What we see in the latest climate change science is not only a prediction that the intensity of events will increase, but also the frequency of events.

- Ben Stanford, Director of Applied Research at Hazen and Sawyer
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(Office) Space: the Final Frontier
In 2010, an Executive Order required all federal agencies to find $3.5 billion in real-estate-related savings, so lots of public-sector organizations are looking hard (again) at ways to shrink their office footprint.

Water Quality Regulatory Update
There is a tremendous amount of regulatory activity underway relevant to Virginia’s water environment. This report provides a brief overview of certain key developments.

Stockholm Junior Water Prize
Stockholm Junior Water Prize (SJWP) gathers the nation’s most imaginative young minds for an outstanding competition in water related science projects. SJWP taps into the unlimited potential of today’s high school students as they seek to address current and future water challenges.
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find it hard to believe this is the fourth and last “President’s Corner” I will write, and that my term as WVEA President will end, and my last year on the Board as past president will begin at JAM 2014. I have thoroughly enjoyed working with such a positive, motivated and innovative group of board members, committee leaders, and WVEA members. Though I am far (I won’t say how far) from being a young professional, I still feel excited about the future of our industry and the role VWEA takes in ensuring our members have opportunities to share experiences and education for the betterment of us all.

The start of summer has brought new professionals into our industry as a result of both high school and college graduations. VWEA has made strides in fostering the development of water professionals through our scholarship programs, for both college and operator licensing. There has been an increase in scholarship applications this spring, and the Scholarship Committee (joint with VA AWWA) is working hard to process and make award decisions. In addition, the Education Committee Conference held in May hosted the Student Design Competition, where four teams representing Virginia Military Institute, Virginia Tech and Old Dominion University competed, as well as a career fair where approximately 20 students had the opportunity to interact with 11 firms and companies.

There are many VWEA events scheduled for this summer. The Wastewater Operators Education Conference and Operations Challenge Competition, scheduled for mid-June has expanded to include a track on Collectors, and the Challenge is always an exciting way for operators to hone their skills. The Laboratory Practices Committee (joint with VA AWWA) is planning a conference scheduled for late July covering a wide-range of laboratory issues as well as hosting over thirty exhibitors. The Regional Activities Committees are as busy as usual scheduling lunch-and-leams and after hour social events throughout the state. There are also webinars planned for the near future.

WaterJAM 2014 will be another record breaking conference that will offer numerous opportunities for networking and education, and I encourage you to review the section of this issue of The Conduit dedicated to promoting this conference, as I am sure you will find topics of interest to you that will make registration a must. One other thing that comes to mind for me as we get closer to WaterJAM is succession. VWEA will have a new slate of officers, including a new vice-president that will be presented for membership vote at the business meeting. Many committees will begin transitioning to new leadership, and some leaders of our association will be stepping into more of a mentoring role. It is time for all of us to consider how we want to grow in VWEA, either through getting involved in committee work for the first time, or taking on new or different leadership roles. Please don’t hesitate to reach out to any board member or Kathy Rabalais, VWEA Association Administrator, with any questions you have about getting more involved.

In closing, I would like to extend a thank you to everyone for making VWEA an association that demonstrates how hard work, collaboration, creativity and volunteerism can make a positive impact, and set the stage for a strong future.

I still feel excited about the future of our industry and the role VWEA takes in ensuring our members have opportunities to share experiences and education for the betterment of us all.
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Regional Activities Committees

Virginia is dedicated to offering meaningful educational opportunities to our members throughout the state. One way in which we do so is through our Regional Activities Committees (RACs). Virginia is divided into four RACs and each is tasked with evaluating needs and developing programs to serve members within their region. Events include; lunch and learns, facility tours, service projects and networking socials. If you aren’t connected with your RAC, please send an email to your local chairperson (listed below) and ask to be added to their email list. If you are interested in getting more involved with VWEA let me know. RACs are a great place to start!

Northern Virginia
Matt VanHorne
mvanhorne@hazenandsawyer.com

Central Virginia
Evan Bowles
ebowles@hazenandsawyer.com

Eastern Virginia
Mark Swilley
swilleym@yorkcounty.gov

Southwest Virginia
Laurissa Cubbage
lcubbage@hazenandsawyer.com

VWEA is also working to make training convenient for our members through webinars. Both VWEA and WEF offer free webinars on topics important to water professionals. The Sustainability Committee held a webinar in March on Climate Change and the Utility Management Committee held one in May on Alternative Project Delivery in Virginia. If you were unable to participate in the webinar, the presentations are available on our website (http://www.vwea.org/eventsproceedings/conference-proceedings). Check our monthly e-newsletter for future webinars.

Additionally, in an effort to provide convenient training to members VWEA has partnered with water-otter.com to offer .5 CPE credit FREE to members in the Conduit each quarter. Simply complete the enclosed worksheet and send it to Water Otter to earn credit. This provides operators the opportunity to earn up to two credit hours for free each year.

Our goal is to help fulfill educational needs of our members by offering a variety of training vehicles. Please let us know if you have ideas on how we can better assist our members.

Our goal is to help fulfill educational needs of our members by offering a variety of training vehicles.
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The VWEA Board of Directors has put forth the following slate of officers for the open Board positions for the upcoming year:

**President-Elect:** John McGettigan  
**Vice President:** Eddie Abisaab  
**YP Representative:** Lauren Zuravlsky  
**WEF Delegate:** Andy Landrum

**Where**  
The Election of Officers will occur at  
VWEA's Business Meeting during WaterJAM  
Wednesday, September 10  
3:00-4:00 p.m.  
HRCC Conference Room A

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Kevin Ritchie  
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Good idea, right? Fewer square feet costs less to build, operate and maintain.

Well, yes, but there’s a tradeoff. Smaller offices tend to have more open, shared space. And open, shared space is just noisier. We’re talking about background noise from the printer, the HVAC system, the phone conversation, the impromptu (or planned) meeting within hearing range. Et cetera. Ad infinitum.

Background noise is problematic in terms of worker distraction, satisfaction and productivity. In fact, the Center for the Built Environment at the University of California in Berkeley, which collects and analyzes data on a variety of office spaces, has found that the workers in open-office spaces are more dissatisfied with “speech privacy” than any other Interior Environmental Quality (IEQ) factor, regardless of cubicle height (other IEQ factors include thermal comfort, lighting, and air quality). And when we’re trying to hear human speech, if the background noise is human speech, it’s way harder to filter out. Kind of like looking for a needle in a haystack.

The acousticians and architects who specialize in managing noise in indoor spaces have a number of tools in their toolbox.

**Design**
Building and room design is one way to manage sound and noise. When we create large open office spaces, it gets more difficult to provide everyone the acoustic setting they need for their work. One approach is the “Quiet Zone,” where people can take their work if they are trying to concentrate, and where

Background noise is problematic in terms of worker distraction, satisfaction and productivity.
everyone agrees not to have conversations, make phone calls, or drum on their desktop in time to the music in their earbuds. And quiet zones need not have high partitions. On the contrary, low- or no-partition areas are often quieter, because people see others working in the vicinity, and do not have the illusion of privacy.

**Acoustical Materials**

Acoustical materials are now a very common feature of open offices, and can include ceilings, floors, dividers, and window materials. The objective is to absorb sound, unless you have a meeting room, classroom, or shared work area where people need to hear each other at a distance. Then, acousticians opt for retaining some of the echo-like reverberation that hard surfaces can produce. The general practice is to allow “fast reverberation” (<0.6 seconds), to enhance the volume of the signal, but to reduce reverberation that lasts any longer, because it creates interference and reduces clarity and intelligibility.

**Behavior**

Obviously, all the good design and acoustical techniques won’t help if the workforce isn’t on board. The good news is that they really, really want an acoustically-appropriate setting for their work — to hear when they need to, and to hear themselves think the rest of the time. One thing to take into account is that cultural norms – office space size, location, proximity to others, and partition height can convey status, influence and membership in a group.

Office space size, location, proximity to others, and partition height can convey status, influence and membership in a group.

**LEED-ing the Way**

The U.S. Green Building Council, which oversees the LEED (Leadership in Energy and Environmental Design) rating system, has published draft credits for building acoustics. The LEED Innovation in Design, and Pilot Credit 24: Acoustics, are available here: [http://www.leeduser.com/credit/Pilot-Credits/PC24](http://www.leeduser.com/credit/Pilot-Credits/PC24). And the federal General Services Administration has prepared a comprehensive, user-friendly guide to workplace acoustics, called *Sound Matters*. It can be downloaded online here: [http://www.gsa.gov/portal/category/105683](http://www.gsa.gov/portal/category/105683).
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The VWEA/VA AWWA Joint LPC 20th Annual Good Laboratory Practices Conference will consist of five half-day workshops on July 28 and a technical program with vendor exhibits on July 29.

July 28, 2014
Morning Workshops
The morning sessions will run from 8:45 a.m. to 11:45 a.m. and will consist of the following:

- **Microbiology Methods for Drinking Water Laboratories**
  Presented by Gil Dichter, IDEXX and Jeanine Miller-Nelson, Fairfax Water
  This workshop will introduce water microbiology and various certified methods for bacteriological testing of drinking water, including quality control procedures and compliance requirements.

- **Using Demonstration of Capability, Quality Control and Proficiency Testing for Quality Improvement**
  Presented by Stacie Metzler and Lora Reed, HRSD and Shawn Kassner, Phenova
  Demonstration of Capability (DOC), Quality Control (QC) and Proficiency Testing (PT) are all accreditation and/or method requirements. These three Quality Assurance System elements can be used to facilitate quality improvement. This can be achieved by developing trending protocols, analyst training goals and taking a proactive approach when troubleshooting issues before there are compliance problems. This workshop will show approaches for using these elements together to facilitate quality improvement in your laboratory.

- **Basic Laboratory Skills**
  Presented by Wayne Staples, Virginia Department of Environmental Quality
  This workshop will provide back to basics lab skills. Topics that will be covered are general good laboratory practices, using pipets, glassware, burets and thermometers correctly. This will follow the guidelines of the Basic Lab Skills program administered by DEQ.

July 28, 2014
Afternoon Workshops
The afternoon sessions will run from 1:30 p.m. to 4:30 p.m. and will consist of the following:

- **Back to Basics: pH, ISE, Conductivity, Turbidity and Spectrophotometer**
  Presented by Kelly Sweazea, ThermoScientific
  This workshop will demonstrate the basics of using Ion Specific Electrodes (pH, Conductivity), Turbidity and the Spectrophotometer. Discussion will cover methodologies and troubleshooting.

- **Laboratory Assessment Findings, Recommendations and the Accepted Corrective Action Taken**
  (Open Forum Discussion)
  **Moderator: Stacie Metzler, HRSD**
  The workshop will focus on corrective actions implemented in response to recommendations and deficiencies identified during external laboratory assessments/inspections. Viewing corrective actions as a vehicle for improvement is important to a laboratory’s successful implementation of a quality system. Discussing ideas, strategies and solutions in a positive environment can improve compliance with regulations, lead to continuous improvement and ultimately better external assessments. Group discussion will be encouraged to ensure an open exchange of ideas and information.

August 2, 2014
Morning Workshops
For August 2, the morning session will consist of four presentations:

- **Regulatory Update**
  by Alan Roberson, AWWA Government Affairs Office

- **Tips to Support Microbiological Proficiency Testing**
  by Michael Blades, ERA

- **Control Charting and Trending**
  by Kristen Murphy, DCLS

- **Safe Laboratory Practices and Procedures**
  by Ashley Parker, Commonwealth Environmental Solutions, LLC
Afternoon Workshops

The afternoon is split into three sessions with four 30-minute presentations each. The following is a list of the topics to be covered:

Session 1 – DRINKING WATER:
- Disinfection Overview by Dr. Erik Rosenfeldt, Hazen and Sawyer
- Slicing and Dicing UCMR3 Results by Dr. Andrew Eaton, Eurofins Eaton Analytical, Inc.
- Automated Technology Applied to the Enumeration of Heterotrophic Plate Count (HPC) by Anna Maria Miller, Newport News Waterworks
- Improving Drinking Water Quality & Demonstrating Competence in Laboratories & Field Activities by TNI NELAP & NEFAP Accreditation by Nilda Cox, Eurofins Eaton Analytical, Inc.

Session 2 – WASTEWATER TOPICS:
- Automating Manual Sample Preparations with FIA by Lynn Egan, Lachat Instruments
- What is Standard Methods for Water & Wastewater from a Microbiological Perspective? by Gil Dichter, IDEXX Laboratories
- CRM’s and How They Relate to ISO 17025 Accreditation Outcomes by Michael Blades, ERA
- Automated Methods for Methylene Blue Active Substances by Lynn Egan, HACH/Lachat

Session 3 – MANAGEMENT TOPICS
- Expedited Test Method Development for Emergency Response by Dr. Clarence Haile, REI Consultants, Inc.
- Key Elements of a TNI-Compliant Quality Management System by Beth Thompson, Shealy Consulting, LLC
- Streamlining Laboratory Weekend Operations by Theresa Narkinsky, Prince William County Service Authority
- Where to Start When Writing an SOP by Stacie Splinter, Universal Laboratories

Please visit the VWEA and VA AWWA websites for more information regarding online registration, conference details, and hotel accommodations or contact the LPC Chair directly. Information regarding the LPC’s Water Jam workshop presentation on September 8 at the Hampton Roads Convention Center can also be found on the websites. The theme will be “Managers, OMG Are You Prepared for Tomorrow?” What better way to meet and network with fellow professionals from all over Virginia, earn necessary CECs, and at the same time have fun!
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On behalf of the Virginia Water Environment Association (VWEA) and the Virginia Section-American Water Works Association (VA AWWA) joint Laboratory Practices Committee (LPC), congratulations are offered to Rachel Young of the Henrico Water Reclamation Facility – Central Environmental Laboratory for being selected as the recipient of the 2014 VWEA Laboratory Analyst Excellence Award. Her work at the Henrico Water Reclamation Facility has been exemplary, as noted by her supervisor, Virginia Lambert, who nominated Rachel for this award.

The Laboratory Practices Committee will be submitting her name to the VWEA Awards Committee as the laboratory professional selected to receive the 2014 award. The award will be announced at the awards banquet during the 2014 Water JAM, which is being held September 8 through 11 at the Hampton Roads Convention Center located in Hampton, VA.

In recognition of her exceptional career as a laboratory analyst, the association will pay for her WEF/VWEA membership for one year. In addition, not only will she be given a complimentary one-day registration to the WaterJAM meeting and the awards banquet, but she will be provided a complimentary registration to the Lab Practices Committee’s 20th Annual Good Laboratory Practices Conference, which will be held at the Omni in Charlottesville, VA on July 28 and 29.

This award is the highest recognition that the association gives to a laboratory professional. It acknowledges one’s significant contributions to the water/wastewater industry, dedication to improving the environment, and professionalism in the laboratory. The Laboratory Practices Committee encourages everyone to consider becoming a member of the Virginia Water Environment Association and/or Virginia Section-American Water Works Association to make a difference not only in their own community but worldwide.

Lab Practices Committee

2014 VWEA LABORATORY ANALYST EXCELLENCE AWARD

By Robin Parnell, LPC Chair

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For more than 65 years, Parsons has provided comprehensive services to municipal customers throughout the world. Today, we continue to evolve to meet the changing demands of the municipal marketplace—working to provide innovative solutions to our customers’ challenges.
On May 1, 2014, the VWEA Education Committee (EdCom) held its annual seminar at The Westin hotel in Richmond. This year’s topic was Smart Wastewater: Innovative Technologies to Improve Performance and Reduce Costs. The seminar was very well attended and hosted 174 total attendees and 10 exhibitors.

Many 21st century (i.e., highly automated and instrument-heavy) treatment facilities were brought online in Virginia following the nutrient removal upgrade boom of the last several years. Therefore, the EdCom thought it timely that the theme of this year’s annual education seminar be “operations and lessons learned.” Energy and information management practices, emerging instrumentation and controls in collection systems, and online instrumentation for process control were all discussed as part of the multifocal EdCom event. The committee arranged for an excellent array of invited speakers including consultants, utility managers, and cutting-edge researchers to address these topics. Various aspects of the annual education seminar are described in the sections below.

Morning Session
Stacie Metzler, President of VWEA, provided a welcome introduction to all the attendees. Dr. Peter Vanrolleghem of the University of Laval (Quebec, Canada) delivered the keynote presentation titled: *Bits and Bytes and Bugs: On Monitoring and Control in WRRFs (aka WWTPS)*. During his presentation, Dr. Vanrolleghem described how wastewater treatment plants (WWTPs) are now being looked at by some as water resource recovery facilities (WRRFs). He also described control challenges we face as an industry as we move towards stricter effluent limits and resource recovery. He went on to describe the control loop concept, its various components (i.e., sensors, actuators etc.), and the use of models to develop control strategies. He then provided insight on the importance of data quality and the role it plays in the control and automation of WRRFs. The morning’s general session continued with updates on automation at the DC Water Blue Plains Advanced WWTP from Salil Kharkar with DC Water.

