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

Clean Water State Revolving Fund

2017 Project Evaluation Form

Instructions and Guidance

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&
RECOMMENDED PEF FORMAT (PDF) FOR SUBMITTAL

INTRODUCTION

The Massachusetts Department of Environmental Protection (MassDEP) seeks to finance projects that mitigate documented impacts to public health or the environment, and for which proponents have completed comprehensive planning and alternatives analysis. Details supplied through the Project Evaluation Form (PEF) will help MassDEP to determine the extent to which your project meets the goals of the program.

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.

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 is designed to draw out from the proponent details of Environmental and Public Health problems that exist as a direct result of polluted water. The magnitude of those problems is measured in the number of people affected and the resources directly affected by the water pollution. Beyond the description of the pollution conditions, the PEF is designed to enlighten MassDEP as to the manner that the proponent intends to use to address the problem, as well as the cost of that option. The best solution must mitigate the problem in a cost-effective manner, without creating consequences that are worse for the environment or public health than the problem being solved. **Proponents are urged to submit with the PEF a map of the project area with overlay of the service system and any relevant resource areas, for example the Zone II or the Area of Critical Environmental Concern (ACEC).**

The PEF measures the applicant's motivation for undertaking the project. MassDEP must ensure that the purpose of the project is to mitigate existing pollution problems as opposed to providing extra capacity that will encourage sprawl. MassDEP aims to use Clean Water State Revolving Fund (CWSRF) financing to support the rehabilitation of existing infrastructure projects. Whether the project is the product of a community voluntarily addressing a pollution problem, or is a response to enforcement action is also evidenced.

It is important to note that MassDEP places great emphasis on project planning. In fact planning is a regulatory prerequisite to construction under this program. Planning allows for a structured and analytical measurement of the extent of the problem and for the development of cost effective alternatives leading to a final solution. A more comprehensive planning effort will also help to describe the efficacy of the proposed solution. An applicant whose planning efforts are less than comprehensive will, under the PEF rating system, generally score lower than a project based upon a comprehensive planning process. You will note that within Section E there is a graduated point structure favoring the more comprehensive planning efforts.

MassDEP strongly encourages municipalities to perform energy audits and include energy efficiency components in their proposals. MassDEP also will offer financial assistance support for renewable energy generation projects, especially those proposing anaerobic digestion at treatment facilities. In addition, MassDEP will lend its support to applicants for any federal grants that may become available for renewable energy projects. PEFs that include energy savings and energy generation components will be awarded additional points in scoring and ranking the 2017 proposals.

MassDEP also encourages municipalities to consider using innovative technology to achieve their clean water goals. Points are available for projects proposing innovative technology as part of their proposal.

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

<u>Construction Projects must adhere to the additional deadline of:</u>

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 AND III

Part I Applicant and Project Identification and Certification

Provide the name of the Local Governmental Unit (LGU), the name, address, telephone number and e-mail address of its Authorized Representative and LGU 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 in item 5. Federal Employer Identification Numbers are requested. These are used by MassDEP in its SRF project tracking database.

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 consist of Infiltration and Inflow and Sewer System Evaluation (I&I, SSES) for areas that are tributary to the pumping stations. These areas of the town have been experiencing excessive infiltration and inflow leading to sewer back-ups and sanitary sewer overflow. The project will identify the sources of the excessive I/I and recommend measures to address the deficiencies.

- The Sewer System Evaluation Survey (SSES) project includes flow isolation, manhole Inspections, cleaning and television inspections, smoke testing and dye testing in a project area that consists of 146,000 linear feet of sanitary sewer ranging from 8-inches to 42-inches in diameter and of approximately 900 manholes, an estimated thirty percent (30%) which are twin manholes, in which both sanitary and storm drain lines enter at different elevations. The city has periodically experienced surcharging and sanitary sewer overflows (SSOs) into the storm drain system, and this project will help identify and develop solutions to these surcharges and overflows.

- The intent of this Integrated Municipal Stormwater and Wastewater Resource Management Plan (IWRMP) is having it serve as a planning basis for future phases of CSO abatement and infrastructural renewal work. Significant portions of the Integrated Plan will be devoted to collecting data and modeling to document the actual CSO reduction progress that has been made by the already completed sewer separation projects, evaluating the effectiveness of those projects, and re-assessing whether or not to continue full implementation of the currently proposed CSO Long Term Control Plan recommendations.

- The objective of this project is to create a Comprehensive Wastewater Management Plan (CWMP). Since the Town completed its Facility Plan Update in 1989, it has undertaken several projects to expand the sewer system. The CWMP will consist of four (4) phases : (I) a Needs Analysis, (II) a Screening of Alternatives, (III) development of a draft Environmental Impact Report, and (IV) development of a final EIR.

Construction

Secondary Wastewater Treatment

- The construction project includes modifications and additions to the existing WWTP. These improvements include the replacement of aged systems that have exceeded their useful life as well as the addition of new treatment systems related to the Town's new NPDES permit. Specifically, to achieve compliance with nutrient discharge limits, improvements include modification of the secondary treatment system to create a Bardenpho system for advanced nitrogen removal and the construction of a new tertiary treatment system and superstructure with cloth disk filters for phosphorus removal.

- This project will increase the physical and biological capacity of the Wastewater Treatment Facility (WWTF), which is very close to its capacity to reliably treat wastewater. The project will achieve this through the implementation of the portions of the Capital Improvements Plan (CIP) which addresses capacity concerns. Improvements to the WWTF will help remediate well documented environmental impacts to the Concord River.

Advanced Wastewater Treatment

- The project is to upgrade the Wastewater Treatment Facility to address the more stringent NPDES permit limits, reduce nutrient discharges and protect the impaired receiving waters downstream, specifically cited as impacts to the Taunton River estuary, as well as Mt. Hope Bay and Narragansett Bay waters in Rhode Island. The current treatment process cannot meet the Total Nitrogen and unlikely to be able to meet the Total Phosphorus limits a consistent basis with the existing unit processes. The current plant was constructed in 1977 and has not undergone a major upgrade since that time. The plant is designed for an average flow of 2.16 MGD and maximum flow of 7.1 MGD.

