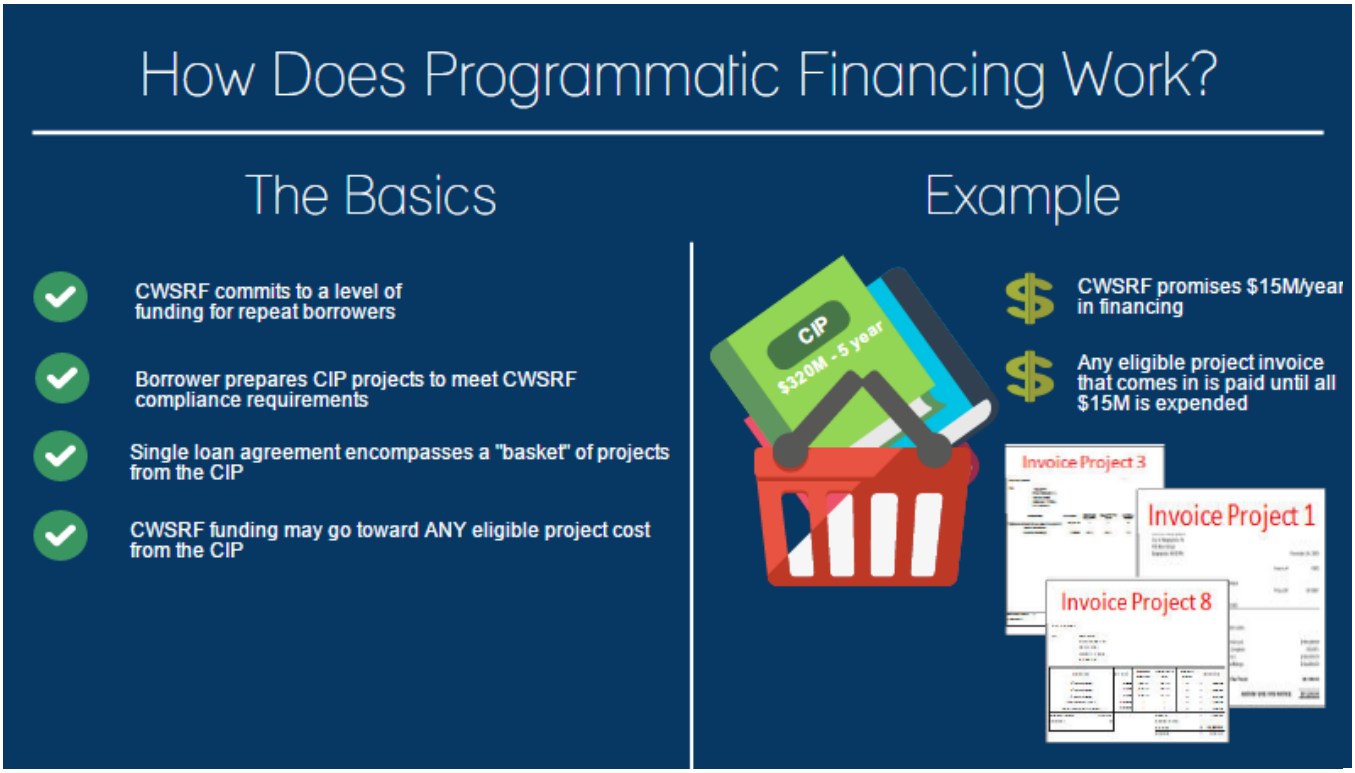

Figure 8 - Programmatic Financing

This approach has been used successfully in Minnesota and Rhode Island for a number of years, and is currently being implemented in Hawaii. Programmatic financing provides the programs with a nicely diversified portfolio of borrowers upon whom they can rely to commit and expend large sums of CWSRF funds each year, which helps states to honor their pledge to ensure the timely and expeditious use of these funds. The programmatic financing approach includes several significant advantages over traditional loan funding, such as:

- Reduces or eliminates the impact to CWSRF disbursements caused by slippage in project schedules;
- Accommodates continual disbursements regardless of project-specific delays;
- Easier to stick to an annual milestone planning schedule;
- Reduced burden on state CWSRF staff;
- More accurate cash flow management and projection capabilities;
- Can be optimized to reduce or eliminate unliquidated obligations and more efficiently spend federal dollars.

The success of this approach in a CWSRF program is best supported by cash flow management practices that enable decision-makers to run accurate cash flow projections in order to commit to a level of funding for large, repeat borrowers with confidence while maintaining a healthy working capital balance.

State Example: Programmatic Financing in Hawaii

Hawaii's CWSRF program is in the process of implementing Programmatic Financing, or "ProFi," for the first time. The development of this process involved the reinvention of some programmatic fundamentals, such as the financing application, priority ranking process, and the loan agreement. Hawaii dedicated significant time and effort to directly involve borrowers in the development of this process and its companion documentation through a number of face-to-face meetings and outreach efforts. This resulted in a fully vetted, simple, streamlined format that is easy and efficient for CWSRF program staff and borrowers alike.

Planning Framework

- Funding encompasses planning, design, engineering and construction activities for traditional, stormwater, green infrastructure, and nonpoint source projects.
- Applications are collected on or after CWSRF meets with the borrower to identify a list of projects in CIP for current funding cycle.
- Binding commitments are made after application review is complete.
- Master Loan Agreements are issued to Borrower 90 days prior to target loan execution date.
- Aim for a consistent funding schedule so that borrowers may reliably plan for each year.

Planning Framework

- Checkboxes on the application form allow the borrower to indicate whether ANY project included in the ProFi application meets priority scoring criteria.
- Points will be allotted to the entire ProFi loan application for any project meeting the criteria.
- Points in each priority scoring category will only be awarded once, regardless of how many projects on the list meet the criteria.

A.6. Portfolio Lending

Portfolio Lending differs from Programmatic Financing primarily in two ways. First, the focus of Programmatic Financing is on the schedule and pace of disbursements for a "basket" of projects on an annual basis under a single loan agreement. Second, in contrast, Portfolio Lending is a strategy to commit funding over time to one or several projects taken, for example, from a capital improvement or watershed management plan. Both options can easily accommodate nontraditional projects.

A.6.i. Capital Improvement Plans

CIP portfolio lending refers to a CWSRF program's commitment to fund a certain portion (or all) of a municipality or utility's CIP over time, assuming each project meets eligibility and priority criteria. This can help develop long-term borrowing relationships to ensure stable demand for CWSRF funds, and contributes to the municipality's long-term planning efforts. In addition, this arrangement allows the CWSRF to be involved in the earliest phases of project planning, helping ensure that a project application can be approved quickly. Portfolio lending requires careful cash-flow management to ensure that program funds are not over-extended, but can provide a valuable level of certainty to a CWSRF program's project pipeline.

For example, after conducting financial projections, the SRF may informally commit $5 million per year for the next five years to help implement a borrower's capital improvement plan. This provides budgeting certainty to both parties, and creates an expectation of continual partnership in the future. Although the borrower must still complete the application process to receive a loan each year, they have the assurance that

State Example: Florida's Segment Cap System Facilitates Multi-Year Portfolio Lending for Very Large Projects

- In order to provide a fair distribution of funding among small and large projects, Florida's CWSRF program defines an annual "segment cap" that indicates that largest funding amount that any one project may receive in that fiscal year.
- For very large projects that exceed the amount of the annual segment cap, the Florida CWSRF will commit to funding the full eligible amount of the project, but will only execute a funding agreement up to the amount of the segment cap for that fiscal year. However, the funding agreement will include language acknowledging the full project cost.
- Borrowers with a project amount greater than the segment cap will have the unfunded amounts placed on a Waiting List, a "holding queue" for partially-funded projects.
- If there are sufficient funds available at the end of the fiscal year priority-setting period, the CWSRF will offer an amendment to increase funding for Waiting List projects.
- Projects on the Waiting List are in the top tier of projects for subsequent fiscal years, and will receive funding up to the amount of the segment cap each year until fully funded.
- As an example, the CWSRF was able to provide $120 million to fund high-level disinfection facilities for Miami/Dade over the course of multiple years. Without using the segment caps, other projects and borrowers would have been impacted by such a large commitment to a single project.