**Instrumentation Survey and Panel Discussion**
Results of a survey (conducted prior to the event) on the use of instrumentation at various facilities in Virginia, were presented at the event followed by a panel discussion. Panelists included Bob Angelotti from the Upper Occoquan Sewer Authority, Jim Sizemore from Alexandria Renew Enterprises, and Sam Amad from the Washington Suburban Sanitary Commission. The panel discussion was very informative with a great dialogue ensuing between the audience and the panelists.

**Student Design Competition**
EdCom was pleased to host the Student Design Competition for the third year. Hosted by the joint VWEA/VA AWWA Student Activities Committee, the competition presentations were given concurrently with the morning session of the conference. The winning team from the Virginia Military Institute (VMI) and the second place team from Virginia Tech were honored during lunch.
Career Fair
The night before the seminar and the Student Design Competition, the first VWEA Career Fair was held in conjunction with the networking reception. Nine firms (one utility, one construction firm, and seven consultants) conducted informal interviews with nearly 20 students. Next year’s career fair event will be even bigger and better!

Afternoon Sessions
Three afternoon concurrent technical sessions were conducted on operations and process control, energy and information management, and collection systems. Presentations included discussions on the following:
• Value online instrumentation at treatment plants
• Control strategies and modeling
• Resource recovery
• Cogeneration
• Case studies for implementing operational information management
• Pump station and interceptor SCADA system upgrades for improved control
• Real-time controls for sewer systems
• Mobile applications for collection systems operators

The Education Committee sincerely thanks our speakers, panelists and exhibitors for helping to make the annual seminar such a successful event. Conference proceedings for this event are posted on www.vwea.org under News & Events. If you have any feedback or would like to join the committee and contribute to EdCom 2015, please contact Stephanie Spalding (Stephanie.Spalding@hdrinc.com) or Phill Yi (pyi@hazenandsawyer.com). We look forward to seeing you next year!
In the Stormwater category, major actions are in progress at both the state and local levels. In the 2014 General Assembly, HB 1173 and SB 423 (identical bills) were passed making mid-stream adjustments to the Virginia Stormwater Management Program (VSMP) for construction sites including post-construction stormwater design standards. Key changes include (1) allowing non-MS4 localities the option of whether to administer a VSMP locally or defer administration to DEQ, (2) streamlining the permitting process for single family homes, and (3) providing procedural flexibility for the local hearing process. Other than a few limited exceptions, new local VSMP programs implementing Virginia’s revised technical criteria for site design are due to take effect in all localities statewide by July 1, 2014.

At the administrative level, progress continues following the 2013 reissuance of the Phase II Municipal Separate Storm Sewer System (MS4) General Permit and the first Phase I Individual Permit. DEQ is completing guidance on Chesapeake Bay TMDL Action Plans, which for Phase II MS4s are due June 30, 2015. Reissuance of the 10 other Phase I Individual Permits will be next.

Significant stormwater-related changes are also reaching down to the VDPES-permitted facility level for industrial classifications (including municipal wastewater treatment plants) subject to stormwater permitting. Effective July 1, 2014.
for the Bay watershed, the new industrial general permit requires new and expanding facilities to comply with “no-net-increase” nutrient load requirements, and existing facilities to perform monitoring and calculations to determine whether stormwater nutrient reductions are necessary. Statewide, there are new semi-annual monitoring requirements, which affect facilities that are subject to TMDL wastewater allocations or that discharge to an impaired water without a TMDL as well as those that discharge in the Bay watershed.

In the Wastewater category, DEQ is in the midst of its triennial review of water quality standards. The proposed incorporation of EPA’s new, more stringent freshwater ammonia criteria is likely to be one of the most significant changes, especially for facilities without nitrification or discharging to relatively small streams (low dilution). Other pending revisions that may affect numerous facilities include lead (freshwater and salt water) and cadmium (freshwater) criteria updates. A public comment period is expected this summer.

DEQ’s new biosolids regulations are the subject of a lawsuit filed by the Potomac and Shenandoah Riverkeepers. The Riverkeepers seek reduction in statewide phosphorus-based land application rates to extremely low, infeasible levels. They also seek a prohibition on activity in karst areas that would essentially ban recycling in the western third of the state. The case is at a preliminary stage and may take a year or more to play out.

DEQ’s James River Chlorophyll Study is in full swing. The scientific effort is moving closer to the point where it can set the stage for the development of state policy options. Upcoming activities are expected to focus on determining any linkages between chlorophyll-a, algal blooms, and aquatic life impacts, as well as on continuing development of a new James River model. The outcome of this critically important study is likely to affect all dischargers in the James River basin.

Lastly, litigation over the Chesapeake Bay TMDL is proceeding in the U.S. Court of Appeals. On September 13 a federal district court upheld the Bay TMDL, including its holistic watershed approach requiring pollution reduction from all sources of impairment, including the upstream states and nonpoint sources. That ruling is now on appeal in the U.S. Court of Appeals for the Third Circuit. A hearing is expected to be held this summer with a decision likely to be issued late this year.

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The proposed incorporation of EPA’s new, more stringent freshwater ammonia criteria is likely to be one of the most significant changes, especially for facilities without nitrification or discharging to relatively small streams.
Stockholm Junior Water Prize (SJWP) gathers the nation’s most imaginative young minds for an outstanding competition in water related science projects. SJWP taps into the unlimited potential of today’s high school students as they seek to address current and future water challenges. A high school student (minimum age of 15) with a science project aimed at enhancing the quality of life through the improvement of water quality, water resource management, or water, wastewater and watershed treatment may participate in the competition.

The competition consists of four levels: regional, state, national and international. Awards are given at each of these levels to recognize the students’ achievements.

VWEA organizes the regional and state competition in Virginia. In March VWEA had 18 volunteers judging at nine regional high school science fairs all around the Commonwealth (see Table 1). Projects explored water issues on a local, regional, national, and global level. VWEA awarded a total of $1,950 to the winning students.

Christia Aspili and Kathy Marshal at Tidewater Science Fair
At the end of April, nine volunteers (Temple Ballard, Bob Canova, Abha Sharma, Amy Wyks, John Nemeth, Grace LeRose, Nina Andgren, Anne Payne Bullock and Steven Herzog) reviewed 18 papers submitted for the state competition. After individual scoring and an in-depth discussion about the top scorers the judges selected a state winner.

For the second year in a row Valentina Lohr from Thomas Jefferson High School for Science and Technology won the state competition. This year her winning project was called “Testing the Scientific Basis for Phosphate Fertilizer Regulation in Estuarine Watersheds.”

The SJWP national competition will be held at Hilton Dulles Airport hotel in Herndon, VA on June 13 and 14, 2014. VWEA is co-organizing the event. Ms. Lohr will represent Virginia and will be competing against other young researches from across the country for the opportunity to represent the United States at the international competition during a week in Stockholm (Sweden) in late August to early September.

If you are interested in volunteering for SJWP in 2015, please contact the author (nina.andgren@uosa.org or 703-227-0259).

<table>
<thead>
<tr>
<th>Date</th>
<th>Name of Fair</th>
<th>Judges</th>
<th>1st prize</th>
<th>2nd prize</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Mar</td>
<td>Northern Virginia Science and Engineering Fair</td>
<td>Mary Strawn G. B. Harvey Sonali Ambre</td>
<td>Peter Huson</td>
<td>Renee Beck</td>
</tr>
<tr>
<td>8 Mar</td>
<td>Blue Ridge Highlands Regional Science Fair</td>
<td>John C. Nemeth</td>
<td>Julia Hager</td>
<td>Riley Chitwood</td>
</tr>
<tr>
<td>12 Mar</td>
<td>Virginia Piedmont Regional Science Fair</td>
<td>Abha Sharma Alex Tellez Hien Dang</td>
<td>Andreas Ravichandran</td>
<td>Taylor Courtney</td>
</tr>
<tr>
<td>15 Mar</td>
<td>Fairfax County Area Regional Science and Engineering Fair</td>
<td>Rachael Moxley Nina Andgren Bob Forgione Laurel Xiao</td>
<td>Alina Cartwright</td>
<td>Jordan Beeker</td>
</tr>
<tr>
<td>15 Mar</td>
<td>Prince William-Manassas Regional Science Fair</td>
<td>Will Schafer</td>
<td>Olivia Carros Madeleine Guyant</td>
<td>Mitchell Gillin</td>
</tr>
<tr>
<td>15 Mar</td>
<td>Tidewater Science Fair</td>
<td>Kathy Marshal Bruce W. Husselbee</td>
<td>Shalni Kumar</td>
<td>Christa Aspli</td>
</tr>
<tr>
<td>15 Mar</td>
<td>Western Virginia Regional Science Fair</td>
<td>C.J. Mitchem Bob Canova</td>
<td>Christa Madison Taylor Powell</td>
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<tr>
<td>15 Mar</td>
<td>Metro Richmond STEM Fair</td>
<td>James C. M. Grandstaff</td>
<td>Jack Lohmann Colin Fenster</td>
<td>Benjamin Cherian</td>
</tr>
<tr>
<td>20 Mar</td>
<td>Loudoun County Science and Engineering Fair</td>
<td>Amy Wyks</td>
<td>Margaret Hale</td>
<td>Allison Heefner</td>
</tr>
</tbody>
</table>

Table 1: Science Fairs 2014

At the end of April, nine volunteers (Temple Ballard, Bob Canova, Abha Sharma, Amy Wyks, John Nemeth, Grace LeRose, Nina Andgren, Anne Payne Bullock and Steven Herzog) reviewed 18 papers submitted for the state competition. After individual scoring and an in-depth discussion about the top scorers the judges selected a state winner.

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If you are interested in volunteering for SJWP in 2015, please contact the author (nina.andgren@uosa.org or 703-227-0259).
The Northern Virginia Regional Activities Committee (NVRAC) and the YP Committee jointly hosted an Afterhours Event at the Lost Dog Café in Merrifield, VA. The event was attended by professionals from both public and private sectors. It was a great time and provided an opportunity to meet new professionals within the region/industry.

Stay tuned for several upcoming events this year!

- Washington Nationals Game – Friday, May 30
- “So you want to golf?” – Golf Outing/Lessons – June or July
- NVRAC Afterhours Event or Lunch and Learn – July or August
- Various YP Activities @ WaterJAM in Hampton, VA – September 8-11. Contact Ryan Clark for more information or volunteer opportunities (Ryan.Clark@kimley-horn.com).

We highly encourage involvement and participation! If you have any questions or would like to get involved please contact Phill Yi (pyi@hazenandsawyer.com).
The Student Design Competition (SDC) is an annual team-based design event organized by the VWEA/VA AWWA Student Activities Committee. As part of the SDC competition, each student team must develop a solution to a design problem related to the wastewater industry. This year’s competition was open ended, allowing teams of WVEA student members to design and present a project of their choice that met the requirements of the competition guidelines. The competition consists of two parts, a written submittal and a presentation. The presentation portion of the competition was held during the morning session of the Education Conference in Richmond (May 1, 2014).

This year’s competition included teams from Virginia Tech (two teams total), Virginia Military Institute, and Old Dominion University.

This year’s winning team, representing the Virginia Military Institute, consisted of Tyler Brickles, Andrew Rotermund, Warner Thomas, Damian Arniaz, and Peter Buehlmann. Their presentation was entitled, “Eco-Latrines and Solar Showers in Bolivia.”

The Virginia Tech team, comprised of Nandita Ahuja, Peerawat Charuwat, Qingyun Ping, Yang Zhao and Ni Zhu took second place honors with their presentation entitled, “Evaluation and Design of Sludge Alternatives for a Local Treatment Facility.”

The winners of the competition will represent WVEA at the national competition at WEFTEC 2014 in New Orleans. The Student Activities Committee wishes to offer a big thanks to this year’s judges: Karen Harr (HRSD), Daniel Hingley (HDR), Dr. Jim Pyne (HRSD), Bill Randall (OB&G) and Kevin Smith (OB&G).

Attend WaterJAM
Gather your team together and compete in this year’s VA AWWA 11th Annual Student Water Challenge for engineering, environmental, and science majors from Virginia Colleges and Universities.

- Student teams from competing schools will be given a water quality/water treatment problem on the competition day.
- Teams will be allowed approximately five hours to develop a proposed solution.
- Problem will focus on using a combination of engineering and science to address a real world water quality issue.
- Winning team will receive a traveling trophy, plaque, and a $1,200 first place prize.
- Second place team will receive a plaque and $500 cash prize.
- Come cheer on your alma mater!
- The winners will be announced on Wednesday evening at the Awards Banquet. Come and cheer on the first place team from the 2014 WVEA Student Design Competition, it’s their final practice run before competing in the National Student Design Competition at WEFTEC 2014!

For all student presenters at this year’s JAM – The Joint WVEA/VA AWWA Student Activities Committee will be judging all presentations of papers presented by students of Virginia’s Colleges and Universities. The first and second place water-themed and wastewater-themed paper will be awarded $500 and $250, respectively.

You are our future!
For additional information please contact:
Adrianna Dimperio
Newport News Waterworks, Chair
Telephone: 757-234-6706 • E-mail: adimperio@nngov.com

Priyanka Mohandoss
CDM Smith, Vice Chair
E-mail: mohandoss@cdmsmith.com
CONDITION ASSESSMENTS
Understanding the condition of buried assets is often one of many challenges for utility owners with pressure pipes. Condition assessment of gravity pipes has been in existence for quite some time, however, the tools and techniques to evaluate pressure pipes is still emerging. It is quite difficult to quantify the condition and remaining life of buried pressure pipelines. Buried pressure pipelines are difficult to access and can rarely be taken out of service for inspection.

RENEWAL AND REPLACEMENT OPTIONS
As buried pressure pipelines continue to age, it is important for utility owners to make informed investment decisions on rehabilitation or replacement of such assets.

EVALUATION OF CURRENT TECHNOLOGY
New methodologies and technologies are now available to assist utility owners with the task of managing pressure pipelines.

ASSET MANAGEMENT INTEGRATION
Information gained from developing a condition assessment and renewal engineering program for pressure pipe must be incorporated into an organization’s overall asset management program to promote consistent evaluations and risk based decision making.

UTILITY OWNER PERSPECTIVES
Networking with utilities that are currently implementing such programs, is an effective way for a utility to initiate a new program like condition assessment of pressure pipes. This seminar will present lessons learned from City of Virginia Beach DPU, which is dealing with aging infrastructure that is associated with pressure pipe systems and assets.

This workshop will address the latest knowledge in the areas of:
• Materials of construction
• Latest technologies for condition assessment
• Condition assessment and rehabilitation
• Integration with asset management programs
• Experience gained from utilities
• Asset Data Management

CONTINUING EDUCATION CREDITS
This Seminar qualifies for Professional Engineering CECs. Seminar is limited to the first 50 registrants.
WORKSHOP AGENDA & HIGHLIGHTS

8:00  Registration with Continental Breakfast
8:30  Introduction – VAAWEA/VA AWWA UMC Welcome
8:45  Materials and Construction Perspective
      • Ductile Iron Pipe – Mr. Allen H. Cox, PE.
      • Uni-Bell PVC Pipe Association – Mr. Steve Cooper, PE.;
         Mr. Don Conrad, PE.
      • Pre-stressed Concrete Cylinder Pipe Industry –
         Mr. Sam A. Arnaout, PE.
10:15 Panel Discussion & Networking Break
10:30 Condition Assessment Technologies and Challenges –
      Vendors Perspective – Mr. Travis Wagner, Pure Technologies Inc.;
      Mr. John Marciszewski, Echologics Inc.; Martin Roubal,
      Rock Solid Group
      • Metallic, PVC, and PCCP Pressure Pipes & Force Mains
      • Condition Assessment Technologies and Challenges
      • Advancements and Where the Industry Is Headed
12:00 Panel Discussion and Networking followed by Lunch
1:30  How to link Pressure Pipe Condition Assessment
      with Asset Management – Celine Hyer, P.E.
      • Overview of Condition Assessment Program
        and Rehabilitation Methods
      • Program Outline and Associated Tools
      • Prioritization, Ranking, and Risk Evaluation
      • Implementation Measures and Work Process Flow
      • Picture of a Functional Condition Assessment and
        Rehabilitation Asset Management Program
2:00  Implementation from a Utility Perspective
      • City of Virginia Beach, Department of Public Utilities –
         Ms. Kate Nixon P.E.
2:45  WATERiD – Platform for Direct Sharing
      and Dissemination of Water Infrastructure Data –
      Dr. Sunil Sinha, Ph.D.
3:15  Open Discussion
3:30  Product Demonstration and Adjourn

For any questions regarding this workshop, please contact:
Aditya Ramamurthy, aditya.ramamurthy@arcadis-us.com or Matt Stolte, mstolte@blacksburg.gov
### CLARIFICATION
- WesTech Engineering
  - Full Line of Clarifiers
- WesTech Engineering
  - OxyStream BNR systems, MBR systems
- Legacy Environmental
  - Package Wastewater Plants

### TREATMENT PROCESS
- Mixing Systems
  - Sequencing Batch Reactors
- AEROMOD
  - Sequox Biological Nutrient Removal Systems

### GAS HANDLING
- Robinson Group
  - Digester and Landfill Gas Cleaning Systems, Micro Turbines
- Shand & Jurs Biogas
  - Digester Gas Safety Equipment and Waste Gas Burners

### AERATION / MIXING
- WesTech Engineering
  - Channel, Ditch and Surface Aeration
- GE Energy (Roots)
  - Turbo Blowers, PD Blower Packages
- **VanAire
  - Stainless Steel, Micro-Bubble DAF Systems

### PUMP EQUIPMENT
- Tigerflow
  - Packaged Water Pump Systems
- **Grundfos
  - Digital, Diaphragm Dosing Pumps
- **Stenner
  - Peristaltic Pumps
- **LMI
  - Solenoid Activated Diaphragm Pumps

### VALVES / GATES
- Plasti-Fab
  - FRP Gates, Logs and Skimmers
- Belco Manufacturing
  - FRP Dampers
- Oda-Killa by SunCoast
  - Ozone Feed to Control H2S odors
- DOer
  - FOG Treatment, Calcium Nitrate Feed for H2S, Turn-Key Service
- **EMCO Flow Systems
  - Flow Meters

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  - Ozone Feed to Control H2S odors
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  - Fire Hydrant Flow Tester, pH Loggers
- **SeaMetrics
  - Paddle Wheel Turbine Meters

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- Pump Rebuilds
- Preventive Maintenance Programs
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Summer is here. Time for the beach, the lake, cookouts, baseball, and most importantly, plan your September with friends, both old and new, and other industry professionals in Hampton at Splashdown 2014!

