Massachusetts Department of Environmental Protection
Bureau of Water Resources
Division of Municipal Services
One Winter Street 5th floor
Boston, MA 02108

Drinking Water State Revolving Fund

2017 Project Evaluation Form

Instructions and Guidance

TABLE OF CONTENTS

Page

Introduction……..1

Part I Applicant and Project Identification and Certification…….……2

Part II Project Schedule and Cost Estimate……..4

Part III Project Evaluation……4

Part IV Supplemental Adjustment Rating Criteria……...……...……10

INTRODUCTION

The Massachusetts Department of Environmental Protection (MassDEP) seeks to finance projects that mitigate documented impacts to public health or the environment. Details supplied through the Project Evaluation Form (PEF) will help MassDEP to determine the public health value of the proposed project.

Proponents seeking SRF financing for water pollution abatement projects must complete the online PEF to be submitted no later than 12:00 noon on August 12, 2016.

Please use the following link to access the online PEF:
http://www.mass.gov/eea/agencies/massdep/water/approvals/state-revolving-fund-srf-forms.html

If you need assistance in filling the online PEF, please contact our SRF Data Support Team srfmadep@gmail.com

The PEF provides a numerical measurement of the project in relation to other submitted projects. MassDEP must ensure the purpose of the project is to mitigate existing water supply problems as opposed to providing extra capacity that will encourage sprawl. Drinking Water SRF financing decisions will support the Administration's resolve to "Fix It First" concerning infrastructure projects. Whether the project is the result of a community choosing to address a contamination problem, or is in response to an enforcement action will also be documented as part of this process.

The Project schedule for any proposal must meet the following deadlines:

Local Appropriation of Project Cost	June 30, 2017
Final Plans and Specifications	October 14, 2017
Completed Application	October 14, 2017

Construction Projects must adhere to the additional deadline of:

Construction Commencement	six months from the issuance of the Project Approval Certificate (PAC) and no later than June 30, 2018

If the project schedule cannot meet any of deadlines, and has no reasonable justification for an extension of a deadline, it will not be eligible to receive SRF funding from the 2017 Intended Use Plan (IUP).

INSTRUCTIONS FOR PARTS I, II, III and IV

Part I: Applicant and Project Identification and Certification

Provide the name of the Local Governmental Unit (LGU)/Public Water System (PWS), the name, mailing and email addresses and telephone number of its Authorized Representative and PWS contact (if different), and engineering consultant contact. Identify the project(s) for which assistance is sought and the river basin(s) impacted. The LGU's Authorized Representative must sign the certification references in Part I, item 6 of the PEF. Federal Employer Identification Numbers are requested. These are used by MassDEP in its SRF project tracking database.

Identify the project for which you are seeking financial assistance. Applicants may bundle elements only if they are linked, i.e. a trunk line and its pump station, or if the proposal is for multiple contracts for the same activity over a two or three year time frame, i.e. water main lining, lead service connection replacement, storage tank rehab. Disparate elements may not be bundled simply to enhance an applicant's score. MassDEP reserves the right to decouple projects that have been inappropriately bundled.

Project Identification:
Name of Project: as it would appear on the IUP (limited to 50 characters)

Project Brief Description: This brief description should adequately describe the project and its benefits. (Identification of the project area using site plan and or locus map should be attached to the submission) (limited to 750 characters).

The following are examples of Project descriptions:

Planning

- This project will evaluate the city's drinking water system by conducting a water distribution study and the development of a hydraulic computer model that will assess current conditions and identify deficiencies related to aging pipes, capacity concerns and areas of low pressure among other drinking water system issues. One of the major objectives of the Study will be to improve user health by identifying the locations of lead service connections throughout the system which will allow the city to eliminate them.

- This project will update the city's geographic information system (GIS) for implementation of the Automatic Meter Reading (AMR) program. This update of the GIS allows for an efficient digital tracking system for planning and implementation of the program and will facilitate the future management of the water utility. In addition, the project will implement a public education program to encourage water conservation, improve customer service and educate the public about the new AMR system.

Construction

- The project includes the construction of a new water treatment facility and water mains in accordance with the forthcoming Administrative Consent Order (ACO). The new water treatment facility will include membrane filtration system, aeration tower, an additional building, new emergency back-up power, and replacement of existing well pumps. The completed project will improve drinking water quality by reducing high manganese and iron concentrations and eliminate microbiological contaminations.

- This project involves the construction of a pump station and chemical feed systems. The project not only serves as the backup for the system but will assist in reducing the vulnerability of the water supply, since this system relies on a single well and uses a neighboring town as a backup.

