## Monday, Feb. 4 — Conference Agenda

### 11–11:30 a.m.
**Registration**

### 11:30 a.m.

**Welcome: Conference Overview**
Andy Sauer, P.E., ENV SP, green infrastructure and stormwater manager, Burns & McDonnell, Kansas Water Environment Association
Justin Stuedemann, stormwater specialist, city of Lenexa, Kansas; MARC Water Quality Public Education Committee
Jamie Cole, P.E., CSM, CFM, ENV SP, senior water resources engineer, Watearth, Inc., Missouri Water Environment Association

**Opening Lunch Session and Keynote Speaker**
Kevin L. Shafer, P.E., executive director, Milwaukee Metropolitan Sewerage District

### Concurrent Session Salons Located on Lower Level

<table>
<thead>
<tr>
<th>Time</th>
<th>Salon A</th>
<th>Salon B</th>
<th>Salon C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:10 p.m.</td>
<td>Green Stormwater Infrastructure Parks</td>
<td>Flexamat — Permanent Erosion Control Solutions</td>
<td>Measuring Actual Stream Erosion and Impacts in the Indian Creek Watershed</td>
</tr>
<tr>
<td>1:45 p.m.</td>
<td>Smarter Stormwater Solutions — Get Outside of Your Stormwater Box</td>
<td>Stormwater Check Valves — Designs and Differences</td>
<td>Urban Acupuncture: Building a Vision through Green Infrastructure, Resiliency Planning &amp; Community Engagement</td>
</tr>
<tr>
<td>2:15–2:45 p.m.</td>
<td><strong>Break</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:45 p.m.</td>
<td>Water Quality Assessment and New Monitoring Approach for Johnson County</td>
<td>The Flood of Record, and the Second Flood of Record, Indian Creek</td>
<td>Utilization of GIS for Construction Plans and Documentation</td>
</tr>
<tr>
<td>3:20 p.m.</td>
<td>Sweeping and its Impact on Stormwater</td>
<td>Coordinated Solutions for Flood Risk Reduction and Mitigation</td>
<td>Johnson County Stormwater’s Asset Management Solutions</td>
</tr>
</tbody>
</table>

### 4:30–6 p.m.
**Conference Social Event - Boulevard Brewery**

## Tuesday, Feb. 5 — Conference Agenda

### 7:30–8:30 a.m.
**Breakfast/Registration**

<table>
<thead>
<tr>
<th>Time</th>
<th>Salon A</th>
<th>Salon B</th>
<th>Salon C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>SALON A</td>
<td>SALON B</td>
<td>SALON C</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>9:05 a.m.</td>
<td>Refining the Green Standard — Kansas City, Missouri, Green Stormwater</td>
<td>Using Continuous Monitoring and Adaptive Control to Monitor and Optimize</td>
<td>2D Modeling to Better Understand and Communicate Flooding Risk Behind</td>
</tr>
<tr>
<td>CONCURRENT</td>
<td>Infrastructure Manual</td>
<td>Existing Detention Facilities</td>
<td>Levees</td>
</tr>
<tr>
<td>SESSION 6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:40 a.m.</td>
<td>Kansas City, Missouri Green Infrastructure Asset Management</td>
<td>Floating Wetlands: for Public Engagement and Cleaner Water</td>
<td>Visualizing the Flood Risk from a Levee Breach</td>
</tr>
<tr>
<td>CONCURRENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SESSION 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:10–10:40 a.m.</td>
<td><strong>BREAK</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:40 p.m.</td>
<td>Engaging Youth: Outreach with Greater Impact</td>
<td>Target Green West Marlborough — Overcoming Construction Challenges</td>
<td>Green Infrastructure: Target Green West Marlborough</td>
</tr>
<tr>
<td>CONCURRENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SESSION 8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:15 a.m.</td>
<td>We Can Do It! Land and Water Conservation in Johnson County, Kansas</td>
<td>“Unified Green” Policy for Implementing a Successful GSI Program in the UG</td>
<td>Plexpod Westport: Stormwater Management and Native Plant Design</td>
</tr>
<tr>
<td>CONCURRENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SESSION 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:50 a.m.</td>
<td>Purposeful Community Green Infrastructure</td>
<td>Intelligent Stormwater Management in Combined Sewer Systems in Kansas</td>
<td>A Permeable Story — PaveDrain</td>
</tr>
<tr>
<td>CONCURRENT</td>
<td></td>
<td>City</td>
<td></td>
</tr>
<tr>
<td>SESSION 10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:30–2 p.m.</td>
<td><strong>LUNCH SESSION with Green Stormwater Infrastructure Workforce</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BALLROOM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lisa Treese RLA, LEED® AP, senior landscape architect, KC Water</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kristin Riott, executive director, Bridging The Gap</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adriana Caldarelli, National Green Infrastructure Certification Program</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>director, Water Environment Federation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>SALON A</strong></td>
<td><strong>SALON B</strong></td>
<td><strong>SALON C</strong></td>
</tr>
<tr>
<td>2:10 p.m.</td>
<td>Green Stormwater Infrastructure Maintenance &amp; Strengthening Our Community</td>
<td>Understanding Your Stormwater System for Sustainable Integrated Solutions</td>
<td>Beverly Hills Stormwater Green Infrastructure Capital Improvement Plan</td>
</tr>
<tr>
<td>CONCURRENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SESSION 11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:45 p.m.</td>
<td>Green Stormwater Infrastructure Story Map</td>
<td>Integrating the MS4 Approach to “Practical Reality” for Grandview</td>
<td>When Neighborhood Ponds Run Amuck</td>
</tr>
<tr>
<td>CONCURRENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SESSION 12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:20 p.m.</td>
<td>Green Stormwater Infrastructure Performance</td>
<td>USGS Urban Flood Frequency Analysis and Utility of StreamStats</td>
<td>Collaboration and Rain Gardens: Using Volunteers and City Resources to</td>
</tr>
<tr>
<td>CONCURRENT</td>
<td></td>
<td></td>
<td>Beautify Poor Drainage Areas of Frisco Lake Park</td>
</tr>
<tr>
<td>SESSION 13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:50–4 p.m.</td>
<td><strong>BREAK</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 p.m.</td>
<td><strong>PLENARY SESSION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BALLROOM</td>
<td>Here We Grow: Tom Jacobs, director of environmental programs, MARC</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Big Ideas —What’s Next: Andy Sauer, P.E., ENV SP, green infrastructure</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>and stormwater manager, Burns &amp; McDonnell</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
MON., FEB. 4 - OPENING PRESENTATIONS & SESSION DESCRIPTIONS

11-11:30 a.m. REGISTRATION

11:30 a.m.
Welcome Conference Overview

Andy Sauer, P.E., ENV SP, green infrastructure and stormwater manager, Burns & McDonnell; Kansas Water Environment Association

Jamie Cole, P.E., CSM, CFM, ENV SP, senior water resources engineer, Watearth, Inc.; Missouri Water Environment Association

Justin Stuedemann, stormwater specialist, city of Lenexa, Kansas; MARC Water Quality Public Education Committee

Opening Lunch Session and Keynote Speaker

Kevin L. Shafer, P.E., executive director, Milwaukee Metropolitan Sewerage District

Kevin Shafer has served as the executive director of the Milwaukee Metropolitan Sewerage District (MMSD) since 2002. The MMSD recruited The Conservation Fund to run its innovative flood management program, Greenseams®. Shafer is responsible for the overall management, administration, leadership and direction for MMSD in meeting short- and long-term goals and objectives; coordinates the establishment of strategic goals and objectives and their approval by the commission; oversees the development of policies and operating plans; and represents MMSD to its customers, bond rating agencies, and the public.