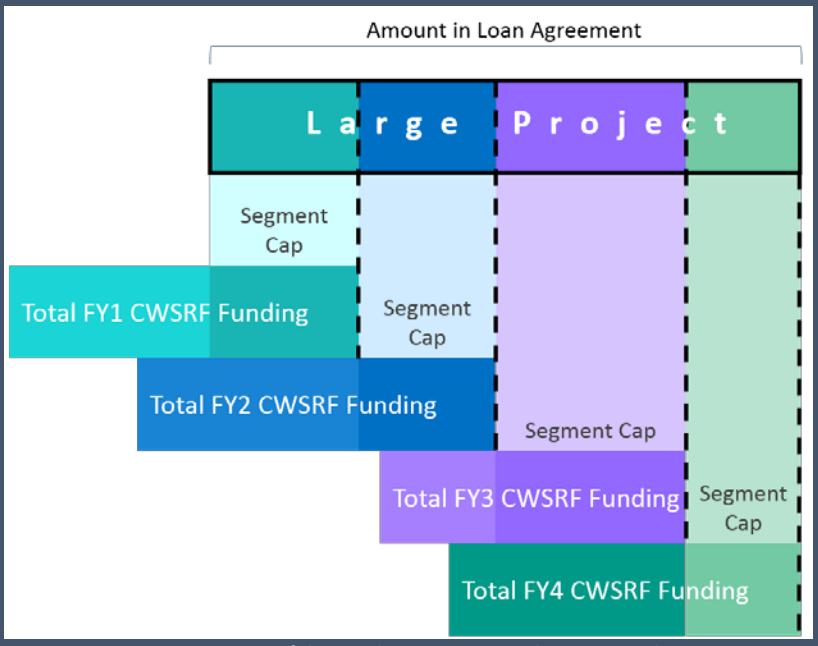

Figure 9 - Portfolio Lending - Segmented Cap Example

the SRF will have the financial capacity to fund the project.

If nontraditional projects are included in the CIP projects of traditional eligibilities, they can be financed at the same time instead of trying to finance as standalone projects. For example, the Rhode Island CWSRF program frequently makes an annual loan commitment to fund a wide variety of projects from the Narragansett Bay Commission's CIP. The list of projects authorized to receive CWSRF funding in 2014 included many traditional treatment plant improvement projects, as well as several nontraditional projects such as a greenhouse gas study, biogas reuse, solar energy, and wind turbines.

A.6.ii. Watershed Management

A higher priority on funding projects that address water quality on a watershed basis is best served by an integrated planning approach to protection and restoration projects in an area influencing the water quality of a river or stream. Examples of such projects include source water protection, stream stabilization, riparian buffers, green infrastructure, and wet weather overflows.

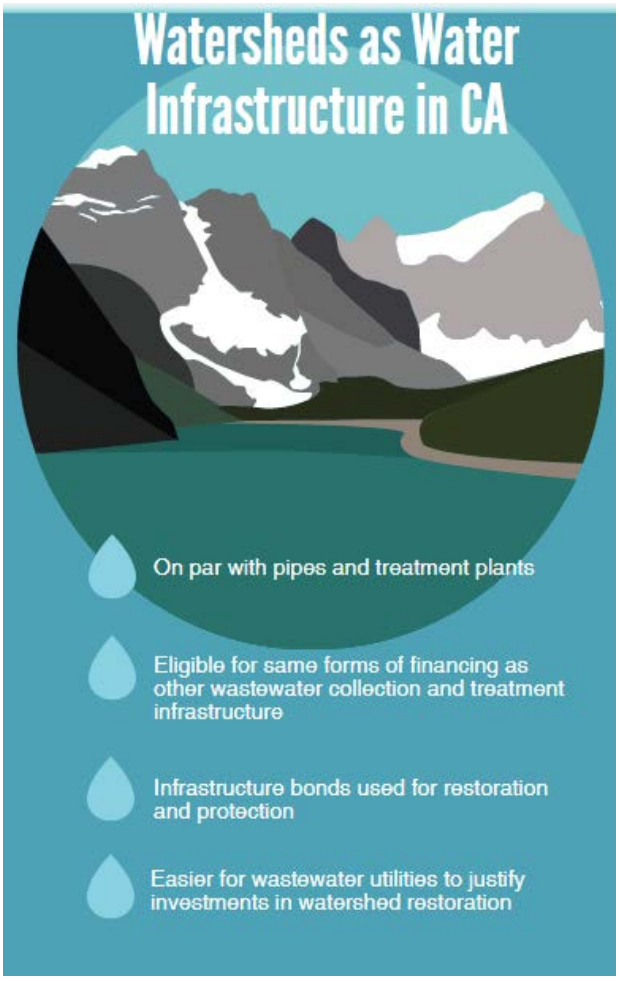

Figure 10 - Watersheds as Water Infrastructure

The planning and implementation activities associated with watershed management projects lend themselves well to a portfolio funding approach that encompasses numerous projects in various stages through a multi-year lifespan. This process is very similar to the capital improvement planning undertaken in a traditional wastewater infrastructure environment. The bridge between watershed management projects and a capital improvement planning approach can be observed in the state of California, which recently signed a new bill into law that recognizes watersheds as part of their statewide infrastructure (California Legislature, Bill AB240 signed on September 27, 2016). This provides projects like stream channel restoration, upland vegetation management, or forest and wetland conservation with enhanced access to more conventional funding sources, and makes it easier than ever for utilities to justify investments in watershed restoration. The state still needs to raise the appropriate financing and develop a watershed-investment plan to guide projects, and the timetable for that investment plan is forthcoming.

WRRDA specifically includes provisions allowing for the CWSRF to more aggressively pursue projects that address water quality and resilient infrastructure on a watershed basis through:

- Watershed management of wet weather discharges
- Stormwater best management practices
- Watershed partnerships
- Integrated watershed resource planning

- Municipality-wide stormwater management planning

Expanded eligibilities now also allow for the CWSRF program to finance privately owned stormwater projects, which also includes reclamation and subsurface drainage water. This offers incentives for communities within a watershed or sub-watershed area to pursue cross-jurisdictional funding vehicles, joint powers contractual agreements between a municipality or county with a special district, and greater intermunicipal cooperation to achieve greater water quality protection. Such benefits also include increasing the resiliency of treatment works from extreme risk events like flooding and rising sea levels.

State Example: Maine Watershed Management

A good example of these types of watershed projects working in concert across political jurisdictions comes from Cumberland County in Maine. The Maine CWSRF program provided $2.1 million in financial assistance for the Long Creek Restoration Project to reduce stormwater pollutant loads to Casco Bay, an estuary of national significance as designated by the U.S. EPA. The Cumberland County Soil and Water Conservation District applied to the CWSRF on behalf of the Long Creek Watershed Management District. This is a multi-year effort dating back to 2007, with a new suite of stormwater management projects rolling out each year. The stakeholders involved in this project include:

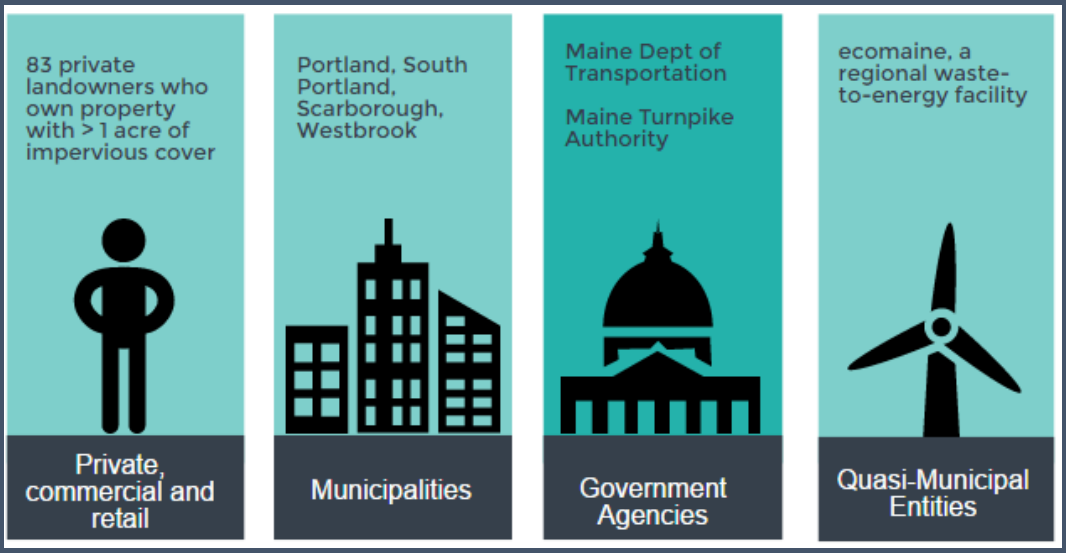

Figure 11 - Watershed Project Participants

Under the Long Creek Watershed Management Plan, participating stakeholders may either pay for individual pollution permits or pay a fee to participate in the proposed Restoration Program. The permit fees are determined based on the area of impervious cover on the property. This funding mechanism for the restoration program has proven to be a remarkable success because the cost of participating in the program is lower than it would be for landowners to purchase individual pollution permits. This innovative and cooperative funding arrangement enables communities to fund important projects quickly and provides a valuable model for other rapidly developing urban communities.