- This project consists of the improvements to the Wastewater Treatment Facility to reduce effluent phosphorus, replace aging infrastructure and improve energy efficiency. The upgrades are primarily intended to reduce the phosphorus loads discharged to from the facility to help remediate documented nutrient enrichment of the receiving waters and the downstream Sudbury River. The project is consistent with the Comprehensive Wastewater Management Plan and regional nutrient reduction goals. The project will also improve the energy efficiency of the facility and is expected to include the installation of renewable energy systems at the site.

Infiltration/Inflow Correction

- This project will implement the recommendations from the Sewer System Evaluation Survey (SSES) to remove cost effective I/I. The project includes chemically root treating 3,174 feet of sewer; cleaning, inspecting, testing and sealing 20,135 feet of sewer; installing 356 linear feet of structural liner; installing 5,769 feet of structural cured-in-place pipe; performing two spot repairs; television inspecting and testing 230 service connections; grouting 230 service connections; rehabilitating 1,453 vf manholes; sealing 154 manhole inverts; root treating 48 manholes; and other related tasks.

- This project proposes to inspect, clean and line sewers to control I/I that is using up excess capacity at WWTP. Many of the sewer pipes are old asbestos cement & vitrified clay pipes, some almost 100 years old. The Town's current NPDES permit requires I/I reductions for capacity. WWTP NPDES permit requires progress reports on I/I reductions - @ 10% of total plant flow.

Sewer System Rehabilitation

- This project is for the emergency sewer forcemain repair and replacement , that is needed due to several breaks and resulting findings of excessive deterioration of the existing 30 inch ductile iron forcemain; The project will consist of three contracts; 1A Emergency Response and bypass systems, 1B existing forcemain-sliplining and replacement, and 2 Redundant 24" sewer forcemain.

- This project entails the construction of less than half a mile of sewer to relieve an existing undersized sewer. The existing sewer does not have sufficient capacity to carry the full flow amount that it receives without surcharging and occasional sanitary sewer overflows. The SSO's discharge onto the streets and into Labor-in-Vain brook. The project is consistent with the Town's 2002 planning report for its wastewater pumping stations and the Massachusetts Estuaries Project. This project also entails the upgrade of the Dublin Street Pump Station to increase pumping capacity to handle the increased flows to be conveyed to it from the proposed relief sewer .

New Collectors and Appurtenances

- This project involves the construction of new sanitary sewers that will mitigate the migration of leachate from failing septic systems into tributaries of the Merrimack River. In addition, the project will eliminate several direct sewerage connections to the local stormwater system, and mitigate impacts to natural resources, Town conservation land, and private drinking water supplies.

- The Town is experiencing water quality problems associated with failing private on-site wastewater disposal systems. The Phase I Sewer Extension project is located in the Flint Pond Watershed Basin, which is well documented as an impaired basin. All proposed sewering is within the current wastewater discharge permit limits for flow rate. Removing failing and/or improperly operating septic systems will serve to protect and enhance the Merrimack Watershed and preserve its designated uses.

New Interceptor and Appurtenances

- This project involves the construction of new sewers to address the nitrogen issue from on site disposal systems. The project consists of the Collection System Extension and Improvements by upgrading the Stage Harbor Pump Station and further extending the wastewater collection system as defined in the approved CWMP.

- This project is a three-phased construction to replace or line Shrewsbury sewer Interceptor, and upgrade existing six pump stations. The proposed project will eliminate sewer back-ups and overflows.

CSO Correction

- The primary objective of the CSO control plan is to bring CSO discharges in Boston Harbor and its tributaries into compliance with state and federal requirements. This component of the plan will involve nine sewer separation projects. All the projects will be accomplished by constructing new storm drains and allowing the existing combine sewers to function as separate sanitary sewers, or by constructing new sanitary sewers and allowing the existing combined sewer to serve as storm drains. The project will result in the elimination of CSO discharges at several outfalls.

- This project includes installation of in-line storage and flow control on Riverside Road, Clayton Street, and Arch Street, separation of 1,700 lf of combined sewers along Birnie Avenue, relocation of Combined Sewer Overflow (CSO) 008 regulator, and storm water management on Chaplin Terrace. The project will significantly reduce to volume of flow and pollutant load from CSO 008 in accordance with the Administrative Consent Order and Long Term Control Plan.

Storm Sewers

- The work within this integrated planning project will lay the foundation for future stormwater and wastewater improvements within the City needed to meet the requirements of the Clean Water Act, while maximizing the effectiveness of limited capital resources.

Stormwater Conveyance Infrastructure

- The proposed project involves modifications to the former pond including enlargement of the basin outlet pipes and spillways, stabilization of the stream banks, creation of new constructed wetlands and detention basin for stormwater quantity and quality control. The improvements will include realignment of an existing municipal sewer inverted siphon which runs within the embankment. The constructed wetlands and detention basin will be designed to accommodate additional stormwater flows anticipated from future sewer separation of the combined sewer system.

Stormwater Treatment Systems

- The objective of this Wastewater Collection System and Drainage System Improvements project is to improve water quality in coastal receiving waters and to improve the operations of the Town's wastewater collection system and treatment plant by reducing the volume of infiltration and inflow (1/1) entering the collection system, and improving the water quality of storm water discharges through the removal of illicit connections to the sewer system and through the construction of Best Management Practices (BMPs). The project will provide the foundation for the reduction of pathogen discharges to Sippican Harbor, and Buzzards Bay as well as significantly reduce the volume of public and private I/I entering the collection system.

Green Infrastructure

- This project includes the construction of a wind turbine with a minimum rated capacity of 600 KW. The Town consumes approximately 12,000,000kWh of electricity per year and the estimated net energy production for the turbine is 993,400kWh annually.

