Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

FINAL Clean Water Fund Memorandum (2015-002)

TO: All Connecticut Municipalities and Consultants

RE: Combined Sewer Overflow Treatment Plant Project Grant / Loan Eligibility for Clean Water Fund Projects

I. PURPOSE

To provide a clear and consistent methodology for determining Connecticut Clean Water Fund (CWF) eligibility and funding grant percentage for combined sewer overflow (CSO) treatment plant projects.

II. GOVERNING STATUTES

The Connecticut General Statutes (CGS) Section 22a-475 (3) defines combined sewer projects as

"...any project undertaken to mitigate pollution due to combined sewer and storm drain systems, including, but not limited to, components of regional water pollution control facilities undertaken to prevent the overflow of untreated wastes due to collection system inflow, provided the state share of the cost of such components is less than the state share of the estimated cost of eliminating such inflow by means of physical separation at the sources of such inflow."

Section 22a-478 (c) (2) indicates the following funding allotment for combined sewer projects:

"A combined sewer project shall receive (A) a project grant of fifty per cent of the cost of the project, and (B) a loan for the remainder of the costs of the project, not exceeding one hundred per cent of the eligible water quality project costs."

III. ELIGIBILITY

Many CSO Long Term Control Plans (LTCPs) propose to expand treatment capacity at the plant in order to manage extraneous combined flows that will not be separated from the collection system. In order for a treatment plant project to be considered for CSO eligibility, some portion of the treatment plant upgrade must be part of the CSO LTCP strategy to reduce the intensity, frequency, or duration of CSO events. Wastewater process components that shall be eligible for 50% CSO grant participation as CSO components are as follows:

- Those where additional capacity is required to treat combined sewer flows in excess of the facility's normal treatment capacity, when CSO and other flows will share the same process train/equipment; or
- If a new process train will be dedicated to CSO flow, whatever capacity will be required to treat the additional flow routed away from the other process train(s).

Often CSO projects have both CSO and non-CSO components. Only the parts of CSO projects that directly address the reduction of CSOs shall be eligible for 50% CSO grant.

A. Determination of Design and Construction Grant Percentages

Design and construction grant funding for wastewater treatment plants upgrades that include CSO abatement shall be developed based on a blended grant percentage:

- The portion of the CWF eligible work related to CSO abatement (50% grant);
- The portion of the CWF eligible work related to nutrient removal (30% grant); and
- The remainder of CWF eligible work related to neither nutrient nor CSO removal (20% grant).

A blended grant percentage shall be developed from the most recent engineer's cost estimates to determine the CWF grant award for both design and construction services. The blended grant percentage shall be used to determine the grant award on all CWF eligible construction costs for that project.

B. Eligibility Determinations of Wastewater Plant Processes and Equipment

The following list outlines the methodology for determining the eligibility of wastewater treatment plant processes and equipment for **combined sewer funding**:

1. **Preliminary Treatment: If additional CSO flow will receive preliminary treatment and additional preliminary equipment capacity is required (pumps, screens, grit collectors), CSO grant eligible costs shall be determined with following formula:**

   CSO Grant Eligible Costs =

   $$\text{CWF Eligible Construction Costs X} \left(\frac{\text{(CSO Flow Capacity – Normal Treatment Capacity)}}{\text{CSO Flow Capacity}} \right)$$

   Preliminary treatment equipment solely dedicated to the CSO train and CSO flow shall be eligible for the 50% CSO grant.

2. **Primary Treatment: If additional CSO flow will receive primary treatment and additional primary tank capacity is required but will be shared with other flow trains, CSO grant eligible costs shall be determined with following formula:**

   CSO Grant Eligible Costs =

   $$\text{CWF Eligible Construction Costs X} \left(\frac{\text{(CSO Flow Capacity – Normal Treatment Capacity)}}{\text{CSO Flow Capacity}} \right)$$

   Primary treatment equipment solely dedicated to the CSO train and CSO flow shall be eligible for the 50% CSO grant.

3. **Secondary Treatment/Clarifiers**.....ineligible for 50% CSO grant

4. **Intermediate pumping:** If necessary for hydraulic profile due to added CSO facilities.....eligible for 50% CSO grant

5. **Tertiary Treatment (e.g., filters, ballasted flocculation)**..... ineligible for 50% CSO grant

6. **Laboratory Equipment**.....ineligible for 50% CSO grant

7. **Solids Handling/Processing** .....ineligible for 50% CSO grant

8. **Disinfection**: If CSO flow will receive disinfection treatment and additional disinfection capacity is required but will be shared with other flow trains, CSO grant eligible costs shall be determined with following formula:

   CSO Grant Eligible Costs =

   $$\text{CWF Eligible Construction Costs X } \left(\frac{\text{(CSO Flow Capacity – Normal Treatment Capacity)}}{\text{CSO Flow Capacity}} \right)$$

   Disinfection equipment solely dedicated to the CSO train and CSO flow shall be eligible for the 50% CSO grant.

