Catch the Wave

WaterJAM 2015
September 14 through 17 • Virginia Beach, VA

INSIDE

• 25 Years of Operations Challenge
• Lab Practices Conference
• Village Creek Water Reclamation Facility
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- Automatic chemical cleaning
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ChemScan Analyzers for Process Applications in Wastewater

<table>
<thead>
<tr>
<th>Cabinet Analyzers</th>
<th>mini Analyzers</th>
</tr>
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<tbody>
<tr>
<td>Multiple parameters</td>
<td>Single parameter</td>
</tr>
<tr>
<td>Multiple sample lines</td>
<td>Single sample line</td>
</tr>
<tr>
<td>Full UV spectrum</td>
<td>Select wavelength diodes</td>
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<tr>
<td>No filter for effluent</td>
<td>No filter for effluent</td>
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<tr>
<td>Maintenance 1hr/month</td>
<td>Maintenance 2hr/quarter</td>
</tr>
<tr>
<td>Sample extraction options</td>
<td>Sample extraction loop</td>
</tr>
<tr>
<td>Several filter options</td>
<td>High solids filter</td>
</tr>
</tbody>
</table>

For More Information Contact Your Local Representative:

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**Cover Feature**

**WaterJAM 2015**
Catch the Wave at WaterJAM in Virginia Beach
September 14-17, 2015.

**Features**

- **Operations Challenge**
  This year represents the 25th year of Virginia’s participation in the competition, and provides a great opportunity to share the rich history of VWEA/Virginia teams.

- **Annual Water/Wastewater Operations Education Conference & Operations Challenge Competition**
  July 15-17, 2015, Wintergreen Route 664, Wintergreen, VA 22958.

- **Village Creek Water Reclamation Facility**
  A Fort Worth water resource recovery facility turns industrial waste challenges into energy opportunities.

- **Improve Your Facilities Management Toolkit**
  From flow monitoring to modeling and planning.

**Departments & Association News**

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  Page 7
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  Page 13
- Notice of Nominations
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- Education Committee
  Page 20
- Lab Practices Committee
  Page 29

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Ideas Lead to Results

One benefit of serving as VWEA president is getting a first-hand look at the efforts by our dedicated committee leaders and members. I have enjoyed seeing our members bring forth ideas and take initiative to see those ideas through. Over the course of a year, one begins to see progress, and before you know it, ideas that once were wishful thinking become the standard for years to come. Your ideas add value to our events, benefitting attendees and the organization, alike.

The “WaterJAM is Going Green” initiative began several months ago with the goal of creating a sustainable conference. Led by the WaterJAM Committee and the Sustainable Utilities Committee, recycling stations will be provided on site, soy-based ink is being used in all printed materials, and exhibitors are challenged to earn the “Tidy Otter” award for their booth meeting sustainability criteria. I am thrilled to say that WaterJAM is on its way to becoming a “Virginia Green” conference. From DEQ’s website...

Virginia Green is the statewide program that works to reduce the environmental impacts of Virginia’s tourism industry. It is run as a partnership among DEQ, the Virginia Tourism Corporation and the Virginia Hospitality and Tourism Association.
http://www.deq.virginia.gov/Programs/PollutionPrevention/VirginiaGreen.aspx

Bravo to all those involved! Read more about this initiative inside the WaterJAM planner provided in this edition of The Conduit, or online at www.vwea.org. And, remember to bring your reusable water bottles!

Water Professional’s Week Sept. 13-19, 2015

Another effort I’m happy to recognize is the Water Professional’s Week, highlighting you, as Virginia water industry professionals. The official proclamation will be read at WaterJAM in September, and we will recognize the efforts of both VWEA and VA AWWA members. Thank you for supporting our organizations at this conference, and in our many joint efforts.

Continued on page 8.
VWEA Website Updates
As mentioned in the spring edition of *The Conduit*, VWEA is implementing a new communications platform. One benefit will be a more robust mobile-viewing website. In the chart below, mobile and tablet users still make up a very small fraction of total VWEA web sessions. However, the trend is changing: mobile traffic increased nearly 60% from 2013 to 2014, and now more than 50% of new sessions are from mobile and tablet users. With a launch planned later this fall, I hope the new website will continue to keep you informed of VWEA activities, whichever way you surf the web.

Finally, I want to say thank you for the opportunity to serve as VWEA president. I am proud when attendees are impressed with the quality of our events, and I enjoy seeing others’ pride in VWEA. I look forward to introducing VWEA’s incoming president, John McGettigan, at WaterJAM. And, in the future, please keep putting your ideas into action!

Top 10 VWEA Website Views

<table>
<thead>
<tr>
<th>Rank</th>
<th>Site</th>
<th>Visits</th>
<th>% of Total</th>
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<td>VWEA Home</td>
<td>10,829</td>
<td>15.7%</td>
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<td>WaterJAM</td>
<td>9,553</td>
<td>13.9%</td>
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<td>3</td>
<td>Upcoming Events</td>
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<td>5</td>
<td>Employment Opportunities</td>
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<tr>
<td>6</td>
<td>Operations Conf. &amp; Ops Challenge</td>
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<td>7</td>
<td>Stormwater Conference</td>
<td>1,408</td>
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<td>8</td>
<td>Scholarships</td>
<td>1,251</td>
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<tr>
<td>9</td>
<td>IWP Seminar</td>
<td>1,149</td>
<td>1.7%</td>
</tr>
<tr>
<td>10</td>
<td>Join VWEA</td>
<td>1,042</td>
<td>1.5%</td>
</tr>
</tbody>
</table>
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Details on both Keynote speakers on page 57.
Aeromod - Municipal and industrial wastewater treatment, biological nutrient removal (Sequox), ClarAtor clarifier

Ambio - Photolisation odor control

Amwell - Bar screens, clarifiers, gear drives, grit removal, paddle flocculators, rectangular collectors, rotary distributors, DuraMax stainless steel chains, scum skimmers

Aquaturbo- Surface aerators, mechanical mixers, decanters, floatables control

Aquionics- Open and closed channel UV disinfec tion

BDP Industries-Belt filter presses, screw presses, gravity belt thickeners, rotary drum thickeners

Continental Blower- Multistage centrifugal blowers

Clarifier Cleansweep- Clarifier algae control systems

Ebara Pumps-Water and wastewater pumps, submersibles, dry pit submersibles, self primers, grinders, end suction centrifugal, multistage, dewatering, sump, stainless, and axial flow pumps.

Enduro Composites-Odor Control systems including absorbers, scrubbers, and biological filters

Excelsior Blower-Engineered PD blower packages Gardner Denver and Sutorbilt Blowers

Flomotion Systems-Peristatic pumps, flow, level, and chemical metering equipment.

Fluidyne Corp.-ISAM SBR, jet aeration, Hydro-Grit, tertiary filtration

Jesco America Corp.- Chemical feed systems and metering pumps.

Veolia Water- Headworks, grit, and CSO/stormwater controls, bar screens, fine screens, spiral screens, drum screens, screenings compactors, Mectan grit removal, package septage and headworks equipment

Keystone Conveyor-Belt and screw conveyors

Kruger- AnoxKaldnes IFAS and MBBR, ANITAmox Annamox deammonification, BIOSTYR Biological Aerated Filter, NEOSEP MBR, OASES high purity oxygen systems, ACTIFLO ballasted clarification, Hydrotech Discfilter and Drumfilter, Xtream Hollow Fiber Membrane System, Odo Wat/ Odo Sulf.

Lobepro - Rotary lobe pumps

Mixtec North America - Mixers, flocculators for water and wastewater treatment

Noxon - High solids centrifuges

Polydyne - Dry and emulsion polymers, polymer feed systems.

Prime Solutions-Rotary Press dewatering systems

Pulsair-Mega-Bubble non-aerating mix systems

PX Pumps-Submersible and dry pit submersible Pumps.

Stamford Scientific-Fine/coarse bubble diffusers, membrane diffusers, material options, ceramic retrofits, fixed or retrievable grids

Tenco hydro - Dissolved air flotation lamella clarifiers, grease/concentrators, oil/water separators.

Therma-Flite - Class A biosolids Dryer System

Thermal Process Systems - Class A thermophilic biosolids ATAD systems, mesophilic aerobic digestion, sidestream ammonia treatment

Ultraflote - Aluminum geodesic domes and heavy-duty flat covers.

USEMCO-Package water/booster stations & controls, control systems

WTP-Headworks and grit

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The Commonwealth of Virginia has a rich and storied history that includes points at each and every significant milestone in the story of the United States. One has to wonder if early Virginians ever could envision the modern state which has around 8 million in total population. As with most other states, perhaps one of the most unsung aspects of the emergence of the modern quality of life in Virginia can be directly tied to the progression of utilities. A case can probably be made that utilities can better share the historical significance of their work, but that is better left to another article. The purpose of this article is not to document a grand element of Virginia history that many will recognize, but rather more of a recent hidden history item within VWEA. Most of our membership would likely recognize the annual Operations Challenge competition and perhaps even know something about the recent success of Virginia teams, but this year represents the 25th year of Virginia’s participation in the competition, and provides a great opportunity to share the rich history of VWEA Virginia teams. In the 25 years of competing in the national competition, Virginia teams have placed their names prominently and squarely into the Operation Challenge history books. For many folks more directly connected to the competition, the story of Virginia teams is really a great success story when one considers that our teams compete head to head with teams from larger states like California with a population approaching 38 million, Texas approaching 27 million, Florida at 20 million, and several other larger states.

Virginia’s start in Operations Challenge can be traced to the late George Gregory and a fateful trip to WEFTEC. In 1988 George, then the superintendent of the Hampton Roads Sanitation District (HRSD) Chesapeake-Elizabeth Treatment Plant attended WEFTEC in Dallas, Texas. George watched the first ever Operations Challenge at WEFTEC and was immediately drawn to the competition and thought that it was something that HRSD should consider participating in. Bringing the enthusiasm back for the event, George convinced HRSD in the spring of 1989 to ask that their treatment plants and work centers form teams. These teams would compete for a chance to go to WEFTEC ’89 and represent Virginia and HRSD at the second National Operations Challenge Competition. The HRSD team of Ches-Eliz Lightning won the HRSD competition by a narrow margin. The Lightning did well at WEFTEC but finished 12th overall due in large part to the San Francisco earthquake of 1989. Because of the disruption of the earthquake, the team did not get a chance to run the pump event, which was their best event. The next year HRSD held a second District Operations Challenge competition to see who would go to WEFTEC ’90 hosted in Washington, DC. That year, HRSD elected to send two teams based on the results of the district competition, which were Ches-Eliz Lightning and Team Atlantic. The Ches-Eliz Lightning once again won two events and placed first overall, winning the first national championship. Team Atlantic also won an event and placed second overall.

Beginning in 1992 until present, qualifying for WEFTEC National Operations Challenge was consolidated to one competition sponsored by VWEA. There has been one exception and that occurred in 2011 when Virginia only had four Operations Challenge teams, and all four teams were sent to WEFTEC ’11 to represent Virginia, making a state event unnecessary. The list below indicates which teams represented Virginia and VWEA at WEFTEC and the National Operations Challenge.

<table>
<thead>
<tr>
<th>Year</th>
<th>Team Name</th>
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<tbody>
<tr>
<td>1989</td>
<td>HRSD Ches-Eliz Lightning</td>
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<tr>
<td>1990</td>
<td>HRSD Ches-Eliz Lightning</td>
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<td></td>
<td>HRSD Team Atlantic</td>
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<tr>
<td>1991</td>
<td>HRSD Ches-Eliz Lightning</td>
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<td></td>
<td>HRSD Team Atlantic</td>
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<td></td>
<td>ASA Rookies</td>
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<tr>
<td>1992</td>
<td>HRSD Pink &amp; Black Attack</td>
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<tr>
<td></td>
<td>HRSD Ches-Eliz Tornadoes</td>
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<tr>
<td></td>
<td>ASA Rookies</td>
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<tr>
<td>1993</td>
<td>HRSD Pink &amp; Black Attack</td>
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<td></td>
<td>HRSD Ches-Eliz Tornadoes</td>
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<td></td>
<td>ASA Untouchables</td>
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<tr>
<td>Year</td>
<td>Team Name</td>
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<tr>
<td>1990</td>
<td>HRSD Ches-Eliz Lightning</td>
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<tr>
<td>1991</td>
<td>HRSD Ches-Eliz Lightning</td>
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<td></td>
<td>HRSD Team Atlantic</td>
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<tr>
<td>1992</td>
<td>HRSD Pink &amp; Black Attack</td>
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<tr>
<td></td>
<td>ASA Rookies – Division I Third Place Overall</td>
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<tr>
<td>1994</td>
<td>Team HRSD G-Force</td>
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<td></td>
<td>HRSD James River Hurricanes</td>
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<td>1995</td>
<td>Team HRSD G-Force</td>
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<td></td>
<td>HRWTF Wildcards</td>
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<td></td>
<td>Henrico’s Team Inertia</td>
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<tr>
<td>1996</td>
<td>Team HRSD G-Force</td>
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<td></td>
<td>HRWTF Wildcards</td>
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<td></td>
<td>Henrico’s Team Inertia</td>
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<td>1997</td>
<td>Team HRSD G-Force</td>
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<td>HRWTF Avis Fecalis</td>
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<td>1998</td>
<td>Team HRSD G-Force</td>
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<td></td>
<td>Alexandria D-Train</td>
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<td>1999</td>
<td>Team HRSD G-Force</td>
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<td>HRSD G-Force</td>
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<td>2001</td>
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<td></td>
<td>HRWTF Wild Cards</td>
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<td>2002</td>
<td>HRSD Bio-Force</td>
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<td></td>
<td>Franklin Absolute Pressure</td>
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<td>2003</td>
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<td></td>
<td>Franklin/OMI Fluid Dynamics</td>
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<td></td>
<td>Team Potomac</td>
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<td>2004</td>
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<td></td>
<td>Franklin/OMI Fluid Dynamics</td>
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<td></td>
<td>Virginia Beach Team Collectors</td>
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<td>2005</td>
<td>Franklin/OMI/Virginia Beach Fluid Dynamics</td>
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<td>HRSD FLO3</td>
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<td></td>
<td>HRSD Extractors Virginia Beach Team Collectors</td>
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<tr>
<td></td>
<td>Virginia Beach Collectors</td>
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<td>ASA Anaerobic Aces</td>
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<td>2006</td>
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<td>Spotsylvania Synergy</td>
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<td>2007</td>
<td>Team HRSD</td>
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<td>Virginia Beach Terminal Velocity</td>
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<td>2009</td>
<td>Virginia Beach Terminal Velocity</td>
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<td></td>
<td>Team HRSD</td>
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<td></td>
<td>Virginia Beach Team Collectors</td>
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<td>2010</td>
<td>Virginia Beach Terminal Velocity</td>
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<td>Team HRSD</td>
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<td>2011</td>
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<tr>
<td></td>
<td>WVV Blue Ridge Brawlers</td>
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<td></td>
<td>Virginia Beach Team Collectors</td>
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<td>2012</td>
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<td>Team HRSD</td>
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<td>2013</td>
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<td>WVV Blue Ridge Brawlers</td>
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<td>2014</td>
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<td></td>
<td>WVV Blue Ridge Brawlers</td>
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<td>Team HRSD</td>
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</table>

Virginia/VWEA has been a dominant force in the National Operations Challenge when compared to other states/member associations. Virginia/VWEA is number one in all the major categories; with 13 Division I National Championships; 26 times WVEA teams placing in the top three overall in Division I; 45 Individual Event wins in Division I; 5 Division II National Championships; 11 times WVEA teams placing in the top three overall in Division II; and 18 Individual Event wins in Division II. The list below shows Virginia/VWEA teams that have placed in the top three overall in Division I or II.
As evidenced in the historical charts, Virginia teams have set the standard for all other states/member associations when it comes to Operations Challenge success. WVEA teams have shown a penchant for not only winning championships but also in establishing various records, including HRSD becoming the first organization to win three consecutive national championships at the Division I level; to the current record setting streak of the reigning Division I National Champions, Virginia Beach/Franklin Terminal Velocity with five consecutive Division I National Championships. In addition to the teams mentioned in this article who represented Virginia at Nationals, teams from the City of Richmond, Loudoun County, and Hanover County have all participated in the State event and have served to push Virginia Operations Challenge forward.