- The green energy upgrades to the plant will include: Replacing existing process operations building with a more energy-efficient structure. Energy efficient improvements include: reconstruction of the main operations building using energy efficient (LEED) design principles (including replacement of existing belt filter press with rotary press, aeration system upgrade of existing mechanical surface aerators, and pump replacement with higher efficiency equipment); lighting, heating and ventilation systems upgrade; and upgrading building exterior (windows and insulation) - $2,600,000; Installing up to a 65 kW solar photovoltaic system onsite- $455,000

Part II: Project Schedule and Cost Estimate

If local 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.

Provide a detailed breakdown of the estimated technical (construction services) and construction costs. Use an **ENR Index of 10195**. If available, provide a completed engineer's estimate for each construction contract. Eligibility must be consistent with MassDEP Policy on Eligible Costs found at http://www.mass.gov/eea/docs/dep/water/laws/a-thru-h/cwsrfpol.pdf . 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

While preparing the Project Narrative (described in the next section), use the checklist to help insure that all of the information relevant to establishing the project's priority rating has been documented.

Applicants should check all items that specifically apply and that can be documented as described below. The more items that are checked off, the more serious are the conditions being addressed. For each item checked, the applicant should detail in the narrative: 1) What area was looked at; 2) What was found; and 3) What was concluded. If you are working from a planning document that addresses any of the items, please provide a copy and provide specific page references where the information is detailed.

Section A: 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 remedy 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.

Guidance for Project Narratives

- Briefly describe the objectives of the project. What water quality or public health issues are being addressed, how severe are the situations.
- Describe the scope of the project and key facilities or tasks being proposed. Describe the environmental benefit that you anticipate will result from implementation of the strategy you plan to execute.
- Identify the general project area (include a **site plan/project map** of sufficient scale, with project and relevant resources overlain)
- Describe planning efforts that have been undertaken to develop this recommendation, including any alternative analysis. Note in the narrative the Comprehensive Wastewater Management Plan (CWMP) or Project Evaluation Report (PER) from which the project was developed, and how the project is consistent with the Plan or Report. Please provide a copy of the report if feasible. In the alternative, provide the following photocopies from the Plans or Reports to include: 1) cover page with title, date and authoring firm; 2) page(s) with description of the water quality or health problem;
  3) page(s) with a description of the recommended alternative; and 4) page(s) that summarize the costs for the recommended alternative.
- Basis of cost estimate; engineer's estimate for construction projects

Section B: Public Health Criteria

What is the cause of the environmental/public health problem or nuisance that the project will address?

Describe the cause of the problems identified in Section B of the checklist, discussing how the problem affects the resource(s) noted.

Describe the size and character of the population threatened or negatively affected by the identified risk to public health (e.g., users of a community public water system, owners of private wells, presence of sensitive populations (schools, nursing homes, hospitals, etc.).

Describe the frequency and magnitude of the recurring problem, including exceedance of drinking water MCLs or closure of beaches.

Provide documentation, in the form of published reports of Municipal, Local, State or Federal entities engaged in Public health. Laboratory results are also acceptable. Please provide copies of the reports with page number references to the relevant information. Note that any item that does not include documentation within the application will not receive points.

Definitions of items in Section B:

(B1) Contaminated Stormwater
Means storm water runoff, snowmelt, and surface runoff that picks up pollutants and deposits them in surface waters or ground water. The proposed project must directly control the cause of the stormwater- related threat to public health via BMP controls between the catch basin and outfall (including wet weather conditions).

(B2) Illicit Connections
Illegal sewer connections to storm drainage systems, evidenced by dry weather data, smoke testing, I&I and SSES studies, BOH records or other official reports (This section is separate from contaminated stormwater. If both conditions exist, please describe separately.)

(B3) Combined Sewer Overflow (CSO)
Occurs when a single collection pipe is used to convey both storm runoff and sanitary wastes. During heavy rains or snowmelts, the overflow, which includes sewage, is discharged into a nearby water body. Provide the location and dates of the overflows and number of times MassDEP was notified of overflow release in the past year. Overflows as predicted by modeling will be accepted if contained in MassDEP approved reports. Points may be given when the collection system has documented incidents of CSO, and the project includes work on the collection system or treatment works that will potentially reduce the risk of CSO events. Projects rarely receive points as both a CSO and a SSO. If both, please explain.

(B4) Widespread Septic System Failure
Occurs when service area suffers 15% or more on-site septic system failures due to hydraulic breakout and/or direct discharge to groundwater. Provide board of health report or reports from local sewer authority, and street or lot location for each system breakout. Only the following scenarios will be indicative of failure: actual Board of Health documented failures, properties with pumping rates of 2 or more per year, and very small lots (< ¼ acre if private well on-site and < 5,000 SF if public water is available).
Lesser points are given if 10% or more of on-site septic system are failures as described above.

(B5) Raw Sewage Backup From Municipal System
Chronic municipal sewer system surcharging causing sewage to back up into homes and/or private buildings. Provide board of health reports or reports from local sewer authority, date, and street address for each event. Failing septic systems do not trigger this criteria.

(B6) Sanitary Sewer Overflow (SSO) 1-2/yr

" " " 3/yr

" " " >3/yr

A sanitary sewer overflow is an overflow, spill, release, or diversion of wastewater from a sanitary sewer that occurs prior to the headworks of a treatment plant. Sanitary sewer overflows include:

- Overflows or releases of wastewater that reach waters of the United States
- Overflows or releases of wastewater that do not reach waters of the United States
- Wastewater backups into buildings that are caused by blockages of flow conditions in a sanitary sewer other than a building lateral. The applicant should submit report of occurrence and location.
  Describe the type of flow. i.e., from manhole? Into public areas or basements?

Points may be given when the collection system has documented incidents of SSO, and the project includes work on the collection system or treatment works that will potentially reduce the risk of SSO events. Projects rarely receive points as both a CSO and a SSO. If both, please explain.

