

# NATIONAL STORMWATER SYMPOSIUM

MARCH 15-17 | CINCINNATI, OHIO



AMERICAN SOCIETY OF  
ADAPTATION PROFESSIONALS



This conference is organized by the Water Environment Federation Stormwater Institute (SWI) in cooperation with the Ohio Water Environment Association, Sanitation District No. 1 of Northern Kentucky, Metropolitan Sewer District of Greater Cincinnati, American Society of Adaptation Professionals, Civic Garden Center of Greater Cincinnati, Ohio Stormwater Association, Tinker's Creek Watershed Partners, National Municipal Stormwater Alliance, University of District of Columbia CAUSES, and the Water Research Foundation.

#Stormwater20

2020

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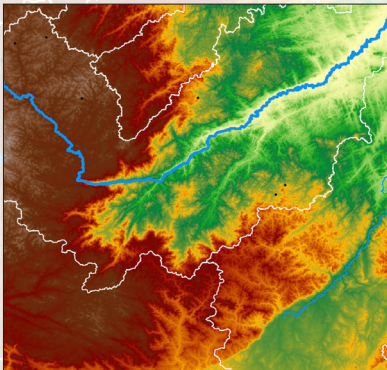
**SAVE  
THE  
DATE**

**REGISTRATION OPENS**  
APRIL 14, 2020

93rd ANNUAL WATER  
ENVIRONMENT FEDERATION  
TECHNICAL EXHIBITION &  
CONFERENCE

New Orleans Morial  
Convention Center  
New Orleans, Louisiana  
Conference: October 3 - 7, 2020  
Exhibition: October 5 - 7, 2020

[www.WEFTEC.org](http://www.WEFTEC.org)  
#WEFTEC20



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**WEF Stormwater Institute**  
**National Stormwater Symposium 2020**  
**Excellence in Sustainable Stormwater Management**

March 15-17, 2020

Duke Energy Convention Center  
Cincinnati, Ohio, USA



AMERICAN SOCIETY OF  
ADAPTATION PROFESSIONALS



*Civic Garden Center*  
of Greater Cincinnati



This conference is organized by the Water Environment Federation Stormwater Institute (SWI) in cooperation with the Ohio Water Environment Association, Sanitation District No. 1 of Northern Kentucky, Metropolitan Sewer District of Greater Cincinnati, American Society of Adaptation Professionals, Civic Garden Center of Greater Cincinnati, Ohio Stormwater Association, Tinker's Creek Watershed Partners, National Municipal Stormwater Alliance, University of District of Columbia CAUSES, and the Water Research Foundation.

March 15, 2020

Dear Colleagues:

On behalf of the Water Environment Federation Stormwater Institute, the Ohio Water Environment Association and each of our cooperating organizations we welcome you to Cincinnati for the National Stormwater Symposium 2020.

We are pleased to have worked alongside the Symposium Steering Committee, WEF staff, and all the volunteers who have dedicated their time and effort over the past 9 months to ensure that the event will be one to remember. We would also like to thank the generous support of our sponsors, exhibitors, speakers, and you the attendees for supporting this event and for being the voice for clean water.

The technical program includes a wide range of topics such as resiliency, sustainability, and innovative technology. During the event, the Metropolitan Sewer District of Greater Cincinnati (MSD) will provide tours of its innovative, large-scale green infrastructure installations. Attendees can get a “behind the scenes” look at the MSD Lick Run Greenway project, a US\$90 million stormwater management and CSO reduction project. This is a driving and walking tour with stops at key elements of the Greenway, including a forebay, headwaters, mile-long stream channel, pond, and outfall into the Mill Creek, a tributary of the Ohio River.

Just across the Ohio River, attendees can also visit Sanitation District No. 1 (SD1) where the Public Service Park features a self-guided tour of more than 10 best management practices (BMPs) for controlling stormwater runoff. The park also features three interactive art sculptures that help reach people with different learning styles.

Attendees can also take part in the free Post-Conference Special Seminar on Quantifying and Monetizing Co-Benefits of Green Stormwater Infrastructure on March 18.

We look forward to sharing this experience with you, and we look forward to meeting you over the next several days. We hope that you enjoy your stay in Cincinnati.

Sincerely,



Leslie Schehl, PE  
Conference Co-Chair



John Phillips, ENV SP  
Conference Co-Chair

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# NATIONAL STORMWATER SYMPOSIUM COMMITTEE

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Metropolitan Sewer District of Greater Cincinnati  
*Symposium Co-Chair*



John Phillips  
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*Symposium Co-Chair*

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# NATIONAL STORMWATER SYMPOSIUM COMMITTEE

## NATIONAL STORMWATER SYMPOSIUM PROGRAM COMMITTEE

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Brandon Willnecker  
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## REGISTRATION

**All events are held in the Duke Energy Convention Center.**

The Registration Desk is located in Hall C Lobby and will be open at the following times:

**Hours:**

Sunday, March 15	7:30 AM - 5:00 PM
Monday, March 16	7:30 AM - 5:00 PM
Tuesday, March 17	8:00 AM - 5:00 PM

## PRESENTER AND MODERATOR INFORMATION

**All presenters, alternates, and moderators should sign in at the conference Registration Desk and attend their assigned briefing.**

Presenters, alternates, and session moderators, participating Monday and Tuesday should attend their assigned briefing. Please attend only once unless speaking on multiple days. Please add this to your calendar via the App. The Speaker Briefing and room schedule is as follows:

Monday, March 16 — Room: 207	7:30 AM – 8:15 AM
*Sessions 1 through 8	
Tuesday, March 17 — Room: 207	7:30 AM – 8:15 AM
*Sessions 9 through 17	



## **COMMITTEE MEETINGS**

All meetings are open to everyone. Attendees are especially welcome to the Stormwater Committee and Watershed Management Committee Meetings to learn more about how to join. Please eat before you come join us on Monday or Tuesday at 1:00 PM in Room 211.

### **Monday, March 16**

#### **SWEMA Breakfast Forum**

7:00 AM – 8:15 AM  
Room 211

#### **Stormwater Committee Meeting**

1:00 PM – 1:30 PM  
Room 211

#### **Stormwater Committee, Policy Subcommittee Meeting**

3:00 PM – 3:45 PM  
Room 211

### **Tuesday, March 17**

#### **Stormwater Institute All Hands Breakfast Meeting**

Breakfast consists of coffee, tea, and pastries.

7:00 AM – 8:00 AM  
Room 211

#### **Watershed Management Committee Meeting**

1:00 PM – 1:30 PM  
Room 211

## MOBILE APP



WEF is pleased to offer the ***WEF Events Connect Mobile App*** which gives you access to all current and future WEF events, including the National Stormwater Symposium.

View full program details and the exhibitor list, then start building your #Stormwater20 agenda.

Download “***WEF Events Connect***” now from the Google Play OR Apple App Store. All other web-enabled devices can access the app via the web at <https://ativ.me/q9z>.

***We want your feedback! Please complete in-app surveys on individual presentations, sessions, workshops, and more!***

## ONLINE PROCEEDINGS

Conference proceedings, consisting of manuscripts for each presentation, have been made available through an online portal. Advance registrants within Full Conference, Daily, Student, and Exhibiting categories will receive access to the Stormwater 2020 online proceedings on the day prior to the conference. Onsite registrants will receive an access link following the event's conclusion.

Copies of proceedings may be ordered after the conference at the member rate of \$100 USD/nonmember rate of \$150 USD. All orders will be processed after conclusion of the conference. You may call 1-800-666-0206 or visit [www.wef.org/ShopWEF](http://www.wef.org/ShopWEF) and ask for Stock Number – CPSW2002

## RECEPTION AND MEAL FUNCTIONS

### Networking Reception

### Exhibit Hall

Come grab a beer while they last! Join us in the exhibit area to mingle with your fellow attendees while you view the exhibits, renew acquaintances, and make new contacts. Light hors d'oeuvres and refreshments will be served. Beer will be available first come, first served with a cash bar to follow. Don't miss out!

**Monday, March 16**

4:45 PM – 6:15 PM

### Luncheons

### Exhibit Hall

Lunch will be provided for all registered attendees. Please advise staff as soon as possible if you have any special dietary requirements.

**Monday, March 16**

12:15 PM – 1:30 PM

**Tuesday, March 17**

12:15 PM – 1:30 PM

### Networking Breaks

The Networking Breaks will be held:

**Monday, March 16**

Exhibit Hall

10:00 AM – 10:45 AM and 3:00 PM – 3:45 PM

**Tuesday, March 17**

Exhibit Hall

10:00 AM – 10:45 AM and 3:00 PM – 3:45 PM

## CONTINUING EDUCATION

### **How Do I Receive Credit For this Conference?**

To receive credit for all technical sessions and pre-Symposium workshops, please fill out a Continuing Education Request Form and be sure to have a room monitor initial for verification.

Attendees will have to submit their CE Request Form to the Registration Desk at the end of the Symposium. Please request a continuing education form when you check-in and ask WEF staff at the Registration Desk if you have further questions.