It is equally important to note the countless WVEA and Virginia volunteers that contribute greatly to the success of WVEA teams, from serving on the WEF or WVEA Operations Challenge Committee, being an Event Coordinator at WEF or VWEA, to judging WEF or VWEA events, as they are as important as the teams themselves and all share in the Operations Challenge story. Beyond the readily apparent volunteers though, each and every member of WVEA can really take some credit for the history of success thanks to the support that WVEA has provided over the years to Operations Challenge Teams. Given the high level of dedication, professionalism, and pride that exists among Virginia teams and volunteers, we can rest assured that every participant will continue to represent the Virginia Water Environment Association to the best of their ability.

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HDR’s Integrated Planning Approach is a tool for communities to balance and prioritize their regulatory obligations to achieve optimum net environmental benefits.
A CENTURY IN WASTEWATER

planning, design and construction management is the foundation from which Whitman, Requardt & Associates, LLP builds today’s infrastructure. Our experienced, multi-disciplined engineers apply sound technical knowledge, while adapting to current and future regulatory, security and sustainability challenges, to create comprehensive wastewater solutions in the public and private sectors.

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Annual Water/Wastewater
Operations Education Conference &
Operations Challenge Competition

**July 15-17, 2015**

_Wintergreen_  
_Route 664_  
_Wintergreen, VA  22958_

The Conference will consist of a half-day workshop on Wednesday followed by technical sessions on Thursday and Friday. Continuing Education Credits will be offered for Operators and Professional Engineers. Day 2 Sessions are focused on Water Education and Day 3 Sessions will include tracks for both water and wastewater. The Conference will include an exhibition hall, showcasing the latest products from local equipment manufactures. The Exhibitor’s Hall will host the conference meals, refreshment breaks and the Operations Challenge Awards Ceremony.

**Conference Pricing**

**Member Full Conference:**  
$195.00

**Non-Member Full Conference:**  
$254.00

**Member - One day:**  
$135.00

**Non-Member - One Day:**  
$176.00

**Exhibitor:**  
$350.00

**Ops Challenge Pricing**

**Ops Challenge Team Full Conference:**  
$620.00

**Ops Challenge Team:**  
$500.00

**Ops Challenge Team Invitational:**  
$400.00

**Judge/Speaker/Guest-One Day:**  
$75.00

**Register online:**

https://www.regonline.com/2015operations

**Event Contacts**

**Registration:**  
Kathy Rabalais, admin@vwea.org

**Program:**  
Barbara Jackson, Barbara.jackson@richmondgov.com  
Chris Harbin, chris.harbin@norfolk.gov

**Ops Challenge:**  
Jewel Minor, Jewel.minor@richmond.gov.com
The Board of Directors has put forth the following slate of officers for election at WaterJAM 2015 from September 14-17, 2015, in Virginia Beach, Virginia. Nominations may be made from the floor during the Business Meeting in accordance with the Bylaws of the Association. The election of officers will occur during the VWEA Business Meeting on Wednesday, September 16 from 3:00 p.m. to 4:00 p.m. in VBCC Meeting Room 2B.

President Elect: Eddie Abisaab
Vice President: Lora Reed
Young Professional Representative: Ryan Clark
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On April 30, 2015, the VWEA Education Committee held its annual seminar at the Westin hotel in Richmond. This year’s topic was Bringing Game Changing Innovation Home to Virginia. The seminar was very well attended and hosted 193 total attendees and 11 exhibitors.

This year’s seminar focused on the practical application of innovative treatment technologies for both liquid stream and biosolids processes. Specifically those that have resulted in revolutionary changes in the way we approach wastewater treatment process design, construction, operations & maintenance, and project delivery. Session topics included mainstream and sidestream shortcut nitrogen removal processes, resource recovery, thermal hydrolysis, dewatering and drying, emerging biosolids technologies, water reuse, energy efficiency, and several alternative project delivery case studies where innovative delivery methods were paramount to the successes of the projects. Various aspects of the annual education seminar are described in the sections below.

Morning Session
Marty Malone, President of VWEA, provided a welcome introduction to all the attendees. Dr. Glen Daigger of One Water Solutions delivered the keynote presentation titled: Import, Improvement, Export of Technology. During his presentation, Dr. Daigger described the global landscape for water technology and product development and present lessons learned when one is looking to import technology. The morning session also included the following informative presentations: Challenges and Strategies for Implementing New Technology by Dr. JB Neethling (HDR), Moving Innovation into Practice: Leaders Innovation Forum for Technology by Jeff Moeller (WERF), and Wastewater System Technology, Operations, and Management – A Look Backward and Forward by Dr. Jim Pyne (HRSD).

Student Design Competition
The Education Committee was pleased to once again host the Student Design Competition for the fourth year. Hosted by the joint VWEA/VA AWWA Student Activities Committee, the competition presentations were given concurrently during the morning session of the conference. The winning team from Old Dominion University (ODU) 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 second VWEA Career Fair was held in conjunction with the networking reception. Thirteen firms (three utilities, two construction firms, and eight consultants) conducted informal interviews with approximately 20 students.

Afternoon Sessions
Three afternoon concurrent technical sessions were conducted on innovative design of liquid stream processes, biosolids processes, and alternative project delivery. Among other topics, the presentations included discussions on the following:
• Mainstream and sidestream deammonfication
• Non-potable and indirect potable water reuse
• Energy efficiency
Education Committee

- Resource recovery
- Cogeneration
- Thermal hydrolysis
- Dewatering and phosphorus removal linkages
- Digester gas treatment
- ESCO, Design-Bid-Build, and Construction Manager At-Risk delivery methods

The Education Committee sincerely thanks our speakers, attendees, career fair participants, 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 the 2016 Education Seminar, please contact Phill Yi (pyi@hazenandsawyer.com) or Marty Kazmierczak (mkazmierczak@Dewberry.com).

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Your conduit – Summer 2015
The Village Creek Water Reclamation Facility in Fort Worth, Texas, lies on Trinity River’s west fork. Every day, the facility treats more than 378,541 m³ (100 million gallons) of wastewater. With about 6,437 km (4,000 miles) of sewers, the wastewater, carried largely by gravity, can take 8 to 12 hours to travel to the facility. Within this time, flows can become septic, and high-strength industrial wastes can be problematic for local industries to dispose of effectively.

The plant’s co-digestion program has shifted the industrial wastes to a point in the plant where their energy can be harnessed,” said Madelene Rafalko, a senior Professional Engineer at the Fort Worth Water Department. “By injecting these concentrated wastes directly into the digester, the plant has decreased the amount of energy needed for aeration treatment.”

WASTES BOOST METHANE PRODUCTION

With the addition of co-digestion waste, the facility has doubled its gas production. However, facility staff are very selective about the wastes they bring in. “We are looking for wastes with high COD [chemical oxygen demand], which are more easily converted to methane,” said Jerry Pressley, water systems superintendent. The plant looks for wastes that produce a high gas yield with low residuals but avoid wastes with sulfides and sanitizers because they can cause process upsets, such as digester foaming, he said.

For 10 minutes every hour, the high-strength wastes are injected into six of the plant’s 14 anaerobic digesters. The plant has been capturing digester biogas for decades and uses it to power one of two 5.2-MW (mega-watt) turbines.

From Problem to Profit
A Fort Worth water resource recovery facility turns industrial waste challenges into energy opportunities

By Kristina Twigg and Peter V. Cavagnaro. Kristina Twigg is the Associate Editor, World Water: Stormwater Management at the Water Environment Federation (Alexandria, Virginia.). Peter V. Cavagnaro is a project development consultant at Johnson Controls Inc. (Milwaukee, Wisconsin).
These turbines generate about half of the plant’s energy, most of which is used for the plant’s aeration system.

**STEAM HEAT PROVIDES RETURN ON INVESTMENT**

The Village Creek Water Reclamation Facility has also found a way to reduce the energy needed for its aeration basins.

In the process of using the turbines to generate electricity, heat is also created. The plant has harnessed this heat to make steam, which powers two of the plant’s blowers. The heat is also used to warm buildings and anaerobic digesters during winter. Even the steam itself is not wasted – it is condensed and reused.

“The cost savings from the steam process has paid for everything else,” Rafalko said. The project, started in 2007, has saved $3 million in operating cost so far, he said.

**IMPROVEMENTS LEAD TO OTHER EFFICIENCIES**

While the steam process is the largest part of the plant’s energy-efficiency program, staff have also taken advantage of low-hanging fruit, such as optimizing process controls, upgrading pumps and motors, replacing its SCADA system, and installing a web-controlled lighting system. “Going through and taking measures helped us to identify maintenance needs and further energy improvements,” Pressley said.

The plant also created anoxic zones in six of its 13 aeration basins. In the presence of oxygen, bacteria convert ammonia to nitrate (NO₃). Then in the anoxic zones, the bacteria can utilize the oxygen present in the NO₃. This eliminates mechanical aeration in these sections of the basins, further reducing the plant’s energy needs. These improvements bring the facility one step closer to its goal of net-zero energy.

**Note:** The information provided in this article is designed to be educational. It is not intended to provide any type of professional advice including without limitation legal, accounting, or engineering. Your use of the information provided here is voluntary and should be based on your own evaluation and analysis of its accuracy, appropriateness for your use, and any potential risks of using the information. The Water Environment Federation (WEF), author and the publisher of this article assume no liability of any kind with respect to the accuracy or completeness of the contents and specifically disclaim any implied warranties of merchantability or fitness of use for a particular purpose. Any references included are provided for informational purposes only and do not constitute endorsement of any sources.
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**2015 VWEA Laboratory Analyst Excellence Award**

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 **Kerri Williams** of the Hampton Roads Sanitation District, as she was selected as the recipient of the 2015 VWEA Laboratory Analyst Excellence Award. Her work at the Hampton Roads Sanitation District has been exemplary, as noted by her supervisor, Li Zhang, who nominated Kerri 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 2015 award. The award will be announced at the awards banquet during the 2015 WaterJAM, which will be held at the Omni in Charlottesville, VA on July 27-28.

This award is the highest recognition that the associations give 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.

**VWEA/VA AWWA Joint LPC 21st Annual Good Laboratory Practices Conference**

The VWEA/VA AWWA Joint LPC 21st Annual Good Laboratory Practices Conference will consist of six half-day workshops on July 27 and a technical program with vendor exhibits on July 28.

**July 27, 2015 Morning Workshops**

The morning sessions will run from 8:45-11:45 a.m. and will consist of the following:

- **The ABCs and 123s of Laboratory Calculations**
  Erik Rosenfeldt, Ph.D., PE with Hazen and Sawyer
  Topics to be covered in the workshop include basic chemical concepts, laboratory procedures and calculations required for ensuring adequate laboratory practices. The material covered will be reinforced utilizing practical examples from water and wastewater treatment.

- **LIMS in the Cloud**
  Dr. Christine Paszko, Vice President, Accelerated Technology Laboratories, Inc.
  This workshop will examine Software as a Service (SaaS) features and benefits to a laboratory. Topics will include comparison of SaaS vs. traditional LIMS features, operational cost and other resources.

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**ACTIVITY NEWS**

By Kimberlee Stubbs, LPC Chair

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

July 27, 2015 Afternoon Workshops
The afternoon sessions will run from 1:30-4:30 p.m. and will consist of the following:

VPDES Permit DMR Reporting
Wayne Staples, Jason T. Spicer with DEQ
This workshop will discuss the types of VPDES permits and reports, general requirements, routine and special reporting requirements, and DMR.

The Ins and Outs of the Proficiency Testing (PT) Program, Proper Use of Certified Reference Materials and Reagent Traceability
Stacie Metzler with HRSD and Shawn Kassner with Phenova
Proficiency Testing (PT), the proper use of Certified Reference Materials and Reagent Traceability are all key elements of a NELAP/VELAP complaint quality system. This workshop will give attendees a better understanding of the PT program, the proper use of Certified Reference Materials (CRM's) and the importance of Reagent Traceability will be discussed. By using these two quality system requirements together a laboratory has the tools to ensure analyses are performed correctly, analytical systems are operating correctly, and an easy way to complete troubleshooting when there are quality control failures.

Microbiology Methods for Wastewater Laboratories
John Allen and Saiful Islam, Fairfax County
This is workshop will introduce wastewater microbiology and various certified methods for bacterial testing of wastewater, including quality control procedures and compliance requirements. The core competency for this presentation is “Required Capabilities for Collecting Samples and Interpreting Laboratory Analyses”

July 28, 2015 Morning Session
The morning session will consist of four presentations:

• The EPA CWA Proposed Method Update to Part 136
  William Lipps
• MCHM – Tale of a known unknown
  Andy Eaton, PhD, BCES
• Microconstituents?
  Pollutants we should care about
  Deborah L. DeBiasi

July 28, 2015 Afternoon Session
The afternoon session will be split into three sessions consisting of four, 30-minute presentations. The following topics will be covered:

Session 1 – DRINKING WATER:
• Odors in Drinking Water: Challenges for Both Consumers and Utility Personnel to Describe and Interpret
  Andrea M. Dietrich, Katherine Phetxumphou, Daniel L. Gallagher
• 2.5 Years of UCMR3 and What Have We Learned?
  Andy Eaton, PhD, BCES
• Using UV-254 as a surrogate to SCOD and SOC laboratory Methods to Improve Plant Process Performance
  Matthew Brooks
• The Application and Measurement of Ozone in the Treatment of Drinking Water and Wastewater
  William Kornicker

Session 2 – WASTEWATER TOPICS:
• Nitrite in Real Time … 25 years of experience hunting an elusive quarry!
  Bruce Stevens
• Analysis of Cyanide
  Lynn Egan
• Introduction and the Importance of Reuse/Recycle Water and The Use of Defined Substrate Technology for the Detection of Indicator Bacteria for Reuse Water
  Gil Dichter
• EPA Colorimetric Testing for Nitrate plus Nitrite
  Sarah Leibenguth

Session 3 – TECHNOLOGY AND MANAGEMENT TOPICS
• LIMS Selection:
  The Good, the Bad and the Ugly
  Dr. Christine Paszko
• PT Information for Virginia Laboratories
  Henry Beauchamp
• Evaluation of Microbiological Results for Proficiency Testing
  Mike Blades
• Bacteriological Techniques; Emerging Instrumental Technology
  Chris Griffin

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 WaterJAM workshop presentation on September 14 at the Virginia Beach Convention Center can also be found on the websites. The theme of the conference will be: “The Future Is Now.”