- The proposed project involves the complete replacement (about 5 miles) of the transmission main The existing transmission main is unreliable (installed in 1938), undersized, and follows a mostly cross-country route that greatly limits accessibility. Due to the increased carrying capacity of the proposed transmission main, the project will includes new well screens, installation of VFDs, and the installation of two additional carbon adsorbers at the treatment facility.

- The project includes the replacement of up to approximately 19,000 linear feet of cast iron water mains and 19 lead services. The project also includes installation of a new sanitary grinder pump station for discharge of domestic sewage from the City's Water Treatment Plant (WTP), and the replacement of the residuals pump station and associated electrical and control systems.

- The project involves the construction of a 1.25 million gallon elevated water storage tank. The new water tank is necessary to provide adequate storage and maintain proper pressure within the distribution system.

- This project involves replacing approximately 10,700 existing meters in residential, commercial and municipal structures and implementing a meter reading system. The project will enable the City to recover costs of under-registering meters and reduce the amount of unaccounted for water.

Part II: Project Schedule and Costs

If funding in the full amount necessary to undertake the project has already been authorized, attach a copy of the appropriate document. Otherwise, indicate the schedule for obtaining the requisite appropriation.

List the project schedule, including the date you would expect to file a loan application if the project were included on the Intended Use Plan.

Applicants shall provide a detailed breakdown of the estimated technical (construction services) and construction costs and use an **ENR Index of 10195**. If available, provide a completed engineer's estimate for each construction contract. The contingency should be 10% of total estimated construction cost (project contingencies are reduced to 5% once as-bid construction costs are established). If the project includes costs for police traffic details, provide an explanation and detailed breakdown of the estimate (**Note that costs for police traffic details are a separate cost of the LGU, and are not to be included in the construction contract cost**).

Part III: Project Evaluation

Project Narrative/Checklist

The purpose of the project narrative is to allow applicants to concisely describe their understanding of the nature of the problem being addressed and how the proposed project will address the problem. The narrative helps to set the scene for the reviewer, providing a sense of what the proposal will address and accomplish, and provides the key areas on which the reviewer should focus. **For 2017 MassDEP will continue to evaluate proposals using the Tier Scoring System. This requires MassDEP to assign project proposals into one of five Tier categories.** In choosing the appropriate Tier category, MassDEP will rely heavily on the project narrative and documentation provided in this section. Assigning your proposed project to the appropriate Tier requires that you provide both a comprehensive narrative discussion and proper documentation to support claims made in the narrative.

MassDEP expects the narrative to be written similar to an Executive Summary. We anticipate the narrative (without attachments) to be about 5 pages in length, but not more than 10 pages. The narrative must include a discussion of each of the following topics and preferably in the order presented.

- A detailed discussion of the problem to be solved by the project
- Identification of project area using site plan and/or locus map
- A detailed discussion of the severity of the existing public health issues due to the problem
- The total system population and the population affected by the project, and how the affected population is calculated
- A description of the relative importance of the component(s) involved
- A discussion of all interactions with regulatory bodies pertaining to the problem, including the need to comply with existing enforcement orders or sanitary survey requirements

- A discussion of options considered, such as but not limited to interconnections, blending to improve water quality, re-routing water mains, treatment, new source(s), including the no action option
- A description of the backup systems currently in place to replace the component(s) on a temporary or permanent basis
- A description of all planning efforts performed to arrive at the recommended plan
- A detailed discussion of the work to be completed
- A description of the energy efficiency measures to be implemented and anticipated energy savings
- A description of any renewable energy components and an estimate of energy generation
- A description of any "new technologies" approved by the MassDEP Drinking Water Program since 2008
- A discussion of the status of the project as it currently exists.

The narrative must be supported with documentation that verifies all claims associated with the problem being addressed. Any local, state, or federal enforcement actions that were taken to address the problem should be included with the documentation. Any engineering or planning report related to the problem being addressed should be submitted as a PDF attachment to the electronic copy of the PEF. This will allow us to make the report available electronically to various users in our Boston and regional offices.

1. Project Ranking

The SRF program periodically reviews the rating criteria used to determine which PEFs submitted by applicants will receive funding assistance. The purpose of this review is to ensure that the most important PEF proposals in terms of public health receive priority for funding assistance. In 2014, MassDEP developed a project ranking system that linked SRF funding with other Water Supply Program compliance and enforcement components such as Sanitary Surveys, Monitoring Reports, and Enforcement actions. MassDEP will continue using this Tier Classification System for 2017 PEF submittals.

