

MEMBER MEETING

November 15, 2018



THE WATER COUNCIL

HOST WELCOME



Dr. John Walz
President, MSOE



STORMGUARDEN – A PILOT PROGRAM SUCCESS STORY

Carrie Bristoll-Groll
Principal/CEO, Stormwater Solutions
Engineering





AN ATTRACTIVE, LOW
COST,
LOW MAINTENANCE
RAINFALL
INTEGRATION
SOLUTION

PATENT US 62/437-116

Brief Background



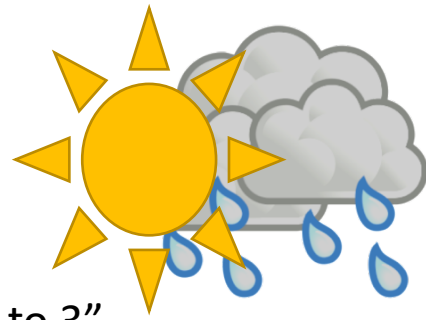
- Carrie Bristoll-Groll, PE, CFM
- Principal Civil Engineer
- Stormwater Solutions Engineering, LLC
- Civil Engineering Firm founded in 2002
- Staff of 7
- Inventor of StormGUARDen

StormGUARDen™

The logo graphic consists of a series of blue wavy lines on the left, a grid of green dots in the center, and more blue wavy lines on the right.

- Planter style stormwater management combines bioswale and cistern in one footprint
- Recharges groundwater by allowing water to slowly drain to grade
- Manages varied storm flows through tiered outlet system





During storms up to 3"
in depth

Flows through the level
rock-filled trough

Leaving 2" of water in a
permanent reservoir for
plants to have access to
water during dry
weather

