

You Might Want to Consider a Stormwater Utility



Stormwater Utilities Webinar Series

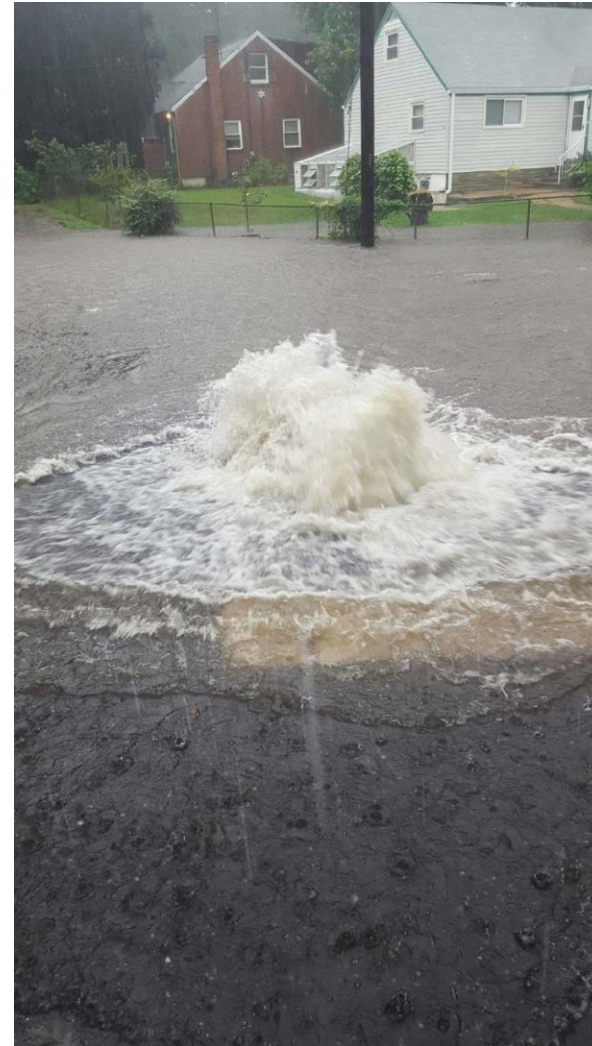
April 6, 2022

Dave Dickson & Mary Looney

UConn CLEAR

Overview

- **What a utility is & its benefits**
- **CT enabling legislation**
- **What they look like**



Contributed photo, CT Post

Poll – What is your opinion of stormwater utilities?

Stormwater Challenges

- More frequent, severe, damaging storms
- Aging, undersized infrastructure
- Increasing development
- Stormwater runoff pollution
- Combined sewer overflows
- Increasing stormwater management requirements (MS4, industrial, other permits)
- Bottom line: \$\$\$\$\$\$

The frequency of wastewater overflows in CT is up in 2021 with heavy summer rainfall

Cumulative number of reports of combined sewer overflow events from the state's utilities for each year