The Tier Classification System

Under the Tier Classification System, MassDEP will categorize each incoming PEF proposal into one of five Tiers; each having a set point value. Tier I projects have the highest point value and are those proposing to correct a serious water quality public health problem with the public water system or addresses public water system issues that are showing evidence of becoming serious and will likely compromise the use of a water system if not corrected. Tier II projects are those projects being undertaken to prevent a potential serious threat to a major water system component. Tier III projects are those undertaken to address exceedances of Secondary Maximum Contaminant Levels (SMCL) that are preventing consumers from drinking the water. Tier IV projects are those proposing activities that will prevent systems from deteriorating to a point of failure where the public health is impacted; and Tier V projects are projects that while important, will not lead to an immediate loss of the water supply if not immediately completed.

As with the scoring criteria used in past years, secondary factors such as affordability, population, energy savings, sustainable development, and watershed management enhancement will also be given priority under the new criteria system. Additional points also will be awarded to projects proposing the use of approved "new technologies" to address water quality issues. However, the Tier System is designed such that even if a project qualifies for the maximum amount of secondary factor points, the project cannot be elevated to a higher Tier. The scoring system also links SRF funding with other Drinking Water Program compliance and enforcement components such as Sanitary Surveys, Monitoring Reports, and Enforcement actions.

Although proposed Planning Projects will not be tier classified, the project description for such proposals should be comprehensive and accurately describe the purpose and extent of the area that will be encompassed in the proposed planning document.

TIER DESCRIPTION:

TIER I PROJECTS: 500 Points

Description: Drinking Water projects proposed to protect public health by addressing compliance with a Federal or State drinking water standard or correcting a water contamination issue that will likely lead to non compliance with a Federal or State drinking water standard. These proposals would include projects designed to address or correct an exceedance of a Final USEPA or MassDEP Maximum Contaminant Level (MCL), Treatment Techniques (TT), Maximum Residual Disinfectant Level (MRDL), Action Level, and/or MassDEP ORS Guideline Level (ORSG).

Examples: A public water supply system that cannot be used (or will likely not be able to be used) due to exceedances of bacteria, or other contaminant regulated under Federal or State drinking water regulations. A water quality issue that if left unaddressed poses a serious threat to a water system's capacity and ability to provide a safe supply of water in the foreseeable future. Tier I proposals also include projects designed to address or correct existing water contamination levels that during the past 18 months were generally greater than 80% of a MassDEP MCL, MRDL, Action Level, or ORSG in over half (50%) of the samples taken and trend analysis indicates that the level will most likely exceed the Federal or State standard. Projects that will correct these exceedances include the following: replacing an out-dated water treatment facility, installing/upgrading new treatment equipment, addressing persistent bacteria violations by cleaning and lining for bacteria biofilm removal.

Examples of projects proposed to meet present (or future) State or Federal drinking water standards would include proposals to add a second form of disinfectant at unfiltered systems by required deadlines(s) or to take corrective actions in response to, or to prevent a treatment technique violation, such as inadequate contact time, inadequate disinfection or unacceptable levels of turbidity.

Documentation Required: Drinking Water Monitoring Reports, Enforcement action and Orders, and/or other data/reports verifying contaminant levels were greater than 80% of Federal or State drinking water standards for at least half (50%) of the samples taken during the past 18 months. Documentation also should include what and when temporary measures,

if any, were enacted to insure delivery of potable water to the public during the past 18 months and what back-up measures have been enacted to insure the current delivery of potable water to the public. If the public water supply system is currently not in service, water quality data from the 18 months period prior to shutting down the system should be included.

TIER II PROJECTS: 400 Points

Description: Drinking Water projects proposed to protect public health by addressing imminent threats to the reliable delivery of drinking water to a population, including threats caused by expected climate change impacts (sea level rise, increase coastal storm surge, and increased riverine flooding). Such proposals would include projects proposed to address/correct a significant public health threat that would result from a sole or major system component exceeding its planned useful life cycle with documented signs of failing or deficiencies that indicate component failure. If the threat remains unaddressed many customers may be subjected to unsafe, unfit, or no water. A sole component would include an aging treatment plant having significant deficiencies that would impact 100% of the water system. Other sole components would include a water supply system's single transmission main, single storage tank, or threats to a Zone I or Zone A sole source (or a primary source without sufficient back-up) due to a compliance issue or an approaching contaminant plume.