This conference is a great way to meet and network with fellow professionals from all over Virginia, earn necessary CECs, and have fun – all at the same time!
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What does the future look like? How will buildings become net energy producers? How can coastal buildings be constructed to be resilient to sea level rise? What is a living building? The answers can be found when you visit the Chesapeake Bay Foundation’s new Brock Environmental Center in Virginia Beach.

Photo from http://www.cbf.org/how-we-save-the-bay/programs-initiatives/brock-environmental-center/news

The center is home to the Chesapeake Bay Foundation’s Hampton Roads staff and the staff of Lynnhaven River NOW, a local watershed education and outreach group that is helping to improve water quality and restore the Lynnhaven oyster population. Opened in November 2014, and integrated with the 118-acre Pleasure House Point Natural Area, the center provides field-based environmental education programs for students, teachers, and decision makers. The location along Crab Creek, with easy access to the Chesapeake Bay, allows for both land-based and water-based educational opportunities. The Brock Center showcases technologies can minimize our environmental footprint and provides public meeting space for area groups. More information is available online at: http://www.cbf.org/how-we-save-the-bay/programs-initiatives/brock-environmental-center.

The center is in the process of being certified LEED Platinum and includes many environmentally friendly design elements. Day lighting reduces electric lighting needs. Sun-shading and super insulation minimize the heating and cooling load placed on the high efficiency ground source heat pump based HVAC system. Rooftop photovoltaic panels and two 10 kilowatt wind turbines power the Center. Rainwater is collected and used for all water needs (including drinking water). The construction utilized recycled building materials such as old bleachers. Learn more about it at Hourigan Construction’s project website (http://cbf.houriganconstruction.com/).

Want to see for yourself? The Sustainable Utilities Committee will be sponsoring a tour of the Chesapeake Bay Foundation’s Brock Environmental Center during the 2015 VA AWWA and VWEA Joint Annual Meeting (JAM). We look forward to seeing you there.
Every year billions of dollars are spent to maintain and improve the capacity of wastewater conveyance systems in the United States. The reasons for these expenditures vary, but some of the largest costs in wastewater conveyance are driven by significant wet weather events. These events create huge stresses on the sewer system and require long-term capital planning to ensure that the expected level of sewer service is met. Often, the magnitude and frequency of sewer maintenance costs drive utilities to conduct sewer capacity assessments which can provide valuable insight into a sewer system’s limitations. Without a sewer capacity assessment, identifying and effectively prioritizing sewers in need of rehabilitation/improvement can be tough.

To identify sewer capacity limitations, it is important to understand the overall behavior of sewer flow; especially when mitigation of sanitary sewer overflows (SSOs) or surcharging is a priority. To understand the hydraulic conditions that drive gravity flow (i.e., the conservation of mass and momentum) observations must be made in terms of velocity and depth. One of the many ways this can be handled is with predictive tools in the form of calibrated hydrologic and hydraulic (H&H) models, supported by the collection of flow and operational data (via flow monitoring and condition assessment programs).

The use of flow monitoring, operational data and H&H models to determine conveyance system capacity is a practice commonly employed by many utilities worldwide. These tools, when used properly, can effectively provide the necessary feedback for managers, engineers and operators to make decisions about a sewer conveyance system. When used appropriately, these tools can also become reliable, physically based predictors of current operational issues and future needs of a system that can assist utility managers, engineers and operators.

H&H models that have been calibrated with real-world data (i.e., flow monitoring data) can be used to identify capacity deficient areas and to recommend upgrades that will relieve system stresses. Proper model calibration depends on the hydrologic parameters that determine total flow in the system and other hydraulic and structural variables that impact the flow depth and velocities. Calibrating flow, depth, and velocity is crucial for developing a rigorous gravity pipe model.

For many, the roadblock to creating a model that matches depth and velocity lies in the available data to be used. In many cases, most of the necessary information is readily available through the sources such as:

- Cleaning Records
- Maintenance and Inspection Reports
- Flow Monitor Data
- Overflow Records
- Condition Data
- CCTV
- Smoke Testing Reports

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Each of these sources can provide huge insights into how a gravity system is behaving and provide feedback into the types of changes needed to improve the model. In fact, each of the sources listed can be used to improve the model’s ability to mimic the hydraulic conditions (i.e., root causes) that cause the most unsavory sewer conditions (i.e., SSOs). With the right data identified the real challenge lies in how the data is tied together. While the overall approach depends on the data you have, the use of depth-velocity scattergraphs is one of the most effective ways to tie each source together and to judge the outcomes of the changes you make to the model.

Historically, scattergraphs have been used for the evaluation of flow monitoring data and identifying the different types of hydraulic conditions that can be found in the gravity sewer. Scattergraphs provide a means for displaying two independent variables, in our case, depth of flow and velocity. For this reason, these types of graphs are the perfect candidate for displaying the behavior of gravity sewer flow as it passes through the conveyance system. Additionally, they display information independent of time and can be used to provide insight into other factors like: sedimentation, debris accumulation, grease blocks, excess I/I, backwater effects and other hydraulic behaviors commonly seen.

This year the Collections Systems Committee will be offering a workshop at WaterJAM 2015 titled: “Improve Your Facilities Management Toolkit: From Flow Monitoring to Modeling & Planning.” The purpose of the workshop will be to provide an in-depth look at flow monitoring, operational data and hydraulic modeling. The workshop will also provide examples of available modeling tools and how these tools are used by operators and engineers to tackle some of the most persistent problems associated with the conveyance of sanitary flow. Workshop will include talks given by national and local industry leaders from both utility and engineering consulting perspectives. For more information on this workshop and others being provided see the see the WaterJAM conference planner at www.wwea.org.

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There are so many great reasons to attend WaterJAM 2015, the annual conference and meeting for both the Virginia Section of the American Water Works and the Virginia Water Environment Association. This is the premier conference for Virginia Water and Wastewater Professionals; bringing together over 1300 industry leaders over the course of five days. When you Catch the Wave at WaterJAM 2015 you will learn, earn professional credits, network, and most importantly, have fun!

This year the WaterJAM 2015 planning committee, including co-vice chairs Stewart Lassiter and Phill Yi, have focused on “greening” WaterJAM. In coordination with the VWEA Sustainable Utilities Committee and Chrystel Dyer, we have evaluated every aspect of the conference to make sure we have acted in a manner responsible to the environment while adhering to our mission statement. Some of the ways we have shown our commitment include reduced printing, using environmentally-friendly printers, reducing the amount of food packaging, and encouraging recycling throughout the conference.

WaterJAM is the best place to stay on top of industry trends while learning about the best projects across the region. This starts with workshops scheduled for Monday, including Collection Systems – Planning, Collection Systems – Rehabilitation, Laboratory Practices, Biosolids, and Safety and Security. All of these workshops, coordinated by Katherine Mohammed-Jones, provide engineering education credits and some provide operator credits as well.

Education opportunities continue at the Keynote Session Tuesday morning with presentations by Dr. Hans-Peter Plag on climate change and Green Flash Brewery CEO Mike Hinkley.

Following the Keynote Session, the exhibition hall will open featuring over 175 booths and hands-on demonstrations. The exhibition is being planned by co-chairs Matt Harrison and Matthias Wittenberg, with co-vice chairs Dan Ruby and Jon Casarotti. The exhibition will be filled with the latest industry products and services on the market.

On Tuesday and Wednesday, the Exhibit Hall will be the place to be when you are not in technical sessions. Some of the Exhibit Hall activities include: Exhibit Hall Scavenger Hunt, Cornhole Challenge, Silent Auction, VWEA Operations Challenge exhibition, VA AWWA Distribution Rodeo demonstration, and the Water For People Raffle.

Back this year to the Exhibit Hall will be the VA AWWA Top Ops competition Championship Round. The preliminary rounds of this Jeopardy-style competition were conducted in May at the Plant Operations Committee Conference. Three teams will compete on Tuesday during the afternoon technical session break to earn the title of Top Ops. Don’t miss it!

The centerpiece of WaterJAM 2015 is the Technical Program developed by co-chairs Steve Cook and Aditya Ramamurthy with co-vice chairs Evan Bowles and Mike Mull. More than 330 high-quality abstracts were submitted, from which 137 presentations were selected for 39 technical sessions. Sessions this year include Asset Management, Nutrient Removal and Recovery, Sustainability, Regulatory Issues, Stormwater, Condition...
Assessment, Energy Management and Reduction, and Alternate Project Delivery. As with the workshops, all of these technical sessions provide engineering education credits and a record number of operator credits will be offered as well.

Following the conclusion of the Technical Program at noon on Thursday, the learning and professional credit opportunities continue with the Stormwater Workshop and Natural Resources and Environment Workshop. Also Thursday afternoon, you will have the opportunity to attend one of two educational tours planned by Pete Baskette: the Brock Environmental Center or Norfolk’s Moors Bridges Water Treatment Plant.

The opportunities for networking and having fun at WaterJAM 2015 are just as prevalent as the opportunities to learn. On Sunday, you can join Young Professionals Liaison Jason Kerns and the YP committee at the community service project at Fort Monroe or go to the Virginia Beach Boardwalk for the Water Taste Test.

On Monday, 144 golfers will try their luck at the beautiful Signature at West Neck Golf Course. This event is always a great time, and the raffle raises funds for Water For People. This event always sells out, and is a great way to socialize with the leaders of our industry while trying to hit a frustrating little white ball. Paul Delphos, last year’s WaterJAM Co-Chair, is coordinating this year’s event – so I expect it to be our best yet. He has added some excitement with some spectacular hole-in-one prizes.

Also on Monday, is the WaterJAM Clay Shoot at Old Forge Sporting Clays in Providence Forge, VA, hosted by Greg Everhart and Taylor Turner. Bring your #8 light field load shotgun shells and have a blast.

The fun continues Monday night at the Meet and Greet Reception at the Hilton produced by the Local Arrangements Committee (LAC), chaired by Scott Funk and Ryan Clark. Along with co-vice chairs Joe Swaim and Mark Swilley and the rest of the LAC, Scott and Ryan have made sure you will have fun and be very well fed while you Catch the Wave at WaterJAM 2015. In addition to the many breakfasts, snacks, and lunches they have planned some very special events.

The fun starts early on Tuesday morning at the King Neptune statue on the boardwalk with the annual WaterJAM 5K Fun Run/Walk where Mike Barbachem has put together a fun course. Brag to your peers after you earn a 5K completion ribbon to add to your name badge.

Chris Wilson has planned an Orientation Breakfast on Tuesday morning. This is a great opportunity for first-time WaterJAM attendees or those who want to get more out of their attendance at the conference. They will provide an overview of the great events, introduce you to some members of the VA AWWA and VWEA boards, and play some fun games to help you get the most out of your time at WaterJAM.

Tuesday and Wednesday features the VWEA Membership Appreciation and Awards Lunch and VA AWWA Membership Appreciation and Awards Lunch, respectively. Both events are open to all attendees. Additionally, lunch will be served in the exhibition hall on those days.

Tuesday evening, after the technical sessions, you’ll find another great networking opportunity at the Water Reach Silent Auction Reception in the Exhibit Hall, planned by Noelle Slater. Hors d’oeuvres and drinks will be served as you mingle and place bids with the proceeds benefiting Water Reach.

Wednesday evening there are a number of great events starting with the YP and Student Reception and the Awards Banquet Reception. Dinner will include the Awards Banquet, which will then be followed by the Fun Night. You’ll be certain to have a great time and have a chance to win great prizes with boardwalk-style games and dance the night away!

For more information on all these great events, be sure to take a look at the conference planner prepared by Lori Woolman and the rest of the Marketing and Communications Committee. This hard-working committee has put together all of the great publications you have seen leading up to the conference and will be responsible for the signs and documents at the conference.

We hope you Catch the Wave at WaterJAM 2015, and we are sure you will have a great time when you do. We want to thank the great WaterJAM planning committee for all their hard work, as well as the boards of VA AWWA and VWEA for their commitment to these great organizations. In particular, we’d like to thank the liaisons to the WaterJAM 2015 Committee Sherry Williams and Marty Malone for all their hard work over the past year to prepare for this great event, as well as support and advice from WaterJAM Past Co-Chairs Shawn Heselton and Paul Delphos.

Respectfully,

Stephanie Spalding Cook and Mike Demko
WaterJAM 2015 Co-Chairs
WILL YOU BE READY FOR LOWER PHOSPHORUS LIMITS?

Discharge limits for phosphorus removal are more stringent than ever and pose a definite challenge for treatment plants. In most cases, the degree of removal required by a facility is determined by the quality of the receiving stream. Although a high degree of phosphorus removal can be achieved with a sophisticated secondary treatment process such as an AquaSBR® system or AquaPASS® system, some plants require even lower phosphorus levels. In this case, tertiary treatment is essential and lower levels can be achieved with an AquaDisk® or AquaDiamond® filter, AquaMB Process® or Aqua-Aerobic® MBR system.

- **AquaSBR® Sequencing Batch Reactor**
  - Enhanced nitrogen and phosphorus removal in a single unit process, eliminating the need for separate secondary clarifiers

- **Aqua-Aerobic® MBR Membrane Bioreactor**
  - Enhanced biological nutrient removal in a compact footprint and direct filtration via submerged membranes

- **AquaPASS® Phased Activated Sludge System**
  - Time-managed aerobic and anoxic reactions in a continuous-flow process schematic; nutrient removal is expedited via Phase Separator technology

- **AquaDisk®/AquaDiamond® Cloth Media Filters**
  - OptiFiber® cloth filtration media provides advanced phosphorus removal
  - Customized designs for retrofits and new plants

- **AquaMB Process® Multi-BARRIER Membrane System**
  - High level nutrient removal utilizing multiple barriers, featuring cloth media filters followed by membranes

- **IntelliPro® Monitoring and Control System**
  - Combines process monitoring and integrated comparative analysis
  - Automatic adjustment of biological nutrient removal and chemical addition
  - Proactive operator guidance via the BioAlert™ process notification program

Kevin Ritchie
6209 Lansgate Road  |  Midlothian, VA 23112
p 804.928.8499  |  kevinritchie@comcast.net
Welcome

On behalf of the Virginia Section of the American Water Works Association and the Virginia Water Environment Association, we want to extend a warm welcome to the 2015 Joint Annual Meeting in Virginia Beach, Virginia, this September. We hope you are all ready to Catch the Wave in Virginia Beach!