Prior to joining the district, Shafer spent 10 years in private industry with an international engineering firm in Chicago and Milwaukee, and six years with the U.S. Army Corps of Engineers in Fort Worth, Texas. He holds a Bachelor of Science in Civil Engineering with a specialty in water resources from the University of Illinois, and a Master of Science in Civil Engineering from the University of Texas. He is a past president of the National Association of Clean Water Agencies. He currently serves as the chair of the US Water Alliance Board of Directors and is the co-chair of the Water Research Foundation (WRF) Board of Directors. He is a past member of the U.S. Environmental Protection Agency’s Local Government Advisory Committee.

1:10 p.m. — CONCURRENT SESSION 1

SALON A
Green Stormwater Infrastructure Parks

Robby Bryant, PLA, AICP, LEED® AP, ENV, planning and landscape architecture discipline leader, HDR, Inc.

Trent Stober, P.E. National Utility Management Services director, HDR, Inc.

This presentation will provide an overview of funding sources, design strategies, water quality improvement benefits and additional co-benefits provided by green stormwater infrastructure in parks and other public spaces. Example projects of all sizes across the country and in our region will be showcased. Green stormwater infrastructure design projects in parks are made possible by diverse funding sources but all share a common goal: improved water quality. Green stormwater infrastructure in parks can capture and manage stormwater runoff from drainage areas that extend beyond park borders, providing treatment for roadway runoff prior to entering storm sewers or reducing peak flows in urban areas prior to entering combined sewers.

SALON B
Flexamat — Permanent Erosion Control Solutions

Ron Geater, Motz Enterprises, Inc.

This presentation will cover an overarching theme of designing with effective erosion and sediment control solutions to protect the environment. Flexamat is a flexible, hard-armor system that enables vegetation to become fully established while remaining a permanent armor against future erosion. Eventually vegetation will cover the entire mat and can be mowed. Topics covered will include applications of the Flexamat product vegetated to reduce storm water pollution on slopes, channels, low-water crossings, inlet/outlet protection, shorelines, and state transportation construction.

SALON C
Measuring Actual Stream Erosion and Impacts in the Indian Creek Watershed

Tony Stanton, P.E., water practice leader, Olsson

The Indian Creek watershed in Johnson County, Kansas has experienced significant urbanization and resulting stream changes over the last four decades. This session will present the findings of the Indian Creek Watershed LiDAR-based Fluvial Geomorphic Evaluation, initiated by the Johnson County Stormwater Management Program to map and quantify actual stream bank erosion and migration patterns over a 14-year period, utilizing LiDAR data from 1998 to 2012. The effort produced visual stream change information and tabulated actual stream erosion
and sedimentation volumes. Watershed-wide geomorphic trends will be discussed as they relate to land use, geologic and hydrologic conditions, and how the channel changes impact infrastructure, property and riparian habitat. Anticipated future trends will be discussed, along with how to use the data in planning for streamway restoration and infrastructure protection.

**1:45 p.m. — CONCURRENT SESSION 2**

**SALON A**

**Smarter Stormwater Solutions — Get Outside of Your Stormwater Box**

Andy Sauer, P.E., ENV SP, green infrastructure and stormwater manager, Burns & McDonnell

What if we considered multiple-benefit solutions that function for more than one hypothetical rainfall event? Can we create adaptive designs that can better react to future climate change, to future land use changes or to future regulations? All this can be done if we stop managing stormwater like we “always have” and begin to provide higher-technical solutions. This presentation will examine how our current stormwater design standards adversely impact downstream systems and provide a vision of how stormwater design needs to change to meet the future.

**SALON B**

**Stormwater Check Valves — Designs and Differences**

Tom Bumgardner, Innovative Engineered Equipment

This presentation covers the current check valves used in the industry and the advantages and differences of each.

**SALON C**

**Urban Acupuncture: Building a Vision through Green Infrastructure, Resiliency Planning & Community Engagement**

Tim Duggan, landscape architect/founder, Phronesis

There is a need to shift patterns in the way the city infrastructure systems are planned, designed and operated today and adapt them to how present-day residents live, work and play that is integrated into the natural environment in a more sustainable manner. Landscape Architects must take a unique approach in how we seek ways to collaborate, engage, design and leverage these existing opportunities into regenerative infrastructure solutions. Phronesis has developed a host of engagement tools that promote a fun, interactive and productive community workshops. Integration of high-tech and low-tech strategies reach a wider audience and ensure the broadest engagement possible. This presentation will explore recent Phronesis projects located in Pittsburgh, Kansas City and New Orleans, that all can redefine infrastructure in America for the next 100 years coupled with multiple community benefit outcomes through an approach in Urban Acupuncture.

**2:15-2:45 p.m. — BREAK**

**2:45 P.M. — CONCURRENT SESSION 3**

**SALON A**

**Water Quality Assessment and New Monitoring Approach for Johnson County**

Heather Schmidt, water quality specialist, Johnson County, Kansas, Public Works

Trent Stober, national director of utility management services, HDR, Inc.

The Johnson County Stormwater Management Program, in conjunction with the U.S. Geological Survey (USGS) Cooperative Water Program, currently operates and funds an in-stream monitoring program on behalf of permitted communities in the county to comply with requirements in the current Kansas Municipal Separate Storm Sewer Systems (MS4) Phase II permit. Recent data collection and analysis efforts by USGS noted significant limitations associated with the current monitoring approach.

This presentation will share insight into the county’s formation of a watershed-based, decision-making model, informed by meaningful water quality and hydrologic data, as the foundation of a modified stormwater monitoring program. The presenters will highlight the county’s assessment of current water quality conditions and priorities in its streams that will be used to ensure the revised monitoring program is effective.

**SALON B**

**The Flood of Record, and the Second Flood of Record, Indian Creek, Kansas City, Missouri**

James Walton, P.E., stormwater engineer, KC Water

In July of 2017, Indian Creek experienced the highest flood level recorded in Kansas City’s history of monitoring flood levels. In August of 2017, Indian Creek experienced levels of flooding higher than those in July. This presentation will describe the flooding event, and, thanks to the Kansas City, Missouri Police Department, show drone footage of the flood events.

**SALON C**

**Utilization of GIS for Construction Plans and Documentation**

Doug Carpenter, CPSWQ, CPESC, senior scientist, GBA

Is there a better way to utilize the data from organizational Geographic Information Services (GIS) to more effectively direct field crews and contractors to make repairs to infrastructure? How can data be more efficiently transposed from the field to the GIS servers? How can the large amount of point repairs and necessary cured-in-place pipe work be extracted from the GIS information to provide contractor-ready plan sheets? This presentation presents some project references for work done inside a large county organization to provide a more streamline
3:20 P.M. — CONCURRENT SESSION 4

SALON A

Sweeping and its Impact on Stormwater
Jeff Miles, Key Equipment & Supply Company

Street sweeping is particularly important during the winter months when we often experience our most heavy rainfall, which can result in debris blocking storm water facilities and causing local flooding. Equally important, but often less visible, is the safe removal of hazardous waste, such as metal particles, engine fluids and motor oils, which are left by our vehicles every day and extremely harmful to our drinking water, fish and wildlife in our local waterways.

This presentation focuses on making the most of your sweeping program with productivity in mind. The most effective and efficient ways of sweeping to maximize your stormwater funds, and to accurately report best practices to federal agencies by removing the maximum amount of debris and pollutants for visible cleanliness will be discussed, as well as protecting one of our most valued resources — our streams, rivers and lakes.

SALON B

Coordinated Solutions for Flood Risk Reduction and Mitigation
Jason Schneider, P.E., PMP, CFM, associate, project manager, Stantec

The city of Clive, located on the eastern side of Des Moines, Iowa in the Walnut Creek Watershed, has been plagued by flooding in the last seven out of 10 years. Coupled with a rising population and urbanization pressures, the risk profile of the watershed is rapidly increasing requiring innovative floodplain management solutions. Led by Stantec, federal, state, and local agencies are coming together to provide a consistent understanding of flood risk and practicable mitigation options.