A.7. Intermunicipal Lending

Intermunicipal agencies are eligible for CWSRF assistance. An intermunicipal agency is an agency established by two or more municipalities with responsibility for planning and/or management of public service. They can facilitate cross-jurisdictional coordination and funding support for regional solutions to water quality problems. The assistance recipient could be a single entity within the agency or the agency itself. For example, several jurisdictions could apply for a CWSRF loan to an intermunicipal watershed agency where a watershed is comprised of several states. These jurisdictions could form an intermunicipal watershed fund (the agency) to receive CWSRF financial assistance. The watershed fund could create a portfolio of watershed projects eligible for CWSRF assistance and deliver that assistance to recipients.

WRRDA amended section 122 of the CWA to introduce several nontraditional eligibilities that could be supported by intermunicipal lending, including CWSRF funding for watershed management of wet weather discharges; stormwater best management practices; watershed partnerships; and integrated water resource planning. It is also important to note that a CWSRF can provide any type of authorized assistance to intermunicipal agencies, including loan guarantees for so-called "sub-state revolving funds," for eligible purposes.

A few CWSRF programs have taken advantage of this authority by providing assistance to intermunicipal organizations, as detailed in the sidebar. The cooperation and coordination required in the development, funding and implementation of such "joint' projects might prove to be a formidable obstacle, even though municipalities coming together for this purpose on a watershed basis would likely yield significant economic and environmental benefits.

State Example: The California and Missouri CWSRF Programs Loan to Intermunicipal Agencies for Wide-Reaching Water Quality Projects

The Missouri CWSRF provided a $1.0 million loan to the Missouri Association Councils of Government (MACOG) to capitalize the Missouri On-Site Wastewater Improvement Grant-Loan program; a pass-through arrangement that provides financing for homeowners to repair or replace on-site wastewater treatment systems. The program provides a 50 percent/50 percent low-interest loan and grant for low-income homeowners or a 60 percent/10 percent/30 percent low-interest loan/grant/homeowner match for non-low-income homeowners. Nineteen individual regional planning commissions and councils of government throughout Missouri administer the financing program for customers within their jurisdictions, while MACOG coordinates the entire program and holds the loan agreement with the CWSRF program.

The California CWSRF has provided four assistance agreements totaling $3.5 million to the Association of Bay Area Governments (ABAG), a regional planning organization formed by a Joint Powers Authority that coordinates nine counties and 101 cities and towns in the San Francisco Bay Region. ABAG projects funded by the CWSRF, including trash capture devices for catchment basins, provide widespread environmental benefits to cities and towns in the region.

A.8. Interstate Lending

Interstate agencies are eligible for CWSRF assistance. This is a largely unexplored and underutilized authority with enormous potential to directly target financial assistance at interstate pollution problems, particularly with respect to funding nonpoint source pollution projects under section 319 of the CWA and nontraditional estuarine projects under section 320 of the CWA. However, a few states have been providing funding to interstate agencies preceding the passage of WRRDA and continue to do so successfully.

CWSRF programs are prohibited from making direct loans to projects in another state even where they would have significant water quality benefits to the lending state. CWSRF programs can, however, provide financial assistance to interstate agencies. For example, interstate lending could occur in at least two ways. An interstate agency could be established by (1) congressional action or (2) by an agreement of two or more states, as defined in Section 502(2) of the CWA, with the agency given necessary authority to provide financial assistance. A CWSRF would lend to this entity which in turn would either off lend or even make grants (or other types of assistance) to projects in another state. The interstate agency would be obligated to repay the loan.

As an example, the CWSRF programs of two contiguous states, one "downstream" from the other could, through mutual agreement, jointly lend (or provide additional subsidies) to an existing or newly created interstate agency. The participating CWSRF programs would develop a portfolio of projects and the agency would use the pool of funds to address the most serious sources of nonpoint sources problems in the "upstream" state.

State Example: PENNVEST Provides Interstate Agency Funding to Support Green Infrastructure Initiatives

The Delaware Valley Regional Planning Commission has served the greater Philadelphia region since its inception in 1965, through an interstate compact with the State of New Jersey. The Commission provides services to five counties in Pennsylvania and four in New Jersey. These services include land use and environmental planning, mapping, and data analysis.

The Pennsylvania Infrastructure Investment Authority (PENNVEST) has provided over $2 million in CWSRF grant assistance to the Commission for various green infrastructure applications to address non-point source pollutant loads. A project is located in Bucks County, Pennsylvania, to plant a total of 3,355 trees in seven municipalities to reduce erosion and sedimentation into tributaries of the Delaware River, while also providing shade and energy savings and improved air quality.

State Example: Washington Interstate Lending

The Washington Water Pollution Control Revolving Fund has been providing loans to the Spokane County Water and Soil Conservation District for two programs supporting agricultural best management practices: The Conservation Tillage and Sediment Reduction Program and Eastern Washington Sediment Reduction Program. Together, these programs serve nineteen counties spanning eastern Washington and northern Idaho for the conversion from tillage to direct seed/no-till farming practices. The Washington CWSRF program has provided over $18 million in loan assistance since 1995 and made laudable strides in protection water quality in the region by reducing soil erosion up to 90 percent while improving the overall moisture of the soil for increased productivity.

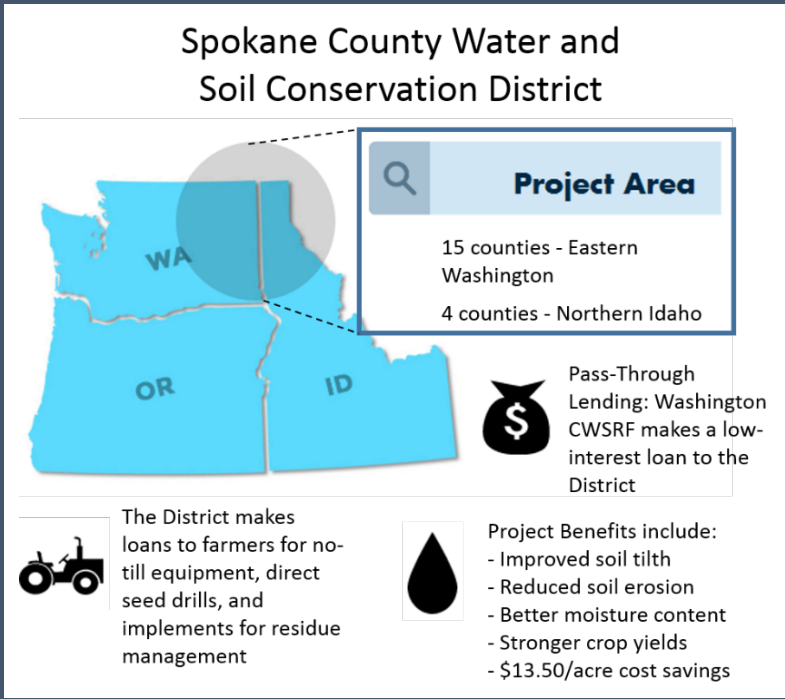

Figure 12 - Interstate Soil Conservation District

A.9. Planning and Design Lending

States can provide short-term loans to fund integrated planning activities that can be reasonably expected to lead to an eligible capital project. The assistance allows communities to undergo a comprehensive planning process that considers a full range of options as well as cross-sector priorities. By funding planning, CWSRF programs increase the pool of capital projects to fund. In fact, a planning and design loan can be combined with an agreement to move the resulting capital project up the project priority list to increase its chances of receiving funding. In some states, the planning and design loan becomes interest-free or is forgiven if the borrower pursues CWSRF construction financing. Loan forgiveness is particularly helpful to NPS projects. States can also fund planning and design grants from their program or non-program fee income.

State Example: Arizona Planning and Design Technical Assistance Grants

The Water Infrastructure Finance Authority (WIFA) administers the CWSRF program in the state of Arizona and uses a portion of their fee revenue to fund a planning and design program aimed at providing much needed assistance to communities with limited resources who need help in completing this kind of work. This funding is capped at $35,000 per project with a 40% local match. Arizona's planning and design program presents an excellent opportunity for communities and their engineering consultants to pursue an integrated planning approach that includes green infrastructure applications, watershed management techniques, water and energy conservation measures, as well as activities designed to increase the resiliency of the built and natural environment. Applicants who include green project applications as part of the scope of work may qualify for a waiver on the local match component. Eligibility for this waiver is predicated on WIFA's determination that the primary purpose or majority of the project is green. For example, the City of Flagstaff received $35,000 to pursue green stormwater infrastructure watershed planning and the Alpine Sanitary District used their funding award to explore options for using constructed wetlands to improve water quality of discharge to the San Francisco River. This is a good example of incentivizing integrated project planning while also providing valuable funding assistance for non-traditional projects in the CWSRF program.