### **Technical Sessions:**

WEF offers Professional Development Hours (PDHs) for participation in technical sessions. **A PDH is defined as one hour** spent engaged in an activity that contributes to the advancement or enhancement of professional skills or scientific knowledge of a professional engineer or operator.

### **When Will I Receive Credits For this Conference?**

Certificates and transcripts for this event will be mailed within 8 weeks of the Symposium.

Please keep in mind that although WEF does provide these files, most states will require the individual licensee to report continuing education credits.

Note: Educational Credits will not be recorded and documentation will not be distributed unless the attendee is a confirmed registrant of this event and the proper steps are completed as indicated in the directions provided.

### **Are WEF Continuing Education Credits Approved in My State?**

WEF applies for approval in many states and will be happy to work with individuals and Member Associations for additional state or agency approvals upon request. In addition, WEF has been approved as a Training Provider through the following:

The Florida Board of Professional Engineers, the New York State Department of Education, and the Ohio EPA. Several states typically accept WEF PDH and CEU credits without issue. For example: California (CWEA), Florida and New Jersey.

## CONTINUING EDUCATION

### What Else Do I Need to Know?

WEF follows the International Association of Continuing Education and Training (IACET) guidelines along with state-specific regulations to achieve strict policies and procedures regarding its Continuing Education Program. WEF calculates education credits following a standardized method that is the most widely accepted by certification and licensing agencies. However, many states differ in the type and/or number of credits they will approve for educational events. Because of this, participants are responsible for exploring their state requirements and for ensuring that WEF conference credits are accepted.

### Service and Support...

In keeping with IACET guidelines, WEF maintains a database of all continuing education files for a minimum of 7 years. You may contact WEF's Customer Service Team between the hours of 8:30am and 5:00pm EST, Monday through Friday to request these files. Please call 1-800-666-0206 or submit an email request to [csc@wef.org](mailto:csc@wef.org).

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### State Credit Calculations:

\*Some state licensing boards will accept CEUs for session under 3 hours in length. Some use different acronyms for training credits. In most instances the credits issued by WEF can be converted to meet state specific requirements that vary from the system used by WEF. This is usually managed at the state level using the following conversion:

**1.0 CEU = 10 Hours** of session time

**1.0 PDH = 1 Hour** of session time

**1.0 Contact Hour = 1 Hour** of session time

For example: **1.7 CEU Credits = 17.0 PDH** depending on individual state regulations.

*\*CEU & PDH credits are available for Workshops to Professional Engineers licensed in the state of New York (NYSED).*

**For more information regarding WEF's Continuing Education Program, please visit [www.wef.org/NationalStormwater](http://www.wef.org/NationalStormwater)**

## TECHNICAL PUBLICATIONS



### **User-Fee-Funded Stormwater Programs**

Member: \$53.93

Non-member: \$64.41

A must-read for agencies and public works departments interested in developing charge systems for stormwater programs based on fee structures. User-Fee-Funded Stormwater Programs will specify the drivers for stormwater user-fee formation and explore the responsibilities, costs, and entire implementation process.

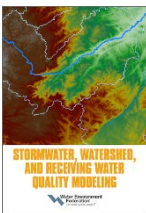


### **Green Infrastructure Implementation**

Member: \$93.48

Non-member: \$116.85

Green Infrastructure Implementation provides actionable information that promotes the implementation of green infrastructure. This book tackles topics that relate directly to the ability to implement green infrastructure. The collection of programmatic and planning topics is unique in current literature and covers a range of issues from stormwater to public education.



### **Stormwater, Watershed and Receiving Water Quality**

Member: \$72.84

Non-member: \$91.05

Stormwater, Watershed, and Receiving Water Quality Modeling provides straightforward guidance on a broad spectrum of modeling tools and their capabilities. Its contents offer past, present, and future perspectives of stormwater quality modeling, and outline criteria for selecting the appropriate model based on project or task. Complete with detailed examples of stormwater, watershed, and receiving water quality models, this up-to-date resource is an essential tool for those engaged in the planning and design of urban stormwater management plans, watershed implementation plans, or other water quality management plans.

*\*\*\* Symposium attendees save 15%.*

*Pricing above includes Ohio Sales Tax and discount*

## SPONSORS

We would like to thank the following sponsoring companies for their contributions to the conference and program.



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[www.stantec.com](http://www.stantec.com)  
Opening General Session

## WEF POLICIES & POSITIONS

### **WEF's Vision**

A community of empowered professionals creating a healthy global water environment.

### **Core Values**

Leadership, Passion, Scholarship, and Collaboration, and Service

### **WEF Policies**

WEF respects and takes the broadest view of human diversity and inclusion and is committed to providing a professional, safe, and welcoming environment at its events for all water professionals and their guests. WEF expects all sponsors, speakers, attendees, media, exhibitors and other participants to uphold our commitment to diversity and inclusion by helping us provide a positive conference environment for everyone.

For more information, please see WEF's Diversity and Inclusivity Policy, as well as WEF's Non-Discrimination and Harassment Policy at [www.wef.org/about/about-wef](http://www.wef.org/about/about-wef).

### **Reporting Concerns**

If you have any concerns during this conference, please stop by the conference registration desk in the Regal Room at the Hyatt Regency Orange County, or you may email the WEF Executive Director Walter Marlowe at [wmarlowe@wef.org](mailto:wmarlowe@wef.org).

## WEF SOCIAL MEDIA POLICY

WEF strongly encourages the use of social media to share your experiences at our event. This includes sharing interesting quotes or information, taking pictures with colleagues, and using the event hashtag. However, to protect intellectual property, videotaping, filming, or live-streaming of any workshop or technical session presentation, or exhibit booth is prohibited. Any participant violating this policy must relinquish the media and may be removed from the conference. Also, promotional or commercial use of photographs taken at WEFTEC and other WEF conferences is strictly prohibited. If you are interested in content, materials, or products, please consider talking to the speaker or exhibitor, who may provide the information or grant permission.



## **CONFERENCE SAFETY AND SECURITY**

WEF works hard to provide a comfortable and safe environment during our meetings and events, including contracting with private security firms and off-duty police officers when required. Your help also is needed to provide a safe and secure environment. WEF recommends that you follow these safety guidelines:

1. **Share your plans.** Advise a family member or friend of your travel plans, including the dates you will be gone, how you will travel to the meeting or event, and where you are staying;
2. **Protect your identity.** Wear your name badge only inside the meeting or event venue; remove and secure your name badge when going to and from the venue; when disposing of your name badge, scratch out or destroy your name and/or the QR code to protect your personal information;
3. **Plan for an emergency.** Be aware of your surroundings. Know where the nearest exits are located. Use the buddy system. Exchange contact information with another event attendee. In case of a venue evacuation, agree where you will meet up. Call for help if your buddy doesn't meet up at the agreed location within a reasonable amount of time.
4. **See something, say something.** If you see something that raises a safety or security concern, please follow the instructions printed below or in the mobile app to alert security personnel.
5. **Wash your hands often.** Hand Sanitizer will be provided at registration and the meeting rooms. Use alternatives to handshakes and handing out business cards.

### **DUKE ENERGY CONVENTION CENTER MEDICAL EMERGENCY**

If a medical emergency should occur:  
Security Office – 24 Hours – (513)-419-7325

Security/Medical house phones are located throughout the facility that go directly to the convention center's security office which is open 24-hours.

First Aid Office is located in the South Concourse across from Exhibit Hall A.

### **HYATT EMERGENCY PHONE NUMBER**

To report an Emergency call #55 from any house phone or dial Hyatt Hotel Security at 513-579-1234.

# STAY HEALTHY WHILE TRAVELLING

**Avoid travel** if you have a fever and cough



If you have a fever, cough and difficulty breathing seek medical care early and share previous travel history with your health care provider

**Avoid close contact** with people suffering from a fever and cough



**Frequently clean hands** by using alcohol-based hand rub or soap and water

**Avoid touching eyes, nose or mouth**



**When coughing and sneezing cover mouth and nose with flexed elbow or tissue – throw tissue away immediately and wash hands**



# UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

## THE GLOBAL GOALS For Sustainable Development



All WEF members and water professionals contribute to the UN Sustainable Development Goals (SDGs) every day they go to work. To highlight the value of water, WEF is offering an SDG educational certificate to all NSS 2020 attendees who attend at least 3 SDG related sessions and complete the onsite form. When identifying sessions, virtually all conference programming is related to SDG 6: Clean Water and Sanitation. However, we have selected an extensive list of sessions that directly address a key target for multiple SDGs. Please track all sessions you attend, submit your completed SDG form to the conference registration desk, and we will e-mail you the NSS 2020 SDG Awareness Professional Development Certificate after the event.

To participate, please pick up the NSS 2020 SDG worksheet from the conference registration desk and be sure to return it before heading home.