4:30 p.m. Conference Social Event - Boulevard Brewery

Join us for the KC Urban Stormwater Social Event at Boulevard Brewery (2501 Southwest Blvd., Kansas City, Missouri) Monday, February 4, 4:30–6 p.m.! This is an opportunity to network and socialize over appetizers and drinks with your peers in stormwater at Kansas City’s hometown brewery! The event will be at the brewery’s third floor Muehlebach Suite!
Missouri Green Stormwater Infrastructure Manual is to reduce combined sewer overflows. The Kansas City, implementation as part of a comprehensive approach is integrating green stormwater infrastructure (GSI) into the city's Smart Sewer Program.

Lauren Grubbs, P.E., ENV SP, staff civil engineer, Burns & McDonnell

Brenda Macke, P.E., CFM, ENV SP, project manager, Burns & McDonnell

The city of Kansas City, Missouri's Smart Sewer Program is expanding this technology's use as part of the county's Stormwater Management Program's watershed-based approach. The 2017 and 2018 season will be shared, as well as next steps for expanding this technology's use as part of the county's Stormwater Management Program's watershed-based initiatives.

Salon A

Refining the Green Standard — Kansas City, MO Green Stormwater Infrastructure Manual

Brenda Macke, P.E., CFM, ENV SP, project manager, Burns & McDonnell

Lauren Grubbs, P.E., ENV SP, staff civil engineer, Burns & McDonnell

The city of Kansas City, Missouri’s Smart Sewer Program is integrating green stormwater infrastructure (GSI) implementation as part of a comprehensive approach to reduce combined sewer overflows. The Kansas City, Missouri Green Stormwater Infrastructure Manual is “version one” of a tool intended to take GSI from the conceptual design phase, through detailed design, construction, initial establishment and long-term maintenance. The city’s goal is to define the path and to develop the tools to holistically manage our infrastructure and redevelop our urban landscape to achieve both regulatory objectives and provide multiple benefits to the community. This presentation will demonstrate the process taken to develop the manual; show how it is intended to be used by city staff, designers, and contractors alike; and ultimately share the city’s vision for implementation and improvements to the GSI manual into the future.

Salon B

Does Your Detention Pond Function as Designed?

Michael G. McDonald, director of public works, city of Leavenworth, Kansas

Detention and retention facilities (“ponds”) are designed by engineers and constructed by contractors to meet standards set forth by the local government. They are rarely evaluated to determine if performance is meeting expectations, or if performance can be modified to be more effective. This presentation will highlight modestly-priced hardware that can be used to measure performance, and identify methods to compare actual performance with design expectations using actual examples.

Salon C

Using Physical Hydraulic Models to Manage Risk and Uncertainty

Donald W. Baker, P.E., D. WRE, Water Resources Solutions

Jerry R. Richardson, Ph.D., P.E., D. WRE, associate professor of civil engineering, University of Missouri-Kansas City

Jose A. Lopez, E.I., project manager, KC Water

Today's advancement in computational speed, storage, and graphical visualization has revived the belief that physically observing hydrodynamic processes in the field and laboratory models has grown obsolete. But this hubris is no more valid today than it was when numerical modelers made advances in the 1970s, 1980s, and 1990s. Analysis of complex flow problems must regard these two approaches as complimentary, not exclusionary.

This presentation will explore the experience and opinion that the digital and physical approach — when employed together — provide significantly improved hydraulic designs that significantly reduce overall project costs. As proof of these assertions, this presentation documents a series of modest-sized (mesoscale) physical models conducted in a joint effort between Water Resources Solutions and University of Missouri - Kansas City’s Engineering Department.

Salon B

Using Continuous Monitoring and Adaptive Control to Monitor and Optimize Existing Detention Facilities

Jason Garder, P.E., ENV SP, senior environmental engineer, Burns & McDonnell

Andy Sauer, P.E., ENV SP, green infrastructure and stormwater manager, Burns & McDonnell

Heather Schmidt, water quality specialist, Johnson County, Kansas Public Works

Traditional stormwater infrastructure is designed and constructed with the goals of improving water quality, preventing flooding, and maintaining healthy natural environments. Typically, the infrastructure is designed passively, allowing for infiltration or slow-release of a fixed-design volume. Continuous monitoring and adaptive control (CMAC) is an intelligent management strategy that integrates the weather forecast with stormwater infrastructure operations to optimize outflow. This adaptive strategy allows more stormwater to be captured during the more frequent storms, without compromising flood control or erosion mitigation benefits.

This presentation will provide an overview of the design and installation of the CMAC system at four sites located in Johnson County, Kansas. Results from the 2017 and 2018 season will be shared, as well as next steps for expanding this technology’s use as part of the county’s Stormwater Management Program’s watershed-based initiatives.

Salon C

2D Modeling to Better Understand and Communicate Flooding Risk Behind Levees

Lori Schrader, P.E., CFM, water resources engineer, Stantec

Anish Pradhananga, P.E., CFM, project manager and water resources engineer, Stantec

While levees are generally built to prevent flooding along rivers, they can instill a false sense of security. The potential and risk of flooding is still present behind a levee. With the increased computing capabilities and better data availability, two-dimensional (2D) modeling has become more realistic and achievable. 2D hydraulic modeling is an approach that gives a realistic picture when analyzing flood risk for a leved area. Aside from providing a better
understanding of the risk due to the failure of a levee, 2D analysis can also aid in determining flooding risks on the interior of the levee system due to interior flooding sources, a more probable risk than levee failure.

FEMA’s Risk Mapping, Assessment and Planning (MAP) program is embracing more 2D modeling for its benefits in calculating the velocity and depth of flooding over time. This presentation will demonstrate how 2D modeling can enhance flood studies behind levees and produce results that better communicate risk to the affected communities.

9:40 a.m. — CONCURRENT SESSION 7

SALON A
Kansas City, Missouri Green Infrastructure Asset Management

Scott Parker, asset manager, KC Water

SALON B
Floating Wetlands: for Public Engagement and Cleaner Water

Ian Fannin-Hughes, water quality specialist, city of Overland Park, Kansas

The city of Overland Park, Kansas initiated the floating wetlands pilot program to reduce available nutrients in South Lake, minimizing the potential for Harmful Algal Blooms (HAB) in the lake. This program targets three main goals: reducing HAB in city lakes; improving water quality downstream; and engaging the public through education, participation and recreational opportunities tied to GI.

This innovative approach meets the demand to improve public health issues related to HAB as well as the city’s National Pollutant Discharge Elimination System (NPDES) MS4 permit requirements. Attend this presentation to learn more about the city of Overland Park’s journey to plan and implement floating wetlands, and its plans to expand the program to other lakes while providing interactive learning experiences for the Overland Park community.

SALON C
Visualizing the Flood Risk from a Levee Breach

Will Zung, PMP, CFM, ENV SP, water resources manager, Stantec

The increased usage of 2-D modeling of floods combined with the 3-dimensional scenes available in mapping software, presents the opportunity for creating a virtual reality of a flood event in your town. This project will present the capability to view results of flood simulations from a 360-degree point of view of your neighborhood experiencing a flood event due to a levee breach. This virtual insight acts as a predictive model that may serve as a planning tool for flood mitigation alternatives and emergency action planning, as well as an engagement tool to improve citizen’s flood-risk awareness behind levees before a catastrophic event occurs.

10:10–10:40 a.m. — BREAK

10:40 a.m. — CONCURRENT SESSION 8

SALON A
Engaging Youth: Outreach with Greater Impact

Carla Dods, environmental engagement specialist, Shockey Consulting
Ann Frame Hertzog, senior marketing consultant and communications manager, Shockey Consulting

Water quality education and outreach programs for MS4 permit requirements often target adults and elementary-aged children. Youth can be difficult to reach for water quality education and involvement opportunities, yet this age group is receptive when approached with invitations for personal involvement. Reaching youth through the school system presents its own challenges.