Our industry is going through an exciting time, and the Networking and Technical Education Opportunities at WaterJAM will keep you at the peak of this exciting wave. In order to build on our history of successful and growing conferences, the WaterJAM 2015 Committee has been working tirelessly to meet our mission of once again hosting the premier State Water and Wastewater Conference in the United States.

As always, WaterJAM 2015 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. You can expect outstanding presentations and workshops, along with fun social events that will provide many opportunities for networking with friends and colleagues.

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! Enjoy the ride!

Stephanie Spalding and Mike Demko
Conference Co-Chairs

P.S. Don’t forget to follow us on Twitter: @WaterJAM_VA

Virginia Beach

Located at the intersection of the Chesapeake Bay, the Atlantic Ocean, and a variety of freshwater waterways, Virginia Beach is the perfect location for WaterJAM 2015! With miles of pristine shoreline, more than 120 navigable kilometers of waterways, and over 4,000 acres of parks and national refuges, Virginia Beach is home to an aquatic playground of fun and adventure. So paddle, sail, cruise, swim, or walk out to our beautiful waters and start living the life, aquatic-style.

The water, however, is only part of what makes Virginia Beach so irresistible to visitors. With its three-mile boardwalk, abundance of hotels, and myriad of entertainment, shopping and dining venues, it’s the ideal place to bring people together year-round. You’ll find the perfect balance of coastal charm and big-city amenities.

At the center of it all is the Virginia Beach Convention Center, the nation’s first convention center to earn LEED® Gold certification from the U.S. Green Building Council. With more than 516,000 gross sq. ft. – including over 150,000 sq. ft. of column-free exhibit space, nearly 29,000 sq. ft. of meeting space, one of the largest ballrooms on the east coast at more than 31,000 sq. ft, and more than 2,200 free parking spaces – it can hold any size meeting imaginable.

Since the first American settlers stepped foot on our hallowed shores, Virginia Beach has been a historic meeting place for remarkable events. Look up to the celebrated lighthouses at Cape Henry, retrace the footsteps of our forefathers at First Landing State Park, or call the notable Adam Thoroughgood House home for the day. It’s all here, and historic, in Virginia Beach.
Getting There

AIR TRAVEL
Norfolk International Airport is 20 minutes from the oceanfront and is serviced by most major U.S. carriers. [http://www.takeorf.com](http://www.takeorf.com).

GROUND TRANSPORTATION
Shuttle Service
James River Transportation
757-963-0433 or toll-free 866-823-4626
Shuttle service operates 24 hours daily between Norfolk International Airport and Coastal Virginia/Northeast North Carolina cities. Reservations are not required for arriving passengers. James River Transportation is located outside Arrivals Terminal Door #2.

Taxis
Taxis are located outside Arrivals Terminal Door #4. Five ride for the price of one to the same destination. Drivers accept cash and some credit cards.
- Andy’s Cab Co. 757-461-8880
- City Wide Cabs 757-319-3368
- East Side Cabs 757-718-0937
- Norfolk Checker 757-855-4444
- Oceanside Executive 757-455-7602
- Southside Cab 757-423-0154
- Yellow Cab of Norfolk 757-857-8888

Rental Cars
Offering over 3,000 vehicles, rental car offices are located on the first floor of the Arrivals Terminal.
- Advantage 800-777-5500
- Avis 800-831-2847
- Dollar 800-800-4000
- Hertz 800-654-3131
- Alamo 800-462-5266
- Budget 800-527-0700
- Enterprise 800-736-8227
- National 800-227-7368

Public Transportation
Hampton Roads Transit (HRT) provides public transportation in the Virginia Beach area. VB Wave is an easy way to get around the Virginia Beach Oceanfront. Wave shuttles make stops along Atlantic Avenue, the Virginia Aquarium, Ocean Breeze Water Park, the Holiday Trav-L-Park, the KOA campgrounds on General Booth Boulevard and the Shops at Hilltop. These hybrid-electric shuttles are also a lot of fun. For routes, stops, and fares, go to [www.gohrt.com/services/vb-wave](http://www.gohrt.com/services/vb-wave). To travel further afield, check [www.gohrt.com](http://www.gohrt.com) for information about HRT’s bus, ferry and light rail services.

DRIVING DIRECTIONS
When traveling from routes northwest of the Hampton Roads region, motorists are encouraged to use a faster, alternate route via I-664 Monitor Merrimac Memorial Bridge Tunnel (MMMBT), off of I-64 East, to make getting here a breeze. While the mileage to reach the beach is greater, I-664 tends to be less congested and the time spent idling in traffic is statistically reduced. Simply take I-64 East, to I-664 (Exit 264), to I-264 (Exit 15A), which will lead to the oceanfront. When leaving to return home, take I-264 West to I-664 North (Exit 299) to I-64 West (Exit 1A).

When approaching from the west, other routes are Interstate 64, U.S. 460 or U.S. 58. From the north and south, convenient routes include Interstates 85 or 95, U.S. 17 and U.S. 13 (crossing the world-famous Chesapeake Bay-Bridge Tunnel, a 17-mile span connecting Virginia’s Eastern Shore with Virginia Beach). These routes intersect with Interstate 64, which connects with the Virginia Beach-Norfolk Expressway, Interstate 264, and leads directly to the Virginia Beach oceanfront.

Conference Hotels

HILTON VIRGINIA BEACH OCEANFRONT
3001 Atlantic Ave, Virginia Beach, VA 23451
Phone: 757-213-3000     Toll Free: 1-800-HILTONS
$159 single & double
$10/night self-parking; $16/valet parking
Cutoff: August 13, 2015
Group ID: WaterJAM

HILTON GARDEN INN
3315 Atlantic Ave, Virginia Beach, VA 23451
Phone: 757-305-9000    Toll Free: 1-877-STAY-HGI
$139 single & double
1 complimentary self-parking space/room; $16/valet parking
Cutoff: August 13, 2015
Group ID: WaterJAM

HOLIDAY INN EXPRESS
2607 Atlantic Ave, Virginia Beach, VA 23451
Phone: 757-491-6900    Toll Free: 1-800-HOLIDAY
$89 single & double;
1 complimentary parking space/room
Breakfast included
Cutoff: August 14, 2015
Group ID: JAM
Every drop along the way...

Utility Service Group, the industry leader in water storage tank asset management, now provides comprehensive solutions across the entire water cycle:

- Water Wells
- Valves & Hydrants
- Smart Metering
- Filters
- PAX Active Mixing
- THM reduction
- Ice Pigging
- Helium Leak Detection
...and many other services!

Contact your local USG Water System Consultant for more information on how we can assist.

Virginia
Brad Brown | 855.526.4413
help@utilityservice.com
utilityservice.com

“Representing Quality Water & Wastewater Manufacturers for 24 years”
EXHIBIT INFORMATION

The Exhibit Hall of WaterJAM 2015 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. 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 Top Ops Challenge, the Water for People Prize Raffle, the Cornhole Challenge and the Water Reach Silent Auction!

New for 2015, will be the opportunity for exhibitors to showcase their contribution to sustainability by earning and displaying a Sustainable Exhibitor Award in their booth as part of the “WaterJAM is Going Green!” initiative.

This will be the largest water- and wastewater-focused technical exhibit in the Mid-Atlantic region, so do not miss this opportunity to attend. Find more information about exhibiting at WaterJAM 2015 on www.vaawwa.org or www.vwea.org, or at the following link: https://www.regonline.com/waterjam2015.

OPERATOR AND PROFESSIONAL ENGINEER CREDITS

VA AWWA 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).

VA AWWA 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 presentations(s) in meeting their individual licensure continuing education needs and requirements. VA AWWA and VWEA CECs are transferable to professional development hours (PDHs) where 1.0 CEC equals 1.0 PDH.

Name tags will be barcoded, and Assistant Moderators will be scanning barcodes for Professional Engineering credits.)

GET THE WATERJAM APP!

With the goal of becoming a more sustainable conference, the 2015 WaterJAM Application for Android and iOS is more complete and user-friendly than ever! Using the app, you can keep track of the entire conference schedule, including special events, committee meetings, and the technical program. This year’s app will even let you sort sessions by time. It also includes the contact information for speakers, sponsors and exhibitors, and maps of the conference center and exhibition hall, so we encourage you to use the app for all of your conference information and planning needs. Let us know by checking the box during registration if you would be willing to forego the printed conference planner and use the app to reduce printing!

WANT TO VOLUNTEER? WE NEED YOU!

It takes hundreds of volunteers to make the WaterJAM conference a success! If you’re planning to attend WaterJAM please consider volunteering a few hours of your time. We need registration staffers, session monitors, auction helpers, ticket checkers, exhibit assistants, and more. Please note: Volunteers will NOT receive free registration. If you’re willing to help, please contact one of our Volunteer Coordinators: Lora Reed at lreed@hrsd.com or Barbara Jackson at Barbara.Jackson@richmond.gov.com.
Registration Basics

All speakers and individuals attending workshops, technical sessions, exhibits, and social functions are required to be registered, and admission to all events, including receptions, luncheons, and the banquet will require a registration badge.

Early registrants may pick up their name badges and program materials at the registration desk located in the Virginia Beach Convention Center at times listed in the conference schedule.

REGISTRATION PACKAGES

Full Conference
Includes the opening night Meet & Greet Reception, the Keynote Session, all Technical Sessions, Exhibit Hall entry (Tuesday and Wednesday), continental breakfast, lunch, & breaks each day, the Water Reach Reception, the Awards Banquet Reception or the Student & YP Reception, and the Awards Banquet & Fun Night.

Single Day/Half-Day Thursday
Includes all Technical Sessions and Keynote Sessions, Exhibit Hall entry; and breakfast, lunch, and breaks occurring on the day for which you are registered.

Extras
The Golf Tournament, Clay Shoot, 5K Fun Run, Conference Workshops, Specialty Breakfasts, Receptions, Awards Banquet, and Fun Night are not included in the conference registration packages and require additional fees.

UTILITY AND STUDENT TRAVEL GRANTS

Each year, VA AWWA’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 have otherwise been able to attend. Applications are available on the VA AWWA website (www.vaawwa.org).

VA AWWA’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 VA AWWA 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 Dwayne Schwartz, City of Waynesboro, by phone at 540-942-6751 or by e-mail at schwartzds@wayneboro.va.us.

HOW TO REGISTER
The WaterJAM Committee strongly encourages you to use the online registration system at: https://www.regonline.com/waterjam2015. However, you can find printable registration forms in the back of this planner, on www.vaawwa.org or www.vwea.org, or on the online registration site linked above. Please consider the environment and print only the pages you need.

Rates

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<th>FULL CONFERENCE RATES</th>
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<th>Regular (after August 7, 2015)</th>
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<th>HALF-DAY THURSDAY RATES</th>
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<td>Retiree: $50.00</td>
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<td>Retiree: $50.00</td>
</tr>
</tbody>
</table>
We look a little different.

Because at CH2M, we are a little different.

It’s how we deliver infrastructure and natural resource solutions — and the impact our work has on the clients and communities we serve — that makes us stand out. So while our look may be new, our commitment to you will never change.

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## Conference Overview

### SUNDAY, SEPTEMBER 13
- **Noon-4 PM** YP-Sponsored Service Project – Fort Monroe, Hampton, VA
- **1 PM-7 PM** Water Taste Test – Virginia Beach Boardwalk at 31st Street
- **2 PM-4 PM** VWEA Board Meeting – VBCC Meeting Room 3A
- **3 PM-4:30 PM** VA AWWA Board Meeting – VBCC Meeting Room 3B

### MONDAY, SEPTEMBER 14
- **7 AM-5 PM** Workshop Registration – Box Office A
- **7:30 AM-3 PM** WaterJAM Golf Outing & Cookout
  - The Signature at West Neck
- **8 AM-Noon** Collection Systems - Planning Workshop (morning)
  - VBCC Meeting Room 2CD
- **8 AM-4 PM** Fern Exposition Services Onsite – VBCC Exhibit Hall AB
- **8 AM-5 PM** Laboratory Practices Workshop (full day)
  - VBCC Meeting Room 2A
- **8 AM-5 PM** Collection Systems - Rehabilitation Workshop (full day)
  - VBCC Meeting Room 2B
- **8:45 AM-3:30 PM** WaterJAM Clay Shoot – Providence Forge, VA
- **Noon-4 PM** Exhibitors Set Up – VBCC Exhibit Hall AB
- **1 PM-5 PM** Biosolids Workshop (afternoon)
  - VBCC Meeting Room 2CD
- **1 PM-5 PM** Safety & Security - Vulnerability Workshop (afternoon)
  - VBCC Meeting Room 1B
- **7 PM-10 PM** Meet & Greet Reception
  - Hilton Virginia Beach Oceanfront, Peacock Ballroom

### TUESDAY, SEPTEMBER 15
- **6:30 AM-8 AM** Water For People 5K Fun Run/Walk
  - Virginia Beach Boardwalk
- **7 AM-5 PM** Registration Open – VBCC Box Office A
- **7 AM-5 PM** Speaker Ready Room – VBCC Show Managers’ Room AB
- **7:30 AM-9 AM** Keynote Session Breakfast
  - VBCC, Outside Meeting Room 1CD
- **7:30 AM-9 AM** Orientation Breakfast – VBCC Meeting Room 2A
- **9 AM-11:30 AM** Keynote Session – VBCC Meeting Room 1CD
- **11:30 AM-Noon** Grand Opening of Exhibits – VBCC Exhibit Hall AB
- **11:30 AM-Noon** VA AWWA 1st Business Meeting
  - VBCC Meeting Room 5A and 5B
- **Noon-1:30 PM** YP Cornhole Challenge – VBCC Exhibit Hall AB
- **Noon-1:30 PM** VA AWWA Membership Appreciation & Awards Luncheon
  - VBCC Ballroom 1-2
- **1:30 PM-5 PM** Concurrent Technical Sessions 1-10 – VBCC, Various Meeting Rooms
- **2 PM-6 PM** Water Reach Silent Auction – VBCC Exhibit Hall AB
- **3 PM-4 PM** PM Break & VA AWWA Top Ops Championship Rounds
  - VBCC Exhibit Hall AB
- **5 PM-6:30 PM** Water Reach Silent Auction Reception
  - VBCC Exhibit Hall AB
- **7 PM-Until** Free Night