Filling the open storage
zone below, which has
capacity of 6.5 rain
barrels

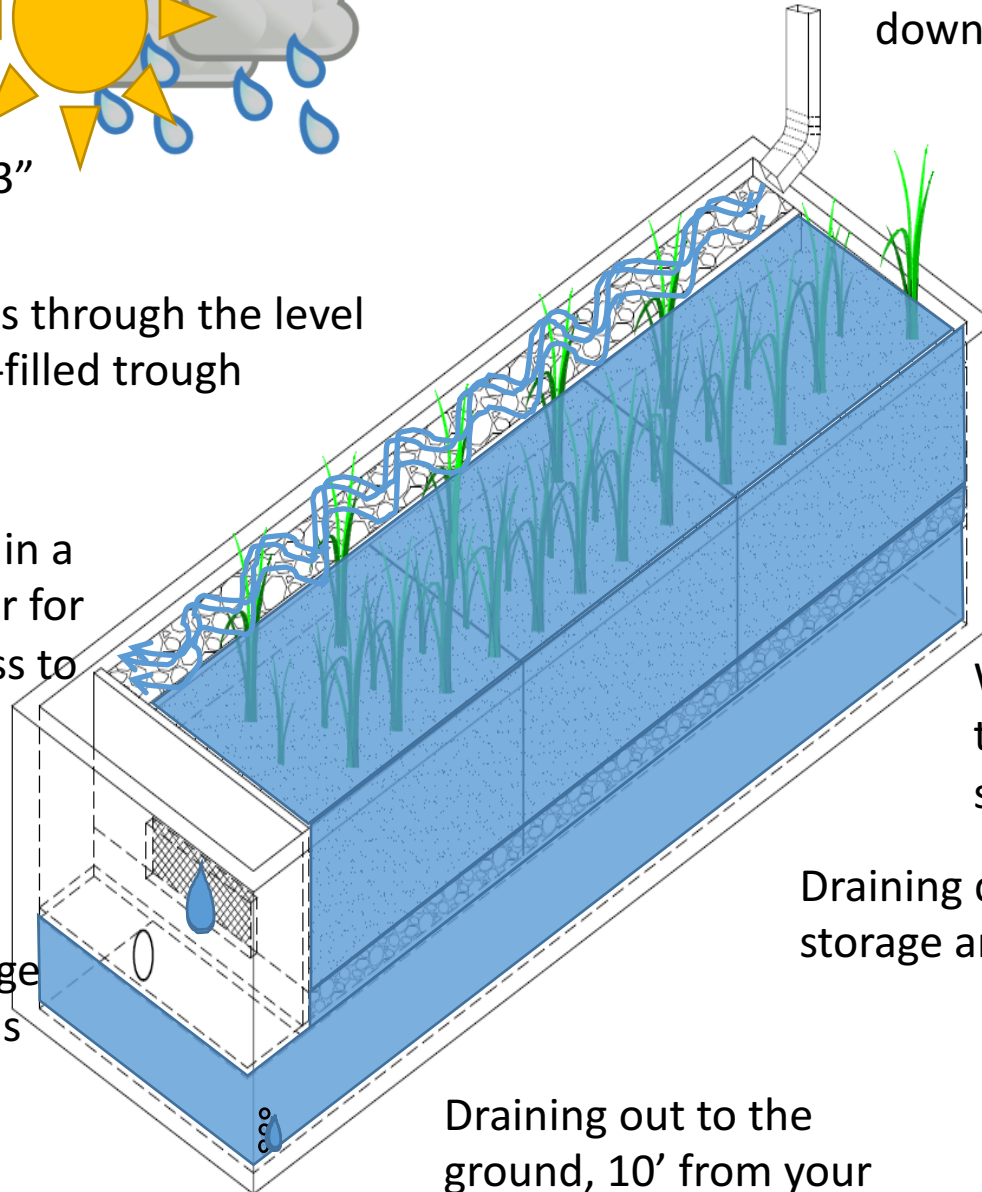
Rain flows through the
downspout

And overflows to the
planted media
containers

Water is filtered
through plant roots and
soil media

Draining down to
storage area below

Draining out to the
ground, 10' from your
foundation





Captures and reduces flows from a 3" rain event



Removes bacteria and other rooftop pollutants



Grow a variety of plants, fruits and veggies



StormGUARDen™
~~~~~●●●●●~~~~~

Made from durable,  
weather resistant and  
sustainable materials

Functions through  
winter conditions







GREAT FOR LIMITED SPACE RETROFITS



# Commercial Applications





# Commercial Applications





## BEFORE



## AFTER (6.5 rain barrels!)





# COMBINED SEWER NEIGHBORHOOD APPLICATION







## **2017: Received Pilot Project Grant from The Water Council**

- Installed 10 pilot sites
- Improved on the design
- Developed website, logo, social network
- Hired 1 intern for 6 months
- Submitted Provisional and Utility Patent Applications
- Won BizTimes Innovation Quotient (IQ) award
- Won 3<sup>rd</sup> place in WI Woman-owned Small Business (WEDC)
- Secured a workshop/warehouse lease
- Developed Training Program for installations
- Networked to secure project/installs for 2018



## **2018: First Year to Market**

- Hired full-time Operations Manager
- Improved on the design
- Expanded workshop/warehouse space
- Exhibited at 6 trade shows/conferences
- Appeared in Milwaukee Journal-Sentinel Article June 12<sup>th</sup>

# Some Milwaukee residents to get free state-of-the-art garden boxes to help prevent combined sewer overflows



*(Photo: Don Behm / Milwaukee Journal Sentinel)*



Milwaukee homeowner Aaron Pierce says he can no longer be blamed for contributing to overflows of combined sanitary and storm sewers in the city.

Pierce took the step of disconnecting the roof downspout on his N. Pierce St. home from a pipe draining to the combined sewer in the street and preventing hundreds of gallons of clear water from entering the sewer during a storm.

That was no small accomplishment on his 30-foot-wide lot on the north side since there isn't enough lawn to absorb all of the water coming off the roof. The city prohibits water from a property owner's downspout from





## 2018: First Year to Market

- Hired full-time Operations Manager
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- Appeared in Milwaukee Journal-Sentinel Article June 12<sup>th</sup>
- **Hired Director of Business Development (part-time for both companies)**
- **Received projects with up to 60 units to be installed on MMSD/other funded projects**
- **Performed site assessments and installed 22 units**



**GUARD**  
neighborhoods  
from flooding.

**GUARD**  
streams from  
stormwater  
pollution.