## SESSIONS AT A GLANCE

Session Number	Session Title	Time	Credits	Room
<b>Sunday, March 15<sup>th</sup></b>				
<b>Workshop A</b>	Intelligent Wet Weather Systems – Active Monitoring and Control	8:30am–5:00pm	<b>6.0 PDHs</b>	
<b>Workshop B</b>	Innovative Funding, Financing and Alternative Project Delivery Frameworks and Applications in the Stormwater Sector	8:30am–12:00pm	<b>3.0 PDHs</b>	
<b>Workshop C</b>	Designing Successful Stormwater Facilities with Maintenance and Enforcement in Mind	1:30pm–5:00pm	<b>3.0 PDHs</b>	
<b>Monday, March 16<sup>th</sup></b>				
<b>OGS</b>	Opening General Session	8:30am-10:00am	<b>1.5 GCHs</b>	<b>206</b>
<b>Session 1</b>	Stormwater Worldwide	10:45am–12:15pm	<b>1.5 PDHs</b>	<b>204</b>
<b>Session 2</b>	Survey of Lessons Learned	10:45am–12:15pm	<b>1.5 PDHs</b>	<b>205</b>
<b>Session 3</b>	Maintaining Control – Managing Storm Water Assets to Maintain Beneficial Use	10:45am–12:15pm	<b>1.5 PDHs</b>	<b>206</b>
<b>Session 4</b>	Multi-Purpose Stormwater Projects: Insights and Lessons Learned	1:30pm–3:00pm	<b>1.5 PDHs</b>	<b>204</b>
<b>Session 5</b>	Stormwater Action Planning	1:30pm–3:00pm	<b>1.5 PDHs</b>	<b>205</b>
<b>Session 6</b>	Performance of Post-Construction Control Measures	1:30pm–4:45pm	<b>3.0 PDHs</b>	<b>206</b>
<b>Session 7</b>	Computer Based Innovation for Stormwater Management	3:45pm–4:45pm	<b>1.0 PDHs</b>	<b>204</b>
<b>Session 8</b>	WEF Stormwater Institute – National Municipal Stormwater and Green Infrastructure Award Winners	3:45pm–4:45pm	<b>1.0 PDHs</b>	<b>205</b>
<b>Tuesday, March 17<sup>th</sup></b>				
<b>Session 9</b>	Influence and Action – Outreach, Education, and Training Strategies	8:30am-12:15pm	<b>3.0 PDHs</b>	<b>204</b>
<b>Session 10</b>	Program Development, Management, Planning and Analysis	8:30am-12:15pm	<b>3.0 PDHs</b>	<b>205</b>
<b>Session 11</b>	Funding and Financing	8:30am-10:00am	<b>1.5 PDHs</b>	<b>206</b>
<b>Session 12</b>	Unpacking the Environmental Impact Bond	10:45am–12:15pm	<b>1.5 PDHs</b>	<b>206</b>
<b>Session 13</b>	National Policy, Legislative and Legal Hot Issues in Stormwater Sponsored by the National Municipal Stormwater Alliance	1:30pm–3:00pm	<b>1.5 PDHs</b>	<b>204</b>
<b>Session 14</b>	Evolution of Stormwater Utilities to provide Incentives for Green Infrastructure in CSO Communities	1:30pm–3:00pm	<b>1.5 PDHs</b>	<b>205</b>
<b>Session 15</b>	Sustainable Solutions to Climate and Flooding	1:30pm–4:45pm	<b>3.0 PDHs</b>	<b>206</b>
<b>Session 16</b>	Technology and Innovation for Stormwater Management	3:45pm–4:45pm	<b>1.0 PDHs</b>	<b>204</b>
<b>Session 17</b>	Optimizing Stormwater Management for Stream Integrity	3:45pm–4:45pm	<b>1.0 PDHs</b>	<b>205</b>
<b>Wednesday, March 18<sup>th</sup></b>				
<b>Post-Conference Special Session</b>	Quantifying and Monetizing Co-Benefits of Green Stormwater Infrastructure: Analysis Framework and Supporting Tools	8:30am–10:30am	<b>2.0 GCHs</b>	<b>206</b>

## PRE- CONFERENCE WORKSHOPS

### Workshop A: Intelligent Wet Weather Systems – Active Monitoring and Control

Sunday, March 15

8:30 AM – 5:00 PM

*(Separate registration fees apply)*

- |                 |  |
|-----------------|--|
| <b>8:30 AM</b>  | <b>Welcome and Introductions</b>   |
| <b>9:00 AM</b>  | <b>Intelligent Wet Weather Systems Overview (Cincinnati Smart Sewers Story)</b><br>Reese Johnson, MSDGC                                      |
| <b>10:00 AM</b> | <b>Networking Break</b>  |
| <b>10:30 AM</b> | <b>Putting the “Storm” in Stormwater (Rainfall prediction, measurement and analysis)</b><br>Baxter Vieux, Vieux and Associates               |
| <b>11:15 AM</b> | <b>Getting the “Storm” Out of Wet Weather Flows (Green Infrastructure and other Stormwater Detention techniques)</b><br>Leslie Schehl, MSDGC |
| <b>12:00 PM</b> | <b>Lunch</b>   |
| <b>1:30 PM</b>  | <b>Sensor Dos and Don'ts (Monitoring Lessons Learned)</b><br>John Barton, MSDGC  |
| <b>2:15 PM</b>  | <b>How to Make a Sewer “Smart” (Coordinated Control, Optimization and Machine Learning)</b><br>Luis Montestruque, Xylem, Inc.                |
| <b>3:00 PM</b>  | <b>Networking Break</b>  |
| <b>3:30 PM</b>  | <b>Ask an Expert “World Café”</b><br>All Presenters  |
| <b>4:30 PM</b>  | <b>Synthesis and Conclusion</b>  |
| <b>5:00 PM</b>  | <b>Workshop Adjourns</b>   |

Check the app for any updates and to leave feedback on this workshop

## PRE- CONFERENCE WORKSHOPS

### Workshop B: Innovative Funding, Financing and Alternative Project Delivery Frameworks and Applications in the Stormwater Sector

**Sunday, March 15**

**8:30 AM – 12:00 PM**

*(Separate registration fees apply)*

- 8:30 AM**            **Welcome and introduction**
- 8:35 AM**            **Interactivity**  
Participants are to work in small groups and identify challenges in funding/financing and project delivery in the stormwater sector and report out. Focus on specific locations/situations and specific challenges.
- 8:50 AM**            **Introduction presentations and discussion on alternative project delivery /P3s, WIFIA/SRF and other financing options, and an overview of CBP3 program approach to project delivery and innovative funding and financing and Q&A**  
Brian Shell, WSP; John Germain, Corvias; Seth Brown, Storm & Stream Solutions
- 9:30 AM**            **Panel Discussion on CBP3 Program Approach and Funding/Financing Applications**  
John Germain – Review of CBP3 Programs and Funding/Financing Strategies Used  
Heidi Niggemeyer, Gary Conley – The Pathway for the City of Salinas, CA to Consider a CBP3 Program Approach  
Seth Brown - Moderator
- 10:00 AM**           **Networking Break**
- 10:30 AM**           **Panel Discussion on CBP3 Program Approach and Funding/Financing Applications (Continued)**
- 11:15 AM**           **Interactivity**  
Participants should re-assemble into small groups to review information from earlier interactivity exercise and identify opportunities to utilize the CBP3 program approach and/or innovative funding/financing option.
- 11:35 AM**           **Small groups report out finding; Facilitated discussion**
- 11:55 AM**           **Summary, wrap-up and final Q&A session**
- 12:00 PM**           **Workshop Adjourns**

Check the app for any updates and to leave feedback on this workshop

## PRE- CONFERENCE WORKSHOPS

### **Workshop C: Designing Successful Stormwater Facilities with Maintenance and Enforcement in Mind**

**Sunday, March 15**

**1:30 PM – 5:00 PM**

*(Separate registration fees apply)*

Annita McCormick, Alan Schley, Fairfax County, VA; Gayle England, Arlington County, VA; Dan Schwartz, Northern Virginia Soil and Water Conservation District

#### **Part I: Designing for Maintenance**

**1:30 PM Introduction**

**1:45 PM Group Activity – Plan Review**

**2:15 PM Stormwater Facility Design, Feedback from a Maintenance Perspective**

**3:00 PM Networking Break**

**3:30 PM Group Activity – Infiltration Testing and Condition Surveys**

#### **Part II: Designing for Enforcement**

**4:15 PM Stormwater Facility Design, Feedback from an Enforcement Perspective**

**5:00 PM Workshop Adjourns**

Check the app for any updates and to leave feedback on this workshop

## TOURS

### **Tour 1: MSD Green Bus Tour: Lick Run Greenway**

**Tuesday, March 17**

**1:00 PM – 4:00 PM**

*(Separate registration fees apply)*

Join us for a “behind the scenes” look at the Metropolitan Sewer District of Greater Cincinnati’s (MSD) Lick Run Greenway project, a \$90 million stormwater management and CSO reduction project in Cincinnati. This is a driving and walking tour with stops at key elements of the Greenway, including a forebay, headwaters, mile-long stream channel, pond, and outfall into the Mill Creek, a tributary of the Ohio River. Sections of this tour will be in an active construction site; therefore, proper PPE will be required. Please wear your own steel-toed shoe/boots and let us know if you don’t own any. We will provide a safety vest and hard hat.