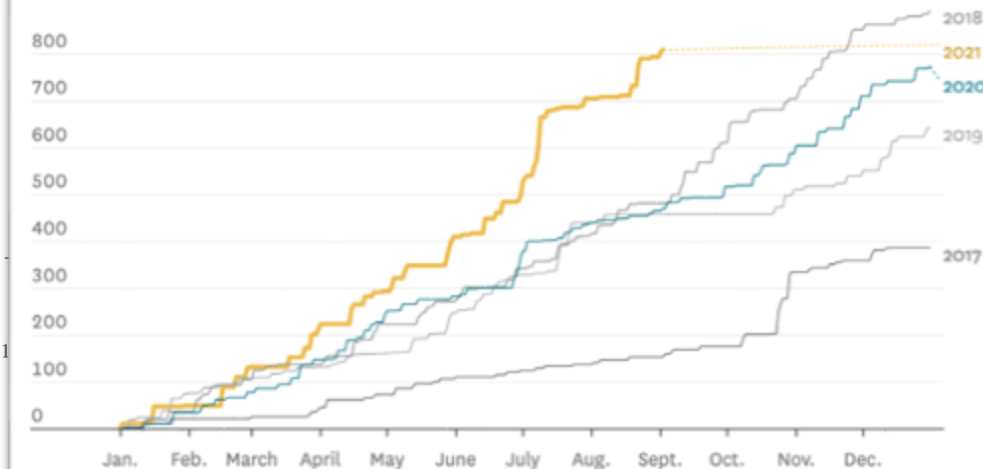


Chart: MK Wildeman · Source: CT Department of Energy and Environmental Protection

What is a stormwater utility?

- Entity that collects fees which generate direct, equitable and stable funding for stormwater management
- Based on impervious cover
 - Use/contribution based
- Function the same as other utilities, such as water and sewage

Benefits

BROOKINGS

The Avenue

As flood risks intensify, stormwater utilities offer a more resilient solution

Joseph W. Kane and Ranjitha Shivaram Thursday, September 21, 2017

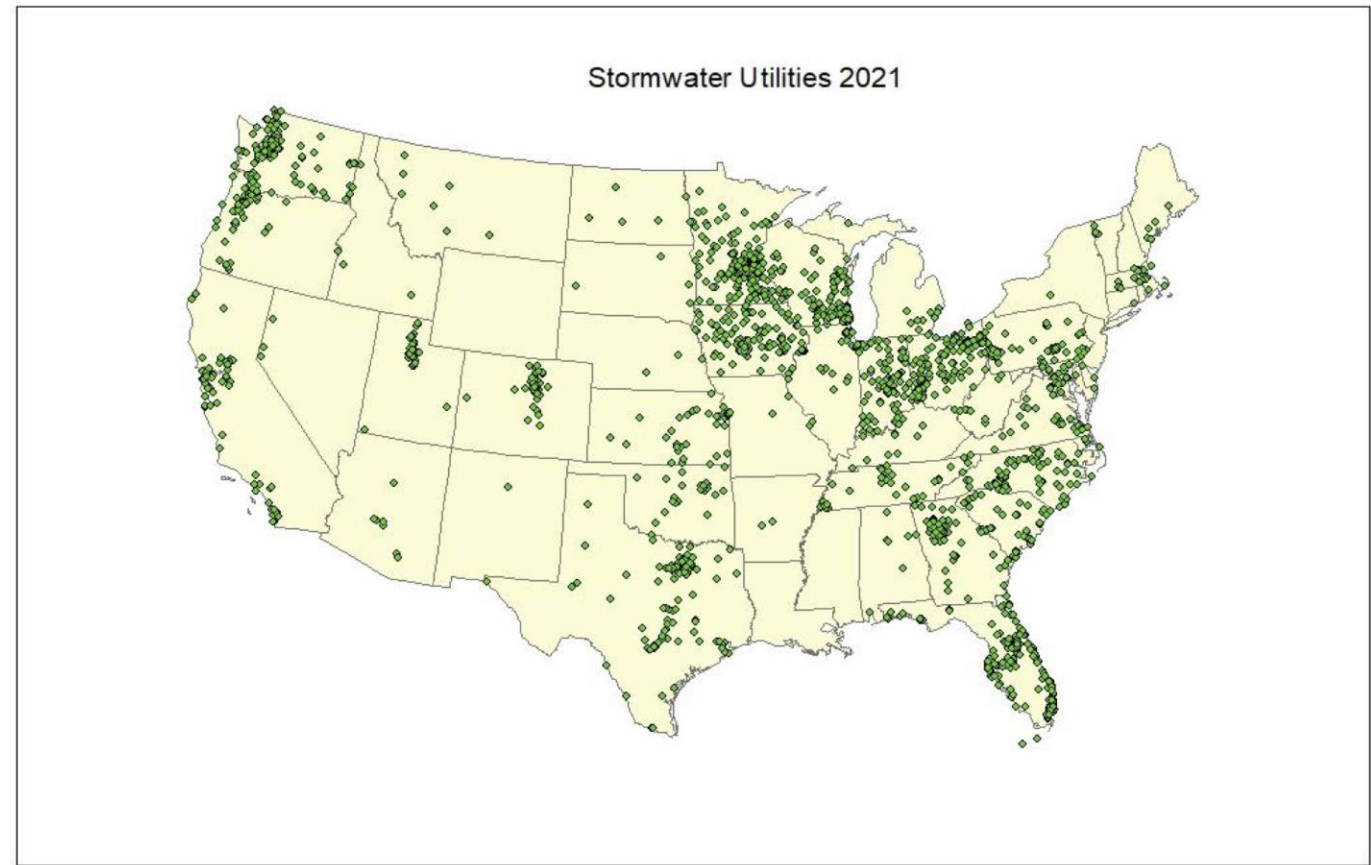
*“stormwater utilities offer a powerful toolset to both **capture negative externalities** that intensify stormwater risks and **recycle revenues** into more resilient patterns of growth.”*