Major system component - Although not the sole component of a water supply system, loss of this particular transmission main, tank, source, or treatment plant would affect 50% or more of the customers being served by a small water supply system (i.e. a water supply system serving fewer than 10,000 persons), or affecting at least 5000 consumers served by a large water supply system (i.e. a system serving 10,000 or more persons).

Examples: Tier II projects would include replacement of a sole or major transmission line that is in danger of becoming unusable due to expected climate change impacts, tuberculation, relining or replacement of a water main showing numerous leaks or breaks over the past 18 months, replacing a storage tank that has become structurally compromised due to documented deficiencies and is in danger of failing, the replacement or upgrade of a water treatment facility that is approaching or exceeding its planned useful life and has required numerous deficiencies and repairs over the past 18 months, and installation of tank mixing systems or pump stations/water rerouting to address water aging issues that are documented by nitrification, bacterial control quality and/or other issues.

Documentation Required: For projects being proposed to address significant threats to public health, documentation is needed to show components of the drinking water treatment or distribution system are in danger of failing or likely vulnerable to climate change impacts. Such documentation may include an engineering report addressing the problem, hydraulic analyses, inspection reports, data/logs verifying emergency repairs to the system, water quality monitoring reports showing exceedances of Federal or State Drinking Water Standards, and documentation showing damage from previous storm surges, riverine flooding, sea level rise, or other impacts associated with climate change.

TIER III PROJECTS: 300 Points

Description: Projects proposed to address water quality conditions as a result of Secondary Maximum Contaminant Level (SMCL) exceedances that make the water currently provided to customers aesthetically unfit to drink and results in consumers using or seeking an alternative water supply.

Examples: For projects being proposed to address SMCL's exceedances, an example would be projects proposed to address elevated odor, excessive iron, manganese and color levels that make the water objectionable to drink.

Documentation Required: For projects being proposed to address Secondary Maximum Contaminant Level exceedances that result in consumers seeking alternative drinking water sources, documentation would include water quality monitoring reports showing SMCL levels over the past 18 months, information suggesting consumers are seeking alternative sources of water via registered complaints; water consumption trend data and an updated consumer survey of potable water use, bottled water and other alternatives usage.

TIER IV PROJECTS: 200 Points

Description: Drinking water projects proposed to upgrade/rehab/replace water supply infrastructure components that are approaching or have passed their planned useful life cycle. Although the infrastructure components may be currently operating with only minor problems, rehab or replacement is proposed to address the issue before there are serious problems. This Tier also includes projects that are proposed to address future drinking water regulations and/or standards. Tier IV projects also include the replacement of water meters that have had a significant number of broken or malfunctioning meters resulting in high unaccounted estimates for water and thereby negatively affecting the system’s finances.

Examples: Replacing a facility’s pumps that have approached or passed their 10 year life expectancy before there is a problem; repairing/replacing aged water lines that have experienced occasional breaks over the past few years; replacing/repairing a storage tank showing signs of deterioration but not structurally compromised; adding a storage tank or installing pump station/looping water mains to address pressure deficiencies, upgrading treatment plants that are treating for secondary contaminants (that are within ORSGL), installing treatment plant/equipment to treat for future standards; replacing water meters that have resulted in significantly high unaccounted for water estimates.

Documentation Required: An inventory of facility components showing the age and condition of the components; records, documents or an engineering report showing the planned useful life cycle of equipment currently in use; hydraulic analyses; records showing the age and date of installation of a transmission water line, water quality monitoring reports and identification of the project(s) on a capital improvement, asset management, or other planning document. For meter replacement projects, the applicant should provide documentation that describes the current condition of the water meters. This could include such documents as the age of the meters, annual water audit data showing that the meters are inaccurate or likely becoming inaccurate, calibration test results of the meters, a cost benefit

analysis showing that the project will result in substantial savings, the percentage of unaccounted for water (considered high if it is more than 10% for high and medium stress basins or more than 15% for low stress and unassessed basins), documentation showing the water system is having difficulty in meeting the Water Management Act permitted withdrawal limits due to faulty meters; documentation showing that due to faulty meters, the water system needs to purchase water from other systems even if water conservation measures were to be implemented.

TIER V PROJECTS: 100 Points

Description: Drinking water projects that are proposed to install, replace, or upgrade water system components that have an indirect connection to providing safe drinking water. Although such appurtenances may be important (or even critical) to a water system, these components are not directly involved in the delivery of potable water to the public.

Examples: Replacing a facility's security fence, constructing a wind turbine or solar array on property where the water treatment facility is located.