# Combined sewers overflow into Milwaukee rivers and Lake Michigan after intense rainfall

[Don Behm](#), Milwaukee Journal Sentinel

Published 4:43 p.m. CT June 18, 2018 | Updated 5:32 p.m. CT June 18, 2018

# Wisconsin records highest rainfall totals around the country over last two weeks

[Trent Tetzlaff](#), Appleton Post-Crescent

Published 11:18 a.m. CT Aug. 31, 2018 | Updated 12:44 p.m. CT Aug. 31, 2018

26" of rain fell in areas of Milwaukee around Labor Day Weekend. Annual average total for Milwaukee is 34"

Combined sewage overflowed to Milwaukee Rivers 6 times this summer



**...Up to 60 units to be installed, actual install of 22 units?**

115TH CONGRESS  
1ST SESSION

**S. 1464**

To amend the Internal Revenue Code of 1986 to expand the exclusion for energy conservation subsidies provided by public utilities to include subsidies provided by public utilities and State and local governments for water conservation and storm water management.

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## **Bill Summary**

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Water Conservation Rebate Tax Parity Act This bill amends the Internal Revenue Code to allow an exclusion from gross income of the value of any water conservation and efficiency measure or water runoff management improvement (or any subsidy, rebate, or other amount for such a measure or improvement) received from a water department. A "water department" means any entity (including a public or private utility, the federal government, or a

# Bill S. 1464 Water Conservation Rebate Tax Parity Act

| Cosponsor                                       | Date Cosponsored |
|-------------------------------------------------|------------------|
| <a href="#">Sen. Heller, Dean [R-NV]*</a>       | 06/28/2017       |
| <a href="#">Sen. Bennet, Michael F. [D-CO]*</a> | 06/28/2017       |
| <a href="#">Sen. Gardner, Cory [R-CO]*</a>      | 06/28/2017       |
| <a href="#">Sen. Harris, Kamala D. [D-CA]</a>   | 12/07/2017       |
| <a href="#">Sen. Baldwin, Tammy [D-WI]</a>      | 06/25/2018       |

Contact Ron Johnson to support Bill S. 1464 Water Conservation Rebate Tax Parity Act







[StormGUARDen.com](https://StormGUARDen.com)



# INNOVATION OPPORTUNITIES IN WATER

Steve Glynn, Director of Innovation  
Karen Frost, VP Economic Development



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# BREW vs. Tech Challenge

- Topics are named by corporate sponsors
- Longer application cycle
- Competition ends in a pitch/'Shark Tank' style event
- Winners have opportunity for cash prize
- Offered three times annually and can include varied/multiple sponsors



YOUR FUTURE IN FRESH  
WATER TECHNOLOGY IS  
HERE

## PRIZE

Challenge finalists will present in-person to the sponsoring organization to compete for:

- Maximum total prize money of \$25,000