VA AWWA/VWEA Joint Annual Meeting

Come join us in September for WaterJAM – the Joint Annual Meeting of the Virginia Section American Water Works Association and the Virginia Water Environment Association! Since 2002, WaterJAM has been a record-setting conference registering growing numbers of participants each year. More than 1,300 professionals have joined their friends and colleagues in each of the past two years to make WaterJAM one of the most successful state conferences in the United States.

This year’s theme, Splashdown 2014, is perfectly suited to the conference location in Hampton, Virginia, home of the NASA Langley Research Center, Langley Air Force Base and the Virginia Air and Space Center. And this year’s WaterJAM promises the latest in technology, to help you advance your knowledge in this highly technical world while you have a little fun along the way.

Your WaterJAM Planning Committee has been working tirelessly over the past few months, and will continue doing so, to fulfill our mission:

Plan and implement a comprehensive conference that brings together technical excellence and innovation while supporting networking opportunities at an exceptional value to all attendees.

A tremendous team is working on your behalf to plan this year’s WaterJAM, and our goal is to exceed your already high expectations for this annual event. Many new committee members have brought new life and excitement into this process which will be reflected when you join us in Hampton later this year!

We have partnered with the Hampton Roads Convention Center (HRCC) and Embassy Suites in Hampton to host our activities from September 8-11, 2014. Conveniently located between Richmond and Virginia Beach, the HRCC is near the Peninsula Town Center with its numerous shops, restaurants, trendy boutiques, nightlife and other entertainment attractions. This area has undergone a renaissance of sorts since WaterJAM was last in Hampton in 2008, making it the perfect time for us to return. We anticipate over 1,400 professionals coming together to present new ideas, update you on current regulatory initiatives, and discuss industry hot topics that we face in our water and wastewater world.

As a testament to WaterJAM’s successful history, we had another huge response to our Call for Papers for 2014. With more than 330 abstracts submitted, our Technical Program Co-Chairs, Phill Yi and Steven Cook and Vice Co-Chairs, Aditya Ramamurthy and Evan Bowles, worked exceptionally hard to put together another comprehensive technical program with something for every attendee. Due to this overwhelming response and the quality of the abstracts, this year’s Technical Program will once again offer ten concurrent sessions, for a total of 194 presentations to be given over three days.

Some of the sessions offered this year will include: Nutrient Removal and Recovery, Emerging Technology, Alternative Project Delivery, Water and Wastewater Treatment, Biosolids Management and Solids Handling, and two sessions each on Sustainability, Stormwater Management, and Asset Management. We’re certain there’ll be something for everyone offered in this diverse program! Furthermore, the large number of presentations will allow numerous opportunities for professional engineer and operator educational credits. Meanwhile, Local Arrangements Co-Chairs, Stewart Lassiter and Troy McPherson, Vice Co-Chairs, Muriel Rodriguez and Julie Ball, and their well-oiled machine of volunteers from both VAAWWA and VWEA have been hard at work ensuring that your conference experience provides MUCH more than just technical growth. The committee is focused on providing activities that give participants opportunities to network, socialize, learn, and have fun – all hallmarks of recent successful WaterJAMs. While we are streamlining the details, there is no doubt this year’s conference will be as memorable as ever.

As always, we strive for excellence in both technical and social WaterJAM activities, and this year will be no different. As such, we’ve selected the Riverfront Golf Course in Suffolk, Virginia to host our Golf Outing this year. In addition, the ever-popular Clay Shoot will continue to be held at Old Forge Sporting Clays in...
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Before you leave for home after your week in Hampton, we suggest you consider our combined water/waste water treatment facility tour or, new this year, a sustainable facility tour. This year, Gary Hart, along with Luke Swilley and Joe Swain, have arranged tours of the Anheuser-Busch InBev water and wastewater treatment facilities as well as the Gardens Atriums of Poquoson!

At the InBev tour, attendees may not only sample beer, but of much more relevance, will learn how potable water is used or conditioned prior to use in the brewing process and for other functions; what water reuse features are being employed and what are plans for the future for water reuse at the facility; how the facility pretreats the wastewater stream prior to discharge to the public sanitary sewer system; and what is the facility doing (including reuse or repurposing) with the spent grains and other waste solids in the brewing process. Participants in this tour will about potable water, water reuse, wastewater pretreatment, and waste solids handling/use in a single tour whereas in the past we have scheduled separate water related and wastewater related tours to cover the wide spectrum of interest associated with the WaterJAM conference. Check out some of the promotional material on InBev website related to the environment and community (http://www.abinbev.com/go/social_responsibility/global_citizenship_report.cfm).

With regards to the Atriums tour, Garden is a very, successful sustainable facility. Many of the ideas used at this facility could potentially be incorporated into LEED practices or ISI Envision practices for the water & wastewater industry. The Atriums web site (http://www.gardenatriums.com) includes photos and videos of this facility – check these out.

Be sure to sign up for both tours as soon as possible. We will serve lunch at both, so you won’t go hungry while you expand your knowledge on either of these tours.

Keeping up with technology, WaterJAM has completely moved into the 21st century. Not only will we have a new and improved version of the WaterJAM app at this year’s conference (iOS and Android), but you can also start following us on Twitter (#WaterJAM) and find us on Facebook at www.facebook.com/VirginiaWaterJAM.

We’d be remiss not to mention the hard work of our Marketing/Communications (MARCOM) sub-committee led by Janis Michael and Lori Woolman who have done an outstanding job in developing this year’s logo and the Registration Planner and will continue to make sure our documentation is as professional as the technical presentations. Finally, continued thanks to Sherry Williams, our VA AWWA liaison who has been instrumental in the success of all WaterJAMs as well as our VWEA and VAAWWA Executive Managers, Kathy Rabalais and Geneva Hudgins. Together, these three keep the on-line registration and websites up to date, provide invaluable assistance and suggestions, and ensure the success of WaterJAM, even with the transitions on the WaterJAM committee.

The WaterJAM 2014 conference is the premier event for Virginia water and wastewater professionals, and hotel rooms will move quickly, so make sure to register and book early (and save money in the process!). Registration is open online and spots to many of the popular events are filling up quickly, so be sure to check the VA AWWA and VWEA websites for registration information as soon as you can.

We are tremendously excited about this year’s WaterJAM and on behalf of your hard-working WaterJAM Planning Committee, we look forward to seeing you in Hampton in September!

Respectfully Yours,
Shawn “Maverick” Heselton
and Paul “Goose” Delphos
WaterJAM 2014 Co-Chairs
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On behalf of the Virginia Section of the American Water Works Association and the Virginia Water Environment Association, we want to extend a warm introduction to the 2014 Joint Annual Meeting in Hampton, Virginia, this September. Considering our conference’s proximity to Langley Air Force Base, NASA-Langley, and the Chesapeake Bay, this year’s theme is Splashdown!

To build on a number of consecutive successful and growing conferences, our WaterJAM 2014 Committee has been working tirelessly to meet our mission of once again hosting the premier State Water and Wastewater Conference in the United States.

This mission statement is summarized below: Plan and implement a comprehensive conference that brings together Technical Excellence and Innovation while supporting Networking Opportunities at exceptional Value to all attendees.

As always, WaterJAM 2014 will provide numerous technical growth opportunities (including continuing education credits) covering the latest industrial trends as well as a variety of social endeavors for all attendees. As always, you can expect outstanding presentations along with fun social events that will provide many opportunities for networking with friends and colleagues.

Established in 1610, Hampton is one of America’s oldest cities. Rich in history, but with small-town charm, it’s a city with an old soul and youthful enthusiasm. Located on the mouth of the Chesapeake Bay, Hampton is graced with miles of shoreline and breathtaking water views. The city is in the heart of the Hampton Roads region.

Hampton welcomes you with charming hospitality, fascinating sights to see, interesting things to do, and an atmosphere of discovery. The city has a vibrant arts community and cultural attractions that include the Fort Monroe National Monument, Virginia Air and Space Center, Hampton History Museum, The American Theatre, harbor tours, cruises, and more! You’re invited to stroll the streets of this vibrant, waterfront community where you’ll quickly see what makes Hampton a great place to live, work, and attend.

WaterJAM 2014 returns to the Hampton Roads Convention Center where, from a distance, the dramatic white peaks suspended above the entrance resemble the billowing sails of an elegant ship racing across the sea. It’s a visual reference to Hampton’s historic maritime heritage that reaches back more than 400 years to our nation’s first settlement.

Here, history meets high technology with impressive results. With 344,000 total square feet of space that includes 35 flexible meeting rooms with space for up to 14,000 delegates, a spacious 102,000-square-foot exhibit hall, a grand ballroom with banquet seating for more than 2,000, and an outdoor terrace overlooking glistening streams and water fountains, this modern meeting facility was designed to host an array of meetings, conventions, and exhibitions.

This area has undergone a renaissance of sorts since WaterJAM was last in Hampton in 2010, so come out and see the multitude of shops, restaurants, and entertainment venues in the immediate vicinity of the convention center.

www.visithampton.com/hrcc

On behalf of the committee, we are extremely excited about this year’s conference, which is guaranteed to maintain the standard of excellence you have come to expect from the Virginia WaterJAM!

Shawn “Maverick” Heselton
VWEA Conference Co-Chair

Paul “Goose” Delphos
VAAWWA Conference Co-Chair
What’s new at WaterJAM?

This year, we’re excited to introduce a “New WaterJAM Attendee” Breakfast! This event will be held Tuesday morning, prior to the Opening Session. WaterJAM Committee members will be there to provide insight into WaterJAM, including can’t miss activities and suggestions on how first-timers can make the most of WaterJAM. If this is your first WaterJAM, be sure to indicate interest in this breakfast when you register.

The Water Taste Test will be back! This was conducted at the Virginia Beach Oceanfront two years ago and won an AWWA National Education Award. This time, we will be hosting it at Hampton Bay Days on Sunday afternoon. If you’re in the area, please stop by and support the team. Better yet, contact Scott Funk at sfunk@dewberry.com and volunteer to help!

With the success of last year’s transition away from Casino Night, we have found other great activities for our Fun Night. Additionally, we have fully adapted to the 21st century with a Facebook Page and Twitter Feed (#WaterJAM), as well as apps for iOS and Android devices so you can stay constantly up-to-speed with all WaterJAM activities in real time and tell all your friends where you’ll be throughout the week!

Exhibit Information
The Exhibit Hall of WaterJAM 2014 will feature over 175 Exhibit Booths and Hands-On Demonstration Trailers showcasing the latest in water and wastewater technology, equipment and services. Representatives will be on hand to show you the newest products and services available and to provide the latest information to keep you up to date on the new advancements in technology. Most breaks, snacks, refreshments and meals will be served in the Exhibit Area of the Convention Center. Additionally, there will be Utility Competition Demonstrations in the Demonstration Area, the Water for People Prize Raffle, the Cornhole Challenge and the Water Reach Silent Auction! This will be the largest water- and wastewater-focused technical exhibit in the Mid-Atlantic region, so do not miss this opportunity to attend. For information about exhibiting at WaterJAM 2014, on www.vaawwa.org or www.vwea.org, or at the following link: https://www.regonline.com/waterjam2014.

Directions to the Hampton Roads Convention Center
Hampton Roads Convention Center
1610 Coliseum Drive
Hampton, VA 23666

Northbound on I-664
(from Suffolk/Portsmouth):
At the crossroads of interstates 664 and 64, follow traffic for I-64 west, staying in left and center lanes. Continue on I-64 for approximately 4 miles toward Coliseum Drive. Stay in the right turning lane. Turn right onto Coliseum Drive. Continue straight through the intersection at Pine Chapel and Coliseum Drive. Turn left into the parking lot at Hampton Roads Convention Center.

Heading East on I-64
(from Richmond):
Merge toward Exit 263 (Mercury Boulevard), getting into the far right lane toward Coliseum Drive. Stay in the right turning lane. Turn right onto Coliseum Drive. Continue straight through the intersection at Pine Chapel and Coliseum Drive. Turn left into the parking lot at Hampton Roads Convention Center.

Heading West on I-64
(from Norfolk):
Take Exit 263 B (Mercury Boulevard). Stay in the right lane. Turn right onto Coliseum Drive. Continue straight through the intersection at Pine Chapel and Coliseum Drive. Turn left into the parking lot at Hampton Roads Convention Center.

Registration Information
Early registrants may pick up their name badges and program materials at the registration desk located in the Hampton Roads Convention Center at times listed in the conference schedule. All speakers and persons attending technical sessions, exhibits, and social functions are required to be registered. Admission to all events, including receptions, luncheons, and the banquet will require a registration badge. Registration forms can be found in the back of this planner, on www.vaawwa.org or www.vwea.org, or at the following link: https://www.regonline.com/waterjam2014.

Operator and Professional Engineer Education Credits
VAAWWA and VWEA are providing continuing professional education credits (CPE) for waterworks and wastewater operators for attendance at technical presentations during the WaterJAM Conference. Each technical presentation will be 25 minutes in duration and represents 0.5 CPEs. All papers listed in the technical program that are eligible for credit have a symbol (as shown below).

VAAWWA and VWEA are providing continuing education credit hours (CECs) as defined by Virginia regulation 18 VAC 10-20-683 for professional engineers for attendance at technical presentations during the WaterJAM Conference. Each technical presentation will be 25 minutes in duration and represents 0.5 CECs. It will be the responsibility of the individual seeking the CECs to determine the applicability of the respective technical presentation(s) in meeting their individual licensure continuing education needs and requirements. VAAWWA and VWEA CECs are transferable to professional development Wastewaterhours (PDHs) where 1.0 CEC equals 1.0 PDH.

Name tags will be barcoded, and scanners will be used after each presentation to allow for easier tracking.

