STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH
# Small Community Public Water System
# Fiscal and Asset Management Plan Template Instructions

**General Requirements**

Pursuant to Connecticut General Statutes-CGS §19a-37e all small community public water systems (i.e., water companies that regularly serves at least twenty-five, but not more than one thousand, year-round residents), except those that are either (1) regulated by the Public Utilities Regulatory Authority, (2) subject to the requirements set forth in section 25-32d of the CGS, or (3) a state agency, shall complete a fiscal and asset management plan for all of its capital assets not later than **January 1, 2021**. Following the completion of the initial fiscal and asset management plan, the plan must be updated annually and be made available to the department upon request.

**Form Instructions**

| Section 1. Public Water System (PWS) General Information | |
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| Public Water System (PWS) Name: | Name of Water system (as registered with Dept. of Public Health) |
| **PWSID:** | (PWS) Identification Number: (as registered with Dept. of Public Health) |
| **Town Served:** | Municipality in which customers are served. |
| **Type of Ownership:** | Please choose one option from the provided choices or specify your own if not listed. |
| **Contact Information:** | **Owner**: Property owner or person legally responsible for the public water system/property.<br>**Manager**: Person responsible for overseeing day-to-day operations of the public water system (may be the same contact as the Owner).<br>**Financial Contact**: Person responsible for the finances of the water system.<br>**Chief Certified Operator**: Person designated by the water system to operate and maintain the water system components.<br>**Sampler**: Individual or certified laboratory responsible for water quality monitoring compliance (may be the same contact as the Chief Certified Operator).<br>**Head Maintenance Personnel**: Additional personnel responsible for maintenance of the public water system (may be the same contact as the Chief Certified Operator). |
| **Fiscal and Asset Management Team:** | The people responsible for preparing, implementing and updating the Fiscal and Asset Management Plan for the public water system. |
| **Water System Schematic & Distribution System Map:** | Use the space to draw a detailed schematic of the water system including as many of the system assets as possible; or attach a copy of your own. Additionally, attach an up-to-date distribution system map that identifies all service connections and distribution system components. |
| **Level of Service (LoS):** | Fill in the blanks for the goals provided to outline the level of service your water system will provide to its customers. Level of Service (LoS) can be defined as characteristics or attributes of a service that describe its required level of performance. LoS is driven by customer/user demand, but also must take into account the state and federal regulatory requirements. Fill in the blanks in the **Level of Service Goal** column for each goal. In the **Current State** column identify if the PWS is meeting that specific goal or not and why. In the final **Plan to Maintain of Improve PWS** column, identify your system's plan for maintaining an acceptable LoS or if not, state what is needed for the system to meet each level of service goal. |

## Section 2. Asset Management Information

The **Asset Inventory Worksheet** is a tool designed to maintain records of the current status of assets, their remaining lifespan and their criticality to the functional operation of a system. These records should be updated annually at a minimum, and reviewed with any incoming or outgoing members/operators of the system being monitored with this tool. See the column instructions immediately below for guidance on completing the Asset Inventory Worksheet.