### **Tour 2: Public Service Park Tour**

Travel across the river to see a variety of stormwater best management practices (BMPs) at Public Service Park, located on SD1’s main campus in Northern Kentucky (1045 Eaton Dr. Ft. Wright, KY 41017). The park features more than 10 BMPs, including a vegetated roof, wetland, pervious pavements and more. You can learn more about the park and all of the BMPs [here](#).

The following are the tour options:

#### **Self-guided tour**

**Sunday, March 15 - Wednesday, March 18 (anytime from dawn to dusk)**

Signs are posted throughout the park to explain the BMPs in detail and you can access an audio tour through your cell phone wherever you see a circular blue "Mobile Audio Tour" sign in the park. A map including the audio tour locations is available [here](#). Access to the vegetated roof is not available during the self-guided tour.

#### **SD1-guided tour**

**Tuesday, March 17, 5:30 – 6:30 PM or Wednesday, March 18 11:30 AM – 12:30 PM**

The tour is free but you must register [here](#) prior to the event.

Explore the park with an SD1 guide to learn more about the BMPs and our multifaceted education program. This tour will include access to the vegetated roof and fresh water aquarium.



## OPENING GENERAL SESSION

### Opening General Session

Monday, March 16  
8:30 AM -10:00 AM

Room 206

Sponsored by: Stantec

- 8:30 AM**      **Welcome to the 2020 Symposium!**  
John Phillips, Parametrix, 2020 Co-Chair  
Leslie Schehl, Metropolitan Sewer District of Greater Cincinnati, 2020 Co-Chair
- 8:35 AM**      **WEF Welcome**  
Mark Poling, WEF Board of Trustees, Clean Water Services
- 8:40 AM**      **Ohio Water Environment Association Welcome**  
Dawn Larsen, Ohio Water Environment Association
- 8:45 AM**      **WEF Stormwater Institute Update**  
Fernando Pasquel, SWI Advisory Committee Chair, Arcadis
- 9:05 AM**      **A Perspective on Federal Stormwater Policy**  
Chris Kloss, US EPA
- 9:25 AM**      **Inspiring Action Through Storytelling**  
Kristin Reilly, Choose Clean Water Coalition
- 10:00 AM**      **Session Adjourns for Networking Break**

## TECHNICAL PROGRAM

### Session 01: Stormwater Worldwide

Monday, March 16  
10:45 AM - 12:15 PM

Room 204  
SDGs: 3, 9, 11

**Moderators:** Genevieve Pelletier, Universite Laval Dept Of Civil and Water Engineering; Leslie Schehl, Metropolitan Sewer District

**10:45 AM**      **Greening the Pipeline: Re-Purposing a Heritage Listed Asset to Enhance Community Well-Being**  
Nino Polon, Melbourne Water, [David Howard](#), GHD

**11:15 AM**      **Green Infrastructure for Long-Term Provision of Ecosystem Services: Developing a Universal Framework Under Different Cultures and Climates**  
Asa Sang, Swedish University of Agricultural Sciences; Kumelachew Yeshitela, Addis Ababa University; [David Gamstetter](#), Davey Resource Group; Ishi Buffam, University of Cincinnati

**11:45 AM**      **Flood Management in Mexico City – Vicente Guerrero StormWater Pumping Station**  
[Elena Rodriguez Hernandez](#), INDAR

**12:15 PM**      **Session Adjourns for Networking Luncheon**

## TECHNICAL PROGRAM

### Session 02: Survey of Lessons Learned

Monday, March 16  
10:45 AM - 12:15 PM

Room 205  
SDGs: 9, 11

**Moderators:** Holly Kremers, Mead & Hunt; Ange Layton, City of Lima WWTP

**10:45 AM**      **Development of a Project Evaluation and Prioritization Framework for a Regional Stormwater Management Program**

Joseph Danyluk, Jacobs Engineering Group, Inc.; Paul Kovalcik, Northeast Ohio Regional Sewer District

**11:15 AM**      **WEF Stormwater Institute National MS4 Needs Assessment Survey Update**

Rebecca Arvin-Colon, WEF

**11:45 AM**      **Roadway-Generated Stormwater in Arizona: A Survey**

David Mack, Arizona Department of Transportation

**12:15 PM**      **Session Adjourns for Networking Luncheon**

## TECHNICAL PROGRAM

### Session 03: Maintaining Control – Managing Storm Water Assets to Maintain Beneficial Use

Monday, March 16

Room 206

10:45 AM - 12:15 PM

SDGs: 3, 9, 11, 15

**Moderators:** Jason Garder, Burns & McDonnell; Melissa Hess, AECOM

**10:45 AM**      **Opportunities to Improve Winter Safety and Reduce Road Salt Pollution with Permeable Interlocking Concrete Pavements**

Jennifer Drake, University of Toronto; Robert Bowers, ICPI;  
Jeff Marvin, Jody Scott, University of Toronto; Kirti Sehgal

**10:45 AM**      **Transitioning Stormwater Facility Maintenance from Reactive to Proactive: An Experiment in Risk Assessment and Predictive Analytics**

Eric Caldwell, Fairfax County Stormwater Management

**11:45 AM**      **DC Water's Green Infrastructure Asset Management Program**

Ramakrishna Jeedigunta, Greeley and Hansen LLC; Moussa Wone, Seth Charde, Monica Outland, Carlton Ray, DC Water

**12:15 PM**      **Session Adjourns for Networking Luncheon**

**Alternate**      **The Nitty Gritty on Inspection and Maintenance of Green Infrastructure Practices in Capitol Region Watershed District**

Mark Doneux, Capitol Region Watershed District

## TECHNICAL PROGRAM

### Session 04: Multi-Purpose Stormwater Projects: Insights and Lessons Learned

Monday, March 16  
1:30 PM - 3:00 PM

Room 204  
SDGs: 9, 15

**Moderators:** Abby Stanley, Apex Companies; Kamran Zendeheel, University of the District of Columbia

- 1:30 PM**      **Performance of a Stormwater Treatment Chain During Winter Rain and Thaw Conditions: Case Study of a Bioretention in Series with a Retention Pond**  
Béatrice Pineau, Paul Lessard, Genevieve Pelletier, Université Laval Dept Of Civil and Water Engineering; Sophie Duchesne, INRS Centre Eau Terre Environnement
- 2:00 PM**      **Living Schoolyards as Stormwater Infrastructure: San Francisco's Stormwater Schoolyards Program**  
Sarah Bloom, San Francisco Public Utilities Commission; Rosey Jencks, Brown and Caldwell
- 2:30 PM**      **Malibu Legacy Park: Learning from Nine Years of Successes and Lessons**  
Brenda Ponton, Kathleen Higgins, Persephene St. Charles, Woodard & Curran
- 3:00 PM**      **Session Adjourns for Networking Break**

## TECHNICAL PROGRAM

### Session 05: Stormwater Action Planning

Monday, March 16  
1:30 PM - 3:00 PM

Room 205  
SDGs: 6, 11, 15

**Moderators:** Michael DeVuono, Arcadis; Kyle Logue, Brown and Caldwell

- 1:30 PM**      **Lancaster's Integrated Green Infrastructure Plan: Analyzing a Decade of Implementation and Planning for the Next**  
Andrew Potts, Jacobs; Ruth Hocker, City of Lancaster; Leah Rominger, CH2M; Courtney Finneran, Jacobs
- 2:00 PM**      **Green Infrastructure Implementation at the Metropolitan Water Reclamation District of Greater Chicago**  
John Watson, Metropolitan Water Reclamation District of Greater Chicago
- 2:30 PM**      **How Pittsburgh Water and Sewer Authority is Achieving Affordable Water Quality through Integrated Watershed Management**  
Ana Flores, Pittsburgh Water and Sewer Authority; Brandon Vatter
- 3:00 PM**      **Session Adjourns for Networking Break**

## TECHNICAL PROGRAM

### Session 06: Performance of Post-Construction Control Measures

Monday, March 16  
1:30 PM - 4:45 PM

Room 206  
SDGs: 6, 9, 11

**Moderators:** Ray Hyland, Brown and Caldwell; Virginia Roach, CDM Smith

- 1:30 PM**      **Why a National Testing and Verification Program for Stormwater Products and Practices is Needed and How it Can Benefit the Stormwater Sector: An Update on the STEPP Program**  
Seth Brown, Storm and Stream Solutions LLC
- 2:00 PM**      **Let's Talk Trash: Developing a Scalable Pilot Study for Implementation of Stormwater Control Measures**  
Bethany Bezak, DC Water; Olivia August
- 2:30 PM**      **Maximizing the Benefits of Standardized Green Infrastructure During and Post Construction**  
Eric Lienhard, Hazen and Sawyer; Seth Charde, DC Water
- 3:45 PM**      **ODOT Research- Soil Amendment for Stormwater Volume Reduction**  
Anil Kumar Tangirala, MS Consultants Inc.
- 4:15 PM**      **Stormwater Conveyance to Green Infrastructure Installations by Curb Cut Inlets**  
Miki Urisaka, John McLaughlin, Paul Wojtal, NYC DEP; Jerry Kleyman, Heather Smith, Arcadis; Paul Wojtal, NYC DEP
- 4:45 PM**      **Session Adjourns for Networking Reception**
- Alternate**      **Taking the First Step Toward a Stormwater Program with Adaptive Real-Time Controls: Atlanta, Georgia Case Study**  
Zoey Schmitt, Dayton Marchese, Opti; Todd Hill, City of Atlanta