This presentation will cover the following topics in engaging youth: why engage youth; overcoming challenges; and ways to engage youth. Program examples will show how to engage youth with hands-on experiences used by professionals in their daily work, as well as expose them to science, engineering, math, communication and other careers associated with water quality, without spending a lot of money.

SALON B
Target Green West Marlborough — Overcoming Construction Challenges

Jessica L. Veach, P.E., ENV SP, water resources engineer, CDM Smith

The Target Green West Marlborough project is part of Kansas City, Missouri’s Smart Sewer Program which is implementing projects throughout the city to meet the requirements of the EPA Consent Decree to reduce overflows from combined sewer systems and prevent overflow from separate sewer systems. This project included the combination of strategic sewer separation and GI components including permeable pavers, dry detention and a large wetland detention facility to meet the project’s goals.

This presentation will cover construction challenges at the largest green infrastructure site in the city located in a high-profile area. Other presentation topics include: weather; waterline breaks; unexpected groundwater; and coordination with multiple utilities and more. These challenges ultimately resulted in a successful project that was accomplished through persistence, creative-problem solving and teamwork between the city, the engineer and the contractor.
Green Infrastructure: Target Green West Marlborough

Bill Murphy, Civil Engineer, ASP Enterprise, Quick Supply Co., and Bowman Construction Supply

From curbside pretreatment devices to permeable pavers, from curb inlet baskets to underground storage tanks, from high-tech vaults to hard-armor protection, one project includes all of these innovative water quality solutions in one city: Kansas City! Learn about the decision-making that selected these solutions from concept through design. Hear about the construction pre-planning and challenges that were overcome, and gain insight into the maintenance that assures long-term performance and life-cycle cost savings.

We Can Do It! Land and Water Conservation in Johnson County, Kansas

Ginevera Moore, midwest field representative, The Conservation Fund

Lee Kellenberger, stormwater management program manager, Johnson County, Kansas, Public Works

The Conservation Fund, in partnership with the Johnson County Stormwater Management Program, Johnson County Wastewater and Johnson County Park and Recreation District — conducted a study to determine the feasibility of establishing a land and water conservation program in the upper reaches of the Blue River Watershed in Johnson County, Kansas. This presentation highlights the study approach, study results and preliminary plans for land and water conservation in an area of Johnson County that’s expected to have major growth in the next 20 years.

“Unified Green” Policy for Implementing a Successful GSI Program in the UG

Lauren Grubbs, P.E., ENV SP, staff civil engineer, Burns & McDonnell

Brenda Macke, P.E., CFM, ENV SP, project manager, Burns & McDonnell

The Unified Government of Wyandotte County and Kansas City, Kansas (UG) developed an Integrated Overflow Control Plan in response to a Partial Consent Decree with the Environmental Protection Agency (EPA). To maximize the visible benefits to the community while addressing water quality issues in both the MS4 and combined sewer system service areas, the UG is exploring the implementation of GSI.

To effectively implement a new and different approach to stormwater design, appropriate policy must be in place that both allows for and encourages GSI for public and private development and redevelopment, as well as capital improvement projects. “Unified Green” presents the steps the UG is taking to put that policy in place.

Plexpod Westport: Stormwater Management and Native Plant Design

Will Gibson, landscape architect and co-founder, Green Thumb Gardens

Several partners purchased the old Westport junior and high school buildings in Kansas City, Missouri to be renovated into a co-work space. This was an opportunity to implement a completely new way to manage and monitor stormwater on the building grounds. Alternative ways of calculating stormwater capacity along with creative landscape design made this project a game-changer for city officials and developers and how they approached stormwater management of this site. Plexpod Westport features a curb-less parking lot that flows to a 16,000-square-foot bioretention system with over 6000 native plugs installed. This presentation will cover the function of layering in design, performing maintenance on complex installations and how to work with the city to comply with a new approach.

Purposeful Community Green Infrastructure

Scott Schulte, ENV SP, senior environmental planner, Vireo

Diana Johnson, project manager, Stormwater Utility Division, KC Water

Lisa Treese, RLA, LEED® AP, senior landscape architect, KC Water

What is GI, really? Is it a rain garden at a recycling center? A nicely maintained lawn where you can picnic or play soccer, or a hillside that kids can explore? Is it a planted space that might catch a little rain and prevent puddling and erosion on the sidewalk, or a pond in a park that captures a lot of rain and reduces sewer overflows and flooding? What about an outdoor classroom, an orchard or a healing garden?

Urban GI includes all of these and more! While it’s definitely about managing water, GI is also about how people engage with water, their environment and their community. This presentation will highlight two Kansas City, Missouri Smart Sewer projects that push the community benefit, equity and partnership envelope while naturally managing water.

Intelligent Stormwater Management in Combined Sewer Systems in Kansas City, Missouri

Jason Garder, P.E., ENV SP, senior environmental engineer, Burns & McDonnell

Andy Sauer, P.E., ENV SP, green infrastructure and stormwater manager, Burns & McDonnell
Kansas City, Missouri’s Smart Sewer program is helping to lead the way in intelligent stormwater management by utilizing Continuous monitoring and adaptive control (CMAC) for the existing Gardner Avenue detention facility. This 1.6-million-gallon, dry detention pond with 65 acres of contributing drainage was retrofitted with CMAC technology in early 2017. The CMAC software uses a control algorithm to continuously and autonomously modulate the discharge valve installed on the outlet structure, based on the pond water level and the precipitation forecast. This presentation will provide an overview of the design and installation of the CMAC system for the Gardner Avenue detention facility. Results from the 2017 and 2018 seasons will be shared, as well as next steps for expanding this technology’s use as part of the city’s Overflow Control Program.

**SALON C**

**A Permeable Story — PaveDrain**

Doug Buch, PaveDrain, LLC  
Bill Murphy, Civil Engineer, ASP Enterprise, Quick Supply Co., and Bowman Construction Supply

The PaveDrain® system is a patented, permeable paving surface designed with the joints between the blocks left open (i.e. NO ROCK) for an unprecedented infiltration rate and easy maintenance with vacuuming equipment. It is Americans with Disabilities Act compliant, HS-25 Load-rated, manufactured throughout the U.S. and is available in multiple colors. It can also be heated through our cable ducts to melt snow or ice and infiltrate the runoff so that additional liability is reduced.

**12:30-2 p.m. - BALLROOM**  
**Lunch Session with Green Stormwater Infrastructure Workforce Development Panel**

Lisa Treese RLA, LEED® AP, senior landscape architect, KC Water  
Kristin Riott, executive director, Bridging The Gap  
Adriana Caldarelli, National Green Infrastructure Certification Program director, Water Environment Federation

**2:10 p.m. — CONCURRENT SESSION 11**

**SALON A**

**Green Stormwater Infrastructure Maintenance and Strengthening Our Community**

Lisa Treese RLA, LEED® AP, senior landscape architect, KC Water  
Chris Cardwell, Green Stewards program manager, Bridging The Gap  
Regan Brotherton, ENV SP, environmental scientist, Taliaferro & Browne

The city of Kansas City, Missouri is utilizing both city crews and private contracts for the continual maintenance of green stormwater infrastructure (GSI). To supplement this, the city is participating in the National Green Infrastructure Certification Program (NGICP) to train a green workforce on GSI maintenance tasks. In 2017, the city established a contract with the nonprofit Bridging the Gap, to hire and train “Green Stewards” to perform both maintenance and monitoring tasks. The program has two goals: routine maintenance of the GSI sites and the development of the Stewards’ skills in GSI; and landscape maintenance to qualify them for successful employment in the government or private sectors. The Green Stewards maintain approximately 200 distributed-scale GSI sites within the combined sewer area of Kansas City, Missouri. This presentation will focus on the experiences the program has had in the first year of implementation.