(B7) Water Pollution Related Odor Problem

Describe the cause/source of odors and report instances of complaints.
Distances from source
Status of odor control equipment

(B8) Landfill Leachate

Report the extent of the plume, identify wells affected or other receiving waters affected and provide sampling/analysis of contaminants and whether drinking water MCLs are exceeded.

(B9) Publicly Owned Treatment Works (Potw) Malfunction

Malfunctions are considered to be malfunctions of major process units or collection systems that affect permit limits. Also, a facility that does not meet permit limits would be considered as having a malfunction due to lack of appropriate treatment processes. Applicant should report history of malfunctions and note any and all NPDES limits exceeded.

(B10) Other

MassDEP has included usual contributing causes, but will entertain arguments for additional public health causes, such as may exist in individual situations. MassDEP reserves the right to accept or reject any arguments advanced on this question and assign points as deemed appropriate. Points can only be issued to this item if justification for it is not covered by any other category.

What is the nature of the resource affected?

Please note that for questions 11-36 applicants can receive half the allotted points for preventive approaches versus remedial approaches. It is MassDEP's opinion that preventive approaches are important but not as critical as remediating existing problems.

The number of people exposed to pollutants as well as the means of those exposures are important determinants in the rating system. MassDEP seeks information to help determine the extent of the exposure. On the project site map noted in the previous section show location of resources affected (public and private drinking water supplies, private homes, public streets and parklands, etc.)

Explain how resources are being affected and to what degree by providing documentation (Watershed Management Plan, CWMP, PER, sampling and lab results, Board of Health records, etc). As an applicant, you must attempt to a make direct connection between resources affected and documentation submitted.

(B11) Public Drinking Water Supply as defined in 310 CMR 22.02 (found on the MassDEP Web site at http://www.mass.gov/eea/agencies/massdep/water/regulations/310-cmr-22-00-massachusetts- drinking-water-regulations.html) is located within the project area. Document impacts to the supply via laboratory analysis or reports. If the supply is the only source available to the supplier, please note. For groundwater supplies, documentation must consist of sampling at either the withdrawal point or within the Zone II at a MassDEP-DWP-approved monitoring location. In the case of nitrogen contamination, total N of 5 ppm or greater would

demonstrate the existence of impact, provided that the elevated concentration can be related to the problem, considering factors such as the existence of other potential pollution sources, the location of the wells in relation to the problem area, and the strata from which groundwaters are drawn. Document all potential hydrogeological impacts to a public drinking water supply.

(B12) Private Drinking Water Supply refers to private wells within the project area that are shown via sampling analysis to be affected by waterborne pollutants. Affected wells should be pointed out on the site map. Is there any option for residents to connect to any other source?

(B13) Private Homes refers to any residence affected by sanitary sewer back-up from a municipal sewer system into the home. Some evidence of the back-up should be presented. Board of Health (BOH) reports or reports from the local sewer authority are acceptable documentation.

(B14) Public Streets Or Parklands refers to incidences of raw sewage flowing directly into public streets or parkland areas that would increase the potential for exposure to people. Such incident locations should be noted on the site map. Documentation from the BOH or the local sewer authority should be supplied.

(B15) Swimming Areas. A designated swimming area that is posted, maintained, and monitored by a health or recreation agency, that the problem to be corrected, has a documented closure(s) and the project has a potential impact on the closing of these areas.

(B16) BOATING AREAS. An area of the affected water body that has identified public access points and documented impact on these locations.

(B17) Sensitive Population Affected. This refers to a concentration of population which would be expected to be particularly at-risk via exposure. Applicable populations would be schools, nursing homes and hospitals served by a private well, or whose grounds are affected directly by contamination.

(B18) Population Affected. The project specific population immediately impacted or served by the proposed project. Explain the parameters of the population selected.

(B19) Other
MassDEP has included usual receiving resources, but will entertain arguments for additional public health resources affected, such as may exist in individual situations. MassDEP reserves the right to accept or reject any arguments advanced on this question and assign points as deemed appropriate. Points can only be issued to this item if justification for it is not covered by any other category.

Section C: Environmental Criteria

What is the nature of the environmental problem encountered?
Briefly and in narrative form, describe the nature of any problems identified in the checklist, discussing the manner in which the problem affects the resource(s) noted. Describe the frequency and magnitude of the recurring problem. **Provide documentation, in the form of published reports of Municipal, Local, State of Federal entities engaged in environmental protection. Laboratory results are also acceptable. Please provide specific page references within any planning document or laboratory report submitted in support of the PEF. Note only those items that you can show to be within the project area and directly affected by water pollution. Applicants should note on the project site map where the resources are located. Note that any item that does not include documentation within the application will not receive points.**

Definitions of items in Section C:

(C20) Npdes Permit Exceedance. It should indicate that they would only receive points if the proposed project impacts permit limits. An example would be upgraded disinfection to meet bacterial limits.

(C21) Aquatic Toxicity. Project should address either (a) applicable permit limit violations or (b) receiving water toxicity problem. The 303(d) list includes aquatic toxicity as an impairment for some waterbodies. PEF should make connection between project and decrease in toxicity (example: addition or upgrading of dechlorination). CSO and SSO projects that attempt to reduce I/I are not presumed to address aquatic toxicity without documentation. Note that pathogens are not considered aquatic toxicity.

(C22) Nutrients. Defined as either (a) applicable permit limit issue (upcoming or existing) and/or (b) receiving water nutrient 303(d) impaired water for nutrients (example: upgrading to address phosphorus from a wastewater treatment facility (WWTF) or sewering an area upstream of a 303(d) list nutrient impaired pond).

(C23) Bacteria

The presence of coliform bacteria in drinking water source, or E. coli, other coliform bacteria, or enterococcus in a water body, as determined with analytical data. The 303(d) listing of "pathogens" is acceptable data. The information presented in the PEF should provide the data and the relevant limit exceeded or threatened (permit limit, drinking water Maximum Contaminant Level (MCL), swimming (beach)). Problems that are assumed to contribute to exposure to bacteria include CSOs, SSOs, on-site system breakouts, and on-site systems within groundwater.