Check the app for any updates and to leave feedback on this session

## TECHNICAL PROGRAM

### Session 07: Computer Based Innovation for Stormwater Management

**Monday, March 16**  
**3:45 PM - 4:45 PM**

**Room 204**  
**SDGs: 9**

**Moderators:** Nikolaos Apsilidis, Greeley and Hansen; Douglas Howie, WA State Department of Ecology

- 3:45 PM**      **Spatial Analysis of Retarding Basin Opportunities: Next Steps for Melbourne's Liveability Journey**  
Casey Furlong, David Howard, GHD; Nino Polon, Melbourne Water
- 4:15 PM**      **Modernizing Stormwater Programs through Digital Transformation**  
Gary Conley, Nicole Beck, 2NDNATURE
- 4:45 PM**      **Session Adjourns for Networking Reception**
- Alternate**      **Development and Evaluation of an Integrated Hydrological and Hydraulic Prediction System for Comprehensive Flood Risk Warning Enabled by Advanced Remote Sensing Technologies and Regional Storm-scale Weather Forecast**  
Mengye Chen, University of Oklahoma



## TECHNICAL PROGRAM

### Session 08: WEF Stormwater Institute - National Municipal Stormwater and Green Infrastructure Award Winners

Monday, March 16  
3:45 PM – 4:45 PM

Room 205  
SDGs: 9

**Moderator:** Mark Doneux, Capitol Region Watershed District

- 3:45 PM**      **Award Program Overview and Introductions**  
Mark Doneux, Capitol Region Watershed District
- 3:50 PM**      **2019 Phase II Overall Award Winner**  
Jessica Lassetter, City of Alexandria, VA
- 4:05 PM**      **2019 Phase I Innovation Award Winner**  
David Johnson and Lori Rafferty, Louisville & Jefferson County  
MSD
- 4:20 PM**      **2019 Phase I Overall Award Winner**  
**Metro Nashville Stormwater Quality (MS4 NPDES) Program**  
**– A Short Overview**  
Michael Hunt, Metro Water Services – Stormwater
- 4:35 PM**      **Questions and Discussion**
- 4:45 PM**      **Session Adjourns for Networking Reception**

Check the app for any updates and to leave feedback on this session

## TECHNICAL PROGRAM

### Session 09: Influence and Action – Outreach, Education, and Training Strategies

Tuesday, March 17  
8:30 AM - 12:15 PM

Room 204  
SDGs: 9, 11

**Moderators:** Dana Brown, Dana Brown & Associates; Nancy Ellwood, CDM Smith

**8:30 AM**            **One Community, Many Voices. The Role of Strategic Communications when Implementing a Stormwater Fee**  
Rebecca Zito, Pittsburgh Water and Sewer Authority

**9:00 AM**            **Adopt-a-Drain: Measuring the Impacts of Resident Engagement on Water Resources**  
Jana Larson, Hamline University

**9:30 AM**            **DC Water's Clean Rivers Project Robust Outreach Program for Green Infrastructure**  
Seth Charde, DC Water; Amanda Zander, Delon Hampton & Associates

**10:00 AM**           **Networking Break**

**10:45 AM**           **Getting Rain Gardens Built without Lifting a Shovel: Lessons Learned in Outreach & Education**  
Elizabeth Hiser, Cuyahoga Soil & Water Conservation District; Susan Bryan, Washtenaw County

**11:15 AM**           **Follow the Drop Mobile App: Building Water Resiliency**  
Lauren Roth Venu, 3Rwater

**11:45 AM**           **UDC NGICP Training Program: Opportunities and Challenges Facing NGICP Program**  
Kamran Zendejdel, University of the District of Columbia; Harris Trobman, UDC CAUSES; Seth Charde, DC Water

**12:15 PM**           **Session Adjourns for Lunch**

**Alternate**           **Stormwater Roadshow: Building Trust with the Public**  
Spencer Peck, Todd Hill, City of Atlanta; Susan Rutherford; Julie Owens

Check the app for any updates and to leave feedback on this session

## TECHNICAL PROGRAM

### Session 10: Program Development, Management, Planning and Analysis

Tuesday, March 17  
8:30 AM - 12:15 PM

Room 205  
SDGs: 9, 12, 15

**Moderators:** Fernando Pasquel, Arcadis; Sarah Smith, Johnson County KS

- 8:30 AM**            **City of Portland's Approach to Developing and Asset Management Strategy for its Stormwater System**  
Shannon Axtell, Fred MacGregor, Heidi Berg, Matt Burlin, Kai Snyder, City of Portland, Bureau of Environmental Services; Arnold Engelmann, DHL; Ben Sainsbury, Gartrell Group
- 9:00 AM**            **Stormwater BMP Performance in meeting Chesapeake Bay TMDL Goals in Prince George's County, MD**  
Srikanth Gorugantula, HDR Inc
- 9:30 AM**            **Good Streams Make Good Neighbors: Enhancing Stream and Floodplain Restoration Projects Through Property Acquisitions**  
Dave Ritter, Kristen Buccier, Northeast Ohio Regional Sewer District
- 10:00 AM**           **Networking Break**
- 10:45 AM**           **Holistic Stormwater Management with Community-enabled Lifecycle Analysis of Stormwater Infrastructure Costs (CLASIC) and Green Infrastructure Co-Benefits Tools**  
Harry Zhang, The Water Research Foundation
- 11:15 AM**           **Old Tampa Bay Circulation Improvement**  
Daniel Lauricello, Virginia Creighton, Department of Transportation - State of Florida; David Tomasko, Environmental Science Associates; Michael Salisbury, Ed Cronyn, Shayne Paynter, Atkins
- 11:45 AM**           **A Case Study of Capture and Use of Urban Runoff Conveyed Directly to a Drinking Water Treatment Facility as an Alternative Stormwater Management Strategy**  
Parmdeep 'Eric' Uppal, Civil Engineering, California State University, Sacramento; Brian Currier, Water Programs at Sacramento State; John Johnston, Global Water
- 12:15 PM**           **Session Adjourns for Lunch**

Check the app for any updates and to leave feedback on this session

## TECHNICAL PROGRAM

### Session 11: Funding and Financing

Tuesday, March 17  
8:30 AM - 10:00 AM

Room 206  
SDGs: 6, 9

**Moderators:** Brenda Ponton, Woodard & Curran; Neal Shapiro, City of Santa Monica

- 8:30 AM**      **The Evolution of a Stormwater Utility in St. Petersburg**  
Andrew Burnham, Kelly Westover, Stantec
- 9:00 AM**      **Stormwater Service Fee - Financing, Implementation and Lessons Learned**  
Arun Hindupur, City of Guelph
- 9:30 AM**      **Economic Framework and Tool for Quantifying and Monetizing the Benefits of Green Infrastructure Using a Triple Bottom Line Approach**  
Janet Clements, Jim Henderson, Corona Environmental Consulting
- 10:00 AM**      **Session Adjourns for Networking Break**

## TECHNICAL PROGRAM

### Session 12: Unpacking the Environmental Impact Bond

Tuesday, March 17  
10:45 AM – 12:15 PM

Room 206  
SDGs: 9, 11

**Moderator:** Ben Cohen, Quantified Ventures

- 10:45 AM**      **Introductions**  
Michelle Shin, Benjamin Cohen, Quantified Ventures; Amanda Hallauer, City of Atlanta Department of Watershed Management
- 10:55 AM**      **Environmental Impact Bond Overview**  
Ben Cohen, Quantified Ventures
- 11:10 AM**      **Atlanta DWM's Environmental Impact Bond, and How it Fits into its Broader Stormwater Management Program and Goals**  
Amanda Hallauer, City of Atlanta Department of Watershed Management
- 11:40 AM**      **Discussion of other Environmental Impact Bonds**  
Ben Cohen, Quantified Ventures
- 12:00 PM**      **Moderated Q&A and Discussion**
- 12:15 PM**      **Session Adjourns for Luncheon**

## TECHNICAL PROGRAM

### **Session 13: National Policy, Legislative and Legal Hot Issues in Stormwater Sponsored by the National Municipal Stormwater Alliance (NMSA)**