B. Purchasing Local Debt Obligations

While making direct loans to public entities is the most common and traditional form of funding in the CWSRF program, Title VI of the CWA also allows states the opportunity to provide assistance through the purchase or refinance of local debt obligations under Section 603(d)(2). States may purchase, for example, general obligation or revenue bonds issued by municipalities, intermunicipalities, and interstate agencies within the state at or below market rates, so long as such debt obligations were incurred after March 7, 1985.

Historically, bond purchasing programs have been attractive to larger borrowers pursuing infrastructure projects bearing greater longevity than 20 years by allowing for extended maturities combined with low interest rates. Offering terms up to 30 years (and potentially up to 45 years) or the useful life of the project not only help the CWSRF to accommodate the capital improvement planning and budgeting regimes incorporated by municipalities, but also come with competitive interest rates.

After the passage of WRRDA in 2014, all CWSRF programs may make loans for up to 30 years or the useful life of the project via direct loan programs as a matter of course if they so choose. In January 2017, the EPA approved the Ohio CWSRF's request to offer 45-year extended financing terms to qualified recipients by creating a revenue bond for the eligible borrower to issue in order to evidence its repayment obligation. The arrangement also includes a trust agreement between the borrower and the State articulating repayment obligations, covenants, and agreements. The instruments will be used for financings with terms greater than 30 years, but no more than 45 years.

In the context of financing nontraditional projects, the purchase of local debt presents a viable alternative for intermunicipal borrowers, interstate agencies, public private partnerships, and nontraditional projects with longer useful life expectancies including, but not limited to, land purchases, conservation easements, and watershed restoration efforts.

Figure 13 - Long Useful Life Examples

C. Credit Enhancements

In 2016, Fitch rating agency announced that approximately 82 percent of state revolving funds and municipal loan pools in the Fitch-rated portfolio are rated AAA. This underscores the stability of CWSRF programs as a result of robust financial capability procedures, loan security mechanisms, and the reliable nature of utility revenues. CWSRF credit enhancement for local debt taps the strong credit position of state CWSRF programs to buoy the credit rating of assistance recipients, thereby lowering their borrowing costs. This form of assistance is eligible under section 603(d)(3)), "to guarantee, or purchase insurance for, local obligations where such action would improve credit market access or reduce interest rates."

With a credit enhancement program, a highly-rated CWSRF program guarantees third-party debt (such as a bond issue) for a municipality or utility with a weaker credit rating. The guarantee agreement between the CWSRF and the assistance recipient results in

State Example: Pennsylvania's Credit Enhancement Assistance Program

The Pennsylvania Infrastructure Investment Authority (PENNVEST) administers the financial duties of the Pennsylvania CWSRF program. Recently, PENNVEST introduced Credit Enhancement Assistance into its lineup of CWSRF offerings. The Credit Enhancement Assistance (CEA) program was developed as a result of annual demand for funding that exceeded PENNVEST's lending capacity, and as an effort to meet the needs of medium-to-large communities by enabling the CWSRF to fully fund their large projects.

PENNVEST will be able to tap into the CEA program in the future when CWSRF loan capacity is exceeded. Although the agency is targeting to make $150 million available for guarantees through the CEA, they have remained within traditional lending capacity to date. Several large municipalities in the state have expressed interest in CEA assistance; however, PENNVEST has not yet received applications for the program due in part to the current low interest rate environment.

more favorable borrowing terms for the recipient, allowing the entity to take advantage of interest rates similar to what it might receive on a traditional CWSRF loan. At the same time, this arrangement allows the CWSRF program to stretch its assistance capabilities further since a guarantee does not require the same cash outlay as a traditional loan (in general, a CWSRF program would need to consider the amount of credit subsidy, if any, to reserve).

This form of assistance has not been widely used among CWSRF programs. Arizona provided the first CWSRF guarantee in the year 2000 in the amount of $5.5 million. This remained the only instance of credit enhancement until 2014, when the New York CWSRF introduced a guarantee program securing borrowing for assistance provided for energy efficiency projects by the New York State Energy Research and Development Authority. Prior to this, in 2010 New York set up their initial guarantee program with the establishment of the 2010 Master Financing Indenture, which was first offered to eligible financial assistance recipients in their 2011 Intended Use Plan.

State Example: The New York CWSRF Guarantees Bonds for Residential Energy Efficiency Improvements

The New York Environmental Facilities Corporation (NYEFC), lead state agency for the New York CWSRF, participates in a first-of-its-kind guarantee partnership with the New York State Energy Research and Development Authority (NYSERDA). NYSERDA sought to issue bonds to finance and refinance loans under the Green Jobs-Green New York program, a statewide initiative that supports energy efficiency improvements for residential, small business, nonprofit and multi-family buildings. Because the portfolio of small energy efficiency loans was relatively new and untested, NYSERDA had difficulty securing an acceptable bond rating. The agency turned to the NYEFC, which agreed to provide a CWSRF guarantee for the program.

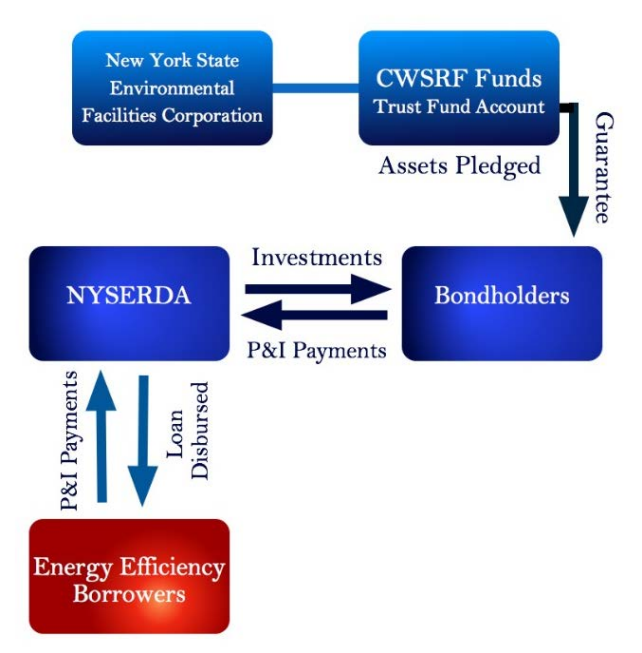

Figure 14 - NYSERDA Structure

Before the partnership proceeded, the NYEFC consulted with the U.S. Environmental Protection Agency to ensure that the guarantee would be an eligible use of CWSRF funds. New York State's Section 319 nonpoint source management program had already identified atmospheric deposition, the particulate matter from burning fossil fuels to generate heat and electricity, as a significant source of water quality impairment. Therefore, EPA concurred with NYEFC's assessment that energy efficiency projects to reduce atmospheric deposition was an eligible use of CWSRF funds under section 603(c)(2) of the Clean Water Act, which allows CWSRF funds to be used "for the implementation of a management program established under section 319." (continued)

(NYSERDA continued) The guarantee is secured by CWSRF recipient payments and a pledge of available CWSRF program equity. NYSERDA was also required to capitalize a collateral reserve account that is held separately by NYSEFC and is not part of the bondholder guarantee pledge. The partnership allowed NYSERDA to obtain a triple-A credit rating for the energy efficiency loan portfolio. Figure 14 shows the structure of the partnership between NYSERDA and the New York CWSRF.

D. CWSRF Bond Issuance

D.1. Traditional Bonds

The sale of bonds by or on the behalf of the CWSRF programs has produced a tremendous boost in assistance provided. Since 1989, 29 CWSRF programs have leveraged their programs in this manner, issuing approximately $42 billion in bonds to finance eligible projects.

CWSRF bonds can be sold to finance nontraditional projects, traditional projects, or both. Given the lack of experience in the marketplace with many nontraditional projects, however, it may be prudent and cost-effective to allocate funding to a pool of both traditional and nontraditional projects, or to finance nontraditional projects solely through direct loans while using leveraged bonds to finance traditional projects. Before issuing bonds, however, the program must have the capacity (e.g., free cash flows and debt service reserve if necessary) to enter into debt, secure it, and make debt service payments. Equally important is a sufficient pipeline of projects that are ready to proceed; therefore, the demand for nontraditional projects should be carefully assessed along with their readiness to proceed before bonds are issued. It may be necessary to implement an extensive marketing campaign to ensure adequate demand.

D.2. Green Bonds

"Green Bonds" are municipal bonds issued with a commitment to direct proceeds exclusively toward environmentally beneficial purposes. Although the terminology is new (coined in 2008 by the World Bank), the concept is tried-and-true for CWSRF programs that have leveraged funds, since the proceeds from leveraged bonds have always been used for projects benefitting the environment. A few state agencies involved in managing CWSRF programs, including the Massachusetts Clean Water Trust, the Indiana Finance Authority, the Iowa Finance Authority, the Rhode Island Infrastructure Bank, and the New York State Environmental Facilities Corporation, have adapted their traditional leveraging programs to incorporate the terminology of Green Bonds.