(C24) Turbidity

Suspended particles, usually sediment, in a waterbody as a result of human activity. The 303(d) list includes turbidity as a problem for some waterbodies. Examples of projects addressing turbidity include nonpoint stormwater projects and treatment of phosphorous to reduce alga growth. CSO and SSO situations are presumed to cause turbidity problems.

(C25, 26) Dissolved Oxygen And Temperature. PEF should show temperature or DO problem in receiving water and must demonstrate that the proposed project will address/mitigate problem.

(C27) Noxious Aquatic Plants

For the purposes of this PEF, "noxious aquatic plants" refers to the excessive growth of plant species in or near a waterbody, affecting the water quality and habitat. Documentation includes listing on the 303(d) list, diagnostic/feasibility studies, Total Maximum Daily Loan (TMDL) reports/recommendations, or MassDEP Assessment reports. Proposed project must in some manner mitigate the noxious weed problem.

(C28) Aesthetics

Floating solids, strong odors and discoloration of a waterbody indicate aesthetic concerns. These may be documented in the 303(d) list. CSOs and SSOs are both assumed to include floating solids and therefore would be considered to have an aesthetics concern. Other demonstration of aesthetic concerns should include photos (unless odor), with accompanying report and date, location and person observing the problem. Official town reports are the appropriate documentation.

(C29) Other

MassDEP has included usual environmental problems encountered, but will entertain arguments for additional causes to environmental problems, such as may exist in individual situations. MassDEP reserves the right to accept or reject any arguments advanced on this question, and assign points as deemed appropriate. Points can only be issued to this item if justification for it is not covered by any other category.

What environmental resources are affected?
(NOTE: PLEASE DELINEATE AFFECTED RESOURCE AREA ON PROJECT MAP)

(C30) Public Water Supply- Zone A is defined at 310 CMR 22.02 (found on the MassDEP Web site at http://www.mass.gov/eea/agencies/massdep/water/regulations/310-cmr-22-00-massachusetts- drinking-water-regulations.html). Generally it is the protected area in closest proximity with a surface water supply. Points are available only for Zone A or Zone B, not both. Points will be given if the project area is within the Public Water Supply- Zone A and if the project will address documented issues in this area.

(C31) Public Water Supply- Zone I is defined at 310 CMR 22.02. Generally it is the protected area in closest proximity to a groundwater supply. Points are available only for Zone I or Zone II, not both. Points will be given if the project area is within the Public Water Supply- Zone I and if the project will address documented issues in this area.

(C32) Out Standing Resource Water (ORW) is defined at 314 CMR 4.0 (found on the MassDEP Web site at http://www.mass.gov/eea/agencies/massdep/water/regulations/314-cmr-4-00-mass- surface-water-quality-standards.html). These waters include public water supplies and their tributaries. Vernal pools and waters protected by Special Legislation are ORWs. Applicant must demonstrate an impact to the ORW from a water quality problem within the project area.

(C33) Areas Of Critical Environmental Concerns (ACEC): The Executive Office of Energy and Environmental Affairs **(**EOEEA) designates ACECs within the Commonwealth. These areas include marshlands, embayments, unique habitats, and swamps. The applicant must clearly show that it pollution source(s) have a direct and adverse impact on the ACEC.

(C34) Public Water Supply Zone B is defined at 310 CMR 22.02. Generally this is the secondary area of protection surrounding the Zone A of a Public Water supply. Points are available only for Zone A or Zone B, not both. Points will be given if the project area is within the Public Water Supply- Zone B and if the project will address documented issues in this area.

(C35) Public Water Supply Zone II is defined at 310 CMR 22.02. Generally this is the secondary area of protection surrounding the Zone I of a Public Water supply. Points are available only for Zone I or Zone II, not both. Points will be given if the project area is within the Public Water Supply- Zone II and if the project will address documented issues in this area.

(C36) Commercial Fishery/Shellfish Area. There are 303 shellfish growing areas designated by the Division of Marine Fisheries (DMF), with 6 classifications ranging from "Approved" to "Prohibited". There are also datalayers in MassGIS for "Designated Shellfish Growing Areas" and "MA DMF Lobster Harvest Zones". Applicant will have to demonstrate that water quality improvement due to project implementation may result in expansion of area available for harvesting, or extend periods when beds/areas are open.

(C37) Endangered Species Habitat. Areas identified in the Massachusetts Natural Heritage Atlas (available at Conservation Commissions). There are also datalayers in MassGIS, but they are only available by special request to the Natural Heritage and Endangered Species Program (NHESP). Points will be given if the project area is within the Endangered Species Habitat area and if the project will address documented issues in this area.

(C38) Sole Source Aquifer (SSA). The 7 SSAs designated by US EPA. Shown as the "EPA Designated Sole Source Aquifers" datalayer of MassGIS. Applicant will have to successfully argue an impact to the aquifer resulting from the water quality problem.

(C39) Ocean Sanctuary. The 5 areas described in M.G.L. c.132A, s.13. Project must be demonstrated to improve water quality entering a designated Ocean Sanctuary. This item refers to projects where water enters the designated Ocean Sanctuary pre-project, and water quality is improved through the project. Discharge does not need to be directly into an ACEC.

(C40) Recreational Fisheries/Shellfish Area
Project area would include a water body whose uses have historically included recreational fishing or shellfishing. Implementation of the project would have to be expected to improve water quality sufficiently to allow for a return or expansion of the fish population.

(C41) Federally Designated River
Certain Federal designations impart a higher level of significance to those rivers so designated. The proposed Project would have to have a direct impact on the water quality of a federally designated river. Federal designations include Wild and Scenic, and Natural Heritage. **MassDEP has expanded this category to include rivers wherein stocking of Atlantic Salmon is conducted, namely the Merrimack and the Connecticut and their tributaries.** Generally, only communities bordering the main stem of the designated river are considered to have the potential for direct impact.