### WEDNESDAY, SEPTEMBER 16
- **7 AM-8 AM** VWEA Golden Rodent Breakfast – VBCC VIP Lounge
- **7 AM-8:30 AM** Utility Managers’ Breakfast – VBCC Meeting Room 4C
- **7 AM-5 PM** Registration Desk Open – VBCC Box Office A
- **7 AM-5 PM** Speaker Ready Room – VBCC Show Manager’s Room AB
- **7:30 AM-9 AM** Continental Breakfast – VBCC Exhibit Hall AB
- **7:30 AM-4 PM** Exhibition Area Open – VBCC Exhibit Hall AB
- **8 AM-Noon** YP Poster Session – VBCC Prefunction Area AB
- **8 AM-3 PM** VA AWWA Student Challenge Workrooms
  - VBCC Meeting Rooms 4D, 4E, 5A, 5B
- **8:30 AM-Noon** Concurrent Technical Sessions 11-19
  - VBCC, Various Meeting Rooms
- **9 AM-6 PM** Committee Meetings – VBCC Meeting Rooms 5A and 5B
- **9:30 AM-10:30 AM** VA AWWA 2nd Business Meeting and Section Forum
  - VBCC Meeting Room 3AB
- **9:30 AM-10:30 AM** AM Break & Ops Challenge Events – VBCC Exhibit Hall AB
- **10 AM-4 PM** YP Cornhole Challenge & Raffle – VBCC Exhibit Hall AB
- **Noon-1:30 PM** VA AWWA Student Water Challenge Presentations
  - VBCC Ballroom 1-2
- **Noon-1:30 PM** Luncheon for those not attending VA AWWA Luncheon
  - VBCC Exhibit Hall AB
- **1:30 PM-5 PM** Concurrent Technical Sessions 20-29
  - VBCC, Various Meeting Rooms
- **2:30 PM-3 PM** VWEA Student Design Competition Presentation
  - VBCC Meeting Room 4AB
- **3 PM-4:30 PM** VA AWWA Student Water Challenge Presentations
  - VBCC Meeting Room 4AB
- **3 PM-4 PM** PM Break, Meter Madness & Rapid Tapping
  - VBCC Exhibit Hall AB
- **3 PM-4 PM** VWEA Business Meeting – VBCC Meeting Room 2B
- **4 PM-7 PM** Exhibitor Break Down – VBCC Exhibit Hall AB
- **5 PM-6:30 PM** Awards Banquet Reception – VBCC Ballroom Foyer
- **5 PM-6:30 PM** WA AWWA Student Design Competition Presentation
  - VBCC Meeting Room 4AB
- **6:30 PM-10 PM** Awards Banquet & Fun Night – VBCC Ballroom 1-2

### THURSDAY, SEPTEMBER 17
- **7 AM-12:30 PM** Registration Desk Open – VBCC Box Office A
- **7 AM-Noon** Speaker Ready Room – VBCC Show Managers’ Room AB
- **7:15 AM-8:45 AM** 5-S Breakfast – VBCC VIP Lounge
- **7:30 AM-9 AM** Continental Breakfast
  - VBCC, Outside Meeting Room 1CD
- **8:30 AM-Noon** Concurrent Technical Sessions 30-39
  - VBCC, Various Rooms
- **9 AM-10:30 AM** VA AWWA Post-WaterJAM Board Meeting/Lunch
  - VBCC Meeting Room 3AB
- **10 AM-4 PM** Stormwater Workshop: TMDLs – VBCC Meeting Room 3AB
- **12:30 PM-4:30 PM** Natural Resources and Environment Workshop: VWPP
  - VBCC Meeting Room 3C
- **12:30 PM-2:30 PM** WaterJAM Committee Post-WaterJAM Meeting/Lunch
  - VBCC VIP Lounge
- **12:30 PM-2:30 PM** VA AWWA Post-WaterJAM Board Meeting/Lunch
  - VBCC Meeting Room 4D
- **12:30 PM-3 PM** Tour – Brock Environmental Center
- **12:30 PM-3 PM** Tour – Moore’s Bridges Water Treatment Plant

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For details, see event descriptions in Conference Highlights section beginning on page 52.
AECOM and URS are now one company like no other. With offices across Virginia, we’re uniquely positioned to serve as your trusted partner for water, wastewater, water resources, community infrastructure, design-build, and program/construction management services. We’re delivering smarter, sustainable solutions to create a better tomorrow.

If the challenge involves water, we’re up for it. We offer you a world of expertise, with value for today and foresight for tomorrow, for all of your unique water challenges. We’re building a world of difference. Together.

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DISTRIBUTION, STORAGE, PUMPING, AND TREATMENT

From feasibility studies to complete engineering design and construction period services, our extensive water and wastewater infrastructure experience is enhanced by our deep understanding of what drives the communities in which we live and work. With over 60 years of experience and 11 offices in Virginia and North Carolina, we are here to serve your water infrastructure needs.
Prior to joining AWWA, David spent 16 years at Denver Water, eventually becoming the Director of Finance. While at Denver Water he reported directly to the GM and worked closely with the Board of Water Commissioners on all aspects of rate setting, strategic planning, capital financing, and legal challenges. Prior to joining Denver Water, David was Project Manager and rate Consultant for CH2M Hill and a Natural Resource Economist for the Corps of Engineers.

As a water utility executive, David has successfully engaged boards, city councils and customers, worked with the media, and developed and implemented strategic plans.

David holds a BS in Economics from Lewis & Clark College; and an MBA in Finance from the University of Colorado.

Established in 1881, the American Water Works Association is the largest nonprofit, scientific and educational association dedicated to managing and treating water, the world’s most important resource. With approximately 50,000 members, AWWA provides solutions to improve public health, protect the environment, strengthen the economy and enhance our quality of life.

VA AWWA is a section of the American Water Works Association (AWWA). In Virginia, our Board of Trustees, staff members, committees, sponsors, and members strive to achieve the mission and attain the goals set forth in our strategic plan. In support of our vision, mission, and goals, VA AWWA is actively working on many fronts. For example, we strive to reach the following goals:

- Provide extensive and effective training for drinking water professionals throughout the state,
- Encourage the professional development of members by providing opportunities for committee service and networking,
- Aid state water utilities in effectively responding to extreme challenges, such as drought conditions,
- Promote sound environmental and public health practices through technology transfer programs and support of drinking water research,
- Promote public health by working to bring safe drinking water to local and international communities in need,
- Support public awareness and education through our work with high school science fairs, and
- Recognize outstanding contributions to the drinking water field through our state and national awards programs.

In addition to these and other activities conducted by VA AWWA, we frequently work with our parent organization, AWWA, to provide additional resources and services to the drinking water community.

American Water Works Association
Virginia Section

Sandra Ralston is the 2014-2015 Immediate Past President of the Water Environment Federation (WEF).

A WEF member since 1989, Sandra served as the chair of the WEF Government Affairs Committee from 2005-2008, with particular focus on increasing outreach to Member Association government affairs committees, conducting the national discussion of what the next 35 years of the Clean Water Act should be, and engaging a wider community of stakeholders to talk about the future of wet weather policy. She was a member of the Committee Leadership Council development working group and served as Chair of the Stakeholder Focus Group in 2007. She also served on the planning committee for the Utility Management Conference.

Also a member of the Water Environment Association of South Carolina and the Indiana Water Environment Association (IWEA), Sandra was IWEA President from 2002-2003, served as chair of IWEA’s annual conference program, and represented IWEA at annual WEFMAX meetings. She is also a member of the Water Environment Association of South Carolina and served as a past editor of its quarterly Journal.

Sandra received a B.A. from the University of Colorado and an MBA from George Washington University.

Water Environment Federation

Founded in 1928, the Water Environment Federation (WEF) is a not-for-profit technical and educational organization of 36,000 individual members and 75 affiliated Member Associations representing water quality professionals around the world. WEF members, Member Associations, and staff proudly work to achieve our mission to provide bold leadership, champion innovation, connect water professionals, and leverage knowledge to support clean and safe water worldwide.

The Virginia Water Environment Association (VWEA) is a member association of the Water Environment Federation (WEF). Our members come from a range of wastewater fields: civil, design and environmental engineers, biologists, chemists, local and state government officials, treatment plant managers and operators, laboratory technicians, students, professors, environmental scientists, and equipment manufacturers and distributors.

VWEA is a volunteer-based organization with leaders and members from all across Virginia. With only one paid staff person, our ability to work together effectively, often with multiple communication methods, is important to meeting our goals.
Conference Highlights

OUTINGS

WATER TASTE TEST
Sunday, September 13 • 1 PM-5 PM
Virginia Beach Boardwalk at 31st St
As a follow up to the highly successful 2014 event in Hampton, the Water Taste Test/Education Booth is returning to WaterJAM 2015. This year, the event will be held at the Virginia Beach Oceanfront on the Boardwalk at 31st Street. Located next to Neptune’s Park, the 34-foot statue of King Neptune will overlook our efforts to educate the public.

The purpose of the Water Taste Test will be to allow the public an opportunity to compare Virginia Beach tap water 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.

We will also provide brochures presenting fun facts about water and sewer systems for public education purposes. If you have any questions or want to volunteer to help, please contact Becky Mitchell at 757-385-8674 or by e-mail at bmitchel@vbgov.com. Come join the fun. The water will be refreshing and free!

WATERJAM 2015 GOLF OUTING & COOKOUT
Monday, September 14 • 7:30 AM-3 PM
The Signature at West Neck
3100 Arnold Palmer Dr., Virginia Beach, VA 23456
www.signatureatwestneck.com • 757-721-2900
Cost: $90/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 144 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 certificates, etc.). Corporate sponsorship opportunities for breakfast, lunch, hole-in-one prizes, and tee boxes are also available.

Register to play in and/or sponsor this event on the main conference registration form. For questions contact Paul Delphos at 757-202-2918 or DelphosP@bv.com.

WATERJAM 2015 CLAY SHOOT
Monday, September 14 • 8:45 AM-3 PM
Old Forge Sporting Clays
7945 Long Reach Road, Providence Forge, VA 23140
www.oldforgesportingclays.com • 804-966-2955
The WaterJAM 2015 Clay Shoot will be held at Old Forge Sporting Clays in Providence Forge, 90 minutes west of Virginia Beach. Mandatory safety instruction begins at 8:45 AM with a shotgun (pun intended) start at 9 AM. The entry fee is $80/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! Register for this event on the main conference registration form. Questions? Contact Taylor Turner at 804-665-1075 or taylor.turner@arcadis-us.com, or Greg Everhart at 804-559-4259 or gregeverhart@combs-associates.com.

NEPTUNE AND BACK: WATER FOR PEOPLE 5K RUN
Tuesday, September 15 • 6:30 AM-8 AM
Virginia Beach Boardwalk at the Neptune Statue
Add a little fun to your morning, and head to the oceanfront for a scenic run or walk for an extremely worthwhile cause. The Water For People Committee is hosting a 5K Fun Run/Walk (an event for all levels of fitness). Enjoy the beautiful boardwalk and earn some bragging rights with a “5K Finisher” ribbon to attach to your name badge. Check-in begins at 6:30 AM, and the race starts at 7 AM.

Don’t miss the opportunity to support Water For People by participating in this continually growing event. The registration fee for this event is $40 and includes refreshments and a T-shirt. Additional sponsorships will be available for $100 and include your company logo on the t-shirt. All proceeds from this event will be donated to Water For People. 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. Learn more about this great cause at www.waterforpeople.org.

Questions may be directed to Mike Barbachem at 757-321-1218 or mbarbachem@wralp.com.

FREE NIGHT
Tuesday, September 14 • 7 PM until
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 Virginia Beach from which to choose. Be sure to check the WaterJAM app for a list of local restaurants. Brochures and informational literature will also be available at the VBCC and in hotel lobbies to help you decide how to spend your evening. (Note: If you schedule a private event, please respect the Exhibit Hall Reception and allow time for attendees to leave the conference at 6:30 PM to change and travel for your event.)

JUST FOR FUN

SCAVENGER HUNT
Tuesday, September 15 through Wednesday, September 16
VBCC Exhibit Hall AB
Make sure to pick up a scavenger hunt list at the registration desk Tuesday. Then spend time Tuesday and Wednesday in the exhibit hall tracking down assorted treasures based on the 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 15 • 11:30 AM-6 PM
Wednesday September 16 • 10 AM-4 PM
VBCC Exhibit Hall AB
Have a little time between sessions? Or just been sitting for too long? Check out the Cornhole Challenge in the VBCC 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!
SECTION FORUM

2ND VA AWWA BUSINESS MEETING & SECTION FORUM
Wednesday, September 16 • 9:30 AM-10:30 AM
VBCC meeting Room 3AB
American Water Works Association Chief Executive Officer David B. LaFrance 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.

RECEPTIONS

OPENING NIGHT MEET & GREET RECEPTION
Monday, September 14 • 7 PM-10 PM
Hilton Virginia Beach Oceanfront • Peacock Ballroom
3001 Atlantic Ave. at 31st St., Virginia Beach, VA 23451
It’s time to “Catch the Wave” to WaterJAM 2015 in Virginia Beach! “Hang 10” with your fellow water professionals, some of whom you may not have seen since last year’s conference! Please join us on Monday night at 7 PM in your favorite beach casual attire at the Hilton Virginia Beach Oceanfront to kick off this year’s WaterJAM with great hors d’oeuvres, your favorite beverages and the best of company. Note: If you’re not a guest of the Hilton Oceanfront, complimentary valet parking will be provided; self parking is $2/hour.

WATER REACH SILENT AUCTION RECEPTION
Tuesday, September 15 • 5 PM-6:30 PM
Auction begins at 2 PM • Final bids at 6 PM
VBCC Exhibit Hall AB
Come join us for hors d’oeuvres and drinks at the eighth annual silent auction held by the Water Reach Committee. This event boasts artwork from some of the finest painters and artists in Virginia. In addition to art, items donated by Virginia businesses will be auctioned. (If you are an artist or craftperson, please consider donating some of your work to the Water Reach Silent Auction.) Proceeds from the auction will be donated to the Water Reach Committee.* Don’t miss this opportunity to take home some unique items and support one of WEF’s and AWWA’s key initiatives to bring safe water and sanitation to people who are without. Please join us and support this great initiative.
* Cash and checks only will be accepted; no credit cards please.

BANQUET

AWARDS RECEPTION/BANQUET & FUN NIGHT
Wednesday, September 16 • 5 PM
Reception: 5 PM-6:30 PM • VBCC Ballroom 1-2 Foyer
Dinner: 6:30 PM-8 PM • VBCC Ballroom 1
Fun Night: 8 PM-10:30 PM • VBCC Ballroom 2
The theme for this year’s Fun Night and Awards Banquet will be Catch the Wave! The fun begins at 5 PM with light hors d’oeuvres and cocktails in the foyer outside VBCC Ballroom III. 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. There will be plenty of fun, excitement, and laughs, and many lucky participants will receive raffle tickets for some wonderful prizes.