Symbols for CPE Credits:
## Conference at a Glance

### Sunday, September 7

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noon - 4:00 pm</td>
<td>YP Community Service Project</td>
<td>Fort Monroe, Hampton, VA</td>
</tr>
<tr>
<td>1:00 pm - 6:00 pm</td>
<td>Water Taste Test</td>
<td>Hampton Bay Days, Hampton, VA</td>
</tr>
<tr>
<td>1:30 pm - 4:00 pm</td>
<td>VWEA Board Meeting</td>
<td>HRCC 103</td>
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<tr>
<td>3:00 pm - 4:30 pm</td>
<td>VAAWWA Board Meeting</td>
<td>HRCC 102</td>
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### Monday, September 8

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<th>Time</th>
<th>Event</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>7:00 am - 5:00 pm</td>
<td>Registration 1</td>
<td>HRCC Registration Desk</td>
</tr>
<tr>
<td>7:30 am - 3:00 pm</td>
<td>Golf Tournament</td>
<td>Riverfront Golf Club, Suffolk, VA</td>
</tr>
<tr>
<td>8:00 am - 5:00 pm</td>
<td>Laboratory Practices Workshop</td>
<td>HRCC 102</td>
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<tr>
<td>8:00 am - 5:00 pm</td>
<td>Pressure Pipe Condition Assessment Workshop</td>
<td>HRCC 103</td>
</tr>
<tr>
<td>8:45 am - 3:00 pm</td>
<td>Clay Shoot</td>
<td>Old Forge Sporting Clays, Providence Forge, VA</td>
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<tr>
<td>7:00 pm - 10:00 pm</td>
<td>Meet &amp; Greet Reception</td>
<td>HRCC Ballroom BC</td>
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</tbody>
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### Tuesday, September 9

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<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>6:30 am - 8:00 am</td>
<td>5-K Water For People Fun RunWalk</td>
<td>Matteson Trail, The Hamptons Golf Course, Hampton, VA</td>
</tr>
<tr>
<td>7:00 am - 5:00 pm</td>
<td>Registration 2</td>
<td>HRCC Registration Desk</td>
</tr>
<tr>
<td>7:00 am - 5:00 pm</td>
<td>Speaker Ready Room</td>
<td>HRCC 205</td>
</tr>
<tr>
<td>7:30 am - 9:00 am</td>
<td>Continental Breakfast</td>
<td>HRCC Ballroom Foyer</td>
</tr>
<tr>
<td>7:30 am - 9:00 am</td>
<td>Newcomers’ Continental Breakfast</td>
<td>HRCC 208</td>
</tr>
<tr>
<td>9:00 am - 11:30 am</td>
<td>Keynote Session</td>
<td>HRCC Ballroom BC</td>
</tr>
<tr>
<td>11:30 am - Noon</td>
<td>Grand Opening of Exhibits</td>
<td>HRCC Exhibit Hall</td>
</tr>
<tr>
<td>11:30 am - Noon</td>
<td>VAAWWA 1st Business Meeting</td>
<td>HRCC Ballroom BC</td>
</tr>
<tr>
<td>11:30 am - 6:00 pm</td>
<td>Committee Meetings</td>
<td>HRCC 207 &amp; 208</td>
</tr>
<tr>
<td>11:30 am - 6:00 pm</td>
<td>YP Cornhole Challenge</td>
<td>HRCC Exhibit Hall</td>
</tr>
<tr>
<td>Noon - 1:30 pm</td>
<td>VWEA Membership Appreciation Luncheon &amp; Awards (All WEA Members Are Welcome!)</td>
<td>HRCC Ballroom A</td>
</tr>
<tr>
<td>Noon - 1:30 pm</td>
<td>Lunch for Those Not Attending the VWEA Lunch</td>
<td>HRCC Exhibit Hall</td>
</tr>
<tr>
<td>Noon - 5:00 pm</td>
<td>YP Poster Session</td>
<td>HRCC Concourse</td>
</tr>
<tr>
<td>1:30 pm - 5:00 pm</td>
<td>Concurrent Technical Sessions 1-10</td>
<td>HRCC 102-204 and Conf Rooms A-D</td>
</tr>
<tr>
<td>1:30 pm - 5:00 pm</td>
<td>YP Workshop</td>
<td>HRCC 102 &amp; 103</td>
</tr>
<tr>
<td>2:00 pm - 6:00 pm</td>
<td>Water Reach Silent Auction</td>
<td>HRCC Exhibit Hall</td>
</tr>
<tr>
<td>3:00 pm - 4:00 pm</td>
<td>PM Break</td>
<td>HRCC Exhibit Hall</td>
</tr>
<tr>
<td>5:00 pm - 6:30 pm</td>
<td>Water Reach Silent Auction Reception</td>
<td>HRCC Exhibit Hall</td>
</tr>
<tr>
<td>7:00 pm</td>
<td>FREE NIGHT</td>
<td></td>
</tr>
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## Wednesday, September 10

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 am - 8:00 am</td>
<td>WEA Golden Rodent Breakfast (invitation only)</td>
<td>HRCC 207</td>
</tr>
<tr>
<td>7:00 am - 8:30 am</td>
<td>Utility Managers Breakfast</td>
<td>HRCC 208</td>
</tr>
<tr>
<td>7:00 am - 5:00 pm</td>
<td>Registration</td>
<td>HRCC Registration Desk</td>
</tr>
<tr>
<td>7:00 am - 5:00 pm</td>
<td>Speaker Ready Room</td>
<td>HRCC 205</td>
</tr>
<tr>
<td>7:30 am - 4:00 pm</td>
<td>Exhibition Area Open</td>
<td>HRCC Exhibit Hall</td>
</tr>
<tr>
<td>7:30 am - 9:00 am</td>
<td>Continental Breakfast</td>
<td>HRCC Exhibit Hall</td>
</tr>
<tr>
<td>8:00 am - Noon</td>
<td>YP Poster Session</td>
<td>HRCC Exhibit Hall Lobby</td>
</tr>
<tr>
<td>8:00 am - 3:00 pm</td>
<td>VAAWWA Student Water Challenge Workrooms</td>
<td>HRCC 209-211</td>
</tr>
<tr>
<td>8:30 am - Noon</td>
<td>Concurrent Technical Sessions 11–20</td>
<td>HRCC Rooms 102-204 and Conf Rooms A-D</td>
</tr>
<tr>
<td>8:30 am - Noon</td>
<td>YP Technical Session</td>
<td>HRCC Conf. Room D</td>
</tr>
<tr>
<td>9:00 am - 5:00 pm</td>
<td>Committee Meetings</td>
<td>HRCC 207 &amp; 208</td>
</tr>
<tr>
<td>9:30 am - 10:30 am</td>
<td>VAAWWA 2nd Business Meeting &amp; Section Forum</td>
<td>HRCC 104 &amp; 105</td>
</tr>
<tr>
<td>9:30 am - 10:30 am</td>
<td>AM Break &amp; Ops Challenge Events</td>
<td>HRCC Exhibit Hall</td>
</tr>
<tr>
<td>10:00 am - 4:00 pm</td>
<td>Cornhole and Raffle</td>
<td>HRCC Exhibit Hall</td>
</tr>
<tr>
<td>Noon - 1:30 pm</td>
<td>VAAWWA Member Appreciation Luncheon &amp; Awards (All VAAWWA Members Are Welcome!)</td>
<td>HRCC Ballroom A</td>
</tr>
<tr>
<td>Noon - 1:30 pm</td>
<td>Lunch for Those Not Attending the VAAWWA Lunch</td>
<td>HRCC Exhibit Hall</td>
</tr>
<tr>
<td>1:30 pm - 5:00 pm</td>
<td>Concurrent Technical Sessions 21–30</td>
<td>HRCC Rooms 102-204 and Conf Rooms A-D</td>
</tr>
<tr>
<td>1:30 pm - 5:00 pm</td>
<td>Student Competition Presentations</td>
<td>HRCC Conf. Room D</td>
</tr>
<tr>
<td>3:00 pm - 4:00 pm</td>
<td>PM Break, Meter Madness &amp; Rapid Tappin’</td>
<td>HRCC Exhibit Hall</td>
</tr>
<tr>
<td>3:00 pm - 4:00 pm</td>
<td>WEA Business Meeting</td>
<td>HRCC Conf. Room A</td>
</tr>
<tr>
<td>4:00 pm - 7:00 pm</td>
<td>Exhibitors Break Down</td>
<td>HRCC Exhibit Hall</td>
</tr>
<tr>
<td>5:00 pm - 6:30 pm</td>
<td>YP &amp; Student Reception</td>
<td>HRCC Terrace</td>
</tr>
<tr>
<td>5:00 pm - 6:30 pm</td>
<td>Awards Banquet Reception</td>
<td>HRCC Ballroom Foyer</td>
</tr>
<tr>
<td>6:30 pm - 10:30 pm</td>
<td>Awards Banquet and Fun Night</td>
<td>HRCC Ballroom ABC</td>
</tr>
</tbody>
</table>

## Thursday, September 11

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 am - Noon</td>
<td>Registration</td>
<td>HRCC Registration Desk</td>
</tr>
<tr>
<td>7:00 am - Noon</td>
<td>Speaker Ready Room</td>
<td>HRCC 205</td>
</tr>
<tr>
<td>7:15 am - 8:45 am</td>
<td>S-S Breakfast (invitation only)</td>
<td>HRCC 207</td>
</tr>
<tr>
<td>7:30 am - 9:00 am</td>
<td>Continental Breakfast</td>
<td>HRCC Main Lobby</td>
</tr>
<tr>
<td>8:30 am - Noon</td>
<td>Concurrent Technical Sessions 31–39</td>
<td>HRCC 102-204 and Conf Rooms A-C</td>
</tr>
<tr>
<td>9:00 am - 11:00 am</td>
<td>Committee Meetings</td>
<td>HRCC 207 &amp; 208</td>
</tr>
<tr>
<td>10 am - 10:30 am</td>
<td>AM Break</td>
<td>HRCC 1st Floor Lobby</td>
</tr>
<tr>
<td>Noon - 2:00 pm</td>
<td>WaterJAM Committee Post WaterJAM Meeting/Lunch</td>
<td>HRCC 207</td>
</tr>
<tr>
<td>Noon - 2:30 pm</td>
<td>VAAWWA Post WaterJAM Board Meeting/Lunch</td>
<td>HRCC 208</td>
</tr>
<tr>
<td>Noon - 4:30 pm</td>
<td>Stormwater Workshop</td>
<td>HRCC Conf. Room D</td>
</tr>
<tr>
<td>12:30 pm - 3:30 pm</td>
<td>Atrium Gardens of Poquoson Tour</td>
<td>Poquoson, VA</td>
</tr>
<tr>
<td>1:00 pm - 3:30 pm</td>
<td>Anheuser-Busch InBev Tour</td>
<td>James City County, VA</td>
</tr>
</tbody>
</table>
Charles B. Bott, Ph.D., P.E., BCEE, is a member of the 2013-2014 Board of Trustees for the Water Environment Federation (WEF), an international organization of water quality professionals headquartered in Alexandria, Virginia. Charles is the Research and Development Manager at the Hampton Roads Sanitation District (HRSD) in southeast Virginia, where he currently is managing research and development efforts for HRSD’s thirteen wastewater treatment plants (249 MGD combined capacity) and collection system. He was formerly an Associate Professor in the Department of Civil and Environmental Engineering at Virginia Military Institute in Lexington, Virginia and an Adjunct Professor in the Department of Civil and Environmental Engineering at Virginia Tech. Prior to joining the faculty at VMI, Charles worked as a consulting engineer with Parsons Engineering Science.

Charles is a registered professional engineer in the State of Virginia, a Board Certified Environmental Engineer, and Licensed Wastewater Treatment Plant Operator – Virginia Class I. He received a B.S. in Civil Engineering from the Virginia Military Institute, an M.S. in Environmental Engineering from the Johns Hopkins University, and a Ph.D. in Civil and Environmental Engineering from Virginia Tech.

Jim Chaffee is Immediate Past President of the American Water Works Association.

During his career of over 35 years, Mr. Chaffee has held leadership positions with several international professional services consulting organizations. Mr. Chaffee currently serves as a Senior Consultant with AECOM, a global provider of professional, technical, and management support services to a broad range of markets. Mr. Chaffee specializes in providing supply, treatment and infrastructure solutions for clients in the Water sector.

Mr. Chaffee has an undergraduate degree in engineering and a Master’s Degree in Business from the University of Wisconsin system. He is a licensed professional engineer.

Mr. Chaffee is active in the waterworks industry and industry organizations and has been a member of AWWA for over three decades. He has been recognized for his contributions by receiving the Wisconsin Section Leon A. Smith Award in 1996 (for distinguished service) and the George Warren Fuller Award in 2004. He has authored over 30 papers and presentations covering a variety of water industry topics.

Jim lives in a rural area of central Wisconsin with his wife Jan and his two “hunting buddies,” Brandy and Beans.
Conference Events

WATER TASTE TEST/EDUCATION BOOTH
Sunday, September 7 | 1 pm - 6 pm
Hampton Bay Days Festival, Downtown Hampton
As a follow up to the highly successful 2012 event in Virginia Beach, the Water Taste Test/ Education Booth is returning to WaterJAM 2014. This year, the event will be held at Hampton Bay Days, an annual festival that attracts an estimated 200,000 people to Downtown Hampton each September. Hampton Bay Days was created as a unique outlet to educate the public on the importance of the Chesapeake Bay and to promote its upkeep and preservation.

The purpose of the Water Taste Test will be to allow the public an opportunity to compare tap water produced by Newport News Waterworks with bottled water in a side-by-side taste test. In addition to the taste test, we will show the public the difference in cost between bottled water and tap water. Finally, brochures presenting fun facts for water and sewer systems will be provided for public education purposes. If you have any questions or want to volunteer to help, please contact Scott Funk at 757-355-5816 or by e-mail at sfunk@dewberry.com. Come join the fun. The water will be refreshing and free!

WATERJAM 2014 GOLF OUTING AND COOKOUT
Monday, September 8 | 7:30 am - 3 pm
Riverfront Golf Club, www.riverfrontgolf.com | 757-484-2200 5200 River Club Drive, Suffolk, VA 23435
Cost: $85/Person - Range and registration start at 7:30 am. Registration includes: continental breakfast, green fee, cart, range balls, lunch and prizes! Shotgun start is at 9 am. The format will be four-person captain’s choice. Individuals may also sign up for the tournament. Register early, as registration will be limited to 120 golfers.

Lunch, served after the tournament, will feature a raffle and prizes. The proceeds from the raffle will be donated to the Water For People Committee. Please indicate on the registration form if you are interested in donating a raffle prize (merchandise, gift certifi cates, etc.).

Register for this event on the main conference registration form. Please contact Taylor Turner at 804-665-1075 or by e-mail at taylor.turner@arcadis-us.com, or Greg Everhart at 804-559-4259 or by e-mail at gregeverhart@combs-associates.com with any questions.

WATER FOR PEOPLE 5-K FUN RUN/WALK
Tuesday, September 9 | 6:30 am - 8 am
Matteson Trail, The Hamptons Golf Course
300 Butler Farm Road, Hampton, VA
Don’t miss the opportunity to support Water For People by participating in this continually growing event. Water For People is an international nonprofit committed to building a world where all people have access to safe drinking water and sanitation and no one suffers or dies from a water- or sanitation-related disease. Water For People works with people and partners to develop innovative and long-lasting solutions to the water, sanitation and hygiene problems in the developing world. Water For People strives to continually improve, to experiment with promising new ideas and to leverage resources to multiply their impact. Learn more about this great cause at waterforpeople.org.

This year’s fun run will take place at the Matteson Trail, located at the Hamptons Golf Course. The registration fee is $35 and includes refreshments and a T-shirt. Corporate sponsorships are available for $100 and include your company logo on the T-shirt. Questions may be directed to Meryl Greenblatt at 804-756-7717 or Meryl.Greenblatt@infilcodegremont.com. See you there!

FREE NIGHT
Tuesday, September 9 | 7 pm
No activities are planned for this night. You’re free to explore the area or experience a night on the town with friends and colleagues. There are many great places in Hampton to choose from. Be sure to check the WaterJAM app for a list of local restaurants and attractions! Brochures and informational literature will also be available at the HRCC and in hotel lobbies to help you decide how to spend your evening.

OPENING NIGHT MEET & GREET
Monday, September 8 | 7 pm - 10 pm
HRCC Ballroom BC
It’s time to kick off Splashdown! WaterJAM 2014 in Hampton. Join us to enjoy quality time with your fellow water professionals, some of whom you may not have seen since last year’s conference! Your WaterJAM committee is asking that you get creative with this year’s Splashdown! theme and wear your favorite outer space, flight-, or poolside-related wear. Be creative! Please join us on Monday night at 7 pm in HRCC Ballroom BC to kick-off this year’s WaterJAM with great hors d’oeuvres, your favorite beverages and the best of company.

Register for this event on the main conference registration form. Please contact Taylor Turner at 804-665-1075 or by e-mail at taylor.turner@arcadis-us.com, or Greg Everhart at 804-559-4259 or by e-mail at gregeverhart@combs-associates.com with any questions.

WATERJAM CLAY SHOOT
Monday, September 8 | 8:45 am - 3 pm
Old Forge Sporting Clays
www.oldforgesportingclays.com | 804-966-2955 7945 Long Reach Road, Providence Forge, VA 23140
The WaterJAM 2014 Clay Shoot will be held at Old Forge Sporting Clays in Providence Forge, one hour west of Hampton. Mandatory safety instruction begins at 8:45 am with a shotgun (pun intended) start at 9 am. The entry fee is $75/person and includes targets, lunch, and prizes. You will need to bring hearing protection, safety glasses, and a minimum of 5 boxes of #8 light field load shotgun shells of the appropriate gauge for your shotgun. This will surely be a fun time for everyone!
**AWARDS BANQUET AND FUN NIGHT**
Wednesday, September 10 | 5 pm  
**Reception:** 5 pm - 6:30  
HRCC Ballroom Foyer  
**Dinner:** 6:30 pm - 8:30 pm  
HRCC Ballroom AB  
**Fun Night:** 8:30 pm - 10:30 pm  
HRCC Ballroom C

This year’s theme for the Fun Night and Awards Banquet will be Splashdown! The fun begins at 5 pm with light hors d’oeuvres and cocktails in the foyer outside HRCC Ballroom BC. The Awards Banquet, beginning at 6:30, will feature the presentation of awards to distinguished recipients. Immediately following dinner, a sumptuous dessert bar will be awaiting you at the Fun Night Reception.

We’ll have a combination of space- and water-themed games and some casino gambling. Returning this year will be a photo booth where you can take crazy theme pictures with your friends. There will be plenty of fun, excitement, and laughs, and many lucky participants will receive raffle tickets for some wonderful prizes!