Benefits

- **More equitable funding source than property taxes**
 - Based on runoff generated (IC amount) not property value
 - Includes tax exempt organizations (universities, hospitals, government agencies, etc.)
- **Dedicated fund**
 - Funds are dedicated to stormwater management, not diverted to other needs
- **Stable**
 - Known amount billed regularly
 - Allows for planned expenditures
- **Flexible**
 - Can be adjusted as community needs change
- **Incentivize private investment**
 - Provide credits for private efforts to reduce runoff & disconnect IC

They are increasingly popular

- over 1,800 utilities in 41 states
- In 2007, there were around 800
- 26% of MS4 communities (up from 19% in 2013)
- Avg fee for single family home \$5.94/month
- Largest: Los Angeles (4 million)
- Smallest: Indian Creek Village, FL (88)
- Average: 18,000



And now allowed everywhere in CT – PA 21-115

effective July 1st, 2021 . . .

*Any municipality may, by ordinance adopted by its legislative body, designate any existing board or commission or establish a new board or commission as the **stormwater authority** for such municipality.*

Can also contract with another municipality or regional entity (COG, water district) to implement stormwater authority/utility

What can authority/utility do?

Establish stormwater management program to:

- *Control construction and post construction runoff*
- *Control and abate stormwater pollution*
- *Illicit discharge detection & elimination*
- *Public education & outreach*
- *Establish boundaries of district*
- *Administration of the program*
- *Recommend fees to carry out above*



Substitute House Bill No. 6441

Public Act No. 21-115

AN ACT CONCERNING CLIMATE CHANGE ADAPTATION.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. Section 22a-498 of the general statutes is repealed and the following is substituted in lieu thereof (Effective July 1, 2021):

(a) Any municipality [selected by the commissioner to participate in the pilot program established pursuant to section 22a-497] may, by ordinance adopted by its legislative body, designate any existing board or commission or establish a new board or commission as the stormwater authority for such municipality. If a new board or commission is created, such municipality shall, by ordinance, determine the number of members thereof, their compensation, if any, whether such members shall be elected or appointed, the method of their appointment, if appointed, and removal and their terms of office, which shall be so arranged that not more than one-half of such terms shall expire within any one year.

Setting fees

In setting fees, shall at least consider:

- *area of property containing impervious surfaces*
- *land use types (i.e. generate more or less runoff)*
- *property values*



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Limits on fees

- *No more than 15% of total fees collected can come from hospitals (can also be exempted)*
- *For farms, forests, open space, or State property, can only levy fee on IC that drains to a municipal separate storm sewer system (MS4)*
- *Must offer partial fee reduction credit for onsite BMPs that reduce, retain, treat stormwater (municipality decides)*



It has been done

New London!