**SALON B**

**Understanding Your Stormwater System for Sustainable Integrated Solutions**

Jason Garder, P.E., ENV SP, senior environmental engineer, Burns & McDonnell  
Lauren Grubbs, P.E., ENV SP, staff civil engineer, Burns & McDonnell  
Kyle Bruemmer, Burns & McDonnell

Stormwater systems have been designed over multiple decades using different design standards, or in some cases no design standards. So how do you know what your stormwater system performance is? First, you must understand your stormwater system.

Burns & McDonnell partnered with the city of Fulton, Missouri in completing a pilot study of two drainage areas in downtown Fulton. The objective of this initial pilot study was: to develop the procedure and tools to effectively collect field data on the stormwater system; create a process to integrate this data with existing GIS layers; create spreadsheet tools to evaluate the stormwater system from inlet calculations to pipe capacity; train city staff on the equipment and procedures; and provide recommendations for stormwater improvement needs and next steps. This presentation will provide an overview of this pilot study, demonstrate the tools developed for data collection, and provide examples of the stormwater system evaluation approach.

**SALON C**

**Beverly Hills Stormwater Green Infrastructure Capital Improvement Plan**

Laura Adams, green infrastructure practice lead, Black & Veatch

As the Los Angeles area prepares to host the 2028 Olympics, there is an opportunity for urban stormwater infrastructure investments to play a role in revitalizing communities and increasing opportunities for young people. Nearby, in Beverly Hills, the city is moving forward with GSI solutions that can set the standard for southern California. The Enhanced Watershed Management Program (EWMP) for Ballona Creek outlines the approach to meet water quality standards for the Los Angeles County MS4 permit.
This session will detail a 10-year capital improvement plan that was developed to define a cost-effective and efficient path toward EWMP compliance, integrating low-impact development, green street and regional project solutions. Examples of solutions include subsurface storage, park retrofits, permeable surface alleys, miniature parkway biofilters, street curb extensions and deep infiltration.

2:45 p.m. — CONCURRENT SESSION 12

**SALON A**

**Green Stormwater Infrastructure Story Map**

**Kylie Wyatt, urban planner, Burns & McDonnell**

**Miranda Sloan, civil engineer, Burns & McDonnell**

**Regan Brotherton, ENV SP, environmental scientist, Taliaferro & Browne**

The GSI Story Map for the city of Kansas City, Missouri was published in the fall of 2018. It will be used for public education and outreach and will provide a virtual tour of an assortment of local GSI sites. Features of the story maps subsections include graphic illustration of the effectiveness of green infrastructure for stormwater capture and images that demonstrate the range of GSI sizes and strategic location for optimum stormwater capture. The story map allows the user to see the locations of various GSI throughout the city from an aerial view and pedestrian view. Each site narrative describes neighborhood benefits, technology type, and age and size of the installation. This presentation will highlight the GSI Story Map’s comprehensive scope and accessibility to the public.

**SALON B**

**Integrating the MS4 Approach to “Practical Reality” for Grandview**

**Brenda Macke, P.E., CFM, ENV SP, project manager, Burns & McDonnell**

**Lauren Grubbs, P.E., ENV SP, staff civil engineer, Burns & McDonnell**

**Josh Tinkey, stormwater project manager, TREKK Design Group**

The city of Grandview, Missouri is required to meet NPDES Phase II MS4 permit requirements as enforced by the Missouri Department of Natural Resources (MDNR). The city was inspected in 2017 and has used 2018 to reorganize their efforts and respond to MDNR’s needs while recognizing feasible means to complete MS4 tasks. The city’s practical approach to MS4 compliance is centered on communication, protection and maintenance of stormwater resources, including our local streams. In spring 2018, the city held an interdepartmental workshop to identify audience, opportunities and tasks to for each of the six minimum controls. This presentation will discuss modifying traditional regulatory language into a practical communication MS4 strategy for city staff. This strategy included deviating from regulatory language to “to do” items and creating a process and organizational tool for the city to track their MS4 compliance and ultimately communicate that compliance with MDNR.

**3:20 p.m. — CONCURRENT SESSION 13**

**SALON A**

**Green Stormwater Infrastructure Performance**

**Priya Iyengar, EIT, ENV SP, project manager, KC Water**

**Madison Gibler, civil engineer, Burns & McDonnell**

Green stormwater infrastructure (GSI) facilities in Kansas City, Missouri range in shape and size from small, distributed GSI in the right of way, to large regional facilities, based on watershed characteristics and project objectives. In 2012, the city completed its first GSI project, the Middle Blue River Basin Green Solutions Pilot Project, as a part of its Consent Decree with the EPA. After the conclusion of the pilot project’s contractor maintenance period in 2015, the city, through its Smart Sewer Program, began to monitor performance of the pilot project as well as other GSI demonstration projects. Since its inception in 2016, the GSI monitoring program has grown from infiltration testing of three project areas to using a variety of testing procedures and equipment at 10 project areas. This presentation will describe the testing methods and equipment used to monitor GSI performance, review performance over time and identify the importance of performance monitoring related to design, implementation, and maintenance of GSI facilities.
Hydraulic design of bridges and culverts, the establishment of flood-insurance rates, and the designation of emergency routes require information about the flood characteristics of streams. Urban basins are characterized by substantial development consisting of streets, highways, residential homes and commercial buildings. This presentation details StreamStats, a USGS developed web application used to disseminate these flood frequency equations. StreamStats also provides overall access to an assortment of GIS analytical tools useful for water-resource planning, management and for engineering and design purposes. The map-based user interface of StreamStats can be used to delineate drainage areas for user-selected sites on streams, and then get basin characteristics and estimates of flow statistics for selected sites anywhere this functionality is available.

SALON C

Collaboration and Rain Gardens: Using Volunteers and City Resources to Beautify Poor Drainage Areas of Frisco Lake Park

Michele Silsbee, water quality program coordinator, city of Olathe, Kansas Public Works

This presentation tells the story of how the city of Olathe, Kansas Stormwater division collaborated with internal departments and volunteers to improve drainage areas in Frisco Lake Park, while educating people on the benefits of native plants. This project involved the stormwater division, parks and recreation department, solid waste department and traffic division, working with local Boy Scouts. The collaboration resulted in significant cost savings making it possible to fund additional projects. This effort was so successful, volunteers have already signed up for spring installations.

3:50–4p.m. — BREAK

4 p.m. — CLOSING PLENARY SESSION

Ballroom

Here We Grow: MARC Regional Green Infrastructure Plan

Tom Jacobs, director of environmental programs, Mid-America Regional Council

Big Ideas —What’s Next

Andy Sauer, P.E., ENV SP, green infrastructure and stormwater manager, Burns & McDonnell

PRESENTER BIOGRAPHIES

Laura Adams is the green infrastructure practice lead for Black & Veatch. She has worked with interdisciplinary teams to develop successful green infrastructure (GI) and stream restoration initiatives — participating in design, installation and maintenance. She has concentrated on projects with open channel flow, stream restoration and watershed planning components. In the field, she has evaluated stream stability of river systems across the country. In the Kansas City community, Laura serves on the Board of Directors for Cultivate Kansas City and on the Steering Council for Heartland Conservation Alliance.