**Tuesday, March 17  
1:30 PM – 3:00 PM**

**Room 204  
SDGs: 9**

**Moderator:** Seth Brown, National Municipal Stormwater Alliance

- 1:30 PM            Introduction and Overview of Session**
- 1:35 PM            Federal Legislative and Regulatory Landscape**  
Steve Dye, Water Environment Federation
- 1:55 PM            MS4 Sector Emerging Policy Issues and NMSA/WEF  
Initiatives**  
Seth Brown, National Municipal Stormwater Alliance
- 2:15 PM            Current Legal Landscape for MS4s**  
Rebecca Andrews, Best, Best, & Krieger
- 2:35 PM            Facilitated Q&A**
- 3:00 PM            Session Adjourns for Networking Break**

Check the app for any updates and to leave feedback on this session

## TECHNICAL PROGRAM

### Session 14: Evolution of Stormwater Utilities to provide Incentives for Green Infrastructure in CSO Communities

Tuesday, March 17  
1:30 PM - 3:00 PM

Room 205  
SDGs: 9, 15

**Moderators:** Cynthia Baumann, CDM Smith; Kevin Middlebrooks, Hazen and Sawyer

**1:30 PM**      **Implementation of a Green Infrastructure Program to Comply with a Unique CSO Consent Decree Requirement**  
Joseph Danyluk, Jacobs Engineering Group, Inc.; Kimberly Colich, Northeast Ohio Regional Sewer District

**2:00 PM**      **Machine Learning and Statistics Confirm Green Infrastructure Performance for CSO Management**  
Nikolaos Apsilidis, Greeley and Hansen; Seth Charde, DC Water

**2:30 PM**      **Onondaga County's Save the Rain CSO Abatement Program's Opportunistic Approach to Stormwater Management**  
Zachary Monge, Jacobs; Frank Mento, Adam Woodburn, Onondaga County Department of Water Environment Protection

**3:00 PM**      **Session Adjourns for Networking Break**

**Alternate**      **Stormwater Management Capacity of Artificial Turf Grass Fields**  
Miki Urisaka, John McLaughlin NYC DEP; Jerry Kleyman, Arcadis; Kimberly DiGiovanni, Auroran Environmental; Franco Montalto, eDesign Dynamics/Drexel University; Paul Wojtal, NYC DEP

## TECHNICAL PROGRAM

### Session 15: Sustainable Solutions to Climate and Flooding

Tuesday, March 17

1:30 PM - 4:45 PM

Room 206

SDGs: 9, 11, 14, 15

**Moderators:** Swarna Muthukrishnan, Clean Ocean Action; John Phillips, Parametrix

- 1:30 PM**      **Ecologically Sustainable Solution to Urban Flooding**  
Chip Wendt, Coldwater Consulting, LLC; Don Romancak, Lorain County Community Development
- 2:00 PM**      **Fishermans Bend Water Sensitive Drainage and Flood Strategy**  
Phillip Joyce, Ryan Brotchie, David Howard, GHD
- 2:30 PM**      **Near Real-time Flood Threat Recognition Improves Resiliency in Urban, Peri-urban and Natural Watersheds**  
Baxter Vieux, Vieux & Associates, Inc. / AE Monitoring; Ben Wostoupal
- 3:00 PM**      **Networking Break**
- 3:45 PM**      **Integrating Sustainable Drainage Within Urban Development, an Integrated Design Approach**  
Aidan Cooper, GHD
- 4:15 PM**      **Mixing Water and Concrete: Locating Bluebelt Stormwater Management Systems in Dense Urban Areas**  
Charles Olson, NYC DEP, Bureau of Water and Sewer Operations; Eric Rosenberg, Hazen & Sawyer; Flor Ruiz, NYC DEP
- 4:45 PM**      **Session Adjourns for Social with Speakers**



## TECHNICAL PROGRAM

### Session 16: Technology and Innovation for Stormwater Management

Tuesday, March 17

3:45 PM - 4:45 PM

Room 204

SDGs: 3, 9, 11

**Moderators:** Robert Backman, AbTech Industries; Patrick Judd, Environmental Consulting & Technology, Inc.

- 3:45 PM**      **Reconstructing Interstate 95 - Large Scale Green Infrastructure Paves the Way for Community Transformations**  
Christian Lynn, Edwina Lam, AECOM
- 4:15 PM**      **The Operational and Compliance Benefits of Real-Time Sewer Monitoring**  
William Simcoe, City of Albany
- 4:45 PM**      **Session Adjourns for Social with Speakers**
- Alternate**      **Planning for Stormwater to Supplement San Diego's Pure Water Program**  
Jim Rasmus, Carollo Engineers, Inc.; Karina Danek, Sara Dastgheibi, City of San Diego

## TECHNICAL PROGRAM

### **Session 17: Optimizing Stormwater Management for Stream Integrity—A Northern Kentucky Case Study on the Science and Implementation**

**Tuesday, March 17**

**Room 205**

**3:45 PM – 4:45 PM**

**SDGs: 9**

- 3:45 PM**      **Monitoring Program History and Major Findings**  
Matt Wooten, SD1
- 4:05 PM**      **Cooperative Research Partnerships, Pilot Projects and Their Use**  
Bob Hawley, Sustainable Streams
- 4:25 PM**      **Culmination of the Program and Results**  
Chris Rust, Strand Associates
- 4:45 PM**      **Session Adjourns for Social with Speakers**

## POST- CONFERENCE SPECIAL SEMINAR

### **Quantifying and Monetizing Co-Benefits of Green Stormwater Infrastructure: Analysis Framework and Supporting Tools**

**Wednesday, March 18  
8:30 AM – 10:30 AM**

**Room 206**

*(This special seminar is free-of-charge but requires separate registration. See the conference registration desk for more information.)*

This seminar will demonstrate the capabilities and applications from “Framework and Tools for Quantifying Green Infrastructure Co-Benefits and Linking with Triple Bottom Line Analysis”. In addition, it will connect with "Community-enabled Lifecycle Analysis of Stormwater Infrastructure Costs (CLASIC)", a cloud-based decision support system. CLASIC tool outputs include: (1) life cycle costs; (2) assessed value of co-benefits (environmental, social, financial); and (3) performance. The participants will have an opportunity in joining the discussion on how to quantify and monetize various co-benefit categories of green stormwater infrastructure. Furthermore, this seminar will provide a summary of case studies and ongoing community engagement.

Check the app for any updates and to leave feedback on this session

## EXHIBITION INFORMATION

### Monday, March 16

<b>10:00 AM – 6:15 PM</b> .....	<b>Exhibit Hall Open</b>
10:00 AM – 10:45 AM .....	Networking Break
12:00 PM – 1:30 PM .....	Networking Luncheon
3:00 PM – 3:45 PM .....	Networking Break
4:45 PM – 6:15 PM .....	Networking Reception

### Tuesday, March 17

<b>10:00 AM – 3:45 PM</b> .....	<b>Exhibit Hall Open</b>
10:00 AM – 10:45 AM .....	Networking Break
12:00 PM – 1:30 PM .....	Networking Luncheon
3:00 PM – 3:45 PM .....	Networking Break

*Children under 18 entering the Exhibition must be accompanied by a parent or guardian at all times. The parent or guardian must obtain a child badge at registration, and assumes all risk and responsibility for the child's safety.*

*Due to the proprietary nature of the displays, photography of displays and materials is forbidden without exhibitors' express permission.*

## EXHIBITOR DIRECTORY

As of 3/3/2020

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Phone: 888-467-0047

365 E 1200 S

Orem, UT 84058

ComplianceGO is the most comprehensive software in the stormwater industry. With never before seen technology offering unlimited users, you can connect all stakeholders in the compliance process while managing the application yourself.

**Grande Water Management Systems..... Booth 212**

[www.grandeinc.com](http://www.grandeinc.com)

Phone: 855-315-1115

3950 Montee Masson

Laval, QC H7B 1C4

Canada

Grande Water Management Systems specializes in stormwater management, wastewater management and CSO abatement. We provide engineered systems for tank and sewer flushing, overflow control, overflow screening and regulation. Bending weirs, flushing gates, tipping buckets, flow regulators, overflow screens, flaps.

**Oldcastle Infrastructure..... Booth 223**

[www.oldcastleinfrastructure.com](http://www.oldcastleinfrastructure.com)

Phone: 770-519-9785

7921 Southpark Plaza, Ste 200

Littleton, CO 80120-4506

Stormwater, wastewater treatment, conveyance and storage products are pre-engineered and locally made in over 50 manufacturing locations across the US. From the start of construction to project completion, Oldcastle offers a comprehensive approach to meet your water management needs.

**ParkUSA ..... Booth 222**

[www.parkusa.com](http://www.parkusa.com)

Phone: 706-506-2805

7015 Fairbanks N Houston Rd

Houston, TX 77040

At ParkUSA - We Make Water™... Clean, Store and Recycle. As demands and regulations on stormwater have evolved, so have we. Our innovative design and manufacturing capabilities enable us to provide sustainable solutions for today's water issues.