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| **Asset Component:** | Name of component being inventoried. This column is pre-populated with the most common PWS assets found at small community systems. |
| **Asset ID:** | Assign each asset a unique identification (ID) in order to maintain continuity and keep similar assets separate throughout the inventory process. Refer to the most recent Sanitary Survey Report to ensure consistency. |
| **Specifications on size, length, and diameter/capacity:** | This information should be extracted directly from manufacturer information if possible. Location does not need to be precise but should specify in what general part of the system an asset is located. |
| **Year Constructed or Installed:** | Identify the year in which the asset was constructed or installed. |
| **Estimated Life Expectancy:** | Estimate how long the asset should last and adjust these numbers based on the specific conditions and experiences of your system. The estimated life expectancy of an asset is drawn from multiple source and assumes the asset has been properly maintained. |
| **Condition:** | Enter the number as identified in the condition rating table in footnote #1 at the bottom of the Asset Inventory Worksheet that best represents the current condition of the asset taking into consideration age and maintenance history. |
| **Remaining/Adjusted Service Life:** | Calculate the remaining/adjusted service life (or how many months/years remain before an asset must be replaced or significantly rehabilitated). The adjusted useful life of an asset will be affected by water quality, operation/maintenance routines, number of years the asset lasted in the past, the asset's service history, and its current condition. The adjusted service life of an asset will be equal to or less than the estimated life expectancy. The adjusted service life may also be negative if the asset is beyond its useful life. |
| **Probability of Failure:** | How likely is the asset to fail (taking into consideration the remaining/adjusted service life and current condition)? Use the descriptions for the probability of failure rating table in footnote #3 as guidance on how to score each asset. |
| **System Impact:** | Determine the importance of the asset to the operation of the public water system. Considerations for determining system impact include redundancy of the asset and the asset's necessity in protecting human health. Use the descriptions for the system impact rating table in footnote #4 as guidance on how to score each asset. |
| **Risk Score:** | The Risk Score is determined utilizing the following equation: Risk Score = Probability of Failure × System Impact. |

Note: Asset Component Categories not applicable to a system may be left blank.

For columns labeled "Condition," "Probability of Failure," and "System Impact," rating tables with rating descriptions are located in the footnotes at the bottom of the Asset Inventory Worksheet for clarification purposes. Enter the number that best represents the asset's condition, probability of failure and system impact based on current system operations and provided descriptions.

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| The **Water System Operation and Maintenance (O&M) Plan** is written procedures explaining how a public water system is to be operated on a day-to-day basis to ensure public health, safety and compliance with applicable regulations. It also describes maintenance practices and frequency to assure that the physical components of the water system are maintained in such a way to maximize the useful life of the assets. Use the prompts inside the boxes to list operational and/or maintenance procedures for each category pertaining to your water system. This operation and maintenance plan should be reviewed annually to check for consistency and/or modify the plan to suit the needs of a PWS as its demands change. Once it is completed, this plan can also be used to train new water system personnel and/or certified water operators. | |
| The **Capital Improvements Table** uses data from the Asset Inventory Worksheet based on the assets' *Risk Score*. Determine the ten assets with the highest risk score from the Asset Inventory Worksheet. See the column instructions immediately below for guidance on completing the Capital Improvements Table. | |
| **Risk Score:** | Input the top ten (or more, if necessary) highest Risk Scores from the Asset Inventory Worksheet starting with the highest score first. |
| **Asset ID:** | List the corresponding asset ID from the Asset Inventory Worksheet to maintain continuity of assets. |
| **Description of Action Required to Improve Asset:** | Describe what type of improvement project is required for the asset (replacement, rehabilitation, etc.) and brief description. |
| **Years Until Action Required:** | Identify the number of years left until the project is required. Note that this may be a negative number if the asset is already beyond its useful service life or failure is imminent. |
| **Total Cost of Required Action Replacement; Rehabilitation; Repair:** | Estimate the cost of the replacement or rehabilitation project associated with each of your highest priority assets. Remember to gather information on all of the costs associated with the project, such as engineering costs, equipment purchase, installation, pilot testing, labor charges, disposal of the replaced asset, etc. |
| **Reserves Required Each Year:** | Identify the amount of money that is needed to be set aside each year until action is required for each asset. Divide the total cost of replacement by the number of years until action is required. For assets with a negative number of years until action is required, ideally, the full amount should be available in reserve to fund the replacement. The Reserves Required Each Year column is the amount of money your PWS will need to set aside each year to ensure that you can continue to deliver safe and adequate drinking water to your customers and pay for the necessary replacement of your assets. This amount will be in addition to standard operation and maintenance costs of running the PWS. |
| **Capital Improvement Funding:** Answer the following two questions about how the PWS plans and pays for Capital Improvement projects. | |
| **How are Capital Improvement funding needs budgeted for:** | The top ranking asset projects as identified in this PWS Fiscal and Asset Management Plan should make up the Capital Improvement project list. Explain how the funding for these projects are budgeted for and which account is used to fund these projects. |
| **How is the reserve fund managed:** | The PWS should have a money set aside in "reserve" for capital improvement projects. Include information on how the reserve fund will be generated and used and how often funds need to be added to this account in order to maintain the appropriate level of service and fund necessary projects. |