- If the technology is near commercialization, opportunities to jointly commercialize technology with a sponsoring company
- If the technology needs more research, opportunities to continue research at the Water Equipment & Policy (WEP) Research Center in conjunction with a university professor and sponsoring company
- Access to sponsoring companies' R&D teams
- Media exposure and communications boost to The Water Council's water technology leadership network

## TECHNOLOGY INTERESTS

Tech Challenge: Biological & Disinfection Byproduct (DBP) Sensors is accepting applications from people located anywhere around the world between Nov 1, 2018 – Jan 13, 2019. This challenge is looking for inventive individuals or companies with ideas that fall into one or more of these categories:

- **Sensors for detecting microbiological organisms for:**
  - **Presence of illicit discharges to storm and sanitary sewers**
  - **Presence of pathogens in water distribution systems, wastewater effluent and biosolids**
  - **Industrial process control**
- **Sensors for detecting disinfection byproducts (DBP) resulting from organic compounds reacting with disinfectant chemicals**



## Tech Challenge: Biological & DBP Sensors

Apply by Jan 13

The Tech Challenge is an even playing field for anyone with a smart, new freshwater technology idea to vet their concept with expert industry professionals and compete for an opportunity to turn that idea into a viable business. Challenge finalists will vie for prize money, access to corporate R&D resources and the opportunity to partner on the development, marketing, licensing or sale of the winning technology or idea.

**Tech interests:** sensors for detecting microbiological organisms or disinfection byproducts (DBP); presence of illicit discharges to storm and sanitary sewers; presence of pathogens in water distribution systems, wastewater effluent and biosolids; industrial process control

[LEARN MORE →](#)



## Tech Challenge: Sensors for Heavy Metals & Chemicals

Apply by Jan 13

The Tech Challenge is an even playing field for anyone with a smart, new freshwater technology idea to vet their concept with expert industry professionals and compete for an opportunity to turn that idea into a viable business. Challenge finalists will vie for prize money, access to corporate R&D resources and the opportunity to partner on the development, marketing, licensing or sale of the winning technology or idea.

**Tech interests:** sensors for detecting heavy metals (such as lead) and industrial chemicals (such as PFOA and PFAS) in water and wastewater

[LEARN MORE →](#)

# BREW Accelerator

## **World's foremost freshwater accelerator.**

- 3 ½ month program
- Mentors, advisors, coaches, peers
- Global Water Center
- Water Council network
- Capital investment



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# BREW Corporate Accelerator