Stormwater Utility Webinars and Workshop Materials

Funding Climate Solutions for Chronic Flooding, Extreme Rainfall Events, and Water Quality with Stormwater Authorities, CT DEEP, CIRCA, UConn CLEAR

[Click here to watch](#) 



Stormwater Utilities in CT?! Amanda Ryan, UConn CLEAR and Joe Lanzafame, New London



<https://nemo.uconn.edu/stormwater-utilities>

Poll – What is the greatest benefit of a utility?

Stormwater Utilities in Action

- Aging Infrastructure and Flood Mitigation
- Green Stormwater Infrastructure (GSI)
- Water Quality
- MS4 Compliance

Stormwater Utilities in Action

- **Aging Infrastructure and Flood Mitigation**
- Green Stormwater Infrastructure (GSI)
- Water Quality
- MS4 Compliance

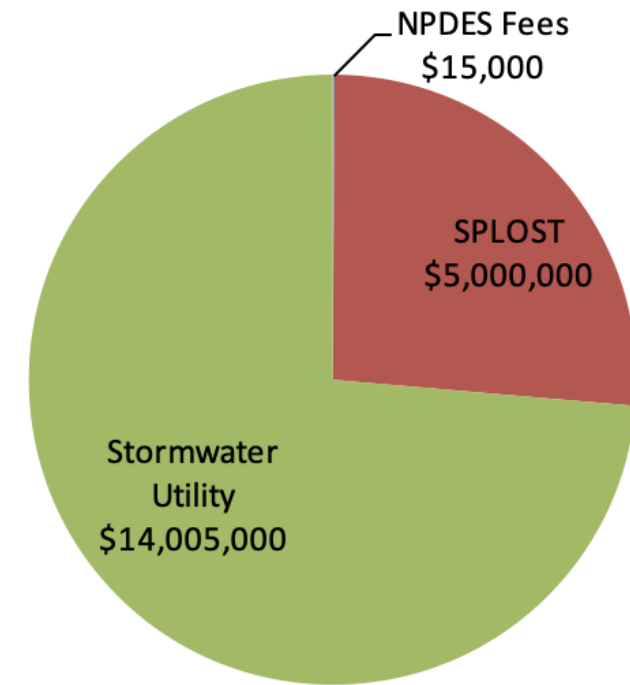
Aging Infrastructure and Flood Mitigation

- 2021 Stormwater Utility survey (Black and Veatch)

- Over 73% of respondents: aging infrastructure
 - One of the two highest ranked stormwater management issues

- Augusta, Georgia (Pop: ~200,000)

- Estimated \$240 million backlog of stormwater infrastructure repair
 - Previous funding = General fund & Special Purpose Local Options Sales Tax fund
- Utility allows for direct fund
 - Double amount of stormwater crews
 - Rehab & repair of stormwater infrastructure
 - Street sweeping / catch basin cleaning
 - 13 new priority projects



Stormwater Utilities in Action

- Aging Infrastructure and Flood Mitigation
- **Green Stormwater Infrastructure (GSI)**
- Water Quality
- MS4 Compliance

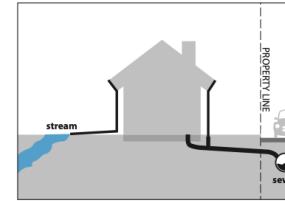
GSI Implementation

- **Raleigh, NC** (Pop: ~465,000)
 - **1,700 sq. ft. Bioretention area**
 - Six trees and more than 750 plants
 - 6 lbs Nitrogen + 109 lbs suspended solids
 - **Another 500 ft bioretention area in the works**
 - Fall 2202



GSI Implementation

- Credit System as incentives
- Portland, Oregon (Pop: ~645,000)
 - Credits for all property types
 - Residential = up to 100% for properly managing stormwater runoff from rooftops
 - Dry wells and french drains, lawns and rain gardens, rain barrels, and eco-roofs.