Adriana Caldarelli is the director of the Water Environment Federation’s (WEF) National Green Infrastructure Certification Program (NGICP). Adriana joined WEF in April of 2018 and has focused on expanding the program beyond the founding partners, by engaging both the agencies using GI to meet permit requirements and the workforce development organizations interested in bringing the chronically un- and under-employed into the water sector. Additionally, Adriana has partnered with several organizations such as the National Parks and Recreation Association and the Greater New Orleans Foundation, to expand the scope of NGICP to make it more accessible and useful for different audiences. Prior
to taking on her current role, Adriana spent 17 years with the New Jersey Department of Environmental Protection working in various water quality-related programs, including wastewater management planning and combined sewer outfall permitting. Much of her work was focused on GI, particularly in communities with combined sewer systems. She assisted with community-based GI planning and provided coordination between the local community and the department. Adriana has a Bachelor of Science in Natural Resource Management from Rutgers University and a Master of Science in Environmental Policy from the New Jersey Institute of Technology.

Don Baker, principal and owner of Water Resources Solutions in Prairie Village, Kansas, has 26 years of water resources engineering experience. He specializes in stormwater management, ecosystem restoration, watershed management and hydraulic structures. With experience across the United States, Baker brings a variety of solutions to a project and tailors them to fit the client’s individual needs. As an Adjunct Instructor for the Civil and Mechanical Engineering Department at the University of Missouri-Kansas City, Baker teaches Fluid Mechanics, Hydraulics of Open Channels, Hydraulic Structures and Urban Hydrology to many of the water resources engineers in the Kansas City region.

Regan Brotherton is an environmental scientist and an Envision™ Sustainable Professional. She graduated with a degree in ocean, atmospheric, and earth sciences, focused on geology, from Old Dominion University in 2013. She works for Taliaferro and Browne and is a member of the Kansas City, Missouri Smart Sewer Green Team. She worked on obtaining the Envision Platinum rating for the Middle Blue River Green Infrastructure Pilot projects and enjoys educating others on GI. She and her husband live on their family farm in Oak Grove, Missouri where they are currently raising sheep and restoring a small prairie and woodland.

Robby Bryant is a landscape architect and urban designer with over 20 years’ experience specializing in the development of public spaces and implementation of sustainability principles. Robby was project manager for the Atlanta BeltLine’s immensely successful Historic Fourth Ward Park, where he worked with a multi-disciplinary team to resolve complex stormwater engineering issues while creating an award-winning open space. He is currently managing the park design effort for the $35 million Rodney Cook, Sr. Park in Atlanta and the city of Calgary’s first stormwater park.

Doug Buch is a graduate of the University of Iowa, 1992. He has held several regional and national sales roles and executive positions within the construction industry over the past 25 years. He launched the PaveDrain System in the fall of 2008 and has traveled around the world promoting the PaveDrain system.

Tom Bumgardner holds both a bachelor’s and master’s degree in Engineering from the University of Missouri - Rolla. He focused on grades, golf, and being President of the Game Club. He has been an electrician from a young age, starting with his father’s company as trash sweeper, working up to electrician for water and wastewater plants. He worked as an engineer for two consultant firms after college, before moving into the manufacture representative field with HE Engineered Equipment in the late 1990s. He has worked 20 years as a manufacture representative focused on valves, actuators and innovative equipment dealing with water treatment. He has founded, joined, and merged companies over time, but has settled into being Owner and President of Innovative Engineered Equipment where he plans to stay. He’s pretty good at golf for only playing a few times a year, and he also owns a game store, Game Cafe in Independence, Missouri, founded 13 years ago.

Chris Cardwell began his career in the green industry in 2008 while studying at the University of Kansas, and evolved into building a private, native plant-centered landscaping and design practice. Currently he serves on the Missouri Prairie Foundation’s "Grow Native!" Committee, and is a member of the Board of Directors of the Platte Land Trust. In 2018, Chris was hired by Bridging The Gap to lead the development of KC Smart Sewer’s Green Stewards program to help meet the burgeoning demand for a skilled green infrastructure workforce in Kansas City, Missouri.

Doug Carpenter is a senior design and construction specialist in the Water Environment Group at George Butler Associates. He has worked for GBA for the past 14 years and provided design consultation and project management for many stormwater and sanitary projects in Kansas City and around the Midwest. Doug has a bachelor’s degree in Geology from the University of Kansas and is both a Certified Professional in Stormwater Quality, as well as a Certified Professional in Erosion and Sediment Control.

Carla Dods is an environmental scientist with a knack for communicating science and engineering information to the public. She connects people to the environment by
conveying its importance in their daily lives, the impacts of human activity on the built and natural environment, and the impacts it can have on public health.

Her thirty years in the environmental field includes stormwater management, environmental impact assessments and regulatory compliance. Multiple issues and stakeholders characterize many of these projects. She has Bachelor of Science, Environmental Science from Texas Christian University and a Master of Science in Environmental Science from Indiana University.

David Dods is an environmental scientist and landscape restoration specialist with 36 years of experience. His work includes hazardous waste remediation using natural systems, stormwater management and regulatory compliance. He also has experience in: designing and planting rain gardens to manage stormwater runoff; constructing wetlands for industrial stormwater treatment; treating contaminated water and soils with compost systems; and removing pollutants from contaminated groundwater.

David leads workshops on rain gardens, stormwater BMP installation and maintenance, using native plants for stormwater management, and sustainable and climate-resilient landscapes. He has Bachelor of Science, Environmental Science from Texas Christian University and a Master of Science, Environmental Engineering from Vanderbilt University.

Jarrett Ellis is a hydrologist in the Fluvial Mechanics and Geomorphology Group of the Central Midwest Water Science Center. Jarrett received a bachelor’s degree in Civil Engineering in 2015 from the Missouri University of Science and Technology in Rolla, Missouri.

Ian Fannin-Hughes is the water quality specialist for the city of Overland Park, Kansas, where he manages compliance with the city’s Clean Water Act permit. He specializes in water resource management, but also works in education and outreach, watershed planning, stream monitoring, and partnership-building. Prior to joining Overland Park, Ian worked as a state water resource regulator and across the country on a broad range of environmental projects — from climate change to Avian Flu, from ecotoxicology to wheat pests. Ian works with several local partners on water quality and conservation initiatives, including Mid-America Regional Council, Heartland Conservation Alliance and Kansas City Native Plant Initiative. A lifelong Kansan, Ian holds a bachelor’s in Environmental Science from Kansas State University and will graduate with a master’s in Environmental Assessment from University of Kansas in 2020. He currently resides in Lenexa, Kansas with his wife and two kids.

Ann Frame Hertzog is a senior marketing consultant and communications manager for Shockey Consulting. With more than 20 years of experience in marketing and communications, Ann has managed and developed marketing campaigns and strategies that generate clear targets and open communications to ensure all parties work together. She specializes in community initiatives to create effective branding and communications to inform, educate and motivate the public. Her expertise includes: creating marketing materials to generate awareness and community participation; developing communication plans that embrace print, audiovisual, online, social, publicity and promotions; And creating a how-to video on engaging youth.

She has a Bachelor of Science in Computer Science from the University of Kansas.

Jason Garder, P.E., ENV SP, is a senior environmental engineer with Burns & McDonnell with seven years of experience in stormwater, conveyance, collection system, site, green infrastructure, and real-time control system design. Jason holds a Bachelor of Science in Civil and Environmental Engineering from South Dakota State University, and a Master of Science in Civil Engineering from Iowa State University. He is a registered professional engineer in the states of Arkansas, Kansas, Missouri, Oklahoma, and Pennsylvania, and an Envision™ Sustainability Professional.

Ron Geater joined Motz Enterprises, Inc. in 2016 as the regional manager for the Midwest. He covers a 10-state territory promoting the use of permanent vegetated hard armor mats. He spends his time doing presentations with civil engineers, working closely with departments of transportation and going to job sites to provide technical assistance for installs.

Ron began his career in the erosion control industry working eight years for American Excelsior Company. The experience he gained from selling erosion control blankets gave him the insight for specification work. He also spent time educating municipalities, transportation departments and environmental agencies.