**SCAVENGER HUNT**
Tuesday September 9 through Wednesday September 10  
HRCC Exhibit Hall

Make sure to pick up a scavenger hunt list at the registration desk Tuesday. Then spend time Tuesday and Wednesday in the exhibit hall and various other areas of the conference center tracking down assorted treasures based on clues provided. Bring your found treasures to the Wednesday Fun Night to see if you gathered enough items on the list to win a fabulous prize!

**CORNHOLE CHALLENGE**
Tuesday September 9 | 11:30 am - 6 pm  
Wednesday September 10 | 10 am - 4 pm  
HRCC Exhibit Hall

Time between sessions or just been sitting for too long? Check out the Cornhole Challenge in the Exhibit Hall, where you can show off your skills or try playing for the first time. It’s FUN & EASY TO LEARN!

Team up with coworkers, colleagues, and supervisors. You can play as many times as you like, with as many different teammates as you wish! The more times you participate, the more times your name will be entered in the raffle to win your very own custom cornhole set! Stop by the WaterJAM Cornhole Challenge and give it a try!

**WATER REACH SILENT AUCTION AND RECEPTION**
Tuesday, September 10  
Auction begins at 2 pm, with final bids at 6 pm  
**Reception | 5 pm - 6:30 pm**  
HRCC Exhibit Hall

Come join us for the annual silent auction held by the Water Reach Committee. This event boasts artwork from some of the finest landscape painters and artists in Virginia. In addition to art, items donated by Virginia businesses will be auctioned. If you’re an artist or craftsperson, please consider donating some of your work to the Water Reach Silent Auction. Don’t miss this opportunity to take home some unique items and support one of VWEA and VAAW-WA’s key initiatives to bring safe water and sanitation to people who are without. Please join us for hors d’oeuvres and drinks to support this great initiative. Proceeds from this event will be donated to the Water Reach Committee. (Cash and checks will be accepted; no credit cards please.) Please contact Noelle Slater at Noelle.slater@arcadis-us.com if you have any questions or would like to make a donation.

**2nd VAAWWA BUSINESS MEETING & SECTION FORUM**
Wednesday, September 10 | 9:30 am - 10:30 am  
HRCC 104-105

Jim Chaffee, AWWA Immediate Past President, will be hosting a Town Hall Meeting for all AWWA members. The session will start with a very brief presentation and then shift to a discussion forum.

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- Water/Sewer Infrastructure
- Water Reuse Systems
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1210 Princess Anne Street • Fredericksburg, Virginia 22401
VWEA OPERATION CHALLENGE EVENTS
Wednesday, September 10 | 9:30 am - 10:30 am
HRCC Exhibit Hall
The Operations Challenge recognizes excellence and professionalism in the wastewater treatment, operations and maintenance, laboratory, safety, and collection systems aspects of wastewater treatment. Operations Challenge teams will be demonstrating the following events:

Pump Maintenance: The purpose of this event is to test the skills of a maintenance/operating team to respond to a severe weather condition resulting in a lift station pumping outage. A Godwin Dri-Prime® model NC80 4” x 3” diesel driven sewage-handling trailer mounted pumpset featuring the Flygt style “N” impeller (non-clog) will be used to respond to the need for an emergency back up pump at a lift station. The maintenance portion of the Operations Challenge is focused on the routine maintenance and operation of the pump in preparation for use at a lift station, transportation, and installation at the lift station, including programming for emergency use.

Collections System: This event simulates connecting a 4-inch PVC sewer lateral to an existing 8-inch PVC sewer pipe while in service (the “wet” pipe) and requires the identification of known pipe defects. Participants must identify images of known pipe defects and observations with the correct terminology from the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment certification programs (PACP).

Stop by the Operations Challenge table in the exhibit hall to watch the DVD and see pictures of past VWEA and WEF competitions featuring Division I & II National Winners and other participating VA teams, as well as a display chart of invitational competitions. Printed brochures and event coordinator information will be available for anyone interested in participating with the Operations Challenge.

VAAWWA DISTRIBUTION RODEO DEMONSTRATION
Wednesday, September 10 | 3 pm - 4 pm
HRCC Exhibit Hall
Rapid Tappin’: This demonstration is wet and wild as teams race against the clock to install a 3/4-inch water service. A 3/4-inch corporation is installed in the pipe. Copper tubing is attached to the corporation and to a meter yoke with a curb stop. This is a timed event with penalties assessed for leaks, safety violations, and quality of the service installation. Come and see the state’s finest teams demonstrate this exciting event.

Meter Madness: Contestants compete side-to-side to assemble a 5/8-inch meter from a bucket of parts, which will also contain unrelated items. While competitive times vary according to the meter model selected each year, re-assembling a meter in less than 45 seconds will usually get you into the top three finalists. The state record is 20 seconds!

NEWCOMERS’ BREAKFAST
Tuesday, September 8 | 7:30 am - 9 am
HRCC 208
All first-time WaterJAM attendees are welcome to attend the Newcomers’ Breakfast held Tuesday morning before the General Opening Session. WaterJAM committee members will be there to provide insight and advice as well as suggestions on what activities/sessions will best meet your objectives for attending WaterJAM. If this is your first WaterJAM, please indicate on the registration form whether you plan to attend.

VWEA GOLDEN RODENT BREAKFAST
Wednesday, September 10 | 7 am - 8 am
HRCC 207 (Invitation Only)
This invitation-only breakfast is for VWEA Past Presidents. Please indicate on the registration form if you plan to attend.

UTILITY MANAGERS BREAKFAST
Wednesday, September 10 | 7 am - 8:30 am
HRCC 208
The Utility Managers Breakfast is an excellent opportunity for managers, directors, and senior staff from wastewater and drinking water utilities to share ideas, discuss trends, and address critical issues. A brief overview on current topics will be presented. Please indicate on the registration form if you plan to attend.

5-S BREAKFAST
Thursday, September 11 | 7:15 am - 8:45 am
HRCC 207 (Invitation Only)
Please indicate on the registration form if you plan to attend.

Water/Wastewater
Civil Engineering
Planning
Landscape Architecture
Surveying
Environmental
Transportation
Pipeline Design

Kenneth M. Baybutt, PE
Jerry Peaks, PE, BCEE

 Bowman Consulting
bowmanconsulting.com 757.229.1776

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The Conduit – Summer 2014

ANHEUSER-BUSCH INBEV
Thursday, September 11 | 1 pm - 3:30 pm
7801 Pocahontas Trail, Williamsburg, VA 23185
The WaterJAM committee has set up a tour of the Anheuser-Busch InBev Brewery, located on Pocahontas Trail off of Interstate 64 in Williamsburg. The tour will highlight water and wastewater aspects of Anheuser-Busch’s brewing process. The cost is $10 and includes lunch served at the tour facility. Please note: Transportation between the HRCC and the tour facility will not be provided. Maps and directions will be available. The tour has a maximum capacity of 30 attendees, with the possible addition of a second group based on tour demand. Please note on your registration form if you plan to attend. Reservations for this tour will be on a first-come, first-served basis.

For more information please contact Joseph Swaim at joseph.swaim@urs.com or Luke Twilley at luke.twilley@kimley-horn.com.

GARDEN ATRIUMS OF POQUOSON
Thursday, September 11 | 12:30 pm - 3:30 pm
#4 Garden Atrium Way, Poquoson, VA 23662
Garden Atriums of Poquoson is a Net-Zero Sustainable Community utilizing practicality and serene natural beauty. The Garden Atriums are among the foremost energy efficient and eco-friendly residential communities in the country, incorporating technological and aesthetic innovations that have never been brought together before in a single environment. The community uses an array of sustainable technologies and practices including stormwater reuse, biological and mechanical filtration water treatment, reverse osmosis, and solar technologies. The $10 fee includes lunch, but transportation will not be provided.

For more information please contact Joseph Swaim at joseph.swaim@urs.com or Luke Twilley at luke.twilley@kimley-horn.com.

KEYNOTE SESSIONS

KEYNOTE SPEAKER: Robert V. Kerns, Jr.; Manager, Commercial Space Projects Office, NASA Langley Research Center
Tuesday, September 9 | 9 am - 11:30 am
HRCC Ballroom BC
As the Manager for the Commercial Space Projects Office at Langley Research Center, Robbie is responsible for developing and managing the Center’s commercial and operational space portfolio, supporting both commercial customers and NASA Programs including the Commercial Crew Program, the Commercial Crew and Cargo Program, the International Space Station (ISS) Program, and the Space Communications and Navigation (SCaN) Program.

Robbie began his NASA career in 1980 at Langley Research Center in Hampton, VA. He has extensive experience in systems engineering, process systems design and operation, space flight hardware design and development, and project management. Robbie served as the liaison between the Space Shuttle Program and the NASA Research Centers (Glenn, Ames, and Langley) during the Space Shuttle Return-to-Flight Project, and served as the LaRC representative on the Mission Management Team for all Space Shuttle missions from STS-114 through STS-135 (the last Space Shuttle mission).

Robbie is a graduate of the NASA Langley Apprentice Program and received a Bachelor of Science degree in Mechanical Engineering from Old Dominion University. Robbie has four children and two grandchildren and is a native of Gloucester County where he currently resides with his wife, Diana.

The Future of Space Exploration
The ending of the Space Shuttle Program in 2011 left the United States without a capability to access the International Space Station or pursue other human space exploration activities. This situation has left much of the American public asking the question “what’s next?”

To answer that question, this presentation will provide an overview of current NASA and commercial activities focused on developing spacecraft and related technologies to enable the next U.S. capability to launch humans into space. Specific topics will include a description of the vehicles being developed, the missions they are being designed for, and the related technologies that will be necessary to support future human exploration of space. Additionally, the presentation will address similarities between technologies needed for space exploration and technologies needed for earth habitation.

FEATURED SPEAKER: G. Glenn Oder; Executive Director, Fort Monroe Authority
Tuesday, September 9 | 9 am - 11:30 am
HRCC Ballroom BC
Glenn Oder is a lifelong resident of the Hampton Roads community and a graduate of Virginia Tech, where he received a Bachelor of Landscape Architecture. He is currently licensed in the Commonwealth of Virginia as both a Landscape Architect and a professional real estate agent. Glenn and his wife Mary celebrated their 35th wedding anniversary this summer, and they are the proud parents of three grown daughters and grandchildren of five grandchildren.

During the mid to late 1990s, Glenn served 5 years on the Newport News Planning Commission and in 1998 he was elected President of the Peninsula Housing and Builders’ Association. From 1999 to 2001 Glenn served as the Principal Deputy Director for the Virginia Department of Housing and Community Development for the State of Virginia.

Glenn retired after his tenth year in the Virginia General Assembly where he served on the Transportation, General Laws and the County, Cities, and Towns Committees. In 2008, he was appointed by the Speaker to serve as Vice Chair of the House Transportation Committee. He was also the Chair of the ABC/Gaming Subcommittee of General Laws. He is a former member of the Joint Committee on Transportation Accountability and the regional Hampton Roads Transportation Planning Organization. Glenn sponsored legislation on behalf of many residents to address needs ranging from out-of-control textbook costs to using port revenue to improve our roads without tax increases. Additionally, Glenn served on Governor McDonnell’s Commission on Government Reform and Restructuring and is the Chair of the Government Simplification and Operations Committee.

Fort Monroe: Where Freedom Lives
Glenn will provide a brief history and update on the current status of one of the nation’s most historic and unique treasures. The history of the site began in 1607 when English explorers, who later founded Jamestown, first visited and named it Old Point Comfort. September 15, 2011 marked the decommissioning of Fort Monroe’s long and storied history as a United States Army Post and began the story of the future for Fort Monroe. In addition, Glenn will also address the challenges Fort Monroe faces with its water and sanitary sewer systems.
YP POSTER CONTEST - FRESH IDEAS POSTER CONTEST
Tuesday, September 9 | Noon - 5 pm and
Wednesday, September 10 | 8 am - Noon
HRCC Concourse (outside Exhibit Hall)
The Fresh Ideas Poster Contest is available to both students and YPs, and is a great opportunity to display and present your work at the 2014 WaterJAM.

• Posters displaying your work will be available for all WaterJAM attendees to view as they enter the conference.

• A panel of industry experts will judge the posters, and the top water- and wastewater-related posters will each receive a $1,000 cash prize from VAAWWA (for water-related poster) or VWEA (for wastewater-related poster).

• The VAAWWA winner will be invited to represent the Virginia Section at the AWWA national conference (ACE). Assistance with travel expenses is available.

For more information on the Poster Contest, or to submit an abstract, please contact Jason Kems at Jason.kems@hdrinc.com, or Michele Sininari at msininari@greeley-hansen.com.

YP WORKSHOP
Tuesday, September 9 | 1:30 pm - 5 pm
HRCC Room 102-103 “Fun with Fundamentals”
The purpose of this workshop is to provide to Young Professionals an overview of a broad range of topics within the water and wastewater industry in order to help them gain a better understanding of how particular systems work and to have better general understanding of how to design such systems. Engineering systems to be covered will be pumps, wastewater treatment, water treatment, pipe connections, and sanitation technologies emerging in developing countries.

The speakers of the first four sessions will be professionals from the industry who will give interactive presentations on the topics listed. There will be a time for questions at the end of each presentation. The final session of the workshop will feature a young professional who has experienced rewarding successes early in his career. His story will certainly be an inspiration to Young Professionals in attendance and will educate on current sanitation technology being implemented in the developing world.

At the end of this workshop, attendees will have a better understanding of this broad range of engineering topics, the engineering principles that undergird each system, and common design challenges.

YP/STUDENT RECEPTION
Wednesday, September 10 | 5:30 pm - 6:30 pm
HRCC Terrace
The YP/Student Reception is a great time to network with young colleagues in a relaxed setting. Come out and meet new young professionals and students who represent the future of the industry. The reception will be held prior to the banquet, and light appetizers will be available. Drink tickets will be provided as well as a cash bar.

If you have any questions, please contact Katy Baragar at Kathryn.Baragar@kimley-horn.com.

VAAWWA ANNUAL STUDENT WATER CHALLENGE
AND EXHIBITION OF VWEA STUDENT DESIGN COMPETITION WINNERS
Wednesday, September 10 | 1:30 pm - 5 pm VWEA Student Design Competition Presentation | 2:30 pm VAAWWA Student Water Challenge Presentations | 3 pm - 4:30 pm HRCC
The Annual VAAWWA Student Water Challenge is for engineering, environmental, and science majors from Virginia Colleges and Universities. It will focus on using a combination of engineering and science to address a real-world water quality issue. Student teams from competing schools will be given a water quality/water treatment problem on the competition day and will be allowed approximately
five hours to develop a proposed solution. The winning team will receive a traveling trophy, a plaque, and a $1,200 first place prize. The second place team will receive a plaque and $500 cash prize. Come cheer on your alma mater! The winners will be announced on Wednesday evening at the Awards Banquet.

Prior to the presentations for the Student Water Challenge, the first place team from the 2014 VWEA Student Design Competition (which was held on May 1 in conjunction with the Education Conference) will give their winning presentation. This presentation will be their final practice run before competing in the National Student Design Competition at WEFTEC 2014. Please attend and give them your best critique and support, so they represent Virginia well at WEFTEC!

**BEST VWEA & VA AWWA STUDENT PAPER AWARDS**
The Joint VWEA/VA AWWA Student Activities Committee will be judging all presentations of papers presented by students of Virginia’s Colleges and Universities. The first and second place water-themed and wastewater-themed papers will be awarded $500 and $250, respectively. The winners will be announced after judging of all papers is complete.

**UTILITY AND STUDENT TRAVEL GRANTS**
Each year, VAAWWA’s Membership Committee awards grants to utility employees to offset the cost of attending the conference. The grant monies are to be used for travel, lodging and conference-related expenses only. The purpose of the grant is to increase the diversity of conference attendees and encourage participation by individuals who may not otherwise have been able to attend. Applications are available on the VAAWWA website (www.vaawwa.org).

VAAWWA’s Membership Committee also offers annual conference travel grants for students from universities located outside of the conference area. The travel grant monies are to be used for travel, lodging and conference-related expenses only. Applications are available on the VAAWWA website (www.vaawwa.org).

For more information or application forms for either the Utility Travel Award Grant or the Student Travel Award Grant, please contact Rachael Lumpkin, Chesterfield County Dept. of Utilities, at 804-751-4778 (phone), 804-751-4437 (fax), or lumpkinr@chesterfield.gov.
TUESDAY, SEPTEMBER 9

SESSION 1: NUTRIENT REMOVAL AND RECOVERY

1:30 pm - 2:00 pm  Startup and Operation of a Full-Scale Partial Nitrification-Anammox MBBR for Sidestream Nitrogen Removal  
Stephanie Klaus, Virginia Tech; Bob Rutherford, HRSD; Charles Bott, HRSD; Glenn Thesing, Kruger, Inc.