## **Corporations looking to fast track innovation.**

- Sponsored by A. O. Smith
- BREW Accelerator program
- Access to A. O. Smith advisors, innovation, R&D, manufacturing, distribution resources and more



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# BREW Accelerator Case Study: PlasmaE

Paul Goudy, PlasmaE



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# GLOBAL CONNECTIONS, GROWING OPPORTUNITIES

Beverley Ferrara, European Representative  
Karen Frost, VP Economic Development



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*"New York are out for breakfast, Munich are having a coffee break and Tokyo are at lunch."*





# CLOSER RELATIONSHIPS

wateralliance<sup>®</sup>

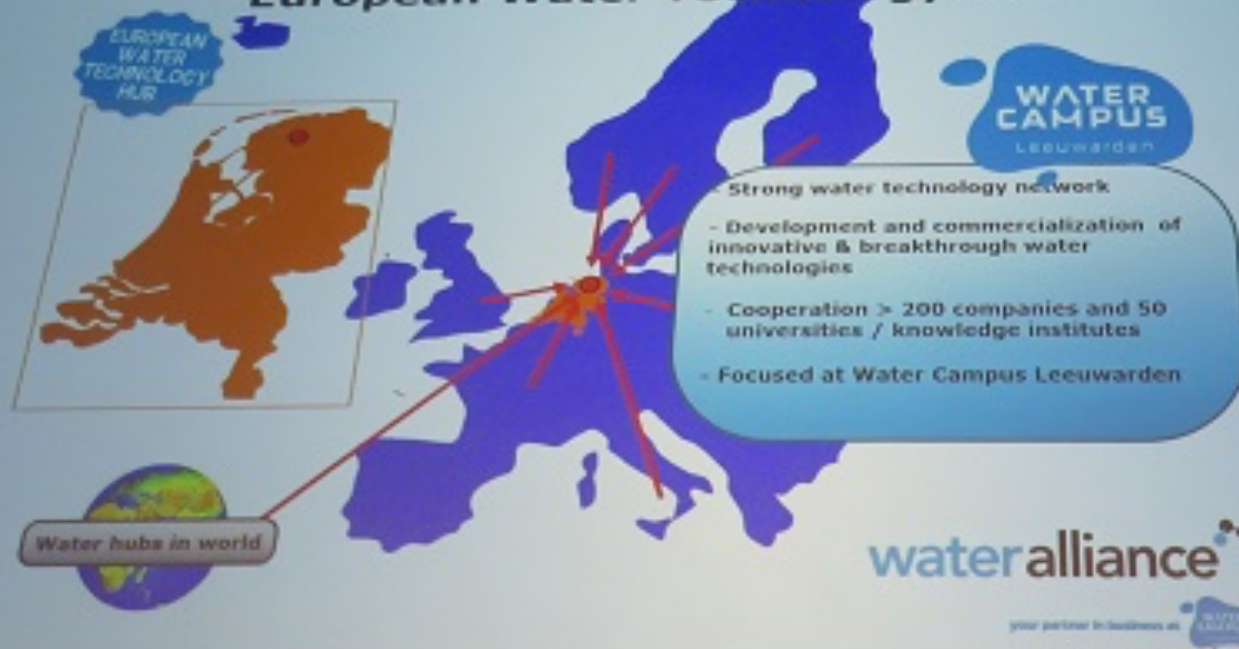


German Water  
Partnership



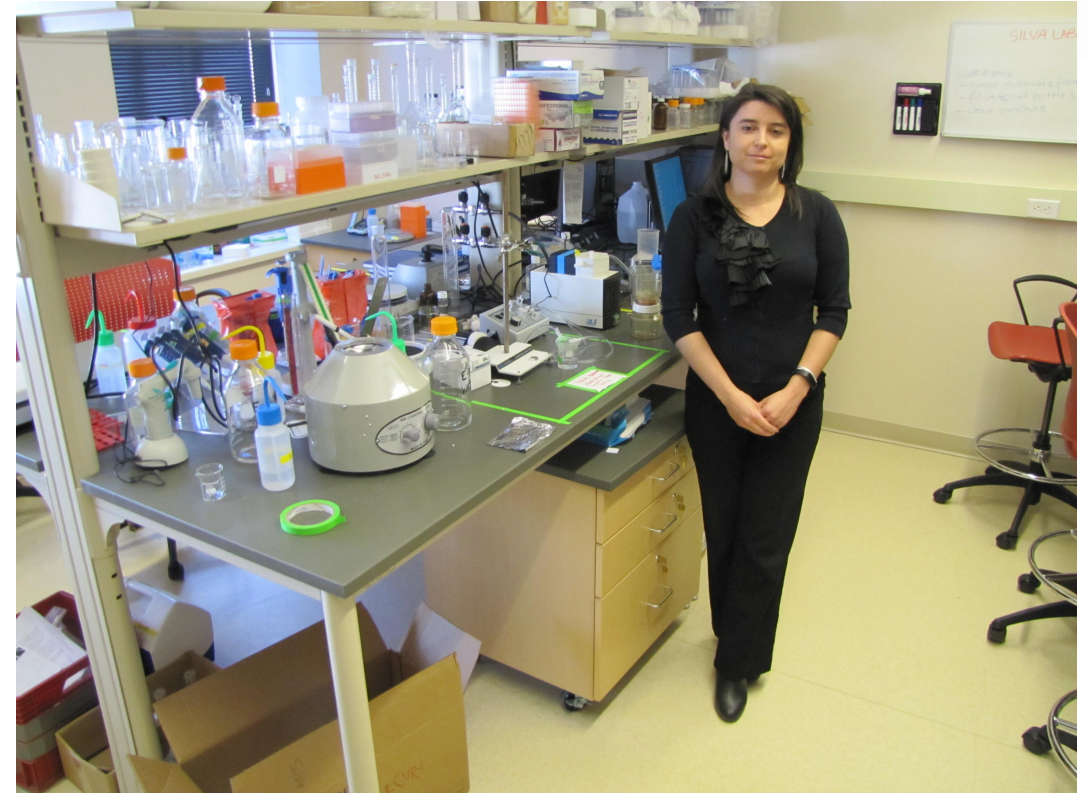
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## The Netherlands European Water Technology Hub





# CLOSER RELATIONSHIPS





# OVERSEAS MEMBERSHIP



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# GROWING OUR NETWORK



BLÜCHER®

PRIMUS  LINE

The prime solution for pipes.



SIGMA  DAF  
Clarifiers



condorchem envitech  
smart ideas for wastewater & air treatment





WHY WATER WHY MILWAUKEE GLOBAL IMPACT PROGRAMS RESEARCH EVENTS GET INVOLVED



Member



Company Size: Small/Medium



@OptiRTC



Visit Company Website

CONNECT →

## OPTI RTC INC.

Opti is building the Internet of Stormwater to protect our water resources. Opti provides SaaS solutions to optimize infrastructure, focusing on intelligent control of stormwater in urban environments.



“Thanks for setting up the meeting with Blücher. Saratech is a promising new technology with potentially significant benefits. We’ll keep in touch with Raymond to consider cooperation options.”

**Matthew Bednarski, GRAEF Engineering**



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# CONNECT & COLLABORATE

**SIGMA**  **DAF**  
Clarifiers



Looking for Partners focused on industry customers (end users) and **engineering companies** that supply water treatment plants to end users (industrial & municipal).



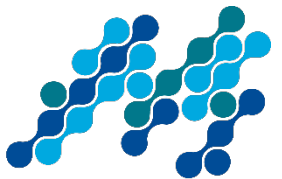
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# OPPORTUNITIES



- **High Visibility** to 500+ companies
- **First Look** at New Technologies
- **Partnership Opportunities**
- **Incremental Revenue Streams**
- **International Expansion**



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"If everyone is moving forward together,  
then success takes care  
of itself."

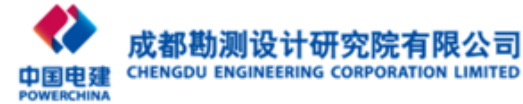
- Henry Ford



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# NEW MEMBERS

## 19 States, 11 Countries







# Water Leaders Summit 2019

June 26 – 27 | Milwaukee, Wisconsin USA  
Harley-Davidson Museum®

# MemberDROPS



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# THANK YOU TO OUR HOST