For the most part, Green Bonds are issued with generally the same pricing and terms as the issuer's standard bonds, but may be marketed to different investors. In some cases, the return on Green Bonds is linked to environmental outcomes, such as in the case of the country's first "Environmental Impact Bond" issued in 2016 by the District of

State Example: Massachusetts Clean Water Trust's State Revolving Fund Green Bonds

The Massachusetts Clean Water Trust (the Trust) oversees the state's CWSRF program in cooperation with the Massachusetts Department of Environmental Protection. The Trust has been issuing bonds to leverage the CWSRF program since 1993. In 2013 the Trust issued its inaugural Green Bond, generating $100 million in proceeds for clean water and drinking water projects, energy efficiency in state buildings, open space and land remediation, river revitalization, habitat restoration, and providing the required state match for the FY13 State Revolving Fund federal capitalization grants.

The agency pursued Green Bonds as a way to expand their investor base, and found that the Green Bonds have attracted a "broader and more attached investor base" (NRDC). The expectation of broad investor interest was accurate as the $100 million in Green Bonds garnered more than $130 million in orders, an oversubscription of 30 percent.

In 2014, the Trust issued $231 million in State Revolving Fund Series 18 Green Bonds. The proceeds were used to finance or refinance costs of State Revolving Fund wastewater and drinking water projects. According to the Preliminary Official Statement, the Trust initially allocated CWSRF and DWSRF funds separately to secure the Green Bonds, but maintained the ability to "cross-collateralize" and use CWSRF program funds to cure or prevent a default on the bonds issued to fund the other purpose.

Columbia Water and Sewer Authority (DC Water). Payments on the DC Water bonds will vary depending on the environmental outcomes of the green infrastructure stormwater control project funded by bond proceeds.

E. Guarantees Securing Sub State Revolving Fund Lending

The CWSRF programs have statutory authority to "provide loan guarantees for similar revolving funds established by municipal or intermunicipal agencies" (Title 33 Subchapter VI §1383 (d)(3)). A guarantee relies on the net assets of the CWSRF program to enhance the credit of the partnering agency, lowering the partner's costs to borrow and lend capital. A guarantee from the CWSRF can help a municipal or intermunicipal agency receive a better rating on bonds issued to capitalize the sub-revolving fund, allowing savings to be passed on to sub-recipients. Likewise, the CWSRF could directly guarantee the loans made from the sub-revolving fund, allowing the program to offer better rates to customers.

CWSRF programs may secure the guarantee by setting aside funds in a debt service reserve, or by pledging CWSRF loan recipient payments if these payments are significant enough to collateralize the bonds or loans. Because a guarantee involves no immediate outlay of funds, this option allows a CWSRF to leverage the program's financial stability into a much larger source of funding than would be possible through conventional loans. For instance, in the event a CWSRF program does not have adequate cash flow to cover the entire cost of a very large project, a CWSRF guarantee could be combined with a traditional CWSRF loan to offer the borrower full project coverage at a lower cost than non-guaranteed market financing.

F. Additional Subsidies

Prior to 2009, the most favorable financial terms a CWSRF could offer was 0 percent financing. This changed with passage of the American Recovery and Reinvestment Act of 2009, which enabled the CWSRF programs to use a portion of their federal capitalization grants to provide additional subsidization in the form of principal forgiveness, grants, or negative interest loans. The authority to provide additional subsidization was continued by subsequent annual appropriations and made permanent by the WRRDA amendments of 2014.

Added by the WRRDA amendments, section 603(i) of the CWA allows the CWSRF programs to provide additional subsidization to a municipality or intermunicipal, interstate, or state agency facing challenges regarding affordability. The use of additional subsidization is not restricted to only addressing affordability. Section 603(j) also allows additional subsidization to be provided to these entities for projects that address water or energy efficiency goals; mitigate stormwater runoff; or incorporate sustainable project planning, design, and construction. The total amount of a federal capitalization grant that may be provided as

State Example: West Virginia Additional Subsidy

The rural, unincorporated community of Crown, West Virginia is located in the lower part of the Monongalia Watershed. For years, this community was plagued with the overflow of raw sewage as a result of sub-standard on-site wastewater management systems. Effluent from these systems was being discharged directly into ditches and local streams. Due to severe economic hardship the small, rural community was not in a position to fund a solution to their water quality problems. To address Crown's public health concerns, the West Virginia Department of Environmental Protection financed the construction of an innovative on-site wastewater collection and treatment system. The funding for this $1.58 million project came in the form of $1.57 million in additional subsidization from the CWSRF and $10,000 from the Monongalia County Commission.

additional subsidization can range between 0 percent to 30 percent, depending on the extent by which the annual appropriation exceeds $1 billion.[4] The WIIN Act, passed in December 2016, changed these limitations. If a recipient implements a process, material, technique or technology to address water-efficiency goals, to address energy-efficiency goals, to mitigate stormwater runoff, or to encourage sustainable project planning, design, and construction, then they would be eligible for additional subsidy.

Strategic targeting of additional subsidization in appropriate situations can greatly assist the funding of nontraditional projects by reducing or eliminating the amount that must ultimately be repaid. This may include situations where a project's inability to generate a sufficient revenue stream or other economic difficulties are impacting a borrower's ability to repay a loan. When providing additional subsidization, a CWSRF program should weigh the need of providing this type of assistance to an eligible recipient with the impact it may have on the long term perpetuity of the fund.

[4] The 2016 CWSRF annual appropriation included language directing each CWSRF program to provide 10% of its capitalization grant as additional subsidization. This amount was in addition to what was allowed by the WRRDA amendments and was not subjected to the various restrictions laid out in section 603(j). However, this amount could only be used for initial financings or to buy, refinance, or restructure debt obligations incurred on or after the date of enactment of the 2016 annual appropriation.

III. Sources of Revenue

Funding nontraditional eligibilities with the CWSRF often involves identifying unconventional repayment sources. While "traditional" pipe and plant infrastructure projects often have a stable revenue source in the form of user fees or general taxing authority, many nontraditional projects lack these options. Nontraditional projects are often sponsored by nonprofit organizations, individuals and private entities, and may result in water quality benefits that do not generate any direct income. State CWSRF programs have flexed their creative muscles to come up with a variety of revenue sources for nontraditional projects. These examples, as well as additional options for future consideration, are outlined below.

REVENUE SOURCE	STATE CWSRF EXAMPLE
Business Revenues *	Ohio's CWSRF provided a five-year, $60,000 loan for Liniform Services to conduct a site assessment and cleanup on a brownfield site adjacent to its dry cleaning facility. The loan will be repaid using a revenue stream from accounts receivable, with inventory and cash as extra collateral. * Includes resorts, schools, factories, and other facilities with onsite wastewater treatment.
Carbon Credits	The California CWSRF made an $18.7 million loan at 0 percent interest that allowed the Yurok Tribe to acquire 22,237 acres of forestland to protect water quality and beneficial uses. Carbon credits generated from sustainable harvesting practices provide a partial repayment source and the tribe was required to provide a contract for the sale of carbon reserves as a condition to receive funding.
Equipment Rentals	Washington's CWSRF provides pass-through funding via the Spokane County Conservation District to convert farmland to no-till, reducing sediment and nutrient runoff. The Spokane County Conservation District operates a revolving fund (capitalized by the CWSRF loan) to help farmers purchase direct seed equipment. It would also be possible for a conservation district to use a CWSRF loan to purchase specialized equipment to rent out to individual farmers, and use the rental income as a repayment source for the loan.
Fees Paid by Developers	The Ohio CWSRF has loaned a total of $3.0 million to Hemisphere Corporation to remediate a 27.5-acre brownfield on the site of a former industrial park. Repayment sources for the loan include rental fees from the completed project (to be redeveloped for light industry); sales from clean soil on the site that will be used to cap a municipal landfill; and fees from a licensed construction and demolition debris landfill placed on the site of the excavated soil.
Homeowner Association Fees	Although less common in the CWSRF program, Drinking Water State Revolving Fund programs frequently make loans directly to homeowner's associations, which are repaid by their fees. The state of Maryland CWSRF program made a $529,000 loan to the Dennis Point Homeowners Association for an erosion control and shoreline stabilization project. CWSRF loans could also be made to homeowners' associations for decentralized systems and other eligible projects.