Ron received his bachelor’s degree from the University of Iowa in 1991. He also earned a full-ride scholarship to play football. After his senior year he was named First Team All-Big Ten. In 1992 he was drafted in the seventh round by the Denver Broncos.

Madison Gibler is a civil engineer at Burns & McDonnell, specializing in Water Resources. She received her Bachelor of Science in Civil Engineering and Master of Science in Environmental Engineering from Missouri University of Science and Technology, Rolla. Madison has spent the
majority of her career in stormwater engineering and green stormwater infrastructure. She has planning, design, and monitoring experience in Kansas, Nebraska and Missouri.

William Roth Gibson is a graduate of the Missouri University - Columbia with a Bachelor of Arts in History with an emphasis in environmental history, and a Bachelor of Science in Political Science. In 2013 William founded Down To Earth Services, a design/install company that specializes in native plants and sustainable solutions. In 2015, with the ever-increasing demand for native plants, William co-founded Green Thumb Gardens, a native plant nursery in Kansas City, Missouri.

Lauren Grubbs is a professional engineer in the water resources field for Burns & McDonnell with six years of civil site, stormwater analysis and design experience. Her focus has been in green infrastructure design, including the appropriate stormwater and civil infrastructure policy and design tools for a properly functioning installation. She has GI design experience across the nation, including Missouri, Kansas, Pennsylvania, Ohio, Texas, North Carolina and Minnesota.

Priya Iyengar serves as a project manager at Kansas City, Missouri, Water Services Department (KC Water), where she started in March of 2012 as a Graduate Engineer for the Overflow Control Program (OCP). She provided planning, engineering and project management support for the city's OCP projects. In 2013, she began managing the largest of the OCP's GI projects to date, Target Green Marlborough, and continues work on that project in the capacity of construction manager.

Tom Jacobs has led environmental policy and planning efforts for the Mid-America Regional Council, Kansas City's metropolitan planning organization, since 2001. His primary interests revolve around the integration of green infrastructure with sustainable development efforts related to water resource management, transportation, land use, energy efficiency, air quality and climate resilience. Over the last three years, he has worked with many community partners to create an integrated green infrastructure planning framework linking ongoing efforts related to greenways, stormwater design, urban forestry and sustainable place-making.

Diane Johnson has over 20 years’ experience in various aspects of engineering projects. She is a graduate of University of Missouri’s Coordinated Engineering program. She joined KC Water in April 2004 and is responsible for supervising consulting engineers and contractors in the design of water and sewer system improvements, GI, and construction projects. Diana participates in various phases of project management, such as checking for conformance with plans and specifications, submits progress reports, answers complaints, and provides general instructions on major cleaning and repair projects. She reviews project proposals, establishes work plans and procedures for accomplishing projects, and handles staffing requirements.

Lee Kellenberger is the manager of the Johnson County Stormwater Management Program. He oversees multiple efforts with the cities of Johnson County, Kansas, to fund flood damage reduction, asset management and water quality improvement. The program also provides assistance with NPDES Phase II permitting requirements and undertakes various research and development projects to further our understanding of stormwater management in the Kansas City region. In his free time, Lee enjoys spending time with his wife and two kids, working on home remodeling projects, restoring barns, fixing up old tractors, and hunting and fishing.

Jose A. Lopez is a watershed planner and project manager for KC Water where he currently manages the Indian Creek project. He holds a Bachelor of Science in civil engineering from the University of Missouri - Kansas City, and is currently a graduate student there. He is a certified engineer intern and has spent more than three years working in the industry.

Brenda Macke is a professional engineer and certified floodplain manager with over 18 years of technical and management experience. She is known for her technical proficiencies in practical project implementation — from planning through the design and construction phases. Her passion is planning and designing sustainable infrastructure, including stormwater systems and green stormwater infrastructure facilities. Brenda’s work includes a variety of regional and national projects focused on helping communities meet NPDES Phase II regulations, Federal Emergency Management Agency (FEMA) requirements and EPA consent orders. She holds a Master of Science in Engineering Management from the University of Kansas and a Bachelor of Science in Civil Engineering from Kansas State University.

Michael G. McDonald has always been interested in building things. His early career experiences involved measuring open channel water and sewer systems for
instantaneous and long-term projects. He graduated from Oregon State University in 1978 and has worked for private engineering companies and municipal public works departments since then. Michael found those jobs to be interesting, exciting, and fulfilling learning experiences. Since September 1988, he has served as the director of Public Works for the city of Leavenworth, Kansas. He is a Licensed Civil Engineer in Oregon, Arizona and Kansas.

Jeff Miles has been the Vice President of Key Equipment and Supply company for 27 years. He assists municipal, state and other organizations, including NASCAR, to understand the importance of street sweeping by designing sweeping programs that maximize productivity.

Ginevera (Ginny) Moore is the Midwest field representative for The Conservation Fund, a national, nonprofit conservation organization. Ginny’s professional experience includes working as an Assistant Regional Counsel at EPA - Region 7, serving as Water Quality manager at Mid-America Regional Council and as executive director of the Kansas Land Trust, leading its land and water conservation efforts across Kansas. She is an active member of the national Land Trust Alliance, and is a member of LTA’s Conservation Defense Advisory Council. She received her J.D. with Distinction from the University of Iowa College of Law.

Bill Murphy, P.E., is a Civil engineer for ASP Enterprises, Quick Supply Co. and Bowman Construction Supply specializing in stormwater, GI and low-impact development solutions. After practicing as a consulting civil engineer for 15 years, he entered the erosion control/sediment control and stormwater industry as an applications engineer responsible for education, product development and technical support across the U.S. and Canada for product manufacturers. Bill has presented at International Erosion Control Association national and chapter events, an EPA regional conference, and for a variety of cities, counties and state agencies. He provides educational seminars (“Clean & Green”) and lunch and learns at civil engineering and landscape architecture consulting firms. Bill works closely with contractors at pre-con meetings and during installations and provides training for proper maintenance of GI stormwater systems.

Scott Parker has nearly 20 years of professional, managerial and consulting experience in both the public and private sector. He has worked in varied roles during that time and recently is the Asset Manager for KC Water. Scott began working in asset management as part of Rain to Recreation GSI management program for the city of Lenexa, Kansas in 2007, and has been working in the field in some form or fashion ever since then. He holds a master’s degree from the University of Arkansas, and a Master of Public Administration from the University of Missouri.

Anish Pradhananga, P.E., CFM, is a project manager and Water Resources engineer for Stantec in the Overland Park, Kansas office. Over the course of his 18-year career, he has worked on a wide range of civil engineering projects. For the past nine years, he has concentrated on hydrologic and hydraulic modeling, including the modeling of complex, leveed riverine systems.

Jerry Richardson of Water Resources Solutions is an associate professor of civil engineering at the University of Missouri - Kansas City. He has extensive analytical, laboratory and field experience in river hydraulics, river mechanics, erosion and sedimentation, bridge scour, hydrology, field data collection techniques, unsteady flow modeling, physical modeling, and real-time rainfall runoff simulation. The diversity of Richardson's expertise includes research, education and consulting. He has experience with, and has developed distributed real-time finite element models for rainfall-runoff simulations like HEC-HMS, SWMM and WMS. He also has extensive experience modeling surface water flows using one- and two-dimensional steady and unsteady hydraulic models.

Kristin Riott is executive director of Bridging The Gap (BTG), an environmental nonprofit in Kansas City with a diverse slate of programs, several addressing water quality. With thousands of volunteers, BTG has planted more than 20,000 trees and restored 450 acres of prairies — this absorbent greenery keeps topsoil from eroding and sewage from overflowing into streams. Under contract to KC Water, BTG also manages its Green Stewards program, which offers people with barriers to employment learn to maintain the city’s 170 GI installations. Kristin helped to teach and became certified in the first local class of the National Green Infrastructure Certification Program and is a lover of the native plants of Kansas and Missouri.