## EXHIBITOR DIRECTORY

**PaverGuide, Inc. .... Booth 227**

[www.paverguide.com](http://www.paverguide.com)

Phone: 866-721-3590

*24030 Kinnairds Point Dr*

*Worton, MD 21678*

PaverGuide, Inc. manufactures products to reduce stormwater runoff and improve water quality. PaverGuide is a stormwater retention cell used as a base and reservoir for permeable pavements and green roofs.

**RES LLC ..... Booth 216**

[www.res.us](http://www.res.us)

Phone: 703-409-1938

*6575 W Loop S, Ste 300*

*Houston, TX 77401*

RES Stormwater Management and Nutrient Reduction Solutions provide cost-effective permit compliance, while reducing long-term O&M liability and risk. Our solutions encompass nature-based BMPs, with full delivery and pay-for-performance options.

**Rodney Hunt Inc ..... Booth 226**

[www.rodneyhunt.com](http://www.rodneyhunt.com)

Phone: 281-962-6369

*6200 Savoy Dr, Ste 750*

*Houston, TX 77036-3357*

Manufacturer of a wide range of equipment used in the water and waste water industry like penstocks / sluice gates, open channel gates, weir gates, flap gates, stop logs, knife gate valves, step screens, drum screens, raking screens, static screens and butterfly valves.

**SmartCover ..... Booth 215**

[www.smartcoversystems.com](http://www.smartcoversystems.com)

Phone: 760-291-1980

*2067 Wineridge Pl, Ste E*

*Escondido, CA 92029*

SmartCover® monitoring systems integrate level, flow, rain, tidal and river data creating a comprehensive perspective of sanitary sewers, combined sewers and storm water flows. Sanitary sewer data is used for I&I assessment, optimizing collection system cleaning (SmartClean™) and preventing SSOs.

## EXHIBITOR DIRECTORY

**StormTrap ..... Booth 217**

www.stormtrap.com

Phone: 331-318-5353

*1287 Windham Pkwy*

*Romeoville, IL 60446*

StormTrap offers solutions for managing runoff, protecting waterways and improving the use of property. It is committed to providing cost-effective, customized water management solutions to engineers, owners, and municipalities.

**Tinker's Creek Watershed Partners ..... Booth 221**

www.tinkerscreek.org

Phone: 216-385-5248

*PO Box 444*

*Twinsburg, OH 44087*

Tinker's Creek Watershed Partners is a partner and co-host of the annual Ohio Stormwater Conference. The largest regional stormwater conference in the US. The 2020 event is this May 6-8, 2020. Visit [ohstormwaterconference.com](http://ohstormwaterconference.com) for more information.

**Vieux & Associates, Inc ..... Booth 213**

www.vieuxinc.com

Phone: 405-325-1818

*301 DL Boren Blvd, Ste 3050*

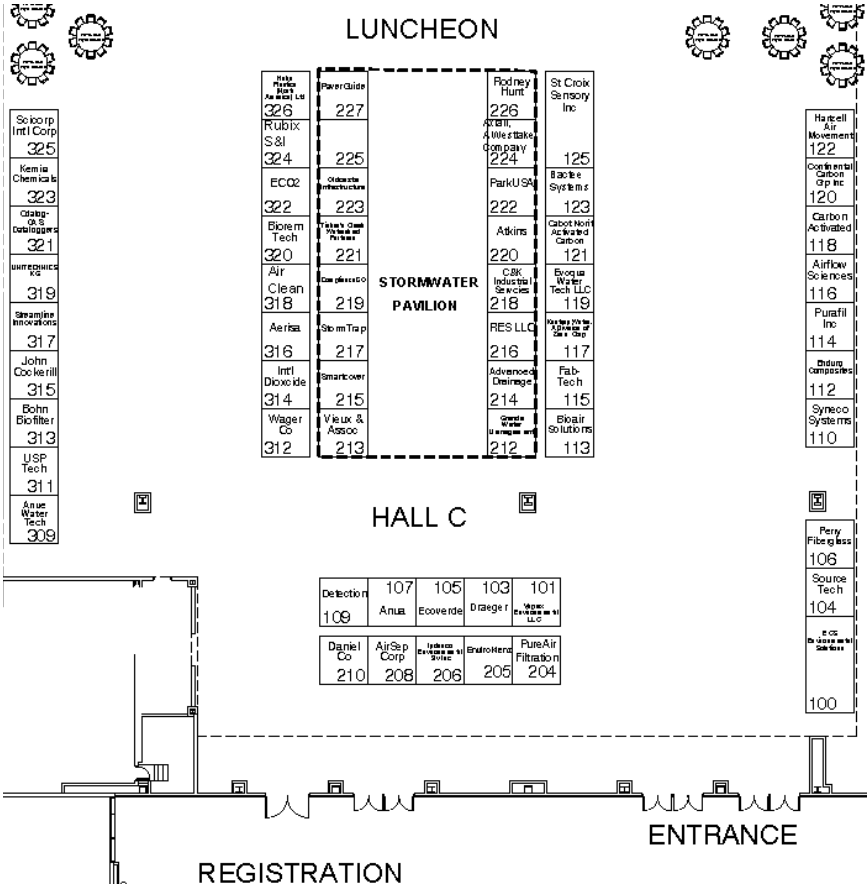
*Norman, OK 73072*

Vieux & Associates leads the industry in rain gauge adjusted radar rainfall services, rain gauge network evaluation, radar-based design storm development for wastewater, stormwater, and regional water management organizations and authorities.



# EXHIBIT HALL FLOOR PLAN

As of 3/3/2020  
Check the app for updates



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**Aidan Cooper**, GHD, **Speaker Session 15**

**Brian Currier**, Water Programs at Sacramento State, **Speaker Session 10**

**Joseph Danyluk**, Jacobs Engineering Group, Inc., **Speaker Sessions 02, 14**

**Tyler Dell**, Colorado State University, **Speaker Special Seminar**

**Michael DeVuono**, Arcadis, **Moderator Session 05**

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Burns & McDonnell,  
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City of Atlanta  
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Management,  
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**12**

**Robert Hawley,**  
Sustainable Streams  
LLC, **Speaker**  
**Session 17**

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AECOM, **Moderator**  
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of Guelph, **Speaker**  
**Session 11**

**David Howard,**  
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WA State  
Department of  
Ecology, **Moderator**  
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Metro Water  
Services -  
Stormwater,  
**Speaker Session**  
**08**

**Ray Hyland,** Brown  
and Caldwell,  
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**06**

**Ramakrishna**  
**Jeedigunta,**  
Greeley and Hansen  
LLC, **Speaker**  
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**16**

**Holly Kreers,** Mead  
& Hunt, **Moderator**  
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**Jana Larson,**  
Hamline University,  
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**09**

**Jessica Lassetter,**  
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of Lima WWTP,  
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Hazen and Sawyer,  
**Speaker Session**  
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AECOM, **Speaker**  
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Services, **Speaker**  
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Arizona Department  
of Transportation,  
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**02**

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Opti, **Speaker**  
**Session 06**

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Hazen and Sawyer,  
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**14**

**Zachary Monge**,  
Jacobs, **Speaker**  
**Session 14**

**Luis Montestruque**,  
Xylem, Inc.,  
**Speaker Workshop**  
**A**

**Daniel Murray**, US  
Environmental  
Protection Agency,  
**Speaker Workshop**  
**A**

**Swarna**  
**Muthukrishnan**,  
Clean Ocean Action,  
**Moderator Session**  
**15**

**Charles Olson**,  
NYCDEP, Bureau of  
Water and Sewer  
Operations,  
**Speaker Session**  
**15**

**Fernando Pasquel**,  
Arcadis, **Moderator**  
**Session 10**

**Shayne Paynter**,  
Atkins, **Speaker**  
**Session 10**

**Spencer Peck**, City  
of Atlanta - Dept. of  
Watershed  
Management,  
**Speaker Session**  
**09**

**Genevieve**  
**Pelletier**, Universite  
Laval Dept Of Civil  
and Water  
Engineering,  
**Moderator Session**  
**01, Speaker**  
**Session 04**

**John Phillips**,  
Parametrix,  
**Moderator Session**  
**15**

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Woodard & Curran,  
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**04, Moderator**  
**Session 11**

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**Session 05**

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MSD, **Speaker**  
**Session 08**

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Carollo Engineers,  
Inc., **Speaker**  
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**Virginia Roach**,  
CDM Smith,  
**Moderator Session**  
**06**

**Elena Rodriguez**  
**Hernandez**, INDAR,  
**Speaker Session**  
**01**

**Don Romancak**,  
Lorain County  
Community  
Development,  
**Speaker Session**  
**15**

**Lauren Roth Venu**,  
3Rwater, **Speaker**  
**Session 09**

**Chris Rust**, Strand  
Associates, **Speaker**  
**Session 17**

**Leslie Schehl**,  
Metropolitan Sewer  
District, **Speaker**  
**Workshop A,**  
**Moderator Session**  
**01**

**Alan Schley**, Fairfax  
County, **Speaker**  
**Workshop C**

**Dan Schwartz**,  
Northern Virginia  
Soil and Water  
Conservation  
District, **Speaker**  
**Workshop C**

**Neal Shapiro**, City  
of Santa Monica,  
**Moderator Session**  
**11**

**Michelle Shin**,  
Quantified Ventures,  
**Coordinator**  
**Session 12**

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City of Albany,  
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16**