Membership Fees	The Ohio CWSRF awarded a $110,000 loan to the Nature Conservancy to purchase a conservation easement to protect and restore a threatened section of Brush Creek. The nonprofit repaid the loan from their general operating account, which includes membership dues and fundraising assets.
Nutrient Credits	PENNVEST, the lead state agency for Pennsylvania, operated a clearinghouse for nutrient credit trading in the Chesapeake Bay watershed. For all credit-generating projects funded by the CWSRF, PENNVEST owned credits up to the value of the CWSRF subsidy. PENNVEST provided a $7.8 million loan for the construction of a manure management system on a dairy and egg farm in Lancaster County. The loan will be repaid entirely by nutrient credit sales, and will also share in credit sales in excess of the amount needed to repay the loan, as compensation for risk.
Nutrient Impact Fee	One-time nutrient impact fees on new hookups to water and sewer systems raised funding for land protection projects and landowner outreach and negotiation in Raleigh, North Carolina. These fees were based on avoiding more than 7,970 pounds of nitrogen and 1,415 pounds of phosphorus from entering local reservoirs.
On-Bill Financing	On-bill financing is a method typically used to secure repayment for improvements for individual homeowners or businesses, such as water or energy efficiency improvements or septic repair and replacement. Funds for the improvements are passed through the local utility, and repayment occurs via a charge added to the customer's regular utility bill. The New York CWSRF program provided a guarantee for bond issuance by NYSERDA to provide loans secured by an on-bill financing program (see page 26).
Permit Fees	The Nebraska CWSRF provided a $10.7 million loan to the Petroleum Release Remedial Action Fund to remediate leaking petroleum storage tanks. The loan was repaid from permit fees on tank owners and volume fees on petroleum products.
Property Tax	The Massachusetts CWSRF Community Septic Management Program utilizes a "betterment agreement" that channels loans through a municipality to individuals for septic system improvements, and allows the municipality to ensure that the loan is repaid as part of a property tax bill. The municipality can place a municipal lien on property if the homeowner defaults on the loan.
Recreational or License Fees	Fees such as boating permits, fishing licenses, or entrance fees provide a repayment source for CWSRF-funded projects that protect water quality in recreational areas.
Resort Taxes / Fees	Many areas use resort taxes or fees to fund water quality efforts. Big Sky, Montana uses resort tax dollars to fund water and sewer improvement projects. The Montana Water Pollution Control SRF program has loaned $19.4 million to the Big Sky County Water and Sewer District for wastewater treatment plan improvements, and resort tax dollars could be used as a repayment source. In Whitefish, Montana a 1 percent resort tax was assessed to raise approximately $1.0 million annually to repay a loan from Montana's Water Pollution Control state revolving fund. The loan was used to finance easement costs to safeguard the Haskill Basin water source.

Severance Taxes	A state levy tax on the extraction of non-renewable natural resources which can be used to pay for a variety of programs, including water development.
Sale of Excess Energy / Energy Savings Performance Contracting	Energy Savings Performance Contracting (ESPC) is a financing tool that allows facility owners to pay for building improvements that reduce energy and water use, without utilizing their capital budgets. By partnering with an energy service company (ESCO), a facility can use an ESPC to pay for today's facility upgrades using the money saved through lower utility bills in the future. The Hawaii DWSRF program is in the process of funding ESPC efficiency upgrades for Honolulu Board of Water Supply facilities, with the goal of reducing energy demand by 20 percent. Oregon's loan to the Farmer's Irrigation District (FID) to convert unlined irrigation canals to a piped, pressurized system also provided an opportunity for FID to install micro hydroelectric equipment within the new pipes. This technology generated over 2 million kWh per year for FID, equivalent to one month's electrical supply cost. The sale of the excess energy is helping the District pay off their CWSRF loan ahead of schedule. Pittsfield, Massachusetts received $1.7 million from the Massachusetts CWSRF to install a Combined Heat and Power (CHP) system at the Pittsfield wastewater treatment plant. The system is projected to save the utility $206,000 each year, resulting in an 8-year payback period on the CWSRF loan.
Sale of Treatment Process Residuals	Residuals from the wastewater treatment process have been shown to have value in several markets, including land application, cement manufacturing, brick making, turf farming, composting, commercial topsoil, road subgrade, forest land application, citrus grove application, nutrient control, landfill cover, land reclamation, and hydrogen sulfide binding. For example, the City of Tulsa, Oklahoma operates a water treatment plant treating surface water from reservoirs using alum as the primary coagulant. Alum residuals from the treatment plant were used by a local cement company located in close proximity to the plant. The alum residuals were added to the cement blend in place of shale rock.
Sale of Water Rights	The Oregon CWSRF provided funding to the Farmer's Irrigation District (FID) to convert unlined irrigation canals to a piped, pressurized system. The project saved so much water that FID was able to sell excess water rights to finance the creation of permanent, in-stream habitat for endangered fish species. When CWSRF-funded water efficiency projects result in excess water rights, revenue generated from the sale of those rights could be used to repay the CWSRF loan.
Sales Revenues	The California CWSRF made an $18.7 million loan at 0 percent interest to the Yurok Tribe for the acquisition of 22,237 acres of forestland to protect water quality and beneficial uses. Revenue from the sale of timber on the parcel is providing a partial repayment source.
Sales Tax	The state of Wyoming assesses a small gas severance tax on every gallon of gas (as well as special fuels) sold or distributed in the state. In the past, this tax revenue provided a repayment source for $233.0 million in CWSRF loans to the Wyoming Department of Environmental Quality. The loan was used to contract for site investigations and cleanup work at leaking underground gasoline storage tank sites throughout the state.

Special Assessments	The Florida State Revolving Fund program will partially fund an expansion of Cape Coral Utility to provide potable water, sewer and irrigation reuse to the area. The loans will be guaranteed by a special assessment to be paid by all property owners in the expansion area. An average 10,000 square foot lot will be assessed approximately $10,000 for the water, sewer and irrigation infrastructure, pipes and pumping station, while an additional assessment will be levied for a "capital facility expansion charge." Special assessments for infrastructure improvements may also be levied on utility bills. The State of Maryland assesses a $5.00 monthly fee on every household served by a wastewater treatment system to capitalize the Bay Restoration Fund, a source of funding for efforts to protect and restore the Chesapeake Bay.
Stormwater Fees	Many municipalities across the country charge a stormwater fee to property owners based on impervious surface area. These fees are typically used to finance stormwater control projects. In 2012, the city of Marathon, Florida received a $4.6 million CWSRF loan from the Florida Department of Environmental Protection for a project implementing wastewater collection and reuse and a stormwater vacuum trench exfiltration system. Marathon pledged proceeds from its "stormwater utility service assessments" as a repayment source for the loan.
Tax Revenues from Contaminated Site Redevelopment	A preliminary EPA analysis (see sources section) of 48 brownfield sites showed that an estimated $29.0 million to $97.0 million in additional tax revenue was generated for local governments in a single year after cleanup. This source of revenue could be used by municipalities to repay a CWSRF loan for contaminated site remediation.
Traditional Municipal Repayment Sources (including user fees and tax and utility revenues)	CWSRF assistance to traditional projects is typically secured by user fees that utilities charge their customer base for water and wastewater service. Embedding nontraditional projects such as green infrastructure in these assistance agreements allows user fees to be the revenue source (see Sponsorship Lending on Page 16). An increasing number of municipalities and utilities are incorporating nontraditional elements, such as green infrastructure and water reuse, into their wastewater and stormwater capital improvement projects. When this occurs, the traditional revenue sources (such as tax revenues and user rates) also function as a repayment source for the nontraditional aspects of the project.
Watershed Protection Fees / Taxes	All Raleigh, North Carolina water customers pay an on-bill watershed protection fee. The fee is used to conserve critical land in the watershed to provide protection for drinking water sources and reduce treatment costs. The watershed protection fee is 10 cents per thousand gallons of water used (approximately 45 cents per month per customer), and is expected to generate $1.8 million per year.

IV. Strategic Planning to Support the Financing of Nontraditional Projects

A. Planning

Amidst the wide variety of financing mechanisms available to CWSRF programs in efforts to expand the types of projects that can be funded, as well as broadening the existing customer base, the real success of these initiatives starts with effective strategic planning. A holistic approach to strategic planning takes into consideration the nexus between internal workflow and staffing, assigned roles and responsibilities, established procedures, financial modeling capabilities, and the alignment of the CWSRF project portfolio with water quality priorities and challenges that have been identified in the state. This is especially true when programs wish to broaden the scope of financial assistance provided toward nontraditional project types which may require the use of alternative sources of revenue to secure the loan, or a more detailed risk analysis to ascertain credit worthiness or project viability.

Financial Modeling

Accurate financial modeling capabilities are critical to an overall strategic management approach, as this information provides the foundation upon which financing capabilities are determined prior to coordinating with key borrowers and entering into discussions about binding commitments. Financial modeling allows states to evaluate how different demand levels, interest and loan fee rates, lending terms, capitalization grants and state match, and leveraging or bond issuances impact their cash flows. The ability to perform financial forecasting with a degree of certainty in both a short-term and long-term context helps the program to best serve customers and ensure the optimal financial health and performance of the CWSRF program. Programs should use these tools to determine what funding levels to allocate toward nontraditional project initiatives, such as stormwater management or assistance for decentralized wastewater treatment systems, while also maintaining capacity to provide continuous service to repeat borrowers as part of a project portfolio diversification strategy.