Off your property to a street, drainage ditch, sewer, stream or other location

⊘ **Does not count toward discount**

These are examples of places rain goes after it leaves your roof if it does not soak into the ground into your property. Only rain runoff that safely soaks into the ground on your property counts toward the Clean River Rewards discount. However, you may still get a partial discount if some of your rain runoff goes off your property and some safely soaks into the ground on your property.



Drywells, French drains or soakage trenches

✓ **Counts toward discount**

Drywells, French drains and soakage trenches are buried underground. They can collect rain from your roof and let it slowly soak into the ground on your property.



Swale, lawn, garden or landscaped area

✓ **Counts toward discount**

These are places rain runoff can soak into the ground on your property through an extension attached to the end of a downspout.

To stay safe and be eligible for discount the rain must discharge at least 6 feet away from a basement, 2 feet away from a crawl space or slab foundation, 5 feet from the neighbors' property line, and 3 feet from the public sidewalk. Make sure there is enough space for the water to soak into the ground. The area of the ground receiving the water must be at least 10% of the area of the roof that is draining to it. Also, make sure the water drains away from your house, but don't send it down steep slopes.



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Stormwater Utilities in Action

- Aging Infrastructure and Flood Mitigation
- Green Stormwater Infrastructure (GSI)
- **Water Quality**
- MS4 Compliance

Water Quality

- Lake Whatcom, Washington
 - 10 mi long
 - Recreation
 - Swimming, fishing, boating
 - Tourism
 - Drinking water for 85,000
 - Home to various flora and fauna



Water Quality

• Lake Whatcom TMDL

- Excess phosphorous and bacteria

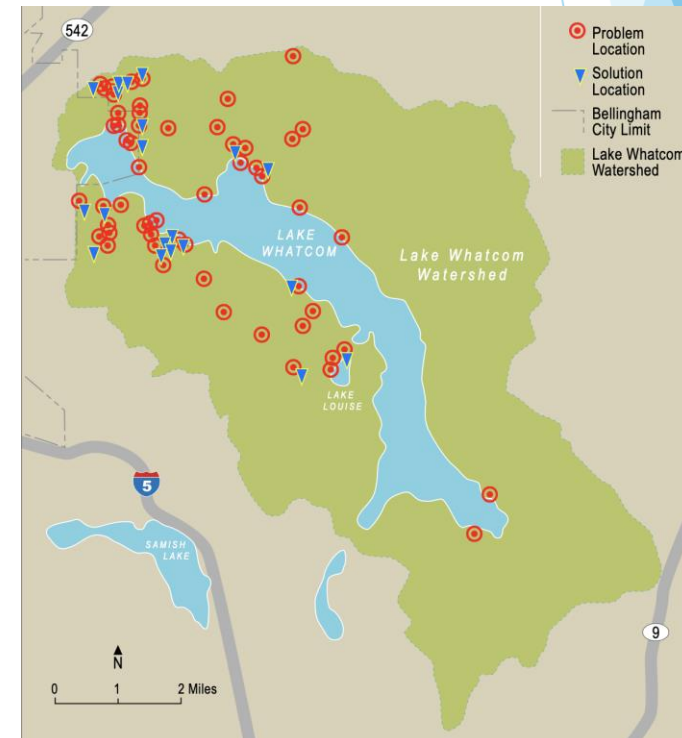


• City of Bellingham, WA (Pop: ~88,000)

- Native vegetation
- Treated with phosphorous removing filters

• Whatcom County, WA (Pop: ~230,000)

- Separate utility for properties outside of Bellingham and draining to Lake Whatcom
- \$45,000/year for monitoring



◀ Locations of known surface water problems and proposed capital project solutions

Water Quality

- South Burlington, Vermont (Pop: ~20,000)
 - Sanitary sewer pipe accidentally connected to stormwater drainage pipes
 - Discharging directly into local waterways since 1994
 - Funding to dig up and reconnect pipe to correct system.
 - Monitoring results = reduction in pollutant levels at this outfall
- **We will hear from them soon!**