## Section 3. Fiscal Management Information

The purpose of gathering Fiscal Management Information is to ensure systems have the financial resources to maintain day-to-day operations as well as the ability to handle future improvements and unforeseen expenses. The fiscal questions in the template are designed as a step by step approach to ensure that systems are successful with these essential objectives. The financial tables in the template provide a convenient way to record an accurate accounting of system finances and may illustrate additional areas that need to be taken into consideration when gathering revenue and setting aside reserves.

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| **Water rates:** | Check which, if any, apply and provide the corresponding information for each.<br>Some systems may charge a flat fee in addition to a rate for metered usage.<br>If there are multiple rates of the same type, each should be listed. |
| **Average Annual Bill:** | Show the average annual water bill. If the system has commercial customers, list that separately. A water bill may be combined with other routine bills, such as condo or homeowner association fees. |
| **Review of water rates:** | Water rates should be reviewed on a regular basis to ensure that the revenues are sufficient to meet expenses. |
| **Changes to water rates:** | Water rates need to be changed when necessary to meet current and planned future expenses. Please explain exactly how they were last changed. |
| **Types of Accounts Maintained by the Water System:** | Check all that apply.<br>**Operating account:** For routine revenues and expenses. Expenses may include, but are not limited to: certified operator, water quality testing, water treatment chemicals, etc.<br>**Reserve account:** Funds is this type of account are normally held in "reserve" for planned capital improvement projects. Funds placed in this account can be from routine water revenue or special assessments for specific projects.<br>**Emergency account:** Funds in this account are held to be used in the event of an unforeseen emergency, so as not to deplete the operating or other accounts. Funds placed in this account can be from routine water revenue or special assessments. |
| **PWS Revenue:** | This table is provided as a guide for the system to capture all the sources of revenue for the water system. Systems may not have an entry in each category. |
| **PWS Operating Expenses:** | This table is provided as a guide for the system to capture all the water system's expenses. Systems may not have an entry in each category. |
| **Overall Account Balances:** | Summarize the balances of each account, as applicable. |
| **Fiscal Management Review:** Answer the following four questions about the fiscal management of the water system to determine if appropriate measures are in place. | |
| **Review of Revenues and Expenses:** | Explain how often water system revenues and expenses are reviewed. This should be done on a routine basis. It is recommended that it be done at least annually as part of the budget process. Water system revenues and expenses must be reviewed regularly to ensure awareness of the current financial status so that adjustments can be made if revenues and expenses are not aligned. Include details including who is responsible for the review and how is it conducted. |
| **Are revenues sufficient to meet expenses:** | Regular financial reviews allow the system to ascertain if there is sufficient revenue to allow for reserves to be set aside for capital improvements and repairs. If not, a thorough financial review should be conducted. Include details about what steps the system is taking to rectify the situation. |
| **Fiscal Controls:** | Controls should be in place so that monies are collected and spent appropriately, and that the water system maintains sufficient funding. In order to maintain and/or establish financial reserves, fiscal controls should be enacted. Should an emergency occur with an urgent need to repair the water system, any funds used need to be fully accounted for and how this expense affects the overall budget and any reserve funds. |

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| Unpaid account resolution: | Unpaid customer accounts should not be left to accumulate, as it can put a strain on a system's budget. A policy and/or procedure should be in place for resolution of unpaid accounts, and this information provided to customers. State the current policy/procedure in place and who is responsible. |

## Section 4. Unaccounted For Water Loss Information

"Unaccounted for Water Loss" means water that the small community water system supplies to its distribution system, but never reaches its consumers. Types of unaccounted for water loss can be leaks, main breaks, flushing, tank cleaning, etc. Nearly EVERY water system has some amount of unaccounted for water loss. It should be noted that unaccounted for water for the purpose of this exercise encompasses both Real Water Loss such as leaks, main breaks, etc. and PWS approved, but Unbilled Water Loss such as water main flushing, treatment backwashing or make up water, firefighting, etc.