(C42) Other
MassDEP has included usual environmental resources, but will entertain arguments for additional environmental resources affected, such as may exist in individual situations. MassDEP reserves the right to accept or reject any arguments advanced on this question and assign points as deemed appropriate. **(Note: Please delineate affected resource area on project map.)** MassGIS maintains data layers for ACECs, ORWs, Surface Water Supply Protection Areas, and MassDEP Wellhead Protection Areas. Points can only be issued to this item if justification for it is not covered by any other category.

Section D: Project Effectiveness

Note that any item that does not include documentation within the application will not receive points.

(D43) How and to what extent will the project eliminate or mitigate the problem?
In the previous sections you discussed the nature of the environmental and public health problems as well as the impacts of those problems upon resources. In a brief narrative, describe how the project that you have proposed will specifically impact upon the resources and problems that you have noted. Describe how the LGU has the jurisdiction and overall ability to implement the solution described. MassDEP expects that a competitive proposal will thoroughly address applicable items below, to the best of the applicant's ability:

- D43.1 Reduce violations of water quality standards;
- D43.2 Restore designated uses;
- D43.3 Reduce potential adverse impacts to sensitive resources;
- D43.4 Protect designated uses;
- D43.5 Reduce or eliminate public health problems or nuisances;
- D43.6 Protect public health resources from contamination;
- D43.7 Address pollution sources other than those being addressed by the project that contribute to the problem.

The applicant's ability to tie an effective corrective action to the problems and impacts listed previously will be determined in this section. The rating points assessed to this section have significant weight; therefore the more complete the response, the higher THE scoring the applicant may expect in this category.

Section E: Program and Implementation Criteria

Note that any item that does not include documentation within the application will not receive points.

(E44) Consistency with EOEEA/MassDEP Watershed Management Plans or priorities.

This section is intended to measure the extent to which this project implements planning recommendations or implements State or Federal requirements. Information supplied by the applicant will indicate the extent to which the LGU has explored and considered various options available. Points are awarded only for one planning category.

Identify and describe how, and to what extent, the project implements or is consistent with one or more current priorities identified through Water Resource and Wastewater Planning, for example (but not limited to) an EOEEA Watershed Management Plan; a CWMP, a PER, a Comprehensive Performance Evaluation (CPE), a Sewer System Evaluation Survey (SSES) (PER Level), a Stormwater Management Plan, a Water Quality Assessment Report, or a Diagnostic/Feasibility Study.

Applicants should refer to the planning requirements in the CWSRF regulations at 310 CMR 44.08 (found on the MassDEP web site at http://www.mass.gov/eea/agencies/massdep/water/regulations/310-cmr-44-00-the- clean-water-state-revolving-fund.html) to determine whether the planning satisfies the criteria for comprehensive wastewater management planning. Facilities plans or comprehensive wastewater management plans more than 15 years old (completed before 8/7/2000 and not updated) will be considered the equivalent of *local planning studies* in MassDEP's evaluation. Attach the cover page of the planning document and indicate the date of MassDEP approval. Attach pertinent sections of the planning document that support the proposed project.

Points may be issued for planning documents that are approved or considered "approvable" by MassDEP.

(E45) Compliance and enforcement

Indicate if the project is related to any regulation, permit or enforcement action. In a table like the one below, list any regulations, permits, or enforcement actions that apply, including federal administrative orders, Massachusetts administrative orders, Notices of Noncompliance (NONs), federal permits,
Massachusetts permits, federal regulations, and state regulations. List the type of action, subject matter, reference number, appropriate section/page related to this project and deadlines for compliance.

Type of Action	Subject	Reference Number	Section & page	Compliance Deadline(s)
EXAMPLE: Fed. Adm. Order	Order for action pursuant to Sec 308 of Clean Water Act re: CSOs	#97-02	Sec 4 & 6, p.5-8	May 2002 June 2002
EXAMPLE: NPDES Permit	NPDES permit for WWTP discharge permit limit for toxicity	9701234	Sec II and III, p.6-9	As of 6/1/97
EXAMPLE: NON	Surcharging of sewer @ E. Main	WE-98-NON-1001	p.2	As of 6/1/98
EXAMPLE: MA Reg. 314 CMR 5.00	Groundwater discharge re: stormwater needing permit	Not applicable	Sec 5.04, pp185,186	N/A

Explain how compliance with the above action will address the environmental problem identified in the previous sections. Describe the specific tasks identified in the enforcement action that will eliminate or mitigate the problem. Voluntary compliance also applies to this item.

(E46) Multi-community or regional solution
Indicate whether the project constitutes or is a component of a multi-community or regional approach to addressing the identified environmental problem, and describe the additional benefits resulting from such an approach. Examples include: A) Host community assisting another to resolve a water quality problem. B) Community entering into an Inter-Municipal Agreement. C) Project implementing a specific recommendation in a Regional study relative to the proposed project.

Points are available for projects that include significant I/I or stormwater recharge. The points given vary depending on whether it is in (a) a high or medium stressed basin or (b) a low stress basin so the applicant should note the stress level of basin. Also points similar to those for recharge in a high or medium stress

basin should be given for those in a portion of a low stress basin that has localized stress conditions mentioned in the applicable Water Management Act permit. See this site for listing of stressed basins: http://www.mass.gov/eea/waste-mgnt-recycling/water-resources/preserving-water-resources/partners-and-agencies/water-resources-commission/stressed-basins-in-massachusetts-report.html

(E47) Innovative technology
MassDEP encourages municipalities to consider using innovative technology to achieve their cleanwater goals. Points are available for projects proposing innovative technology as part of their proposal. Projects proposing the use of innovative technology should include a narrative clearly describing the innovative technology being proposed, how long the technology has been in existence, and where in the U.S. and/or other countries the new technology is/was being used. The narrative also should include certification from a Professional Engineer that the innovative technology meets current engineering standards/practices, and a statement from a Professional Engineer addressing the likelihood the innovative technology would be successful for the project being presented. Please note that awarding points for innovative technology by the SRF Program should not be construed in any way that MassDEP is permitting the actual use of the proposed innovative technology. This would have to be determined during the permitting phase of the project.