9. **Plant water system**.....ineligible for 50% CSO grant

10. **Sitework:**

    a. Demolition, dewatering & piles – if required for CSO facilities.....eligible for 50% CSO grant

    b. Other – piping, bedding, restoration

       CSO grant eligible costs shall be determined with the following formula:

       CSO Grant Eligible Costs =

       $$\left(\frac{\text{CSO Grant Eligible Construction Costs}}{\text{CWF Eligible Construction Costs}} \right) \text{ X (CWF Eligible Site Work Costs – Demo Costs)}$$

       When it is difficult to differentiate the CSO Grant Eligible Construction Costs, the following formula may be used instead to determine CSO grant eligible costs:

       CSO Grant Eligible Costs = Blended Grant Percentage X (CWF Eligible Site Work Costs – Demo Costs)

11. **Relocation of structures:**

    a. The demolition of structures that do not manage any CSO flows (e.g., garages and administration buildings) shall be ineligible for 50% CSO grant, unless those structures are being demolished to provide space for a CSO treatment component.

    b. The replacement of structures demolished shall not be eligible for 50% CSO grant, unless those structures are being demolished to provide space for a CSO treatment component.

12. **Electrical/Instrumentation & Controls (I&C):** CSO grant eligible costs shall be determined with the following formula:

    $$\text{CSO Grant Eligible Costs} = \left(\frac{\text{CSO Grant Eligible Construction Costs}}{\text{CWF Eligible Construction Costs}} \right) \text{ X CWF eligible electrical/I\&C}$$

When it is difficult to differentiate the CSO Grant Eligible Construction Costs, the following formula may be used instead to determine CSO grant eligible costs:

CSO Grant Eligible Costs = Blended Grant Percentage X CWF eligible electrical/I&C costs

13. **Upsized pipes/pumps for CSO flow:** CSO grant eligible costs shall be determined with following formula:

    CSO Grant Eligible Costs =

    Incremental Cost of Equipment Upsize Required for Additional CSO Flow =

    Equipment Cost for CSO Flow Capacity – Equipment Cost for Normal Treatment Capacity

14. **Odor control system:** CSO grant eligible costs shall be determined with following formula:

$$\text{CSO Grant Eligible Costs} = \left(\frac{\text{CSO Train Process Floor Area}}{\text{Total Process Floor Area}}\right) \text{X CWF eligible odor control costs}$$

$$\text{OR} = \left(\frac{\text{Volumetric Airflow Rate for CSO features}}{\text{Total Volumetric Airflow Rate}}\right) \text{X CWF eligible odor control costs}$$

IV. DEFINITIONS

Blended Grant Percentage: Grant percentage developed from a combination of cost items where it is possible to evaluate what components may be eligible for 20% general upgrade grant, 30% nitrogen removal grant, and/or 50% CSO grant. This blended grant percentage may be applied to determine the grant award for cost items where it is not clear what components may be associated with nitrogen and/or CSO removal.

CGS: Connecticut General Statutes

Combined Sewer Project: Any project undertaken to mitigate pollution due to combined sewer and storm drain systems, including, but not limited to, components of regional water pollution control facilities undertaken to prevent the overflow of untreated wastes due to collection system inflow, provided the state share of the cost of such components is less than the state share of the estimated cost of eliminating such inflow by means of physical separation at the sources of such inflow.

CSO: Combined Sewer Overflow

CSO Components: Processes and components of processes intended to reduce the intensity, frequency, or duration of CSO events.

CSO Grant Eligible: Costs eligible for 50% CSO grant and loan.

CSO Flow Capacity: The maximum flow rate at which the plant is designed to operate while bypassing secondary treatment, in accordance with its NPDES permit.

CSO Train Process Floor Area: Total floor area devoted to the storage and operation of CSO train process equipment.

CWF: Clean Water Fund

CWF Eligible: Costs eligible for some percentage of grant award and/or loan under the CWF program.

DEEP: Connecticut Department of Energy and Environmental Protection

EPA: United States Environmental Protection Agency

LTCP: Long Term Control Plan

Normal Treatment Capacity: The maximum flow rate at which the plant is designed to operate after all combined sewer separation projects identified in the Long Term Control Plan have been completed.

NPDES: National Pollutant Discharge Elimination System

Total Process Floor Area: Total floor area devoted to the storage and operation of process equipment.

TR-16: Technical Report #16 *Guides for the Design of Wastewater Treatment Works*, New England Interstate Water Pollution Control Commission.

October 13, 2015
Date

Denise Ruzicka
Director of Planning & Standards
Bureau of Water Protection & Land Reuse