2:00 pm - 2:30 pm  Development and Utilization of a Novel Method for Tracking Anammox Specific Activity During Sidestream Deammonification  
Wendell Khunjar, Hazen and Sawyer; Greg Pace, Manhattan College; Paul Pitt, Hazen and Sawyer; Chandler Johnson, World Water Works

2:30 pm - 3:00 pm  Optimization of Intermittent Aeration for Increased N Removal Efficiencies and Improved Settling  
Dana Fredericks, HRSD

4:00 pm - 4:30 pm  Single-Stage Deammonification Process Performance – MBBR Versus IFAS Configurations  
Chris Thomson, Kruger Inc.; Hong Zhao, Kruger Inc.

4:30 pm - 5:00 pm  One Utility’s Success Story Exceeding Regulatory Goals: Design Operation and Performance of IFAS Upgrades at Two WWTPs for Enhanced Nitrogen Removal  
Taylor Turner, ARCADIS; Ed Becker, ARCADIS

SESSION 2: WATER RESOURCES

1:30 pm - 2:00 pm  Shallow River Raw Water Intake and Deep Shaft Pumping Station Design and Construction Considerations  
Patrick Haney, ARCADIS; Paul Bassette, ARCADIS; Raghavender Joshi, Loudoun Water

2:00 pm - 2:30 pm  Development of a Harmful Algal Bloom Model in Support of New Water Quality Standards for Chlorophyll for the James River  
James J. Fitzpatrick, HDR; Paul Bukaveckas, Virginia Commonwealth University; Margaret Mulholland, Old Dominion University; Hans Paerl, UNC-Chapel Hill

2:30 pm - 3:00 pm  Development of a Hydrodynamic Model in Support of New Water Quality Standards for Chlorophyll for the James River  
Jian Shen, Virginia Institute of Marine Science; Ya Wang, Virginia Institute of Marine Science; Nikslai Guradian, Tetra Tech; Jim Fitzpatrick, HDR/HydroQual

4:00 pm - 4:30 pm  Providing Safe, Reliable Water for Medical Facilities in a Developing Nation  
Craig Riddle, AECOM

4:30 pm - 5:00 pm  Designing Multiple Stream Restoration Sites Simultaneously  
Edward Brian Houston, Black and Veatch

SESSION 3: REGULATORY ISSUES

1:30 pm - 2:00 pm  How to Leverage Technology to Effectively Measure and Monitor Your Utility’s Regulatory Compliance  
Katherine Lusich Nixon, City of Virginia Beach; Stephen Motley, City of Virginia Beach; Susiya Murthy, Red Oak Consulting/ARCADIS; Alfonso Da Fonseca, Red Oak Consulting/ARCADIS

2:00 pm - 2:30 pm  Looking Forward After 40 Years of the Safe Drinking Water Act  
Alan Roberson, American Water Works Association

2:30 pm - 3:00 pm  Mixing Things Up: Using Effluent Mixing Models to Comply With Challenging Water Quality Standards  
Lawrence Hoffman, CHA Consulting Inc.

4:00 pm - 4:30 pm  Watershed Based Permitting and Integrated Planning: Bringing It All Together in Virginia  
Patrick Bradley, LimnoTech; Grace LeRose, City of Richmond, DPU; Heather Bourne, LimnoTech; Robert Steidel, City of Richmond, DPU

4:30 pm - 5:00 pm  An Evaluation of Total Dissolved Solids Impacts on Wastewater Treatment and NPDES Permit Compliance  
Mary Sadler, Hazen and Sawyer; Rebbie Graham, Pepper’s Ferry Regional Wastewater Treatment Authority; Clarke Wallcraft, Pepper’s Ferry Regional Wastewater Treatment Authority

SESSION 4: FACILITY OPERATIONS AND MAINTENANCE I

1:30 pm - 2:00 pm  Mobile Applications for Condition Assessment and Maintenance Activities  
Chris Stephan, HRSD

2:00 pm - 2:30 pm  Development of a Pipeline Corrosion Control Program  
Marchelle Sossong, Henrico County; Kristie Cantofo, Henrico County; Denise Nelson, Greeley and Hansen; Roger Cronin, Greeley and Hansen

2:30 pm - 3:00 pm  Energy Efficiency -- Finding the Low Hanging Fruit  
Nina Andgren, UOSA

4:00 pm - 4:30 pm  SSES, Rehabilitation Phasing Schedule and Flow Monitoring For a Separate System  
Susan Hamilton, City of Richmond DPU; Neepa Shah, Greeley and Hansen; Quinton Nottingham, City of Richmond DPU

4:30 pm - 5:00 pm  Self-Cleaning Wet Wells – The Wave of the Future  
Paul W. Moulton, AECOM
### SESSION 5: WATER FORUM

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30 pm</td>
<td>Real-Time THM Monitoring for System Optimization</td>
<td>Kelley Wilber, Seven-Seventeen</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>Ductile Iron or Welded Steel? A Comparative Analysis Between Pipe Materials and Their Impact on Alignment Approaches for the Replacement of a 60” Diameter Transmission Main</td>
<td>Matt Wimmer, O’Brien &amp; Gere</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>Consumer Feedback for Process Control of Drinking Water Quality</td>
<td>Andrea M. Dietrich, Virginia Tech; Daniel L. Gallagher, Virginia Tech</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>AFTERNOON BREAK</td>
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<tr>
<td>4:00 pm</td>
<td>Improving Drinking Water Quality and Demonstrating Competence in Small Laboratories and Field Activities by TNI NELAP and NEFAP Accreditation</td>
<td>Nilda Cox, Eurofi ns; Eaton Analytical, Inc.</td>
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</tbody>
</table>

### SESSION 6: EMERGING TECHNOLOGY

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Speaker(s)</th>
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</thead>
<tbody>
<tr>
<td>1:30 pm</td>
<td>Assessment of NOB Out-Selection in an Intermittently Aerated Nitritation-Denitritation Process with Subsequent Anammox Polishing</td>
<td>Pusker Regmi, Old Dominion University; Dana Fredericks, Virginia Tech; Mark Miller, Virginia Tech; Charles Bott, HRSD</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>Design Considerations for Magnetite-Ballasted Activated Sludge Facilities</td>
<td>Thor Young, GHD; Sebastian Smoot, GHD; Jason Ver Nooy, GHD; John Revette, GHD</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>European Technology in the USA – Emerging Technology and Driver</td>
<td>Greg Knight, Black &amp; Veatch</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>Roadmap Towards Energy Neutrality &amp; Energy Recovery at Enhanced Nutrient Removal Facilities</td>
<td>Beverly Stinson, AECOM</td>
</tr>
<tr>
<td>4:30 pm</td>
<td>Improvements In On-Site Hypochlorite Generation Technology</td>
<td>Brian Branch, Process Solutions, Inc.</td>
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</tbody>
</table>

### SESSION 7: ALTERNATIVE PROJECT DELIVERY

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<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Speaker(s)</th>
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</thead>
<tbody>
<tr>
<td>1:30 pm</td>
<td>Overview of Construction Manager At Risk (CMAR) Delivery Method</td>
<td>Mike Cecil, PC Construction</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>Pros and Cons of Completing Treatment Plant Projects without Full Plans and Specifications</td>
<td>Bryan Bedell, Haskell; Dennis Clough, ESG</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>Utility Uses Design-Build to Fast Track New WWTP Outfall and Diffuser</td>
<td>Douglas W. Fredericks, HRD; David W. Cooley, HRSD; Ann Copeland, HRSD; Randall Osburn, HDR</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>Living in a Contractor’s World: The Traditional Engineer’s Design-Build Survival Guide!</td>
<td>Paul Delphos, Black &amp; Veatch</td>
</tr>
<tr>
<td>4:30 pm</td>
<td>A Tale of Two Selections</td>
<td>William Johnson, William P. Johnson II, PE., PC.; Rhonda English, Bedford Regional Water Authority; Jay McKisley, Town of Strasburg</td>
</tr>
</tbody>
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### SESSION 8: ASSET MANAGEMENT I

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<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30 pm</td>
<td>Asset Management: Not All Hidden Assets Are in the Ground</td>
<td>Barry Matthews, Virginia Dept. of Health – Office of Drinking Water</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>GIS for Asset Management and Rehabilitation Planning</td>
<td>Keith D. Hodsdten, Innovyze</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>Effective Utility Management – From Planning through Operations</td>
<td>David Ihde, City of Virginia Beach DPU; Supriya Murthy, ARCADIS</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>The People Side of Asset Management – How Assets Are Really Managed</td>
<td>Seth Yoakowitz, GHD; Gage Muckleroy, GHD; Roop Lutchman, GHD; Brad Jankowski, GHD</td>
</tr>
<tr>
<td>4:30 pm</td>
<td>Employing GIS-Based Mobile and Cloud-Based Technologies to Support Asset Management and System Operations</td>
<td>Jayson Bremen, CDM Smith</td>
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### SESSION 9: YP WORKSHOP

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>1:30 pm</td>
<td>Pump Fundamentals</td>
<td>Paul Moulton, AECOM</td>
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<tr>
<td>2:00 pm</td>
<td>Fundamentals of Wastewater Treatment</td>
<td>Christel Dyer, HRSD</td>
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<tr>
<td>2:30 pm</td>
<td>Fundamentals of Water Treatment</td>
<td>Ben Shoemaker, Loudoun Water Christel Dyer, HRSD</td>
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<tr>
<td>4:00 pm</td>
<td>Fundamentals of Pipe Connections</td>
<td>TBD</td>
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<tr>
<td>4:30 pm</td>
<td>The Pit Excavator</td>
<td>Tate Rogers, NC State</td>
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</tbody>
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**Summer 2014 – The Conduit**
### TUESDAY, SEPTEMBER 9 continued

#### SESSION 10: TECHNOLOGY FORUM I

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Details</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30 pm - 2:00 pm</td>
<td>Stitches for Ditches: Textile Fixed Media Set to Improve Performance in Oxidation Ditches for Aerobic and Anoxic Applications</td>
<td>Phil Brecher, Entex Technologies; Chuck McCall, Entex Technologies</td>
</tr>
<tr>
<td>2:00 pm - 2:30 pm</td>
<td>Class A Biosolids Produced with Closed Alkaline Process</td>
<td>Eric Warnstrom, Schwing Bioset Inc.</td>
</tr>
<tr>
<td>2:30 pm - 3:00 pm</td>
<td>Web Based Sewer Flow Monitoring</td>
<td>T.J. Johnson, Delta Systems Environmental; Dave Brown, Hach Flow</td>
</tr>
<tr>
<td>4:00 pm - 4:30 pm</td>
<td>Lexington, TN Achieves Perfection in Discharge Disinfection</td>
<td>Bruce Stevens, ASA Analytics; Robert Slaydens, Water Management Services; Chris Wallace, Lexington TN Utilities</td>
</tr>
<tr>
<td>4:30 pm - 5:00 pm</td>
<td>Precast Polymer Concrete Structures and Manholes: A Long Term Solution for H2S Corrosion</td>
<td>Eric Davidson, U.S. Composite Pipe, Inc.</td>
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</table>

#### WEDNESDAY, SEPTEMBER 10

#### SESSION 11: CASE HISTORIES – WATER

<table>
<thead>
<tr>
<th>Time</th>
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<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 am - 9:00 am</td>
<td>Design Decisions for a New Ozone-Biofiltration Water Treatment Plant</td>
<td>William B. Dowbiggin, CDM Smith; Brandon Flint, CDM Smith; Beate Wright, Loudoun Water; Tom Bonacquisti, Loudoun Water</td>
</tr>
<tr>
<td>9:00 am - 9:30 am</td>
<td>Installation of a 36 Water Main by Horizontal Directional Drill as Part of an Alternative Project Delivery Project</td>
<td>Tim Anderson, Parsons Brinckerhoff</td>
</tr>
<tr>
<td>10:30 am - 11:00 am</td>
<td>Collaboration, Flexibility, Speed, and Cost Control. Progressive Design-Build had it all!</td>
<td>Brian M. Key, Bedford Regional Water Authority; Paul J. Delphos, Black and Watch; Stephen M. Steele, CHA Consulting, Inc.</td>
</tr>
<tr>
<td>11:00 am - 11:30 am</td>
<td>Obtaining Credit for UV Systems for Drinking Water – A Case Study of a WTP in North Carolina</td>
<td>David S. Briley, Hazen and Sawyer; Scott Alpert, Hazen and Sawyer</td>
</tr>
<tr>
<td>11:30 am - Noon</td>
<td>Hydraulic Analysis of a New Water Supply System</td>
<td>Raghavender V. Joshi, Loudoun Water; Roger J. Cronin, Gleeley &amp; Hansen; Glenn D. Pearson, Dewayne; Carl R. Bindschadel, Dewayne Engineers</td>
</tr>
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#### SESSION 12: UTILITY MANAGEMENT

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Details</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 am - 9:00 am</td>
<td>Utility Management to Improve Sustainability</td>
<td>Tom Alford, Henrico County; Marchelle Sossong, Henrico County; Roger Cronin, Gleeley and Hansen; Denise Nelson, Gleeley and Hansen</td>
</tr>
<tr>
<td>9:00 am - 9:30 am</td>
<td>How a Regional Utilities Survey Identified a County’s Disproportionately Low Rates (and the Means to Revise Them)</td>
<td>Kristin Waller, O’Brien &amp; Gere; Bill Meiners, O’Brien &amp; Gere</td>
</tr>
<tr>
<td>10:30 am - 11:00 am</td>
<td>Information Management Governance – Framework to Implement IT Business Investments</td>
<td>Wayne Phelps, City of Virginia Beach, DPU, Engineering Division; Aditya Ramamurthy, ARCADIS</td>
</tr>
<tr>
<td>11:00 am - 11:30 am</td>
<td>Dashboards for Compliance Performance Management</td>
<td>Dane Jablonsky, Brown &amp; Caldwell; Erin Culbertson, Brown &amp; Caldwell</td>
</tr>
<tr>
<td>11:30 am - Noon</td>
<td>From the Owner’s Chair – Selling a City’s Water Supply Heritage</td>
<td>Richard Thoesen, City of Fairfax</td>
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#### SESSION 13: WASTEWATER FORUM

<table>
<thead>
<tr>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>8:30 am - 9:00 am</td>
<td>The Importance of Site Specific Conditions on the Economics of Replacing Aeration Equipment</td>
<td>Joe Rehrbacher, Hazen and Sawyer</td>
</tr>
<tr>
<td>9:00 am - 9:30 am</td>
<td>Anammox Polishing in Mainstream to Meet Stringent Nitrogen Limits</td>
<td>Becky Holgate, Old Dominion University/HRSD; Pusker Regmi, Old Dominion University; Mark W. Miller, Virginia Tech; Charles B. Bott, HRSD</td>
</tr>
<tr>
<td>10:30 am - 11:00 am</td>
<td>Practical Experience with Structured Sheet Media IFAS System for Nitrification</td>
<td>Larry Li, Brentwood Industries</td>
</tr>
<tr>
<td>11:00 am - 11:30 am</td>
<td>Thermal Hydrolysis Coming of Age in North America</td>
<td>Todd Williams, CH2M HILL</td>
</tr>
<tr>
<td>11:30 am - Noon</td>
<td>Advanced Oxidation Processes and Reverse Osmosis Treatment of Pharmaceutical in a Municipal Wastewater-Treatment-Plant Effluent</td>
<td>Darcy Sachs, O’Brien &amp; Gere</td>
</tr>
</tbody>
</table>

#### SESSION 14: DISTRIBUTION AND OPERATIONS I

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Details</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 am - 9:00 am</td>
<td>DBP Control: Strategies for Achieving Compliance with Stage 2 D/DBPR</td>
<td>Victoria Hoyland, CHA Consulting, Inc.</td>
</tr>
<tr>
<td>9:00 am - 9:30 am</td>
<td>A Small Town with a Big Responsibility: How to Beat THMs and HAAs at Their Own Game</td>
<td>P. Jessica Hou, Gannett Fleming, Inc.; Greg Moguel, Gannett Fleming, Inc.</td>
</tr>
<tr>
<td>10:30 am - 11:00 am</td>
<td>Rock, Paper, Scissors – Determining Which Non-Destructive Testing Method to Utilize in a High-Risk Pipeline Pilot Study</td>
<td>Todd C. Williams, ARCADIS; Nelson Navarro, City of Virginia Beach</td>
</tr>
<tr>
<td>11:00 am - 11:30 am</td>
<td>Babe Ruth Drank Water from That Pipe… Design Challenges Associated with Upgrading a Century Old Infra-structure in an Urban Environment</td>
<td>Susan Donnally, O’Brien &amp; Gere</td>
</tr>
<tr>
<td>11:30 am - Noon</td>
<td>Optimization of Capital Improvement Alternatives to Mitigate System Deficiency and Reduce System Risk</td>
<td>Christie Ogino, CH2M HILL</td>
</tr>
</tbody>
</table>
### SESSION 15: PLANNING, DESIGN, CONSTRUCTION I

**8:30 am - 9:00 am** Mixers and Aeration Systems: Do These Affect My Tank?  
Andy Mumford, Mumford-Bjorkman Associates, Inc.