(E48) Pricing system under MGL c.40, s.39J
Has the LGU implemented a pricing system for sewer services in accordance with the provisions of MGL c.40, s.39J? If so, attach a copy of the pricing system and certification that the LGU has adopted the provisions of MGL c.40, s.39J to the PEF submittal. A proponent who does not supply a copy of the certification to Ch 40 will receive no credit for this response.

Energy Efficiency and Renewable Energy Projects

Note that any item that does not include documentation within the application will not receive points.

Energy Efficiency

(E49) Relative benefit of the project. Indicate if the project was recommended by a third party audit, assessment or feasibility study. Projects resulting from an audit/assessment/study will receive double the number of points for projects without energy audits. Projects discovered by other means (e.g. internal or other methods) may be eligible for the additional points provided sufficient documentation is included to consider the method as a legitimate audit/assessment. Include the applicable portion of the audit and an explanation of the energy savings expected from the project.

Will the project implement an energy efficiency measure? If the project includes implementation of an energy efficient measure or installation of a more efficient resource, calculate the percent energy savings expected due to the proposed project. Energy savings will be the kW hours expected to be saved by the energy efficient resource, in relation to total kW hours of the entire facility (i.e. the pump station or treatment plant) per

year and expressed as a percentage. New installations, such as premium motors or vfds, are only eligible if they are upgrades to an existing facility. New facilities (treatment plants, pump stations, etc.) are not eligible for energy efficiency points unless they go above and beyond standard design. For example, a new motor should be premium and is therefore not eligible, however, LEED design is not expected and is therefore eligible. Projects which reduce energy consumption over 25% will get points for "Substantial EE". Projects which reduce energy consumption between 10-25% will get points for "Moderate EE". Projects which reduce energy consumption up to 10% will get points for "Nominal EE".

Renewable Energy

(E50) Relative benefit of the project. Indicate if the project was recommended by a third party audit, assessment or feasibility study. Projects resulting from an audit/assessment/study will receive double the number of points for projects without the acceptable study. Projects discovered by other means (e.g. internal or other methods) may be eligible for the additional points provided sufficient documentation is included to consider the method as a legitimate audit/assessment. Include the applicable portion of the audit and an explanation of the energy savings expected from the project.

Will the project result in on-site renewable energy power generation? 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), calculate the expected renewable energy production benefit. Projects which produce over 50% of demand will get points for "Substantial RE". Projects which produce between 20-50% of demand will get points for "Moderate RE". Projects which produce up to 20% of demand will get points for "Nominal RE".

Section F: Threshold Criteria

Items **(F51)** and **(F52)** are self explanatory.

Section G: Qualifying Green Projects

(G53) EPA requires that a portion of the capitalization grants to fund the SRF programs be targeted to green projects or components of projects. A large portion of MassDEP SRF projects either are considered a green project per EPA definition or contain elements that are considered green. It is necessary that all green components be identified by the time of the issuance of the draft Intended Use Plan to assure that the minimum target requirements will be obtained during project implementation. Following is a listing of the various project components that EPA has identified as qualifying for green status. Certain of these project components might require a business case to demonstrate that the project component qualifies for green status. Guidance and examples of what is considered "green" can be found in the following documents:

- "American Recovery and Reinvestment Act Guidance" Attachment 7 and 8, EPA, March 2, 2009 http://water.epa.gov/aboutow/eparecovery/upload/2009_03_31_eparecovery_STIMULUS_Guidance_Green_Reserve-2.pdf
- "The Green Project Reserve" EPA, January 4, 2010. http://water.epa.gov/aboutow/eparecovery/upload/GPR-q-and-a1-rev01042010.pdf
- "Energy Efficiency Business Case for Wastewater Pumping Systems for Green Project Reserve", EPA, 5/14/09. http://water.epa.gov/aboutow/eparecovery/upload/2009_06_04_eparecovery_STIMULUS_Green_business_case_on_pumping.pdf

Following is what an applicant needs to do:

- An applicant will be required to identify each component of its project that may be considered green. Certain components require a business case to determine if it qualifies for green status. We do not require that you develop the business case at this time. The business case will be performed during the loan application stage. However, the component requiring the business case should be reported as a possible green component.
- At the applicant's option, the applicant can submit this information with the PEF submission or may defer its submission until requested by MassDEP.
- If the applicant decides to submit the information with the PEF, then they should determine each component of the project that meets each of the green components from the following list. The code for each green component should be entered in line 53(a) on the Clean Water PEF.
- An approximate estimate of the value of the green work, expressed either as a percentage of the entire project costs or as a dollar value should be reported on line 53(b or c) in the Clean Water PEF. We recognize that these are gross approximations; one should not expend considerable time at arriving at these figures, but rather use their best professional judgment. The actual costs for the green components will be refined at the time of contract bid and award.