BREAKFASTS

ORIENTATION BREAKFAST
Tuesday, September 15 • 7:30 AM-9 AM
VBCC Meeting Room 2A
If this is your first time at WaterJAM, please join us on Tuesday morning for the Orientation Breakfast. This year’s breakfast will include a rousing Jeopardy-style game pitting some of our previous WaterJAM chairs against each other. The game, starting at 8 AM, will focus on how to get the most out of your WaterJAM experience, so no matter who has the most points at the end, you will be the winner! If this is your first WaterJAM, please indicate on the registration form whether you plan to attend.

VWEA GOLDEN RODENT BREAKFAST
Wednesday, September 16 • 7 AM-8 AM
VBCC VIP Lounge (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 16 • 7 AM-8:30 AM
VBCC Meeting Room 4C
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 17 • 7:15 AM-8:45 AM
VBCC VIP Lounge (Invitation Only)
Please indicate on the registration form if you plan to attend.
Conference Highlights

PROFESSIONAL DEMONSTRATIONS

VWEA OPERATIONS CHALLENGE EVENTS

Wednesday, September 16 • 9:30 AM-10:30 AM
VBCC Exhibit Hall AB

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 backup 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 programming of an Hach A5950 Sampler. The purpose of this procedure is to create a sampling program for a composite sample (1 bottle). Don’t forget to 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 Virginia teams, as well as a display chart of invitational competitions. Printed brochures, event coordinator and new team information will be available for anyone interested in participating with the Operations Challenge.

VA AWWA DISTRIBUTION RODEO DEMONSTRATIONS

Wednesday, September 16 • 3 PM-4 PM
VBCC Exhibit Hall

RAPID TAPPIN’: This demonstration is wet and wild as teams race against the clock to install a ¾-inch water service. A ¾-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-by-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 finalist. The state record is 20 seconds!

VA AWWA TOP OPS CHALLENGE

Tuesday, September 15 • 3 PM-4 PM
VBCC Exhibit Hall

The Top Ops Challenge is a fast paced question and answer “JEOPARDY” styled competition. The championship challenge will be held at WaterJAM 2015 with the top three teams from the preliminary Top Op challenge rounds held earlier in May at the Plant Operations Committee conference. The teams will compete by answering technical questions taken from the Opflow; state regulations; and manuals from other states.

TOURS

chesapeake bay foundation’s brock environmental center

Thursday, September 17 • 12:30 PM-3 PM
3663 marlin bay drive, virginia beach, VA 23455

With its super energy- and water-efficient features, zero pollutant runoff, and near-zero environmental impact, the Chesapeake Bay Foundation Brock Environmental Center is one of the most energy-efficient, environmentally smart buildings in the world. The facility is designed to gain the U.S. Green Building Council’s LEED Platinum designation and to meet the strict standards of the Living Building Challenge™. Elevated 14 feet above sea level, it is also a prototype for coping with climate change in a region increasingly prone to flooding. The cost is $20 and includes lunch served at the facility. The tour is free, but the CBF welcomes any donations. Please note: Transportation between the VBCC and the Brock Environmental Center will not be provided. Maps and directions will be available. The tour has a maximum capacity of 30 attendees. Please note on your registration form if you plan to attend.

For more information please contact pete baskette at basketteP@bv.com.

moore’s bridges water treatment plant

Thursday, September 17 • 12:30 PM-3 PM
6040 waterworks road, norfolk, VA 23502

The City of Norfolk’s Moore’s Bridges WTP was originally constructed as a 1-MGD pumping facility in 1873. Over the last 140 years, the plant has been expanded and upgraded to a 108-MGD conventional water treatment facility incorporating coagulation, flocculation, sedimentation, filtration and disinfection. The plant receives its water from a number of reservoirs in the western portions of Hampton Roads, and provides treated water to all of Virginia Beach as well as portions of Norfolk and Chesapeake. The most recent plant upgrade consisted of the installation of a new sludge collection system and the construction of a centrifuge residuals dewatering facility. The cost is $20 and includes lunch served at the facility. Please note: Transportation between the VBCC and the Moore’s Bridges WTP will not be provided. Maps and directions will be available. Please note on your registration form if you plan to attend.

For more information please contact pete baskette at basketteP@bv.com.
Young Professional & Student Events

YP SERVICE EVENT
Sunday, September 13 • Noon-4 PM
Historic Fort Monroe
81 Patch Road, Hampton, VA 23651

The YP committee is once again working with the Fort Monroe Authority (FMA) for this event. All WaterJAM attendees and their families are invited to attend this event as we participate with the FMA in projects that will help improve the condition of the Chesapeake Bay. Please sign up for the event on the WaterJAM registration page.

For more information, contact Nathan Kassebaum (nathan.kassebaum@kimley-horn.com) or Lily Ponitz (lily.ponitz@arcadis-us.com).

YP FRESH IDEAS POSTER CONTEST
Tuesday, September 15 • Noon-5 PM (Set Up) and Wednesday, September 16 • 8 AM-Noon
VBCC Prefunction AB

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 2015 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 VA AWWA (for water-related poster) or VWEA (for wastewater-related poster).
• The VA AWWA 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 Michele Siminari at msiminari@greeley-hansen.com or Dana Fredericks at dfredericks@hazenandsawyer.com.

YP WORKSHOP
Tuesday, September 15 • 1:30 PM-5 PM
VBCC Meeting Room 4AB

Engineering for the Future

The purpose of this session is to provide industry professionals of all experience levels a glimpse into the types of future challenges they will encounter. The session will cover Stream Restoration, Water, Water Reuse, and Wastewater topics with a focus on sustainable approaches that are being utilized in those fields. This session hopes to capture upcoming ideas in waste, storm and drinking water, and the interconnections between those disciplines.

All five speakers are professionals from private and public entities in the engineering industry. The first four presentations will cover topics about either a natural or built system design. The first presenter will also be our sole young professional who will provide a YP perspective on engineering analysis and design. Our final speaker will provide key considerations for all utilities when planning for the future of the water cycle.

By the end of this session, participants will be able to look at the interconnections inherent in the total water cycle. They will also have a foundational understanding of the principle of ‘One Water’ and how it applies to everyone and their respective professional practice.

VA AWWA ANNUAL STUDENT WATER CHALLENGE AND EXHIBITION OF VWEA STUDENT DESIGN COMPETITION WINNERS
Wednesday, September 16 • 1:30 PM-5 PM
VWEA Student Design Competition Presentation • 2:30 PM
VA AWWA Student Water Challenge Presentations • 3 PM-4:30 PM

VBCC Meeting Room 4AB

The Annual VA AWWA 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 2015 VWEA Student Design Competition (which was held on April 30 in conjunction with the WEA 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 2015. Please attend and give them your best critique and support, so they represent Virginia well at WEFTEC!

YP/STUDENT RECEPTION
Wednesday, September 16 • 5 PM-6:30 PM
VBCC VIP Lounge

TheYP/Student Reception is a great time to network with young professionals and students who represent the future of the industry. The reception will be held prior to the Awards 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 Michele Siminari at msiminari@greeley-hansen.com.

BEST VWEA AND VA AWWA STUDENT PRESENTATION 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 presentations is complete.
Design • Innovate • Build • Deliver

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.
LIVING IN THE COASTAL ZONE IN TIMES OF SEA LEVEL RISE: PROTECTING AGAINST, OR PREPARING FOR, INUNDATION?

Based on the paleo-record over the last 800,000 years and more, we can conclude that the rapid climate change that took place during the last century and the changes projected for the next few centuries have committed us to a large sea level rise during the next centuries unparalleled by all changes experienced by civilization. This change in sea level will lead to major shifts in the present-day coastline, with little options to protect large areas of the current coastal zone against inundation. This raises the question of whether we need a paradigm shift in how we utilize the coastal zone. Instead of assuming that sea level and coast line are basically stable within a very narrow range, we may have to assume that sea level can change rapidly over time and that coastal areas available for coastal settlements and infrastructure today may be inundated in the near future. A consequence of such a paradigm shift would be an infrastructure that does not lead to pollution of the oceans if inundated or that could easily be removed if an early warning system indicates that sea level is rising rapidly. Some coastal areas are heavily polluted and preparing the coastal zone for future inundation in a way that does not endanger the wellbeing of future generations would require cleaning up the most polluted and toxic areas. Also needed is an early warning system that would alert us of an onset of rapid sea level rise so that a timely response and adaptation is possible.

HANS-PETER PLAG
Mitigation and Adaptation Research Institute (MARI)
and Department of Ocean, Earth and Atmospheric Science, Old Dominion University, Norfolk, VA

Hans-Peter Plag studied mathematics and geophysics in Berlin and obtained his PhD in Natural Sciences in 1988 from the Free University of Berlin. Dr. Plag joined ODU in June 2013 as the Co-Director of the Climate Change and Sea Level Rise Initiative and Professor in the Department of Ocean, Earth and Atmospheric Science. He is also a Visiting Professor at the Stevens Institute of Technology in Hoboken, NJ.

Dr. Plag’s main fields of expertise are in sustainability, global climate change, local to global sea level changes, Earth system dynamics, solid Earth geophysics, the rheology of the Earth’s mantle and continuum mechanics, deformation of the solid Earth, space geodesy and geodetic reference frames. He has provided scientific advice to private companies and governmental committees, particularly with respect to future sea level rise. His current main professional activities are related to the Group on Earth Observations (GEO), which is implementing the Global Earth Observation System of Systems (GEOSS).

During his career, Dr. Plag has led more than fifteen large international projects, chaired international programs and committees, organized numerous international workshops and conferences, often as chair of the program and/or organizing committees, edited many special issues and proceedings, and coordinated and edited two international and interdisciplinary community reports. In 1994, he became a member of the Editorial Board of the Journal of Geodynamics, and he has been Editor-in-Chief for geodesy for Physics and Chemistry of the Earth since 1996.

Mike Hinkley is the co-founder and CEO of the San Diego-based specialty craft brewer, Green Flash Brewing Co. A native New Yorker, Mike moved west where he graduated from U.C. Berkeley Hass School of Business. Mike began his career at Arthur Andersen LLP as a CPA, specializing in international tax strategies.

While attending U.C. Berkeley, he became a big fan of craft brews from Northern California, especially Sierra Nevada and Anchor Steam. After moving to San Diego in 1997, he shifted his focus from finance to the beer business when he opened the Boardroom Bar with his wife, Lisa Hinkley, in San Diego’s North County. While running the bar, he became enthusiastic about the emerging local craft beer scene and San Diego breweries such as Stone and Ballast Point.

In 2002, Mike and Lisa co-founded Green Flash Brewing Co. in Vista, California, and have worked together on evolving the company from a small business start-up to a nationally distributed specialty craft brand.

GREEN FLASH BREWERY: SAN DIEGO/VIRGINIA BEACH

Mr. Hinkley will provide a brief insight into Green Flash Brewery.

Together, Mike and Lisa Hinkley established Green Flash in 2002. Today, they lead a talented team of like-minded craft beer enthusiasts who embrace the Green Flash culture and brand vision with passion and zeal. Every batch of beer is a labor of love and is a true Green Flash collaboration. Their esteemed Brewmaster, Chuck Silva, and his talented brewing team have developed an award-winning assortment of specialty craft ales that are uniquely Green Flash. After releasing the game-changing West Coast IPA, their beers developed a loyal following of craft beer lovers. They remain steadfast in their commitment to a beer first philosophy, for which they are celebrated by beer enthusiasts worldwide.

To keep their fans thirsty for more, they consistently produce experimental, limited-edition and seasonal offerings in addition to a solid lineup of long-time favorites. Through their trailblazing approach to craft brewing, they have established a benchmark within the craft beer community. Their award-winning beers are on draft and bottled, and are available throughout the U.S. in bars, restaurants and retail outlets.

Green Flash will open an East Coast Brewery next year on a nine-acre plot of industrial land on the corner of Corporate Landing and General Booth Blvd in Virginia Beach.

The 58,000-square foot facility will closely replicate the San Diego brewery. The facility will host the same state-of-the-art equipment and brewery footprint as in San Diego and will feature an onsite lab for beer analysis, brewery tours, a tasting room and vast outdoor beer garden, and will be able to host private events and educational experiences. The new brewery will employ over 40 people upon opening.
Conference Workshops

LAB PRACTICES
Monday, September 14 • 8 AM-5 PM
VBCC Meeting Room 2A
The Future Is Now
The VA AWWA/VWEA Joint Laboratory Practices Committee 2015 JAM workshop will be a discussion covering topics that are successful to maintain a quality system and accreditation in the laboratory. The workshop will be a tool for all who are in any way involved with water and wastewater regulations, as well as laboratory practices and procedures that will cover topics such as current regulatory updates and future regulations, electronic or paperless documentation, and hiring and management practices.

Contact: Kim Stubbs (Kimberlee.Stubbs@richmond.gov.com).

COLLECTION SYSTEMS (PLANNING)
Monday, September 14 • 8 AM-Noon
VBCC Meeting Room 2CD
This workshop will give a comprehensive look into how the data collected by operation and engineering personnel can be used for coordination of long-term and short-term conveyance system objectives. Proof of concept examples will be provided for both flow monitoring and Hydraulic/Hydrologic modeling using real-world data. Each attendee will be exposed to different case studies of sewer conveyance, will be given new tools for integrating field observations, and will learn about H&H models that assist in planning daily operations and long-term improvements.

Speakers:
• Carlos Toro (Brown and Caldwell)
• Matthias Wittenberg (CDM Smith)
• Rob Martz (HRSD)
• Kevin Enfinger and Pat Stevens (ADS Environmental Inc.)

Contact: Kyle Logue (KLogue@BrwnCald.com).

COLLECTION SYSTEMS (REHABILITATION)
Monday, September 14 • 8 AM-5 PM
VBCC Meeting Room 2B
Sanitary Sewer Rehabilitation Practices & Effectiveness
This workshop will cover topics to help utility owners and engineers make informed decisions on the application of innovative inspection technologies for gravity and pressure (force mains) sewers. We will discuss various available methodologies to evaluate rehabilitation effectiveness and present numerous case studies from other utilities on the application of these innovative inspection-, operations- and rehabilitation-effectiveness approaches. This workshop includes two group exercises, an “ask the expert” panel discussion, and presentations by utility staff and vendors with extensive knowledge in technologies and practices.

All attendees will leave this workshop with new approaches for sewer inspections, rehabilitation and rehabilitation effectiveness assessment. This workshop will be best suited for any utility/municipality engineering or operations staff, individuals involved in the inspection, rehabilitation and operations of sanitary conveyance systems, and utility managers and engineering consultants.