Stormwater Utilities in Action

- Aging Infrastructure and Flood Mitigation
- Green Stormwater Infrastructure
- Water Quality
- **MS4 Compliance**


MS4 Compliance


- Millis, Massachusetts (Pop: ~8,000)
 - Utility implemented: 2018
 - Focus on Construction Site Control Measure
 - Legal authorities to control runoff on (re)development sites
 - Funds for legal consultants
 - Establish ordinance
 - Conduct inspections

“inspection and enforcement of stormwater bylaws at construction sites”



Town of Millis, MA
Stormwater Utility Credit Manual



Prepared for: To

Millis' Role in Stormwater Management

The Town's Stormwater Management Program

To avoid negative environmental, public health, and economic impacts of pollution and flooding, the Town implements a stormwater management program. The program inspects, maintains, and improves stormwater infrastructure. The Town also takes actions to ensure that stormwater conveyed through the Town's drainage system reduces contribution of pollutants to the maximum extent practicable.

The Town's stormwater management program is required as a part of the Town's MS4 Permit (Municipal Separate Storm Sewer System). Millis is among more than 200 other communities in Massachusetts subject to the requirements of the MS4 Permit, many of which have implemented a Stormwater Utility, as shown in Figure 3. Many other communities are in the planning process to do so.

Stormwater Services

When you pay the Stormwater Utility bill each year, the Town is able to provide the following stormwater management services, among others:

- Operation and maintenance of stormwater infrastructure including: catch basin cleaning, ditch maintenance, drainage pipe repairs to improve stormwater infrastructure
- Street sweeping and litter cleanup
- Stream restoration and stabilization
- Water quality monitoring and water quality programs
- Inspection and enforcement of stormwater bylaws at construction sites



Figure 3: Communities in Massachusetts with Stormwater Utilities (based on a 2018 Study by Western Kentucky University).

Stormwater Utility Credit Manual
Town of Millis, MA

Page 3

MS4 Compliance

- Stormwater Utility and MS4 Compliance Fact Sheet
 - Examples from towns and cities across the country!

<https://nemo.uconn.edu/stormwater-utilities>

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HEALTH AND NATURAL RESOURCES

Stormwater Utilities and MS4 Compliance

Examples from across the country



Stormwater utilities are fees which generate direct and stable funding for stormwater management. Stormwater utilities function the same as other utilities, such as water and sewage. Just as residents pay a fee for how much water they use to fund the drinking water services within their area, stormwater utilities charge residents and property owners on the amount of impervious cover on their property to fund the management needed to prevent and mitigate stormwater pollution and its adverse effects. Impervious cover charges allow for all properties, including those which are tax-exempt, to contribute to the stormwater fund, making for an equitable and fair fee. These funds can be used for various aspects of stormwater management, such as infrastructure repair, green infrastructure implementation, catch basin cleaning, and more, most of which are requirements of the Municipal Separate Storm Sewer Systems (MS4) permit.

The National Pollutant Discharge Elimination System permit, including the MS4 permit, is currently implemented in 46 states across the country.¹ Stormwater utilities have been implemented within 41 states.² And with the passing of Governor Lamont's [Climate Bill](#) in May of 2021, Connecticut municipalities have the opportunity to carry out their own stormwater utilities.³ These utilities are not dependent on geographic area or population size. Locations have ranged from Los Angeles, California, with a population of over 4 million to Indian Creek Village, Florida, with a population of 88 people.⁴ Even though stormwater utilities come in all shapes and sizes, they all address stormwater pollution and help achieve compliance with MS4 requirements.

Stormwater Utilities 2021



Figure 1: Map of the United States with location of known stormwater utilities, 2021⁵

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Poll – What do you want to learn more about?

Tools to Help

Establish a Stormwater Utility

Learn how stormwater utilities can transform your community by addressing long-standing flooding and water pollution problems that threaten the health, safety, and economic well-being of your residents.