Running cash flow projection scenarios at several intervals during the annual funding cycle will determine the funding levels available to borrowers. This is typically done on a quarterly basis, at the commencement of the state fiscal year, and represents the first step in kicking off the annual CWSRF workflow process.

Another resource is the SRF Fund Management Handbook, which provides guidance on strategic approaches to managing revolving fund programs.

Using Cash Flow Projections and Programmatic Financing to Achieve Steady State Funding

With increased scrutiny on the timely and expeditious use of federal funds, there is increased interest among states in achieving a steady-state funding environment where the amount of new commitments and outlays runs in tandem. Using a programmatic financing approach accompanied by cash flow projection and modeling is a good combination for reaching steady state funding, while capturing a wide range of eligible project types to be funded simultaneously.

Example of Steady State Funding using Programmatic Financing

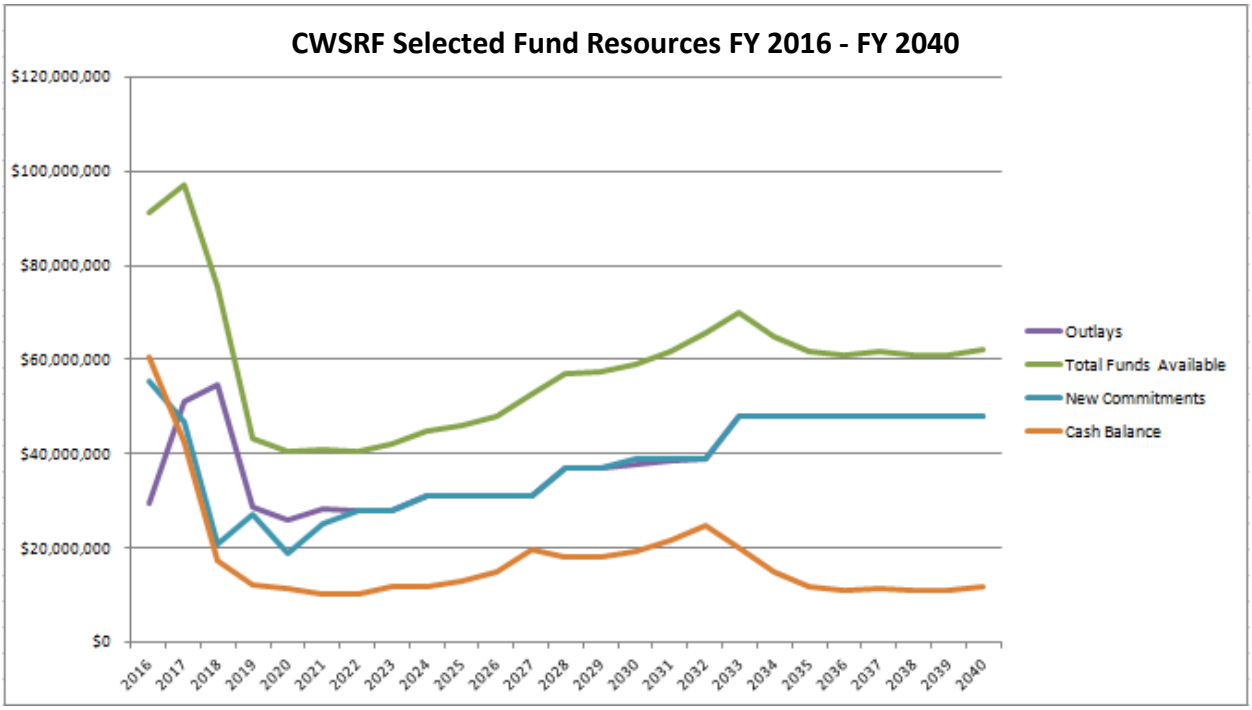

Figure 15 - CWSRF Selected Fund Resources FY 2016 - FY 2040

This example captures the transition from a traditional, project-specific funding environment in years 2016 and 2017, to a programmatic financing environment beginning in 2018. The model includes all active disbursements, plus repayments of principal, interest, and fee for loans signed prior to 2016. Activity from 2017 forward is based on annual funding level assumptions. Using a cash flow projection model calibrated to maintain a minimum working capital balance around $10 million, a CWSRF program can strategically plan for commitment and outlay targets in a long-term context to attain a steady state funding environment that ensures federal dollars are spent down and revolved quickly.

Annual Workflow

Developing an internal annual workflow cycle that includes specific trigger events helps CWSRF programs to anticipate, budget, and plan for program-building activities throughout the fiscal year. Such triggers are best broken out into annual, quarterly, monthly and weekly activities that include, but are not limited to:

- Assessing the existing project portfolio and how effectively the CWSRF program is addressing water quality priorities in the state;
- Identifying opportunities for expansion of the CWSRF customer base;
- Identifying annual funding goals and CIP coordination with key borrowers;
- Coordinating project selection and potential CWSRF financing discussions with existing and potential borrowers;
- Identifying readiness-to-proceed (RTP) activities, their duration, and what percent (if any) has already been completed;
- Developing a baseline for RTP activities (e.g., land acquisition, planning, design, preliminary engineering reports and facilities plans, environmental review, permitting);

- Determining timing for projects in current and concurrent fiscal cycle;
- Regularly updating project timelines (quarterly) to prevent slippage.

Staying on top of the day-to-day tasks of operating a CWSRF program can make it difficult to assess the program's trajectory over the course of the year. By tying strategic program-building activities to triggers that naturally occur during the annual funding cycle, strategic planning then becomes a routine element of CWSRF operations. It also allows the CWSRF program to maintain tight controls on the project pipeline to ensure that funds are flowing continuously.

The establishment and implementation of routines and procedures fosters an organized work flow and provides an automatic response to any potential hiccups in the loan process, while also improving the overall customer experience by reducing uncertainty and presenting a professional public image.

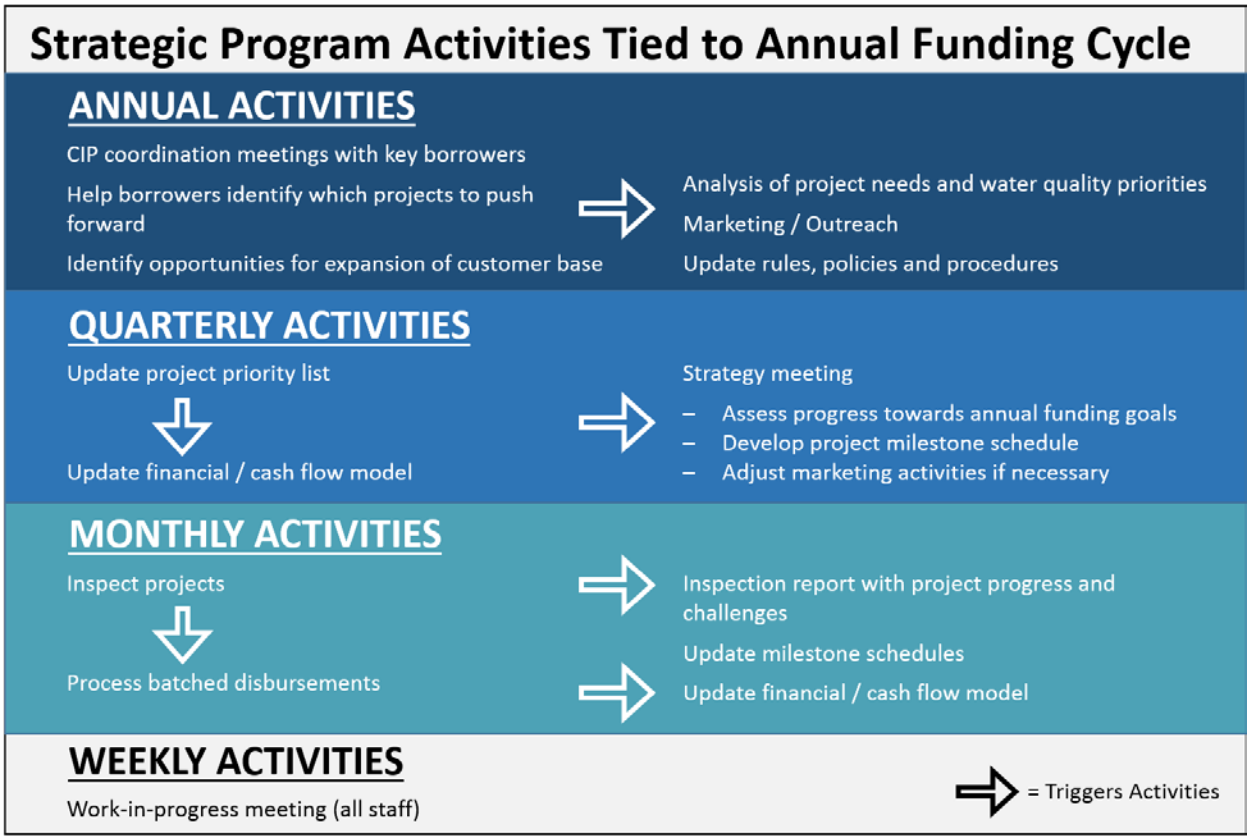

Figure 16 - Strategic Program Activities

B. Marketing and Outreach

A communications strategy to effectively market the CWSRF program and educate existing borrowers, new customers, and a wide range of stakeholders is a necessary driver of strategic planning. The strategic planning effort provides the information necessary to cultivate a targeted marketing campaign designed to resonate with key stakeholders, address water quality priorities, and support the program goals and objectives that have been identified through the expansion of nontraditional projects. As such, the communications strategy is dynamic and constantly shifting as programs successfully overcome obstacles, meet goals, and identify new challenges and changing circumstances.