Agenda
8:00 Attendee Welcome: Group Introductions and Workshop Outline
8:15 Group Exercise: Major Challenges in Inspecting Sewers
8:30 Innovations in Inspection Techniques
8:30 General Overview of Technologies
9:00 Technology Case Study No. 1: ElectroScan
9:30 Technology Case Study No. 2: InfoSense
10:00 Networking Break
10:30 Force Main Condition Assessment Technologies
10:30 General Overview of Technologies
11:00 Technology Case Study: SeeSnake
11:30 TBD
Noon Lunch
1:00 Group Exercise: Major Challenges in Assessing Effectiveness
1:30 Rehabilitation Approaches and Techniques
1:30 Program Drivers and Delivery
1:55 NCC O&M Program
2:20 Sullivan’s Island Grouting Program
3:00 Networking Break
3:30 Case Studies: I/I Reduction Effectiveness
3:30 Group Exercise: Estimate I/I Reduction
4:00 Estimating I/I Reduction: Methods and Case Studies
4:30 Panel Discussion: Ask the Experts
5:00 Wrap-up & Adjourn

Contact: Eric Harold (Eric.Harold@arcadis-us.com).

BIOSOLIDS
Monday, September 14 • 1 PM-5 PM
VBCC Meeting Room 2CD
A Global Technology Update for Biosolids Resource Management and Recovery
The Virginia Biosolids Council is hosting this workshop. This year’s speakers will be providing an overview of critical focus areas for LIFT – Leaders Innovation Forum for biosolids Technology. LIFT is an initiative of WERF and WEF to bring new technology to biosolids processing and management.

The sessions will include the following: (1) Innovative technology in biosolids to energy processing, (2) digestion enhancement, (3) the development of high-quality biosolids, and (4) a landscape perspective of biosolids management in Virginia.

Contact: Robert Crockett (RCrockett@advantusstrategies.com).

SAFETY & SECURITY
Monday, September 14 • 1 PM-5 PM
VBCC Meeting Room 1B
Vulnerability Self-Assessment – The First Step to an Effective Security Plan
Man-made and natural hazards pose a significant threat to water and wastewater utilities of all sizes. Understanding vulnerability is critical to protecting the health and safety of our citizens and our nation’s water supply. The AWWA/ANSI Security Standard G430 states that utilities should update their vulnerability assessment at least every 5 years. Attendees will build their vulnerability assessment during the seminar, with the use of a checklist and instructor input. Attendees can also choose to use the free Vulnerability Self-Assessment Tool (VSAT), which can be downloaded from the U.S. Environmental Protection Agency website.
and brought with them on a laptop to the workshop. This practical one-day seminar will enable participants to tailor the checklist or VSAT tool to their own vulnerability assessment. Each aspect of a vulnerability assessment will be discussed, including critical assets, threats, vulnerabilities and consequences, mitigation measures, lowering risk, and cost-benefit analysis. Participants will leave with the tools to apply their learning to their water and wastewater facilities regardless of size. This is the responsible step toward meeting performance standards that protect the health and safety of a utility’s customers and staff, and protect the utility’s mission to provide clean water or treat wastewater.

Speakers:
- Linda Warren (Launch! Consulting)
- Ike Eisenhart (Virginia Dept. of Health- Office of Drinking Water)
- Terry Legg (Whitman, Requardt & Associates)
- Laurel McGinley (Dewberry)

Contact: James Cherry (jcherry@vbgov.com).

STORMWATER: TMDLs
Thursday, September 17 • 12:30 PM-4:30 PM
VBCC Meeting Room 3AB
Lights, Camera, TMDL Action Plan
The VWEA Stormwater Committee is hosting a workshop to discuss TMDL Action Planning. Representatives from Phase 1 and Phase 2 municipalities will share their experiences and lessons learned as part of panel discussions on 1) Chesapeake Bay TMDLs, 2) Bacteria TMDLs, and 3) Innovative Funding Strategies.

Contact: Carolyn Howard (choward@daa.com).

NATURAL RESOURCES & ENVIRONMENT
Thursday, September 17 • 12:30 PM-4:30 PM
VBCC Meeting Room 3C
VWPP Regulation Amendments Workshop
Join us to learn how the amendments to the Virginia Water Protection Permit (WVPP) Regulations impact your water supply! We’ll feature a series of discussions about the WVPP Regulations (9VAC25-210) to help you understand the changes and their impact on your future planning, permitting and operating activities. We’ll also provide the latest information on the future implementation of the WVPP Regulations. A must-attend event for utility owners and water resources planners!

Contact: Adrienne Shaner (ashaner@gfnet.com).
### Concurrent Technical Sessions

**TUESDAY, SEPTEMBER 15**

<p>| Session 1: Water Forum • VBCC MEETING ROOM 1C | 1 PM – 5 PM (Sessions 1-6) |</p>
<table>
<thead>
<tr>
<th>Credits</th>
<th>Presentation</th>
<th>Presenter</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>Nitrification Issues in Consecutive Systems, The Chesapeake Experience</td>
<td></td>
<td>Alexander Echols, City of Chesapeake</td>
<td>1:30 PM – 2 PM</td>
</tr>
<tr>
<td>In the Fast Lane: Evaluation of a High-Rate Water Treatment Process</td>
<td></td>
<td>Victoria Hoyland, CHA Consulting, Inc.</td>
<td>2 PM – 2:30 PM</td>
</tr>
<tr>
<td>Optimizing Biofiltration for Improved Treatment Performance and Decreased Operational Costs</td>
<td></td>
<td>Chance Lauderdale, HDR</td>
<td>2:30 PM – 3 PM</td>
</tr>
<tr>
<td>Earthquake Impacts on Well Water Quality Result in New Membrane Filtration Plant for Bealeton, VA Groundwater Supply</td>
<td></td>
<td>Jeff Chapin, Dewberry</td>
<td>4 PM – 4:30 PM</td>
</tr>
<tr>
<td>Asset Management: Non-Revenue Water</td>
<td></td>
<td>Dawn Harris, Atkins</td>
<td>4:30 PM – 5 PM</td>
</tr>
</tbody>
</table>

<p>| Session 2: Distribution and Operations I • VBCC MEETING ROOM 1D |</p>
<table>
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<tr>
<th>Credits</th>
<th>Presentation</th>
<th>Presenter</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>Out with Old, In With the New</td>
<td></td>
<td>Garrett Hughes, JMT</td>
<td>1:30 PM – 2 PM</td>
</tr>
<tr>
<td>Case Study on Large Diameter Transmission Water Main Installation in Dense Rock Formation Utilizing a Double-Shielded TBM</td>
<td></td>
<td>Jerry Scott, Fairfax Water</td>
<td>2 PM – 2:30 PM</td>
</tr>
<tr>
<td>Revised Total Coliform Rule (RTCR) Implementation in Virginia</td>
<td></td>
<td>Ray Whitner, Virginia Department of Health</td>
<td>2:30 PM – 3 PM</td>
</tr>
<tr>
<td>The Fine Line Between Pipe Replacement and Pipe Rehabilitation</td>
<td></td>
<td>Sonia Otten, Hatch Mott MacDonald</td>
<td>4 PM – 4:30 PM</td>
</tr>
<tr>
<td>Water Valve Condition Assessment and Rehabilitation in Arlington County, VA</td>
<td></td>
<td>Daniel Gilroy, CDM Smith</td>
<td>4:30 PM – 5 PM</td>
</tr>
</tbody>
</table>

<p>| Session 3: Asset Management I • VBCC MEETING ROOM 2A |</p>
<table>
<thead>
<tr>
<th>Credits</th>
<th>Presentation</th>
<th>Presenter</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>“Be Calm and AMP On” – Implementation of an Asset Management Program for the City of Annapolis</td>
<td></td>
<td>Gage Muckleroy, GHD</td>
<td>1:30 PM – 2 PM</td>
</tr>
<tr>
<td>Wading Through the Data of Force Main Condition Assessment</td>
<td></td>
<td>Chris Wilson, Brown and Caldwell</td>
<td>2 PM – 2:30 PM</td>
</tr>
<tr>
<td>Building an Asset Management Organization with O&amp;M Credibility</td>
<td></td>
<td>David Sklar, MWH Global</td>
<td>2:30 PM – 3 PM</td>
</tr>
<tr>
<td>Leveraging the Latest GIS-Based Mobile Solutions to Support Asset Management and Systems Operations</td>
<td></td>
<td>Jayson Brennen, CDM Smith</td>
<td>4 PM – 4:30 PM</td>
</tr>
<tr>
<td>Leveraging Smart Data Collection with Asset Management Principles</td>
<td></td>
<td>Sara Ferrara, ARCADIS</td>
<td>4:30 PM – 5 PM</td>
</tr>
</tbody>
</table>

<p>| Session 4: Planning and Modeling I • VBCC MEETING ROOM 2B |</p>
<table>
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<tr>
<th>Credits</th>
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<th>Time</th>
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<tbody>
<tr>
<td>Identifying Critical Infrastructure through the Use of Hydraulic Modeling to Support Asset Management and Master Planning</td>
<td></td>
<td>Laura Khounilay, ARCADIS</td>
<td>1:30 PM – 2 PM</td>
</tr>
<tr>
<td>New Approach to Hydraulically Model Peak Flow Recurrence</td>
<td></td>
<td>Matthias Wittenberg, CDM Smith</td>
<td>2 PM – 2:30 PM</td>
</tr>
<tr>
<td>State-of-the-Art WWTP Optimization Study Provides Actionable Insights for Reducing Operating Expenses and Chemical Use</td>
<td></td>
<td>Katya Bilyk, Hazen and Sawyer</td>
<td>2:30 PM – 3 PM</td>
</tr>
<tr>
<td>Achieving Affordable Clean Water Results Through Integrated Planning</td>
<td></td>
<td>Jeff Eger, HDR</td>
<td>4 PM – 4:30 PM</td>
</tr>
<tr>
<td>AWWA Committee Report: Trends in Water Distribution System Modeling</td>
<td></td>
<td>Larado Robinson, City of Salem, Virginia</td>
<td>4:30 PM – 5 PM</td>
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</tbody>
</table>

<p>| Session 5: Technology Forum I (Wastewater) • VBCC MEETING ROOM 2CD |</p>
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<tr>
<th>Credits</th>
<th>Presentation</th>
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<tbody>
<tr>
<td>TBD Gasket Sealing Technology: A Solution to Sealing Deficiencies in Cured-in-Place Pipe Lining</td>
<td></td>
<td>Mike Czipar, LMK Technologies &amp; David Reeves, PRISM Contractors TBD</td>
<td>1:30 PM – 2 PM</td>
</tr>
<tr>
<td>TBD Wastewater Facility Upgrade to Meet Co-Digestion Challenges Using Advanced Anaerobic Digester System Producing Class A Biosolids</td>
<td></td>
<td>Jongmin Kim, Infilco Degremont</td>
<td>2 PM – 2:30 PM</td>
</tr>
<tr>
<td>TBD Magnetite Ballasted Clarification Technology to Meet Ultra-Low Phosphorus Limits – A Cost Effective Process Reliably Achieving Ultra-Low TP Limits</td>
<td></td>
<td>Thomas Miles, Evoqua Water Technologies</td>
<td>2:30 PM – 3 PM</td>
</tr>
<tr>
<td>TBD City of Baltimore Southwest Diversion Sewer Rehabilitation</td>
<td></td>
<td>Anna Pridmore, Structural Technologies, LLC</td>
<td>4 PM – 4:30 PM</td>
</tr>
<tr>
<td>TBD Improving the Performance of On-Line Wet Chemical Process Analyzers</td>
<td></td>
<td>Ryan Richardson, Metrohm USA</td>
<td>4:30 PM – 5 PM</td>
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<p>| Session 6: YP Workshop • VBCC MEETING ROOM 3AB |</p>
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<th>Credits</th>
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<tbody>
<tr>
<td>Natural Stream Restoration Design</td>
<td></td>
<td>Veronica Cortes, Brown and Caldwell</td>
<td>1:30 PM – 2 PM</td>
</tr>
<tr>
<td>Sustainable Design in Water and Wastewater</td>
<td></td>
<td>Mike Hanna, Black &amp; Veatch</td>
<td>2 PM – 2:30 PM</td>
</tr>
<tr>
<td>So That the Grandkids Won’t Be Thirsty – Creating a Sustainable Water Future for Loudoun County</td>
<td></td>
<td>Thom Lipinski, Loudoun Water</td>
<td>2:30 PM – 3 PM</td>
</tr>
<tr>
<td>Water Reuse: Lessons Learned</td>
<td></td>
<td>Kevin Parker, HRSD</td>
<td>4 PM – 4:30 PM</td>
</tr>
<tr>
<td>Key Considerations for Utilities of the Future</td>
<td></td>
<td>Wendell Khunjar, Hazen and Sawyer</td>
<td>4:30 PM – 5 PM</td>
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</table>
### Session 7: Nutrient Removal and Recovery • VBCC MEETING ROOM 3C

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<tr>
<th>Credits</th>
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<tbody>
<tr>
<td>1</td>
<td>Implementing Ammonia-Based Aeration Control at Biological Nutrient Removing Wastewater Treatment Plants &lt;br&gt;Kshitiz Uprety, HRSD/ODU</td>
</tr>
<tr>
<td>1</td>
<td>Efficient Nitrogen Removal by Integrating Anammox Granules into an Uplow Membrane-Aerated Biofilm Reactor &lt;br&gt;Xiaojin Li, Virginia Tech</td>
</tr>
<tr>
<td>1</td>
<td>Recommendations and Lessons Learned from the Startup of the First Two Full-Scale Side-stream Deammonification Processes in North America: DEMON and ANITA Mox &lt;br&gt;Stephanie Klaus, VT/HRSD</td>
</tr>
<tr>
<td>1</td>
<td>Improving Settleability and Enhancing Biological Phosphorus Removal through the Implementation of Hydrocyclones &lt;br&gt;Claire Welling, VT/HRSD</td>
</tr>
<tr>
<td>1</td>
<td>Start-Up and Operation of a Partial Nitritation/Anammox Process for Centrate Pre-Treatment &lt;br&gt;Paula Sanjines, CH2M HILL</td>
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### Session 8: Wastewater Treatment • VBCC MEETING ROOM 3DE

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<tr>
<th>Credits</th>
<th>Presentation</th>
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<tbody>
<tr>
<td>1</td>
<td>Achieving NR with Variable Industrial Loads: IFAS – with a Side (Stream) of Chemical Treatment &lt;br&gt;Kristin Waller, O’Brien &amp; Gere</td>
</tr>
<tr>
<td>1</td>
<td>Effective Removal of Solids from Fats/Oils/Grease and Municipal Sludge/Scum to Increase Beneficial Reuse &lt;br&gt;Jesus Rodriguez, Enviro-Care Co., Inc.</td>
</tr>
<tr>
<td>1</td>
<td>Quantifying Cyanide Inhibition of Nitrification and Developing Cost-Effective Treatment Processes &lt;br&gt;Germano Salazar-Benites, HRSD</td>
</tr>
<tr>
<td>1</td>
<td>Evaluation of the Impacts of the Nature of the High Strength Food Wastes on Anaerobic Co-Digestion with Sewage Sludge &lt;br&gt;Ramola Vaidya, Virginia Tech</td>
</tr>
<tr>
<td>1</td>
<td>Impact of Limited Organic Carbon Addition on Nitrogen Removal in a Mainstream Anammox Moving Bed Biofilm Reactor &lt;br&gt;Johnnie Godwin, ODU/HRSD</td>
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### Session 9: Sustainability • VBCC MEETING ROOM 4AB