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| **Determination of Unaccounted For Water Loss (UWL)** | Answer the question if the PWS has Unaccounted for Water Loss. If the answer is no, thoroughly describe how you know the system does not have any unaccounted for water loss. If the answer is yes, use either Option A or B below to determine the **annual amount** of unaccounted for water loss for your PWS. Option A is for PWS that meter both supply production and customer consumption. Option B is for PWS that do not have customer meters and is primarily estimation. |
| **Option A:** PWS that meter both supply and distribution consumption | Unaccounted for water loss can be calculated by comparing the amount of water recorded on all active supply wells (production meter readings) to the total amount of water recorded on all the active distribution meter readings for a specific period of time (this table uses monthly time periods).<br><br>Sum of all production meter readings for 1 Month – Sum of all distribution meter readings for 1 Month = Unaccounted for water loss for 1 Month<br><br>This information should be recorded monthly and evaluated annually to assist PWSs with reducing the amount of unaccounted for water loss. |
| **Option B:** PWS that do not have distribution meters | PWS that do not include distribution meters must estimate the total amount of unaccounted for water loss. Complete the table by inputting the total amount of water produced (as recorded by the PWS weekly meter readings of all sources) for the past 3 years. For each month, estimate the average customer (household use) by dividing the total production by the number of service connections the system supplies. Looking at the trend on the customer level may be able to more clearly identify when there is an active leak. |
| **Causes of Unaccounted for Water Loss** | There may be several causes for the unaccounted for water loss being experienced by the PWS. Check "Yes" or "No" for each category and identify to the best of your ability the number of occurrences per year, and the estimated or actual amount of such occurrences for your water system. If there is another cause other than the options listed, please specify in the "Other" row(s). |
| **Measures Being Taken to Reduce the Amount of Unaccounted for Water Loss** | Every PWS should strive to reduce the amount of unaccounted for water loss as low as possible. Check "Yes" or "No" for each category to identify which measures your water system is taking to reduce the amount of unaccounted for water loss. If there are any other measures in addition to the options listed, please specify in the "Other" row(s). If you answered no to every category, the water system should consider adding some of these activities to its routine operations and maintenance plan and work toward implementation. |

## Section 5. Annual Update Record

The Fiscal and Asset Management Plan must be updated annually. Space is provided for up to 5 annual updates. Each entry should include a brief summary of any changes made at the time of the annual update. After the 5th update, continue on a new sheet.

## Appendix A: Drinking Water State Revolving Fund – Additional PWS Financial Information

The Drinking Water State Revolving Fund (DWSRF) Program provides long-term below market rate loans to community and non-profit, non-community public water systems (PWSs) to finance infrastructure improvement projects. Examples include storage tanks, treatment works, and water mains. Projects may also qualify for partial subsidization if available. A small PWS must have an asset management plan in order to be eligible for subsidy. After January 1, 2021, the requirement will be the Asset and Fiscal Management Plan.

The information noted on this appendix will be required of all borrowers seeking funding through the DWSRF in order to evaluate the financial viability of the PWS to repay a loan. If a PWS is considering a project and needs a loan, the DWSRF Program may be an option. It is recommended that these items be reviewed, and the information gathered. Section 3: Fiscal Management Information of this Asset and Fiscal Management Plan template will help a PWS organize their financial records to be better able to provide the necessary information for a DWSRF loan.