Click the links below to find all the tools you need to affordably and effectively establish a stormwater utility in

Key Milestones For Implementation



Eight Basic Steps to Establish a Stormwater Utility

1. Vetting the concept with top local officials
2. Establishing a core team of internal experts
3. Engaging the mayor (or county executive or utility director)
4. Authorizing a feasibility study to identify options that best suit the community
5. Ongoing stakeholder and outreach activities
6. "Go" or "no go" decision
7. An implementation phase
8. The final launch


NJ Stormwater Utility Resource Center

<https://stormwaterutilities.njfuture.org>

Tools to Help

UConn Connecticut Institute for Resilience and Climate Adaptation

Stormwater and Climate Resilience




What is Stormwater Runoff?
Stormwater runoff is rain or snowmelt that doesn't soak into the ground but flows over impervious surfaces as runoff into a drainage system. Along the way, this runoff picks up pollutants such as vehicle fluids, metals, trash, yard waste, fertilizers, and other chemicals from pavement and other surfaces. Most stormwater flows through storm sewers untreated into streams, lakes, rivers, and the ocean. Extreme events can overwhelm the capacity of a stormwater system and lead to flooding, erosion, and poor water quality. As the climate changes and precipitation becomes more intense, the impacts of stormwater runoff will become more frequent, severe, and widespread. Regulations to protect the environment require municipalities, developers, industry, and large commercial sites to take action to reduce stormwater entering waterways, but when storms are severe, the existing infrastructure may be inadequate. One way communities can address pollutants in runoff and improve resilience to extreme precipitation events is to upgrade stormwater management practices and infrastructure. But this takes dedicated funding.

What is a Stormwater Authority?
In 2021, acting on recommendations of the Governor's Council on Climate Change (GC3), the Connecticut legislature passed PA 21-115 enabling municipalities to create a stormwater authority to help manage stormwater and improve resilience to climate change by assessing a scaled user fee based on the amount of stormwater runoff a property generates. Funding generated from the user fee can be used to maintain and enhance stormwater treatment measures and resilient infrastructure and provide matching funds for state and federal grants.

There are over 1800 stormwater authorities in the US in 45+ states serving communities both large (Los Angeles) and small (under 1000 residents). Under a pilot program, New London, Connecticut created a stormwater authority in 2018 that generates over \$1M annually for stormwater system improvements. Revenue generated by a stormwater fee can be used only for specific purposes related to improving stormwater management and allows municipalities to have a dedicated funding stream to pay for capital improvements to improve

CIRCA Announces Municipal Resilience Grant Availability

Posted on December 8, 2021 by Katherine Lund



CIRCA is requesting [Municipal Resilience Grant Program applications \(MRGP\)](#) from municipal governments, non-governmental organizations (NGOs) in partnership with municipalities, and councils of governments (COGs) for initiatives that advance two specific climate priorities for the state of Connecticut: 1) implementation of stormwater authorities, and 2) development of a resilience "project pipeline." Applicants can submit proposals for both tracks, but only one proposal for each track. Projects should be completed in 12-months.

This funding supports the state's recent legislation, [An Act Concerning Climate Change Adaptation \(PA 21-115\)](#), and recommendations of the [Governor's Council on Climate Change \(GC3\)](#). Importantly, this funding expands the capacity of municipalities to address local resilience financing and project development needs. Project proposals in either track should be directly supported by a municipality as an applicant or with a letter of support and products should be transferable to other communities.

For more information and to apply, see the [MRGP website](#).

UConn Law/CIRCA Ordinance Template & Municipal Grants

More to come . . .

- Wednesday, May 4th at 1pm: South Burlington, VT
- Stormwater Utility Workshop: Fall
- Coming very soon...

New website: Same link, new look!

<https://nemo.uconn.edu/stormwater-utilities>

Questions?

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