Documentation Required: An inventory of facility components showing the age and condition of the components; records, documents or an engineering report describing the condition of the appurtenance components and identification of the project(s) on a capital improvement, asset management, or other whole system planning document. For stand-alone renewable energy projects, a plan, study or other document showing the feasibility of the renewable energy source on the project site.

Part IV: Supplemental Adjustment Rating Criteria

MassDEP is required by the State Revolving Fund Regulations (310 CMR 45.06) to consider certain secondary factors in determining a project's placement on final project priority list. To accomplish this, MassDEP will Tier classify each submitted PEF and then assign additional points, if appropriate, based on the following secondary factors: 1) The size of the population being impacted by the proposed project, 2) whether the project is being proposed to comply with a state and/or federal enforcement action, 3) whether the municipality in which the project is proposed has a MassDEP-approved Source Water Protection Plan, 4) whether the project involves consolidation and/or restructuring two or more water supply systems, 5) the capacity of the community to afford the proposed project, 6) whether the proposed project includes energy efficiencies and/or renewable energy components, and 7) whether the proposed project include any of the "new (innovative) technologies" that have been approved by the MassDEP Drinking Water Program since 2008.

In providing information MassDEP will use to consider these secondary factors, the project applicant should address the following in the Project Narrative:

1. **Population size:**
   Projects can receive supplemental points for modifications or expansion of water treatment facilities and/or new water main installations based upon the population served by those projects. Water treatment facilities points will be provided based on the design flow capacity of the facility in relationship to total average daily flow, and water mains by the population served by that particular length of the water main being replaced or clean and lined. For water storage tanks, points may be provided if the new tank meets or exceeds recommended distribution system volumes from standards provided by AWWA, 10 State Standards and the Insurance Services Organization.

2. **Energy:**
   Additional points will be awarded for projects that include energy efficiency measures and/or renewable energy components. For projects proposing energy efficiency measures, the applicant should state whether the measures are being proposed to address a recommendation (s) of an energy audit. A copy of the appropriate section of the energy audit, including the date the audit was completed and the author of the audit, should be provided. If the project includes a renewable energy resource component such as wind power, solar (either photovoltaic or solar thermal), hydropower, biogas generation, or combined heat and power (CHP) power, the applicant should state whether a feasibility study has been completed. If so, the applicant should provide the name of the author of the study and the date the feasibility study was completed.

3. **Affordability:**
   Systems with service area that has a median household income (MHI) income of $53,493 or less (80% of the State Median Household Income of $66,866) will be awarded additional points. If the service area includes more than one such designated MHI area, a weighted overall average based on population served in each of the covered MHI areas times the MHI for that area plus the same for any other such area, and divided by the total number served, shall be used to calculate the combined MHI. Alternatively, applicants may provide a

service-area specific MHI from an independent income survey covering the service area, provided that said independent survey is no more than eleven years old at the time of application. Water supply systems that have user rates (factoring in proposed project) in excess of 1% of the median household income relative to median household income also will be awarded additional points.

4. **Consolidation of a Public Water System:**
   The reason for the proposed consolidation must be included. Points may be given if the purpose of the project is to eliminate a public health problem or a technical, financial or managerial capacity problem. Points also may be awarded for consolidating a public water system designed to replace a contaminated source instead of treating contamination in the water supply system currently in use.

5. **Compliance with Enforcement Order:**
   Both parties must sign an Administrative Consent Order (ACO) or MassDEP or EPA must issue a Unilateral Administrative Order (UAO). The project must be cited in the Enforcement Order, be approved by MassDEP, and state that it will address an underlying issue. A project which reports on an issue will not qualify for points under this item. If the Order is not signed at the time the PEF is submitted, it must be signed by October 7th to receive the additional points.

6. **MassDEP approved surface water or wellhead protection plan:**
   Applicants should state in the narrative whether the municipality in which the project is proposed has a MassDEP approved surface water or wellhead protection plan on file. No further specific documentation is required. MassDEP will confirm internally with staff from the Drinking Water Program for each community that claims to have an approved plan.

7. **New (Innovative) Technologies:**
   The SRF program encourages the use of innovative technology to ensure the delivery of high quality potable water to the citizens of the Commonwealth. MassDEP publishes a list of "new technologies" that have been approved for use by MassDEP on its web-site (http://www.mass.gov/eea/docs/dep/water/compliance/newtech.pdf). Extra points will be awarded to projects that include any of the "new technologies" approved by the MassDEP Drinking Water Program since 2008. Applicants seeking points under this category should clearly identify the particular "new technology" they are proposing and the date the "new technology" was approved by the MassDEP Drinking Water Program.