**9:00 am - 9:30 am** Another Boring Presentation: A Guided Bore Gravity Sewer Case Study  
Ed Buchanan, Environ-Civil Engineering, Ltd.; Shawn MacIntosh, City of Richmond DPU; George Guise, Greeley and Hansen

**10:30 am - 11:00 am** Design of an 800 mgd WWTP Influent Pump Station  
Meredith J. Welle, HDR; Brian Balchunas, HDR; Ben Asawakarin, Johnson, Mirmiran & Thompson, Inc.; Gurminder Singh, City of Baltimore

**11:00 am - 11:30 am** Overcoming Challenges During Design, Construction, and Startup of a Cost Effective Nutrient Upgrade  
Edward Taitel, O’Brien & Gere

**11:30 am - Noon** Valuable Lessons Learned From a Complex HDD Force Main Installation  
Todd Smith, CDM Smith; Matthew Manwell, City of Suffolk

### SESSION 16: SUSTAINABILITY I

**8:30 am - 9:00 am** How You Read the Time Card – And Continuously Improve Your Labor Utilization  
James M. Williams, City of Virginia Beach, DPU; Talmadge Piland, City of Virginia Beach, DPU; Supriya Murthy, ARCADIS

**9:00 am - 9:30 am** Water Reuse – A Cost Effective Alternative to Reducing Nutrient Loadings to Surface Waters  
David Ammerman, AECOM

**10:30 am - 11:00 am** Digester Gas Combined Heat and Power System: Design, Construction and Performance of a Biological Hydrogen Sulfide Removal System  
Drew Zirkle, HDR; Erwin E. Bonatz, HRSD

**11:00 am - 11:30 am** Towards Energy Neutrality at Water Resource Recovery Facilities – Results and Findings of Recent WERF Research  
Stephen Tarallo, Black & Veatch; Lauren Fillmore, Water Environment Research Foundation; Paul Kohl, Philadelphia Water Department

**11:30 am - Noon** Making Sense of all the Metrics for Sustainable and Resilient Water Infrastructure  
John Paul Semper, Greeley and Hansen; Denise Nelson, Greeley and Hansen; Kelvin Coles, Greeley and Hansen

### SESSION 17: BIOSOLIDS MANAGEMENT AND SOLIDS HANDLING

**8:30 am - 9:00 am** Standing at a Crossroad: Navigating Biosolids Management Decisions in the Face of an Uncertain Future  
Matthew P. VanHorne, Hazen and Sawyer; Michael Bullard, Hazen and Sawyer

**9:00 am - 9:30 am** Thermal Hydrolysis for Sludge Pretreatment – Is It a Feasible Process Option for Your WWTP?  
Velmurugan Subramanian, URS

**10:30 am - 11:00 am** Maximizing VFA Production from Co-Fermentation of Primary Sludge & Grease Trap Waste: A Pilot-Scale Investigation  
Jeffrey David Nicholson, Virginia Tech/ HRSD

**11:00 am - 11:30 am** Co-Digestion of High Strength Food Waste with Municipal Sewage Sludge: Impact on Digester Performance and Gas Production  
Ankit Pathak, Virginia Tech; Gregory D. Boardman, Virginia Tech; John T. Novak, Virginia Tech; Robert Wimmer, Black & Veatch

**11:30 am - Noon** Strategizing Biosolids Management while Sailing through Complex Regulatory and Policy Waters – A Regional Approach  
Prabhushankar Chandrasekeran, Greeley and Hansen; Denise Nelson, Greeley and Hansen; Christopher Wilson, Greeley and Hansen

### SESSION 18: STORMWATER I

**8:30 am - 9:00 am** Watershed Management as a Compliance Tool: A Holistic Approach to Compliance with Stormwater MS4 Permits and TMDLs in the Chesapeake Bay Watershed  
Fernando Pasquel, ARCADIS; Scott B. Smedley, Chesterfield County

**9:00 am - 9:30 am** Green Infrastructure and Practical Accounting of Stormwater Pollutant Load Reductions  
Matthew Jones, Hazen and Sawyer

**10:30 am - 11:00 am** Finding the Balance of Green and Grey Infrastructure to Meet Multiple Stormwater Objectives  
Cheri L. Salas, CH2M HILL; Kate Marney, CH2M HILL; Laurens van der Tak, CH2M HILL; Brian Rahal, City of Alexandria

**11:00 am - 11:30 am** Assessment and Reduction of Streambank Erosion for TMDL Compliance: New Tools and Case Studies  
Ian Jewell, AECOM

**11:30 am - Noon** Reducing Infrastructure Costs through Better Soil Management  
Noel Lyons, McGill Environmental Systems

### SESSION 19: YOUNG PROFESSIONALS TECHNICAL SESSION

**8:30 am - 9:00 am** The Dangers of Utilizing Wet Well Level Set Points to Control VFDs with Large Terminal Force Main Pressure Fluctuations  
Martin T. MacVittie, Brown and Caldwell; Stewart Lassiter, City of Suffolk DPU

**9:00 am - 9:30 am** Managing Energy and Chemical Consumption at Wastewater Treatment Plants While Meeting Stringent Water Quality Regulations  
Christina L. Alito, HDR; Stephanie Spalding, HDR; Dave Reardon, HDR

**10:30 am - 11:00 am** The Role of Water and Wastewater Infrastructure Valuation in Utility Mergers and Acquisitions  
Mert Muftugil, GHD; Gage Muckleny, GHD; Jason Jennings, Juggernaut Consulting; Seth Yoskowitz, GHD

**11:00 am - 11:30 am** Making the Right Decision: How One County is Meeting Aquifer Regulations with Membrane Treatment  
Stephanie Kellogg, McKim & Creed; Charles D. Riley, McKim & Creed

**11:30 am - Noon** Leveraging Geospatial Databases for Stormwater Program and Compliance Management  
Amelia Wehunt, Timmons Group; Aislinn Creel, Timmons Group
### SESSION 20: TECHNOLOGY FORUM II

**8:30 am - 9:00 am** Cyber Security: SCADA Complexity Creates Risk  
Pat Cooke, Trihedral Engineering Ltd.

**9:00 am - 9:30 am** Using Web-Based FIS to Manage Water Quality for Water Utilities  
Todd Fierce, Locus Technologies

**10:30 am - 11:00 am** The Development of the New Water Storage Tank and Related Facilities Inspection Standard  
Nicole Clark, Tank Industry Consultants

**11:00 am - 11:30 am** Contact Adsorption Clarifier as a Pretreatment Process Component  
Richard Ross, Westech Engineering

**11:30 am - Noon** Economic Benefits of Using Acoustic Inspection to Prioritize Sewer Cleaning  
George Selembio, InfoSense, Inc.

### SESSION 21: GOVERNMENT AFFAIRS

**1:30 pm - 2:00 pm** Current Priorities at DEQ  
Dave Taylor, Director Virginia Department of Environmental Quality

**2:00 pm - 2:30 pm** Water Division Regulatory Update  
Melanie D. Davenport, Director, Water Division Virginia Department of Environmental Quality

**2:30 pm - 3:00 pm** Stormwater Regulatory Update  
Melanie Davenport, Director, Water Division Virginia Department of Environmental Quality

**4:00 pm - 4:30 pm** Update on DEQ/EPA Enforcement Initiatives  
Jeff Reynolds, Director, Enforcement Division Virginia Department of Environmental Quality

### SESSION 22: CASE HISTORIES - WASTEWATER

**1:30 pm - 2:00 pm** Sidestream Optimization for Operational Efficiency  
Elizabeth Blair, Black & Veatch; Peter Thomson, Black & Veatch; Robert Wimmer, Black & Veatch

**2:00 pm - 2:30 pm** Pilot Study of UV Disinfection and Quartz Sleeve Fouling While Using Ferric Chloride for Nutrient Removal  
James Newbold, Hazen and Sawyer

**2:30 pm - 3:00 pm** Two Towns, One County: A Regional Approach to Wastewater Capacity  
Tony Boahn, McKim & Creed, Inc.

**4:00 pm - 4:30 pm** Articulating the Case for Sidestream Nutrient Removal to Enhance WRRF Capacity: One Year of Full-Scale Operating Experience  
Lauren Zuransky, Greeley and Hansen; Claire Watson, City of Richmond, DPU; Ramkripa Natarajan, City of Richmond, DPU; Edwin Edmondson, City of Richmond, DPU

**4:30 pm - 5:00 pm** Reducing Energy Consumption at an Advanced Wastewater Treatment Facility  
Brian Owsenek, UOSA; David P Hill, Black and Veatch; Bob Angelotti, Black and Veatch

### SESSION 23: DRINKING WATER QUALITY

**1:30 pm - 2:00 pm** The Long-Term Lead and Copper Rule: Understanding Potential Changes and National Impacts on Community Water Systems  
Roger Arnold, ARCADIS

**2:00 pm - 2:30 pm** Success in the Sandbox: A Collaborative Approach to Drinking Water Distribution System Nitrification  
Beate Wright, Loudoun Water; Evelyn Mahieu, Prince William County Service Authority; Melissa Billman, Fairfax Water; Philip Hecht, CDM Smith

**2:30 pm - 3:00 pm** Paper Based Sensors for Detection and Quantification of Cyanobacteria and Their Toxins within Water Samples  
Ishan Jain, Virginia Tech

**4:00 pm - 4:30 pm** Drinking Water Disinfection Strategies for the Modern Era  
Korkud Egrican, CH2M HILL

**4:30 pm - 5:00 pm** The Use of Water Modeling in Strategic Planning to Balance Initial and Long-Term Hydraulic Capacity with Water Quality  
Adam Hogan, GHA Consulting

### SESSION 24: FACILITIES OPERATION AND MAINTENANCE II

**1:30 pm - 2:00 pm** Does Your Tank REALLY Need a Mixing System?  
Joseph E. Darby, Fairfax Water; John W. Kingsbury, Fairfax Water

**2:00 pm - 2:30 pm** Living with UV Disinfection -- and Learning to Love It: A Maintenance Perspective  
John W. Jones, City of Richmond, DPU; John C. Adamec, City of Richmond, DPU; Ramkripa Natarajan, City of Richmond, DPU; Willie Horton, City of Richmond, DPU

**2:30 pm - 3:00 pm** Risk Mitigation of Aging Electrical Infrastructure  
Jeff M. Miller, Schneider Electric -- Water Wastewater Competency Center; George Cooper, Schneider Electric; Mark Linnmiller, Schneider Electric

**4:00 pm - 4:30 pm** How Did You Start-Up and Operate Your MBBRs?  
Dilli Neupane, County of Fairfax; Roger Silverio, County of Fairfax; Chuck Longerbeam, County of Fairfax; Sarah Motsch, County of Fairfax

**4:30 pm - 5:00 pm** Rehab or Replace: Making the Right Decision  
Richard E. Underhill, Greeley and Hansen; Henry Frank Wilson, Portsmouth DPU
### SESSION 25: COLLECTION AND INTERCEPTOR SYSTEMS I

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenters</th>
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</thead>
<tbody>
<tr>
<td>1:30 pm - 2:00 pm</td>
<td>Innovative 108” Flow Equalization Pipeline in a Separate Sanitary System</td>
<td>Ralph Clayton, Henrico County; David Testerson, Henrico County; Roger Cronin, Greely and Hansen; Denise Nelson, Greely and Hansen</td>
</tr>
<tr>
<td>2:00 pm - 2:30 pm</td>
<td>A MOM’s Story of Success: Capacity Assurance as a Prelude to I/I Reduction</td>
<td>Aaron Nelson, Brown and Caldwell; Steve Motley, City of Virginia Beach; John Fletcher, Duques</td>
</tr>
<tr>
<td>2:30 pm - 3:00 pm</td>
<td>Sewage Trunk Sewer Odor Control Design and CFD Ventilation Simulations</td>
<td>Alex Carciaramu, AECOM</td>
</tr>
<tr>
<td>4:00 pm - 4:30 pm</td>
<td>Where Does It Belong: The Siting and Design of a Large, Controversial Municipal Collection System Pump Station</td>
<td>Brian Porter, Hazen and Sawyer; Janice Carroll, Hazen and Sawyer; Michelle Simpson, Rivanna Water and Sewer Authority; Jennifer Whitaker, Rivanna Water and Sewer Authority</td>
</tr>
<tr>
<td>4:30 pm - 5:00 pm</td>
<td>Enhancing FOG and Tree Root Control Programs for Improved Sewer System Performance</td>
<td>Bill Sukenik, Woolpert, Inc.</td>
</tr>
</tbody>
</table>

### SESSION 26: WATER TREATMENT

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30 pm - 2:00 pm</td>
<td>Biological Iron and Manganese Filtration: Pilot Study</td>
<td>Meryl Greenblatt, Infilco Degremont</td>
</tr>
<tr>
<td>2:00 pm - 2:30 pm</td>
<td>Does Peroxide Addition Improve Biofiltration Performance... Enough?</td>
<td>Adrianna Dimperio, Newport News Waterworks</td>
</tr>
<tr>
<td>2:30 pm - 3:00 pm</td>
<td>Bench and Pilot-Scale Studies to Minimize NDMA Formation with Coagulant Aid Alternatives to PolyDADMAC Polymers</td>
<td>Katherine C. Graf, EE&amp;T; David A. Cornwell, EE&amp;T</td>
</tr>
<tr>
<td>4:00 pm - 4:30 pm</td>
<td>Full-Scale Testing of Calcium Hydroxide Slurry for Finished Water pH Adjustment</td>
<td>Ramkripa Natarajan, City of Richmond, DPU; Jay Maggi, CH2M HILL; Ricky Haff eld, City of Richmond DPU; Willie Horton, City of Richmond DPU</td>
</tr>
<tr>
<td>4:30 pm - 5:00 pm</td>
<td>Granular Activated Carbon for a RWSA – Charting New Territory through Hybrid Treatment</td>
<td>Mark Bishop, Hazen and Sawyer; Tom Frederick, Rivanna Water and Sewer Authority; Justin Weiler, Rivanna Water and Sewer Authority; Erik Rosenfeldt, Hazen and Sawyer</td>
</tr>
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### SESSION 27: SAFETY AND SECURITY

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30 pm - 2:00 pm</td>
<td>Voluntary Surveillance and Response Systems Implementation: Is it Right for My Utility? A Look at the Challenges and Opportunities through Case Studies</td>
<td>Christina LaPointe, ARCADIS; Patrick Parault, ARCADIS</td>
</tr>
<tr>
<td>2:00 pm - 2:30 pm</td>
<td>Tackling Arc Flash Safety and Mitigation with Less PPE</td>
<td>Natalie Wieszek, HDR; Sherman Pressey, HRSD; Gary Useldinger, HDR</td>
</tr>
<tr>
<td>2:30 pm - 3:00 pm</td>
<td>An Assessment of Waterworks Industrial Control Systems (ICS) Security: How We Performed and What We Can Do To Improve</td>
<td>Kyle Miller, Booz Allen Hamilton</td>
</tr>
<tr>
<td>4:00 pm - 4:30 pm</td>
<td>Water and Wastewater as the Focus of a Citywide Exercise</td>
<td>Willie R. Horton, City of Richmond DPU; Rosemary Green, City of Richmond DPU; Ramkripa Natarajan, City of Richmond DPU</td>
</tr>
<tr>
<td>4:30 pm - 5:00 pm</td>
<td>Underground Utility Damage Prevention and Asset Management – Utilizing RFID Markers, GPS and GIS Mapping Solutions</td>
<td>Robert Mills, AECOM</td>
</tr>
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</table>

### SESSION 28: INSTRUMENTATION, CONTROL, AUTOMATION

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<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30 pm - 2:00 pm</td>
<td>Implementing Ammonia Based Aeration Control at a Biological Nutrient Removal Wastewater Treatment Plant</td>
<td>Kshitiz Uprety, HRSD/ODU; Charles Bott, HRSD; Bill Balzer, HRSD; Rick Baumler, HRSD</td>
</tr>
<tr>
<td>2:00 pm - 2:30 pm</td>
<td>Improving Water Resources Data Accessibility for Stakeholders</td>
<td>Saurav Kumar, Virginia Tech</td>
</tr>
<tr>
<td>2:30 pm - 3:00 pm</td>
<td>Implementation of Sensors to Support Enhanced Nutrient Removal – Selection, Validation, Maintenance, and Calibration</td>
<td>Phill Yi, Hazen and Sawyer; Wendell Khunjar, Hazen and Sawyer; Kahya Bilyk, Hazen and Sawyer; Ronald Laitimer, Hazen and Sawyer; Paul Pilt, Hazen and Sawyer; Charles Bott, HRSD; Maureen O’Staughnessy, Prince William County Service Authority</td>
</tr>
<tr>
<td>4:00 pm - 4:30 pm</td>
<td>Developing Artificial Intelligence Using Dynamic Process Modelling at the Upper Occoquan Service Authority</td>
<td>Robert Angelotti, Upper Occoquan Service Authority; Dipankar Sen, Aquaergon; Matthew Brooks, Upper Occoquan Service Authority</td>
</tr>
<tr>
<td>4:30 pm - 5:00 pm</td>
<td>Data Overload, Digging Out and Utilizing the Knowledge Trapped in Your SCADA System to Optimize a WWTP</td>
<td>Robert Wimmer, Black &amp; Veatch</td>
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### SESSION 29: STUDENT WATER CHALLENGE