Successful marketing begins with successful messaging. The most effective communications strategies tailor their message to a specific audience or demographic, as well as employ a vast array of delivery mechanisms to best accommodate the specific preferences of that audience for maximum impact. This requires using a suite of media options that include personal communications and outreach, printed material, audiovisual material, and use of social media.

Figure 17 - Marketing Delivery Mechanisms

State Example: Oklahoma - Transforming Benefits Reporting into a Triple Bottom Line Planning and Marketing Tool

The Oklahoma Water Resources Board developed an interactive, web-based planning tool called Oklahoma Advantages Assessment and Scoring Infrastructure Solutions (OASIS). It helps communities to quantify the environmental, social, and economic benefits of their wastewater infrastructure investments in empirical and qualitative terms. Using state-specific data sets, OASIS examines a variety of metrics to articulate how CWSRF projects benefit local communities in numerous ways.

The resulting output statements assist community leaders to:

- Assist in future planning efforts
- Identify specific areas for improvement
- Consider using multiple options to better plan for short term and long term goals
- Augment public relations, outreach and marketing efforts
- Generate interest in what the CWSRF has to offer to constituents
- Convey the connection between water quality and quality of life

Turning Program Requirements into Marketing Opportunities

Every state CWSRF program must prepare certain printed materials as part of regulatory requirements, specifically the Intended Use Plan (IUP) and the Annual Report. Because these documents must be prepared in order to satisfy program compliance, they present CWSRF programs with an excellent opportunity to allow them to work to their advantage. Re-thinking the form and function of the IUP to transform it into an engaging, informative tool that resonates with stakeholders and the public is an easy way to enhance any CWSRF program's marketing efforts. The Oklahoma Water Resources Board (OWRB) oversees the CWSRF program and has mastered the art of transforming the IUP into an attractive, effective marketing tool. This full-color publication is a digestible 40 pages featuring maps of projects funded, side-bar features highlighting community and staff accomplishments, easy to understand charts and graphs articulating the cost benefits of using the CWSRF program, as well as photographs of projects and community leaders. In particular, OWRB successfully uses the IUP to market nontraditional project initiatives that support water conservation, non-point source pollution from urban stormwater and agricultural run-off, as well as total integrated water resources management planning.

Facts are Friendly: Surveys and Focus Groups

One of the most useful tools in any communications strategy is the use of surveys and focus groups. States that take the time to reach out to borrowers and stakeholders in this way garner valuable and honest feedback on program strengths and weaknesses. Surveys offer one of the most efficient pathways to identifying areas for improvement, opportunities to expand the customer base, as well as the types of projects that are funded.

Survey results support a good foundation to explore these areas even further by posing carefully targeted questions to focus groups comprised of a variance of stakeholders in a neutral setting where honest feedback is encouraged and anonymity is assured. Focus groups have been conducted in Texas, Iowa, and Missouri and have proven an invaluable source of candid, in-depth feedback from SRF stakeholders. Even negative feedback can be transformed into a chance to implement continuous improvement measures to help borrowers navigate and participate in the CWSRF program with greater ease. Both Texas and Iowa's experience with focus groups yielded information used to improve customer service, website content and guidance materials, and helped the states undertake re-branding efforts to better appeal to potential SRF customers. Surveys and focus

groups have proven to be a simple, low-cost way to gather valuable input used to guide program changes, improve any negative perceptions that may exist, and shape the framework of the overall communication strategy.

The Power of the Senses

Nothing creates interest and excitement about the exploration of nontraditional projects, how the technology works, practical application, and their associated benefits quite like seeing the technology in action. There are a number of message delivery mechanisms available that use audio, visual or both to deliver powerful and memorable messages about the importance of these types of projects.

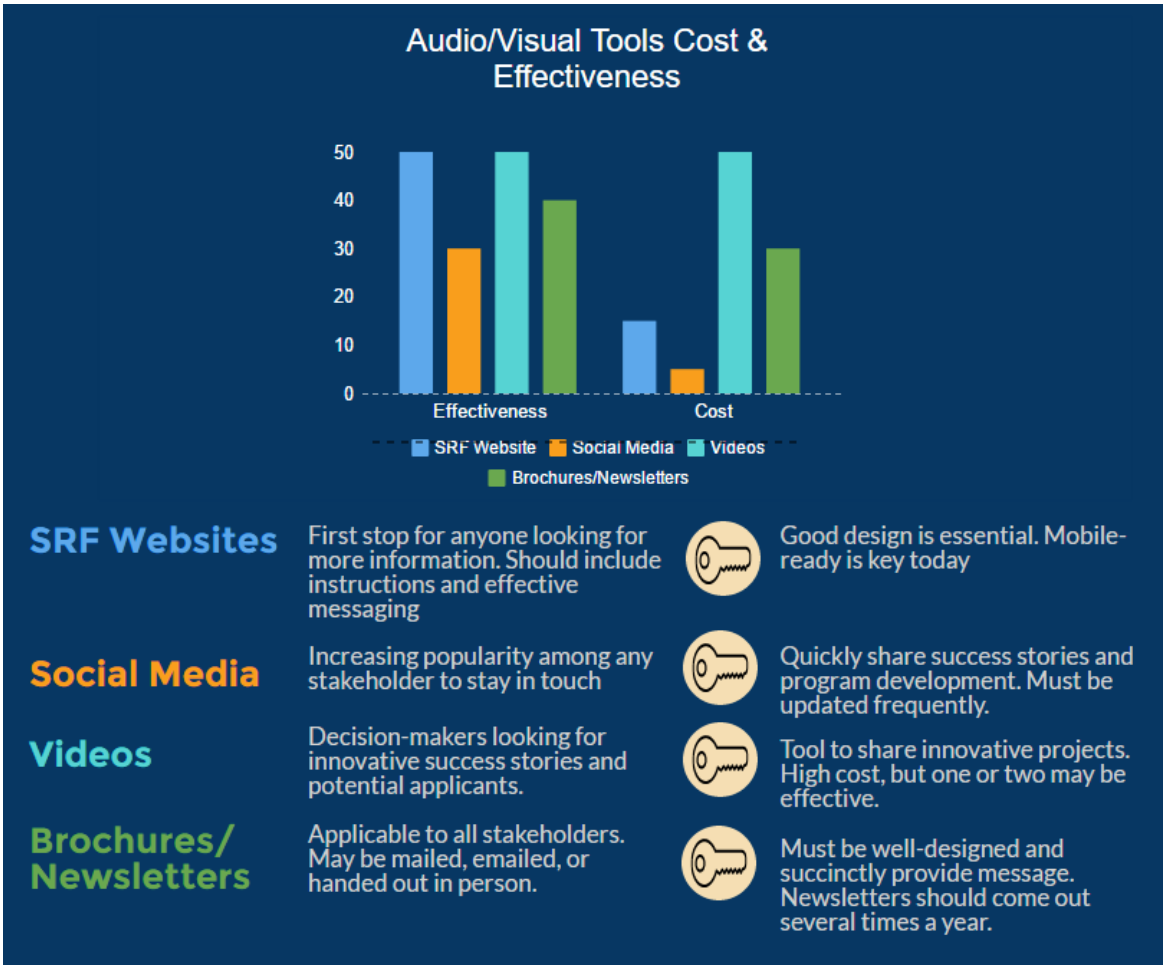

Figure 18 - Audio/Visual Tools for Marketing

The EPA recognizes a strong communications strategy as a key variable in the overall success of the CWSRF program and has created a sub-workgroup dedicated to developing options, examples, and guidance on best practices for marketing and outreach endeavors in the CWSRF. This includes the participation of five state CWSRF programs (Florida, North Carolina, New Hampshire, Oklahoma and Oregon) who conducted a comprehensive survey effort to borrowers and consultants alike and whose findings have to develop the structure of the Model State Marketing Plan. This document is designed to be a vital resource to states as they develop and refine their respective communications strategies.

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