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Arcadis, **Speaker  
Session 06**

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10**

**Abby Stanley**, Apex  
Companies,  
**Moderator Session  
04**

**Anil Kumar  
Tangirala**, MS  
Consultants Inc.,  
**Speaker Session  
06**

**Baxter Vieux**, Vieux  
& Associates, Inc. /  
AE Monitoring,  
**Speaker Workshop  
A, Session 15**

**John Watson**,  
Metropolitan Water  
Reclamation District  
of Greater Chicago,  
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05**

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Coldwater  
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15**

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Stantec, **Speaker  
Session 11**

**Paul Wojtal**, NYC  
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Protection, **Speaker  
Sessions 06, 14**

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Session 09**

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Water Research  
Foundation,  
**Speaker Session  
10, Coordinator  
Special Seminar**

**Rebecca Zito**,  
Pittsburgh Water  
and Sewer Authority,  
**Speaker Session  
09**

## CONFERENCE SCHEDULE AT-A-GLANCE

### **Sunday, March 15**

7:30 AM – 5:00 PM	Registration
8:30 AM – 5:00 PM	Workshop A*
8:30 AM – 12:00 PM	Workshop B*
1:30 PM – 5:00 PM	Workshop C*

*\*Additional fees apply*

### **Monday, March 16**

7:30 AM – 5:00 PM	Registration
8:30 AM – 10:00 PM	Opening General Session
10:00 AM – 6:15 PM	Exhibition Open
10:45 AM – 12:15 PM	Technical Sessions 1, 2, 3
12:15 PM – 1:30 PM	Luncheon in Exhibit Hall
1:30 PM – 3:00 PM	Technical Sessions 4, 5
1:30 PM – 4:45 PM	Technical Sessions 6
3:45 PM – 4:45 PM	Technical Sessions 7, 8
4:45 PM – 6:15 PM	Networking Reception

### **Tuesday, March 17**

8:00 AM – 5:00 PM	Registration
8:30 AM – 10:00 AM	Technical Session 11
8:30 AM – 12:15 PM	Technical Sessions 9, 10
10:45 AM – 12:15 PM	Technical Session 12
12:15 PM – 1:30 PM	Luncheon in Exhibit Hall
1:15 PM – 3:00 PM	Technical Sessions 13, 14
1:15 PM – 4:45 PM	Technical Session 15
3:45 PM – 4:45 PM	Technical Sessions 16, 17

### **Wednesday, March 18**

8:00 AM – 10:30 AM	Post Conference Special Seminar
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## GREEN INITIATIVES AT WEF NATIONAL STORMWATER

### DUKE ENERGY CONVENTION CENTER SUSTAINABILITY PRACTICES

The Duke Energy Total Environmental Plan:

Sustainability has become an ever present initiative in the venue management industry as it exemplifies the triple bottom line: people, planet, and profit. Spectra and the Duke Energy Convention Center, in particular, have made great strides in diverting waste from our landfills and stretching energy efficiency goals to make a positive impact.

The following accomplishments highlight the initiatives of the Center:  
Some highlights of our efforts at the DECC include:

- In 2011, the DECC completed the installation of a 101.0 kW DC photovoltaic solar array on the roof of the Exhibit Halls. Since May 18, 2011 through FY 2015, the system has generated 510,662.03kwh, which is the equivalent of the following:
  - 2,914 60-watt bulbs for 1 year of 8 hour/day use
  - 366 Tons of CO<sub>2</sub> saved
  - 41,363 gallons of gas saved
  - Total CO<sub>2</sub> offset equals 9,191 trees
- Spectra's DECC staff works diligently to divert waste from landfills. Since 2010, we have diverted 311.32 tons of waste from landfill. Current diversion items include:
  - Co-mingling recycling items (glass, paper, aluminum, plastic), cardboard, and compostable food waste
  - Other items include used cooking oil, old electronic equipment, lamps and bulbs, batteries, and unused food from events. In addition, we also divert bulk items left over from the events we host.
- LED lighting upgrades including the first floor Exhibit Halls resulting in 526 metric tons of CO<sub>2</sub> emissions saved.
- A cardboard bailer has been installed on the loading dock. It is estimated that over the course of a year, the DECC will produce more than 50 tons in recycled cardboard. Staff has been trained in the use of the bailer and the decorators and vendors who utilize the facility have been informed of its presence.
- All public restrooms use green certified GOJO soap and eco-friendly tissue paper and paper towels.
- Only low or non-VOC paint products are used.
- Products purchased from recycled materials include copier paper, note pads, direct mail brochures, annual report documents and plastic pens.
- Utility costs have been reduced by 19% annually, resulting in \$265,000 in savings.

## **GREEN INITIATIVES AT WEF NATIONAL STORMWATER**

### Future initiatives include:

- Green Info Wall-A living wall to showcase the DECC green initiatives for guests of the DECC.
- Front of House Composting-This will increase our impact and encourage attendees to contribute to conservation.
- Additional Multi Stream Receptacles for Exhibit Halls-20 additional recycling units are being purchased to aid diversion in the Exhibit Halls. These will be in addition to the 29 units already existing throughout the lobby areas.

### **HYATT REGENCY CINCINNATI SUSTAINABILITY PRACTICES CARBON EMISSIONS AND WATER**

We strive to operate our building as efficiently as possible.

- Lights are turned on in meeting rooms only when needed.
- Our daily operational reports are used to effectively schedule heating and cooling needs.
- Through our Conserve program, we change linens every third day unless requested otherwise, and guests may choose to reuse towels by leaving them hanging.

### **INFORMATION ABOUT OUR DESTINATION**

- ECO friendly escalators
- Pineapple's hotel amenity line, Pharmacoopia, is made without synthetic fragrances, which will appeal to anyone with skin sensitivities, and are made without animal by-products.

### **WASTE**

We work to reduce waste where possible.

- Plastic straws are not used. Rather, straws made of paper are offered upon request.
- Water served using carafes is the default offering for meetings and events.
- If you would like to avoid disposable water bottles, hydration stations are available
- Recycle Bins in sleeping rooms

### **OUR FOOD PHILOSOPHY**

Hyatt's Food. Thoughtfully Sourced. Carefully Served. philosophy guides us in how we select ingredients that are better for people, communities and the planet.

- Cage-free eggs are used in our restaurants.
- Local products, fresh, seasonal produce, and other ingredients are emerging as a significant focus of hotel food and beverage programs. Hyatt Regency Cincinnati is 95% scratch kitchen.



## UPCOMING WEF EDUCATION AND TRAINING EVENTS

### **Residuals and Biosolids Conference 2020**

March 31-April 3, 2020  
Minneapolis, Minnesota  
[www.wef.org/ResidualsBiosolids](http://www.wef.org/ResidualsBiosolids)

### **Collection Systems Conference 2020**

June 2-5, 2020  
El Paso, Texas  
[www.wef.org/CollectionSystems](http://www.wef.org/CollectionSystems)

### **WEFTEC 2020**

October 3-7, 2020  
New Orleans, Louisiana  
[www.weftec.org](http://www.weftec.org)

### **WEF/AWWA Transformative Issues Symposium on Communications 2020**

August 17-19, 2020  
Cincinnati, Ohio  
[www.awwa.org/Events-Education/Communications](http://www.awwa.org/Events-Education/Communications)

### **WEF/AWWA Utility Management Conference**

February 23-26, 2021  
Atlanta, Georgia  
[www.wef.org/UtilityManagement](http://www.wef.org/UtilityManagement)

### **Innovations in Process Engineering: Technology & Treatment**

June 8-11, 2021  
Miami, Florida  
[www.wef.org/ProcessEngineering](http://www.wef.org/ProcessEngineering)

For more information, visit individual event site or <https://www.wef.org/events/all-events/>.

## NOTES

**NOTES**



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Thank you to these subscribers for taking a leadership role in developing stormwater solutions for the Stormwater Institute.

With the support of dedicated industry leaders, the Water Environment Federation (WEF) has the stormwater sector covered through access to stormwater news, education, and training opportunities, as well as policy support and advocacy. Building on these efforts, the WEF Stormwater Institute fills the vacuum of national stormwater leadership and advanced support of professionals in a water sector poised for major growth.

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Fairfax County, VA

Kansas City Water Services  
Department, MO

Metropolitan Sewer District  
Louisville, KY

Metropolitan Sewer District of  
Greater Cincinnati, OH

Metropolitan Water  
Reclamation District of Greater  
Chicago, IL

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Sewerage District, WI

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Commission, CA

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of Northern Kentucky

**For questions or  
more information  
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703-684-2400 ext. 7017

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[www.WEFStormwaterInstitute.org](http://www.WEFStormwaterInstitute.org)



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Our clients face tough decisions with limited resources. That's why we support leading water associations—like AWWA and WEF—to help make great things possible for our industry.

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