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<tr>
<th>Time</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1:30 pm - 2:00 pm</td>
<td>Student Water Challenge Team #1</td>
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<tr>
<td>2:00 pm - 2:30 pm</td>
<td>Student Water Challenge Team #2</td>
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<tr>
<td>2:30 pm - 3:00 pm</td>
<td>Student Water Challenge Team #3</td>
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<tr>
<td>3:00 pm - 4:00 pm</td>
<td>AFTERNOON BREAK</td>
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<tr>
<td>4:00 pm - 4:30 pm</td>
<td>Student Water Challenge Judging/Debriefing (Closed Session)</td>
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### WEDNESDAY, SEPTEMBER 10 continued

#### SESSION 30: STORMWATER II

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<tr>
<th>Time</th>
<th>Session</th>
<th>Speakers</th>
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</thead>
<tbody>
<tr>
<td>1:30 pm</td>
<td>Clean Water, Clear Choice – A Roadmap to a Public Supported Local Stormwater Program</td>
<td>Lin Liang, Greeley and Hansen; Erin Hawkins, City of Lynchburg, Department of Water Resources; Timothy Mitchell, City of Lynchburg, Department of Water Resources</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>Stream Restoration Design, Incorporating Public Amenities into Planning and Design</td>
<td>Lisa Jeffrey, Brown and Caldwell; Greg Milestad, Brown and Caldwell</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>Fast-Track Green Infrastructure for Flooding Mitigation in an Aging Collection System</td>
<td>Bethany Bezak, DC Water; Angelina Twumasi-Boakye, Greeley and Hansen; Ed Shea, Greeley and Hansen</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>Nationwide Survey of Stormwater Utility Best Practices and Trends</td>
<td>Pamela P. Kenel, Black &amp; Veatch; Prabha Kumar, Black &amp; Veatch; Leah Gaffney, Black &amp; Veatch</td>
</tr>
<tr>
<td>4:30 pm</td>
<td>Using the New Stormwater Regulations to Your Advantage: Case Studies on Cost-Effective, Efficient Site Designs for Public and Private Projects</td>
<td>Carolyn A Howard, Draper Aden Associates</td>
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</tbody>
</table>

### THURSDAY, SEPTEMBER 11

#### SESSION 31: WASTEWATER TREATMENT

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speakers</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 am</td>
<td>Energy and Operational Efficiency Comparison of Process Technologies Available to Upgrade a 1.0 MGD Wastewater Treatment Facility to a 2.0 MGD State-of-the-Art (SOA) Nutrient Removal Facility</td>
<td>Jeff McBride, Wendel</td>
</tr>
<tr>
<td>9:00 am</td>
<td>Design, Construction, and Operation of Nutrient Removal System in a Carbon-Starved Bioreactor</td>
<td>Zachary Canody, CH2M HILL; Eddie Abisaab, HRSD; Mike Parsons, HRSD; Doug Kolfsinger, CH2M HILL</td>
</tr>
<tr>
<td>9:30 am</td>
<td>Feasibility of Using an UV/VIS Spectral Sensor for Carbon-Based Control of an Adsorption-Style HRAS Process</td>
<td>Mark W. Miller, HRSD/Virginia Tech; Pusker Regmi, Old Dominion University; Charles B. Bott, HRSD</td>
</tr>
<tr>
<td>10:30 am</td>
<td>Side-by-Side Comparisons of Step-Feed Process and MLE Process to Achieve Low Effluent Total Nitrogen – A Case Study</td>
<td>Yanjin Liu, Alexandria Renew Enterprises; Rosie Everett, Alexandria Renew Enterprises; Adrienne Fancher, Alexandria Renew Enterprises</td>
</tr>
<tr>
<td>11:00 am</td>
<td>Staying Up on Advances in UV Technology</td>
<td>Brian Hilts, CDM Smith</td>
</tr>
<tr>
<td>11:30 am</td>
<td>Process Simulation Model of a Continuous Flow Sequencing Reactor for BNR Applications</td>
<td>Ayman Shawwa, Schreiber; Spencer Snowling, Hydromantis Environmental Software Solutions</td>
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#### SESSION 32: SUSTAINABILITY II

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>8:30 am</td>
<td>Progress Towards Optimization of a Digester Gas Combined Heat and Power System</td>
<td>Chuck McMahon, HRSD; Dan Disharoon, HRSD; Russell Johnson, HRSD; Sam Leyncker, HRSD</td>
</tr>
<tr>
<td>9:00 am</td>
<td>Saving Water with Onsite Re-Use of Greywater: A Review of Treatment Needs and Alternatives</td>
<td>John Whitelaw, Old Dominion University; Mujde Erten-Ural, Old Dominion University</td>
</tr>
<tr>
<td>9:30 am</td>
<td>Technical Advances in Water Reuse: Meeting Water Quality Objectives without Membranes</td>
<td>Benjamin Stanford, Hazen and Sawyer; Patricia Drummey, Hazen and Sawyer</td>
</tr>
<tr>
<td>10:30 am</td>
<td>Co-Generation from Digester Gas and Co-Digestion via a Fats, Oils, and Grease (FOG) Receiving Station at a 6 MGD WWTP</td>
<td>Eric LaRocque, Dewberry</td>
</tr>
<tr>
<td>11:00 am</td>
<td>Ammonia Based Aeration Control Reduces Energy Consumption 15%</td>
<td>Chris Griffin, Hach Company</td>
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<tr>
<td>11:30 am</td>
<td>Toward Successful Community Meetings About Sustainability Using Envision™</td>
<td>Denise Nelson, Greeley and Hansen; John Paul Semper, Greeley and Hansen; Kelvin Coles, Greeley and Hansen</td>
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#### SESSION 33: ASSET MANAGEMENT II

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<th>Time</th>
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<tbody>
<tr>
<td>8:30 am</td>
<td>Utility Asset Management Programming: Performance, Sustainability, and Resilience – Moving from Academia to Practice</td>
<td>Matt Stolte, Town of Blacksburg; Sarah Elizabeth Pedicini, Town of Blacksburg; Sunil E. Sirha, Virginia Tech</td>
</tr>
<tr>
<td>9:00 am</td>
<td>Time-Based Probability of Failure for Asset Level Risk Analysis</td>
<td>Zach Rubin, GHD Wayne Francisco, GHD</td>
</tr>
<tr>
<td>9:30 am</td>
<td>Water Loss Insanity – Small Southeast Town Gets Intense, Slashes Loss by Half</td>
<td>Rachel Harris, Cavanaugh &amp; Associates</td>
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<tr>
<td>10:30 am</td>
<td>Protecting Our Assets: Water Main Condition Assessment</td>
<td>William Judy, Greeley and Hansen</td>
</tr>
<tr>
<td>11:00 am</td>
<td>Getting the Biggest “Bang” for Your Buck – Value Driven CIP Planning, Reporting, and Tracking Framework</td>
<td>Aditya Ramamurthy, ARCADIS; David Ihde, City of Virginia Beach DPU</td>
</tr>
<tr>
<td>11:30 am</td>
<td>2013 – The Year of the Water Tanks: Lessons Learned in Water Tank Rehabilitation</td>
<td>Natasha Nicholson, O’Brien &amp; Gere</td>
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</tbody>
</table>
### SESSION 34: COLLECTION AND INTERCEPTOR SYSTEMS II

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>8:30 am - 9:00 am</td>
<td>Large Deep Interceptor Investigation and Design For Special Cleaning of Siphon under River</td>
<td>Neepa Shuh, Greeley and Hansen; Susan Hamilton, City of Richmond DPU; Quinton Nottingham, City of Richmond DPU</td>
</tr>
<tr>
<td>9:00 am - 9:30 am</td>
<td>Automated Model for Pipeline Rehabilitation Quickly Turns Defects into Solutions</td>
<td>Kent Von Aspern, HDR</td>
</tr>
<tr>
<td>9:30 am - 10:00 am</td>
<td>Into Your Front Yard — Efficient Evaluation and Prioritization of Lateral Rehabilitation</td>
<td>Eric J. Schroeder, O'Brien &amp; Gere; Brianne K. Nakamura, O'Brien &amp; Gere</td>
</tr>
<tr>
<td>10:30 am - 11:00 am</td>
<td>Caution: S.L.I.P.™* When Wet: Observing Active I/I Defects in Private Sewer Laterals Through the Use of Simulated Wet Weather Events</td>
<td>Daniel Maas, Brown and Caldwell; Phil Hubbard, HRSD</td>
</tr>
<tr>
<td>11:00 am - 11:30 am</td>
<td>Development of the Modern, Self-Cleaning Circular Wastewater Wet-Well</td>
<td>Robert W. Dornkowski, Xylem, Inc. – Flygt</td>
</tr>
<tr>
<td>11:30 am - Noon</td>
<td>“Bridge Over Troubled Waters – Part 2” The Emergency Repairs to an Existing Dual 30-Inch Interceptor Aerial Pipe Bridge</td>
<td>Kevin F. Carter, Kimley-Horn</td>
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</tbody>
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### SESSION 35: STRATEGIC PLANNING

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenters</th>
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</thead>
<tbody>
<tr>
<td>8:30 am - 9:00 am</td>
<td>Making the Business Case of Alternative Meter Reading Technologies</td>
<td>Tory Wagoner, Cavanaugh &amp; Associates</td>
</tr>
<tr>
<td>9:00 am - 9:30 am</td>
<td>Hydraulic Modeling Guides Decision To Take Wastewater Plant Offline</td>
<td>Ryan Radspinner, HRSD; Bambos Charalambous, HRSD; Jay Bernas, HRSD</td>
</tr>
<tr>
<td>9:30 am - 10:00 am</td>
<td>Implementing Large Water Supply Projects in Urban Areas</td>
<td>Michael Vitagliano, Black &amp; Veatch; Cary R. Himer, Black &amp; Veatch</td>
</tr>
<tr>
<td>10:30 am - 11:00 am</td>
<td>Strategic Planning and Consolidation of Inefficient Treatment Facilities</td>
<td>Benjamin Shoemaker, Lowndus Water</td>
</tr>
<tr>
<td>11:00 am - 11:30 am</td>
<td>Climate Risk and Resilience Planning for Water, Wastewater and Stormwater Infrastructure in Coastal Communities</td>
<td>Laurens van der Tak, CH2M HILL</td>
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</tbody>
</table>

### SESSION 36: PLANNING, DESIGN, CONSTRUCTION II

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenters</th>
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</thead>
<tbody>
<tr>
<td>8:30 am - 9:00 am</td>
<td>Under the River and Through the Woods: Installing a Water Main under a River Using HDD</td>
<td>Jacob VandenBosch, McKim &amp; Creed</td>
</tr>
<tr>
<td>9:00 am - 9:30 am</td>
<td>The ABCs of Tank and Coatings Care</td>
<td>Christine Gursaulitis, Mummford-Bjorkman Associates</td>
</tr>
<tr>
<td>9:30 am - 10:00 am</td>
<td>Optimizing Pump Station Wet Well Design Using CFD and Physical Model</td>
<td>Li Ding, Flow Science Incorporated; Laurence Esguerra, Tetra Tech; John List, Flow Science Incorporated</td>
</tr>
<tr>
<td>10:30 am - 11:00 am</td>
<td>&quot;Over the River and thru the Woods….&quot; – Accessing and Rehabilitating Gravity Sewer Assets Located within Environmentally Sensitive Areas</td>
<td>Joseph Conti, O'Brien &amp; Gere</td>
</tr>
<tr>
<td>11:00 am - 11:30 am</td>
<td>Well, It Matters to Me! The Importance of Minimizing Impacts to the Public in Large-Scale Utilities Replacement Projects</td>
<td>Jason Garofalo, Draper Aden Associates</td>
</tr>
<tr>
<td>11:30 am - Noon</td>
<td>Challenges of Designing an Intermittent Chemical Feed System for Emulsion Polymer and Sodium Hypochlorite Systems for a Large 180 MGD WWTP</td>
<td>Akshay Kumar, Brown &amp; Caldwell; Brown and Caldwell; Dan Latina, City of Baltimore; Kurmittel Singh, City of Baltimore</td>
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### SESSION 37: WET WEATHER PLANNING

<table>
<thead>
<tr>
<th>Time</th>
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<th>Presenters</th>
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</thead>
<tbody>
<tr>
<td>8:30 am - 9:00 am</td>
<td>How to Make a Good Sewer Model Better</td>
<td>Carlos Toro, Brown and Caldwell; Jonathan Kyle Logue, Brown and Caldwell; Phil Hubbard, HRSD</td>
</tr>
<tr>
<td>9:00 am - 9:30 am</td>
<td>Simple Device Yields Cost Effective CSO Reduction</td>
<td>Kristin Corner, Greeley and Hansen</td>
</tr>
<tr>
<td>9:30 am - 10:00 am</td>
<td>Out of Sight Out of Mind – A Story of City and DEQ’s Journey to SSO Compliance</td>
<td>Stephen Steble, CHA Consulting</td>
</tr>
<tr>
<td>10:30 am - 11:00 am</td>
<td>How Much Flow? – Considerations for Estimating SSO Recurrence Frequency</td>
<td>Charles I. Moore, Camp Dresser and McKee; Phil Hubbard, HRSD; Matthias Wittenberg, COM Smith</td>
</tr>
<tr>
<td>11:00 am - 11:30 am</td>
<td>Preliminary Design of an Enhanced Clarification Facility</td>
<td>Gregory R. Heath, AECOM</td>
</tr>
<tr>
<td>11:30 am - Noon</td>
<td>Commissioning and First Year of Operation of a Wet Weather Filtration Facility for Maintaining Water Pollution Control Plant Treatment Quality</td>
<td>Omar Muhammad, ARCADIS</td>
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### SESSION 38: DISTRIBUTION AND OPERATIONS II

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>8:30 am - 9:00 am</td>
<td>You Want to Put What Where? Challenges of Siting an 84-Inch Diameter Pipe on a Crowded Treatment Plant Site</td>
<td>Paige Dalton, O’Brien &amp; Gere; Narayan Venkatesan, O’Brien &amp; Gere</td>
</tr>
<tr>
<td>9:00 am - 9:30 am</td>
<td>Easy Money: Reduce Apparent Water Loss and Increase Billable Revenue by Correcting Errors in the Meter Reading and Billing Systems</td>
<td>Craig Hannah, Johnson Controls</td>
</tr>
<tr>
<td>9:30 am - 10:00 am</td>
<td>New Leak Detection Technology Using Helium</td>
<td>William Bradford Gresham, Utility Service Group</td>
</tr>
<tr>
<td>10:30 am - 11:00 am</td>
<td>Innovations for an Effective Corrosion Control Program</td>
<td>Scott Quast, Michael Baker; William (Bill) Rivers, System Protection Services, Inc.; John Kingsbury, Fairfax Water</td>
</tr>
<tr>
<td>11:00 am - 11:30 am</td>
<td>Making a Water System Interconnection between Separate Municipalities Work</td>
<td>David Maxwell, Dewberry; Bill Payne, Hanover County Department of Public Utilities</td>
</tr>
<tr>
<td>11:30 am - Noon</td>
<td>Analysis of Pipe Systems for Headloss, Cavitation and In-Pipe Mixing Using CFD Modeling</td>
<td>Benjamin Martin, Flow Science Incorporated</td>
</tr>
</tbody>
</table>
THURSDAY, SEPTEMBER 11 continued

SESSION 39: WATER STORAGE AND IMPOUNDMENT

8:30 am - 9:00 am Understanding the Benefits and Limitations of Tank Aeration for THM Reduction in the City of Danville
Erik Rosenfeldt, Hazen and Sawyer; Barry Dunkley, City of Danville Department of Utilities; Alan Johnson, City of Danville Department of Utilities; Michele Najdak, Hazen and Sawyer

9:00 am - 9:30 am Clearly Corrosive: Stainless Steel Corrosion in WTP Clearwells
Kevin Paul Smith, O’Brien & Gere

9:30 am - 10:00 am The Permitting, Design and Construction of the New Ragged Mountain Dam
Jennifer Whitaker, Rivanna Water and Sewer Authority; Randall P Bass, Snabel Engineering; Douglas March, Rivanna Water and Sewer Authority

10:30 am - 11:00 am Oversized Distribution Systems and Redundant Storage: A Navy Approach to Water Quality Management
Jeremy B. Jones, NAVFAC MIDLANT Utilities and Energy Management

11:00 am - 11:30 am Enhanced Circulation/THM Removal in Potable Water Storage Tanks
Michelle McCadden, Medora Corporation

11:30 am - Noon Fast-Track Planning, Design and Construction: How Water Quality in a Small Community Affected Change in a Big Way
Matt Maxwell, Suffolk Department of Public Utilities; Randy Rostas, AECOM; Gary Heisler, AECOM

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MARLEY - Marpak, Biotower & Trickling Filter Media
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