Paul H. Rydlund, Jr., PLS, CFM is the section chief over the Surface Water Hydraulics and Modeling Group for the U.S. Geological Survey (USGS) Central Midwest Water Science Center. In addition, he currently serves as an acting section chief over the Fluvial Mechanics and Geomorphology Group. Paul received consecutive bachelor’s degrees in Business and Geological Engineering with a subsequent master’s degree in Civil Engineering
from the University of Missouri - Rolla. He has a background specializing in hydrology, hydraulics, and geodetic surveying and has authored many publications in these disciplines.

**Andy Sauer, P.E., ENV SP**, is a senior project manager and green infrastructure and stormwater manager for Burns & McDonnell Water Global Practice. Mr. Sauer has over 21 years of experience in water resources, stormwater management, and GI. Mr. Sauer holds a Bachelor of Science in Agricultural Engineering and Master of Science in Agricultural and Biological Systems Engineering, both from the University of Nebraska - Lincoln. He has managed stormwater projects throughout the Midwest and is currently the Green Infrastructure Task Leader for the city of Kansas City, Missouri’s Smart Sewer Program. He is a registered professional engineer in the state of Kansas and Missouri and an Envision™ Sustainability Professional.

**Heather Schmidt** is the water quality specialist with the Johnson County (Kansas) Stormwater Management Program. She has been with the county since 2007 and oversees programs that assist Johnson County cities with meeting their MS4 permit requirements. Prior to her employment with the county, Heather was a hydrologist with USGS. Heather holds a Bachelor of Science and Master of Science in Geology from the University of Kansas.

**Matthew Scott** is a water resources engineer with CDM Smith - Kansas City office. He received his Bachelor of Science in Civil Engineering from the University of Missouri - Kansas City, and has most recently completed his Master of Science in Civil Engineering at the University of Kansas. He has worked at CDM Smith for nine years and is experienced in both hydrologic and hydraulic modeling using a wide variety of modeling software. He currently lives in Kansas City with his wife, 6-year-old daughter and baby. While he is typically more of a baseball fan, he enjoyed rooting for the Kansas City Chiefs this season!

**Lori Schrader, P.E., CFM**, is a water resources engineer for Stantec - Overland Park, Kansas, office. While at Stantec, Lori has worked on a variety of hydrologic and hydraulic modeling projects related to flood studies and levee analysis. She has a master's degree in Civil Engineering from Purdue University and a bachelor's degree in Civil Engineering from UCLA.

**Michele Silsbee** is the Water Quality Program coordinator for the city of Olathe, Kansas. Prior to working for Olathe, she was the stormwater management coordinator for the city of Hutchinson, Kansas. She is a member of the MARC Water Quality Public Education and WEF Stormwater committees. Public education and engagement is something she is passionate about and enjoys developing programs that empower everyone, teaching them that they can make a difference in water quality and other environmental issues.

**Miranda Sloan** is a civil engineer in the Kansas City office for Burns & McDonnell. She has five years of experience and obtained her associate degree in Liberal Arts from Johnson County Community College, her bachelor's degree in Civil Engineering from the University of Kansas and an Envision™ Sustainability Professional. Her work includes GI development in residential areas, hydraulic modeling using XP Swmm, SewerGEMS and InfoWorks ICM and asset management optimization for pipes and manholes using InfoMaster and InfoNet. She has worked directly with Innovyze to assist in the development of InfoMaster. Sloan is currently chair of the YP Committee for the Kansas Water Environment Association.

**Sarah Smith** is project manager and a Stormwater Engineer for the Johnson County, Kansas Public Works Department, working for both the rural and urban services divisions. Before coming to the county five years ago, Sarah worked for a mid-size, private engineering firm in the Kansas City metro doing primarily stormwater design work.

Sarah earned a Bachelor of Science in Architectural Engineering and a master’s degree in Civil Engineering with an emphasis in Water Resources, both from the University of Kansas. Sarah spends her free time with her husband and four kids and enjoys ceramics and books on tape.

**Tony Stanton, P.E.,** is the Water Practice leader for Olsson with 22 years of professional engineering and consulting experience and holds a Bachelor of Science in Civil Engineering from Kansas State University. Tony’s key areas of expertise include urban flood control and stormwater management; watershed master planning; stream and wetland restoration; floodplain management; and dam design and rehabilitation. Tony has also served in leadership roles for the American Public Works Association - Kansas City Chapter's Water Resources Committee helping develop regional stormwater management criteria.

**Trent Stober** serves as HDR’s National Utility Management Services director for water, wastewater and stormwater...
utilities with over 25 years of experience in water quality assessment, design and planning projects. He has served as a trusted advisor to many of the largest municipal utilities in the central U.S. His technical experience includes stormwater runoff characterization and treatment, regulatory support, integrated planning, and watershed assessment and monitoring. He is also actively involved, through various national and regional trade organizations, including NACWA, WEF and state associations.

Josh Tinkey is a stormwater project manager with TREKK Design Group, LLC, a woman-owned, civil infrastructure firm based in Kansas City. He has nearly 10 years of experience in both the design and construction aspect of stormwater projects. His knowledge in traditional stormwater systems, as well as the growing field of GI, has been instrumental in providing solutions for both state agencies and local municipalities. Prior to becoming a designer, Josh had the unique experience of inspecting stormwater installation in the field while with the Missouri Department of Transportation. This great opportunity has allowed him to design stormwater projects using a practical approach. Utilizing powerful programs, such as GEOPAK Drainage, he provides hydraulic and hydrologic analysis to meet the needs of clients. Josh holds an MBA from Rockhurst University and a Bachelor of Science in Civil Engineering from Missouri University of Science and Technology.

Lisa Treese is a landscape architect with more than ten years’ experience in practice. She started her landscape architectural career with Wallace, Roberts & Todd at the Coral Gables, Florida office and then worked at Vireo (formerly Patti Banks Associates) for more than six years on regional projects rooted in environmental sustainability.

In November of 2012, she began working for KC Water as part of the Overflow Control Program and supports other departmental divisions. She is primarily responsible for informing decisions related to GI and site design, monitoring GI maintenance agreements, and advising internal maintenance programs. Lisa leads the city’s interdepartmental KC Green Infrastructure Team which works to identify, track, encourage and support new GI capital projects in Kansas City, Missouri. This group is also working on a long-term plan for maintenance and funding of city-owned GI.

James Walton has a Bachelor of Science in civil engineering from Kansas State University with additional environmental science and GIS study since and 19 years of experience in stormwater issues with the city of Kansas City, Missouri’s KC Water. James has experience in: flood warning and monitoring systems, emergency response and management, stormwater management, engineering, mitigation, planning, modeling, FEMA grants, FEMA floodplain management regulations, Community Rating System Coordination, and project and program management.

Kylie Wyatt is an urban planner focused on holistic watershed planning for stormwater management at Burns & McDonnell. She holds a Bachelor of Arts in Environmental Studies and is currently a candidate for Master of Urban Planning at the University of Kansas, specializing in sustainable land use. As part of the Kansas City, Missouri Smart Sewer Green Team, Wyatt bridges the planning process with technical analysis to enhance communication, outreach and understanding between various stakeholders, disciplines and the public.

Will Zung is the Water Resources manager in the Overland Park, Kansas office of Stantec. He also is the Levee Lead and Regional Service Center deputy lead for STARR II, the Production and Technical Service provider for FEMA. He is a graduate of the University of Missouri - Rolla and the University of Kansas with 19 years of experience as a hydrologist, with a background in H&H modeling and floodplain management. He is a Project Management Professional, Certified Floodplain Manager, and Envision Sustainability Professional experienced with FEMA’s National Flood Insurance Program.