RE1	Renewable energy installation not classified elsewhere (explain in narrative/text)
RE2	Wind Turbine installation
RE3	Solar photovoltaic array installation
RE4	Solar hot water installation
RE5	Geothermal installation
RE6	Hydroelectric turbine
RE7	Combined Heat and Power system – digester gas fueled microturbine
RE8	Combined Heat and Power system – digester gas fueled reciprocating engine
RE9	Fuel cell installation
EE1	Energy efficiency measure not classified elsewhere (explain in narrative/text)
EE2	Costs to perform an Energy Audit
EE3	Purchase and installation of highest or higher efficiency HVAC system (i.e. boiler, AC, heater)
EE4	Purchase and installation of premium motor for blower or pump (retrofit or upgrade)
EE5	Purchase and install variable speed drive or variable frequency drive (retrofit or upgrade)
EE6	Purchase of leak detection equipment for treatment works
EE7	Retrofit/upgrade of wastewater treatment processes
EE8	Modification/retrofit or replacement of wastewater pumping systems resulting in greater than 20% increase in energy efficiency (requires future submittal of a Business Case)
EE9	Lighting upgrades at treatment plant or pump station, including bulb changes, occupancy sensors, or lighting control systems
EE10	LEED certification
EE11	Building envelope retrofit/upgrades (insulation, windows, etc.)
EE12	Passive lighting, new building
EE13	Passive lighting retrofit (e.g. skylights)
EE14	Passive heating and cooling
EE15	Install low-polluting engine/generator for backup power (EPA TIER 4 certification or CARB certification required)
EE16	Control system, new installation at existing facility
EE17	Control system, retrofit or upgrade (i.e. SCADA, replace pneumatic controls, thermostats, etc.)
EE18	Aeration system retrofit or upgrade
EE19	Install turboblower
EE20	Install dissolved oxygen monitoring and automated control
EE20	Perform Sewer System Evaluation Survey (must include cost effectiveness and I/I flow reduction)

EE21	Perform Infiltration and Inflow Study (must include cost effectiveness and I/I flow reduction)
EE22	Infiltration and Inflow project, e.g. pipe lining, (requires future submittal of business case)
WE1	Water efficiency measure not classified elsewhere (explain in narrative, needs Business Case)
WE2	Purchase and installation of water efficient fixtures, fittings, equipment, or appliances (e.g. toilets, faucets, showers, etc.) on Town/City property
WE3	Retrofit or replacement of existing water using fixtures, fittings, equipment or appliances with more efficient equipment on Town/City property
WE4	Purchase of water efficient fixtures, fittings, equipment or appliances as part of Town/City-wide rebate program
WE5	Purchase of leak detection devices and equipment
WE6	Purchase and installation of water meters, meter reading equipment and systems and pipe, for a previously unmetered area
WE7	Purchase/install replacement water meters and meter reading equipment
WE8	Construction and installation activities that implement capital water efficiency projects.
WE9	Install/retrofit of efficient landscape or irrigation equipment for publicly owned facilities.
WE10	Install system to recycle gray water
WE11	Installation of dual pipe distribution systems as a means of lowering costs of treating water to potable standards
WE12	Replacement or rehabilitation of distribution lines (requires future submittal of business case)
WE13	Development of Integrated Water Resource Management Plan
WE14	Development of a water conservation plan
WE15	Costs associated with development of a water conservation plan if required as a condition of SRF assistance
WE16	Public Education: development or implementation of programs on conservation
WE17	Incentive Programs (e.g., rebates, tax breaks, vouchers, and conservation rate structures) DEVELOPMENT
WE18	Incentive Programs (e.g., rebates, tax breaks, vouchers, and conservation rate structures) IMPLEMENTATION
WE19	Incentive Programs (e.g., rebates, tax breaks, vouchers, and conservation rate structures) ADMINISTRATION
WE20	Technical assistance to systems on how to conserve water (e.g., water audits, leak detection, and rate structure consultation)
WE21	Development and implementation of ordinances or regulations to conserve water
WE22	Drought monitoring
SW1	Stormwater efficiency measure not classified elsewhere (explain in narrative, needs Business Case)
SW2	Implement Green Streets (combinations of green infrastructure practices in transportation rights-of-ways) for new development, redevelopment or retrofits
SW3	Implement water reuse or water harvesting programs
SW4	Installation of green roof(s)
SW5	Downspout disconnection program (to remove stormwater from combined sewers and storm sewers)
SW6	Implement wet weather management system for PARKING AREAS, such as incremental cost of porous pavement, bioretention, green roofs, trees, and other practices that mimic natural hydrology and reduce effective imperviousness
SW7	Hydromodification to restore riparian buffers, floodplains or wetlands
SW8	Implement comprehensive street tree or urban forestry programs (expand tree boxes, etc.)
SW9	Implement wet weather management system designed to keep wet weather discharges out of sewer systems using green infrastructure technologies and approaches such as permeable pavement, bioretention, green roofs, trees, and other practices that mimic natural hydrology and reduce effective imperviousness
SW10	Wetland restoration and constructed wetlands (not used for wastewater treatment)
SW11	Development of a Stormwater Management Plan including illegal detection program
EI1	General project that demonstrates new and/or innovative approach to managing water resources in

	a more sustainable way, including projects that achieve pollution prevention or pollutant removal with reduced costs (requires future submittal of a Business Case)
EI2	Decentralized wastewater treatment solutions to existing deficient or failing on site systems
EI3	Water reuse projects that reduce energy consumption, recharge aquifers or reduce waster withdrawals and treatment costs
EI4	The water quality portion of projects that employ development & redevelopment practices that preserve or restore site hydrologic processes through sustainable landscaping and site design.
EI5	Projects that use water balance approaches (water budgets) at the project, local or state level that preserve site, local or regional hydrology. Such an effort could showcase efforts to plan and manage in a concerted manner, surface and groundwater withdrawals, stream flow (aquatic species protection), wetland and floodplain storage, groundwater recharge and regional or local reuse and harvesting strategies using a quantified methodology.
EI6	Projects that facilitate adaptation of clean water programs and practices to climate change.
EI7	The water quality portion of projects that demonstrate the energy savings and greenhouse reduction benefits of sustainable site design practices and the use of green stormwater infrastructure.
EI8	Projects that identify & quantify the benefits of using integrated water resources management approaches.
EI9	Projects that incorporate differential uses of water based on the level of treatment to reduce the costs of treating all water to potable water standards.
EI10	Development of Comprehensive Wastewater Management Plan (sustainability plan)
EI11	Development of Water Resources Management Plan and likely to result in a capital project (e.g. System Master Plan, etc.)