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<tr>
<th>Credits</th>
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<tbody>
<tr>
<td>1</td>
<td>Is EPA Stormwater Calculator Beneficial For Stormwater Management Design Of Small Treatment Facilities? &lt;br&gt;Anna Kazasi, Atkins</td>
</tr>
<tr>
<td>1</td>
<td>Accounting for the Sustainability and Costs of Stormwater BMPs – An Online Tool &lt;br&gt;Matthew Jones, Hazen and Sawyer</td>
</tr>
<tr>
<td>1</td>
<td>Case Studies on Climate Risk and Resilience Planning for Wastewater Infrastructure in Coastal Communities: Examples from NY, MA, and FL &lt;br&gt;Laurens van der Tak, CH2M HILL</td>
</tr>
<tr>
<td>1</td>
<td>Case Studies in the Application of the Envision Sustainable Infrastructure Rating System to Achieve Triple Bottom Line Sustainability Goals in Wastewater Infrastructure &lt;br&gt;Evan Bowles, Hazen and Sawyer</td>
</tr>
<tr>
<td>1</td>
<td>An Algae Based Treatment System Provides A Truly Sustainable Treatment Solution For Small &amp; Seasonal Wastewater Treatment Plants &lt;br&gt;Steve Kingsland, OneWater Inc.</td>
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### Session 10: Regulatory Issues • VBCC MEETING ROOM 4C

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<tr>
<th>Credits</th>
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<tr>
<td>1</td>
<td>VIP Pass: Evolution of VDH Source Water Programs &lt;br&gt;Roy Soto, Virginia Department of Health</td>
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<td>1</td>
<td>Managing Risks in Water Reuse: Intersection of Policy and Science &lt;br&gt;Mary Sadler, Hazen and Sawyer</td>
</tr>
<tr>
<td>1</td>
<td>New Freshwater Ammonia Standards and VPDES Permit Limits Are Coming! What Can You Do to Prepare? &lt;br&gt;Lawrence Hoffman, CHA Consulting, Inc.</td>
</tr>
<tr>
<td>1</td>
<td>Federal Drinking Water Regulatory Update for 2015 &lt;br&gt;Alan Roberson, American Water Works Association</td>
</tr>
<tr>
<td>1</td>
<td>Bacteria? Algae? Metals? The Next Potential Threats to Drinking Water &lt;br&gt;Daniel Hone, Virginia Department of Health</td>
</tr>
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### Session 11: System Operations & Maintenance I • VBCC MEETING ROOM 1C

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<tr>
<th>Credits</th>
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<tbody>
<tr>
<td>1</td>
<td>Advanced Hydrant Maintenance and Repair Training &lt;br&gt;Robert Loughney, Aquous Sales Inc.</td>
</tr>
<tr>
<td>1</td>
<td>Help! The Sky Is Falling! Nope, Just a Cell Antenna. &lt;br&gt;Christine Gunsaullus, Mumford-Bjorkman Associates, Inc.</td>
</tr>
<tr>
<td>1</td>
<td>Maintenance Revitalization – Increasing Productivity and Performance: Implementing a 5S Workshop and What It Means for Productivity, Efficiency, and Overall Morale in the Workplace &lt;br&gt;Steve Hill, Alexandria Renew Enterprises</td>
</tr>
<tr>
<td>1</td>
<td>Innovative Approaches to Drinking Water Emergency Response in Virginia &lt;br&gt;Erik Rosenfeldt, Hazen and Sawyer</td>
</tr>
<tr>
<td>1</td>
<td>No Budget to Fix I/I? Techniques to Maximize Effect and Minimize Cost &lt;br&gt;Heather Campbell, Dewberry</td>
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</tbody>
</table>
### Session 12: Collection and Interceptor Systems I • VBCC MEETING ROOM 1D

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<tr>
<th>Credits</th>
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<th>Time</th>
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<tbody>
<tr>
<td></td>
<td>Exercising Patience in I&amp;I Removal – A Decade of Success</td>
<td>Doug Hudgins, CHA Consulting, Inc.</td>
<td>8:30 AM – 9 AM</td>
</tr>
<tr>
<td></td>
<td>Reducing Collection System Flow Constraints through the Design of a New 600 Million Gallon per Day Influent Pumping Station</td>
<td>Brian Balchunas, HDR</td>
<td>9 AM – 9:30 AM</td>
</tr>
<tr>
<td></td>
<td>Building a 108&quot; Flow Equalization Pipeline in a Separate Sanitary System</td>
<td>Lee Maddox, Henrico County</td>
<td>10:30 AM – 11 AM</td>
</tr>
<tr>
<td></td>
<td>Are CIPP Tube Coatings &quot;Sacrificial&quot; or Critical to Leak-Resistant Sewer Rehab Results?</td>
<td>Thomas Porzio, Jacobs Engineering Group</td>
<td>11 AM – 11:30 AM</td>
</tr>
<tr>
<td></td>
<td>More than Meets the Eye: Large Diameter Trenchless Rehabilitation</td>
<td>Tracy Fee, AECOM</td>
<td>11:30 AM – Noon</td>
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### Session 13: Biosolids Management and Solids Handling • VBCC MEETING ROOM 2A

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<th>Credits</th>
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<tbody>
<tr>
<td></td>
<td>Impact of Sludge Pretreatment Technologies: Are the Process Operating Conditions of Anaerobic Digesters Ever the Same?</td>
<td>Velmurugan Subramanian, AECOM</td>
<td>8:30 AM – 9 AM</td>
</tr>
<tr>
<td></td>
<td>Changing Land Application Regulations: How They Are Shaping Virginia and Maryland Biosolids Programs</td>
<td>Todd Williams, CH2M HILL</td>
<td>9 AM – 9:30 AM</td>
</tr>
<tr>
<td></td>
<td>To Digest or Not to Digest, That is the Question – Tracking and Managing Carbon through Resource Recovery Facilities</td>
<td>Robert Wimmer, Black &amp; Veatch</td>
<td>10:30 AM – 11 AM</td>
</tr>
<tr>
<td></td>
<td>Retrofitting Thermal Hydrolysis into Existing Solids Handling Processes at the HRSD Atlantic Treatment Plant</td>
<td>Drew Zirkle, HDR</td>
<td>11 AM – 11:30 AM</td>
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### Session 14: Young Professionals Paper Session • VBCC MEETING ROOM 2B

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<tbody>
<tr>
<td></td>
<td>Enhanced Anaerobic Digester Performance and Efficiency with Improved Heating and Mixing</td>
<td>Kyle Drumheller, Hazen and Sawyer</td>
<td>8:30 AM – 9 AM</td>
</tr>
<tr>
<td></td>
<td>Got Slope? Design of a 20,500 Linear Foot Sinking Sewer Interceptor</td>
<td>Robert Gaylord, Johnson, Mirmiran &amp; Thompson</td>
<td>9 AM – 9:30 AM</td>
</tr>
<tr>
<td></td>
<td>Impact of Co-Digestion on Dissolved Organic Nitrogen and UV Absorbance in Thermal Hydrolysis Pretreated Digestion Return Liquor</td>
<td>Nandita Ahuja, Virginia Tech</td>
<td>10:30 AM – 11 AM</td>
</tr>
<tr>
<td></td>
<td>Quantifying Sludge Handling Characteristics of an Adsorption Style HRAS Process</td>
<td>Jon DeArmond, HRSD</td>
<td>11 AM – 11:30 AM</td>
</tr>
<tr>
<td></td>
<td>Nitrification Optimization: An Intimate Evaluation of Nitrification through Experimental Data Analysis and Case Study Evaluation</td>
<td>Brad Sweeney, Johnson, Mirmiran &amp; Thompson</td>
<td>11:30 AM – Noon</td>
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### Session 15: Technology Forum II (WATER) • VBCC MEETING ROOM 2CD

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<tbody>
<tr>
<td></td>
<td>TBD Reduce Risk in Installing Underground Water Pipes</td>
<td>Michael Neill, Infra-Tect, Inc.</td>
<td>8:30 AM – 9 AM</td>
</tr>
<tr>
<td></td>
<td>TBD New Leak Detection Technology Using Helium</td>
<td>Brad Brown, Utility Service Group</td>
<td>9 AM – 9:30 AM</td>
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<tr>
<td></td>
<td>TBD The Ugly Duckling Becomes a SWAN – The Success Story of Anglian Water’s Smart Water Network</td>
<td>Jeff Miller and Lee Ferrell, Schneider Electric</td>
<td>10:30 AM – 11 AM</td>
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<tr>
<td></td>
<td>TBD Energy Savings in Water and Wastewater Transmission Systems Through the Use of Appropriate Air Valves</td>
<td>TBD</td>
<td>11 AM – 11:30 AM</td>
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<td></td>
<td>TBD Where Will the Next Pipeline Failure Be?</td>
<td>William Jappy, PICA Corp.</td>
<td>11:30 AM – Noon</td>
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### Session 16: Water Treatment I • VBCC MEETING ROOM 3AB

<table>
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<th>Credits</th>
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<tbody>
<tr>
<td></td>
<td>Navy Overseas Drinking Water Challenges: Searching for Bromate Sources while Starting Calcite Softeners and Conducting a GWUDI Study</td>
<td>Jeremy Jones, NAVFAC Atlantic Utilities &amp; Energy Management</td>
<td>8:30 AM – 9 AM</td>
</tr>
<tr>
<td></td>
<td>Utilizing the Latest Technology and Creative Bidding to Build a New Water Treatment Plant</td>
<td>Paul Delphos, Black &amp; Veatch</td>
<td>9 AM – 9:30 AM</td>
</tr>
<tr>
<td></td>
<td>Algae and Algal Toxins: Impacts on Treatment and Control Strategies</td>
<td>William Becker, Hazen and Sawyer</td>
<td>10:30 AM – 11 AM</td>
</tr>
<tr>
<td></td>
<td>Got Silica? Got Saltwater? Exploring the Use of Reverse Osmosis to Treat Raw Water with Reactive Silica and Saltwater Intrusion</td>
<td>Erica Carter, Kimley-Horn</td>
<td>11 AM – 11:30 AM</td>
</tr>
<tr>
<td></td>
<td>Meeting CT, Saving Energy and Looking Good! Clearwell Improvements at a Membrane Treatment Plant</td>
<td>Korkud Egrican, CH2M HILL</td>
<td>11:30 AM – Noon</td>
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### Session 17: Water Resources I • VBCC MEETING ROOM 3C

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<tbody>
<tr>
<td></td>
<td>Challenges and Opportunities during Construction of a New Potomac River Water Supply</td>
<td>Raghavender Joshi, Loudoun Water</td>
<td>8:30 AM – 9 AM</td>
</tr>
<tr>
<td></td>
<td>Developing a Methodology for Triple Bottom Line Comparisons of Water Supply Options Relative to DPR</td>
<td>Benjamin Stanford, Hazen and Sawyer</td>
<td>9 AM – 9:30 AM</td>
</tr>
<tr>
<td></td>
<td>Virginia’s First State Water Resources Plan</td>
<td>Tammy Stephenson, Virginia Department of Environmental Quality</td>
<td>10:30 AM – 11 AM</td>
</tr>
<tr>
<td></td>
<td>Implementing Source Water Protection – There’s Money Out There if You Know Where to Look!</td>
<td>Ashley Ruble, CHA Consulting, Inc.</td>
<td>11 AM – 11:30 AM</td>
</tr>
<tr>
<td></td>
<td>Engineering Shrinkage: Water Use Contraction Issues</td>
<td>Devang Prajapati, Hatch Mott MacDonald</td>
<td>11:30 AM – Noon</td>
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**The Conduit – Summer 2015**
### Session 18: Stormwater I • VBCC MEETING ROOM 3DE

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<th>Credits</th>
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<tbody>
<tr>
<td></td>
<td>Integration of Green and Grey Infrastructure to Mitigate Storm Sewer Capacity Deficiencies and Provide Climate Resilience in Alexandria, Virginia</td>
<td>Cheri Salas, CH2M HILL</td>
<td>8:30 AM – 9 AM</td>
</tr>
<tr>
<td></td>
<td>Integrating Local TMDLs with the Chesapeake Bay TMDL – The District of Columbia’s Consolidated TMDL Implementation Plan</td>
<td>Tim Schmitt, LimnoTech</td>
<td>9 AM – 9:30 AM</td>
</tr>
<tr>
<td></td>
<td>Improving the Scientific Basis of Water Quality Management for the James River Estuary: Linking Chlorophyll-a to Environmental Effects</td>
<td>Clifton Bell, Brown and Caldwell</td>
<td>11 AM – 11:30 AM</td>
</tr>
<tr>
<td></td>
<td>Large-Scale Reservoir Restoration: Planning and Crediting for Chesapeake Bay TMDL Compliance</td>
<td>Noelle Slater, ARCADIS</td>
<td>11:30 AM – Noon</td>
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### Session 19: Utility Management • VBCC MEETING ROOM 4AB

<table>
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<tr>
<th>Credits</th>
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<tbody>
<tr>
<td></td>
<td>Communicating with Your Customers – A Blueprint for Using Your “Brand” to Deliver a Preemptive Positive Perception</td>
<td>David Saunders, HDR</td>
<td>8:30 AM – 9 AM</td>
</tr>
<tr>
<td></td>
<td>What Gets Measured Gets Done: Using Systematic Measurement to Fuel High Performance</td>
<td>Lyle Beefelt, Prince William County Service Authority</td>
<td>9 AM – 9:30 AM</td>
</tr>
<tr>
<td></td>
<td>Journey to the Center of Efficiency: One Utility’s Path to Operational Optimization</td>
<td>Ryan Nagel, Hazen and Sawyer</td>
<td>10:30 AM – 11 AM</td>
</tr>
<tr>
<td></td>
<td>How Sustainable is Your Utility? A “Snapshot” Approach for Water Utility Sustainability Assessment</td>
<td>Matthew Res, University of South Florida</td>
<td>11 AM – 11:30 AM</td>
</tr>
<tr>
<td></td>
<td>Complications, Complications – A Complex Wastewater Utility’s Need To Streamline Its Organization</td>
<td>William Meinert, O’Brien &amp; Gere</td>
<td>11:30 AM – Noon</td>
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</table>

### Session 20: System Operations & Maintenance II • VBCC MEETING ROOM 1C

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<tr>
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<tbody>
<tr>
<td></td>
<td>Integrated Ammonia and Aeration Control of an IFAS WWTF with Anoxic Swing Zones and Most-Open-Valve Control – Maximum Treatment with Minimum Energy</td>
<td>Tilo Stahl, BioChem Technology, Inc.</td>
<td>1:30 PM – 2 PM</td>
</tr>
<tr>
<td></td>
<td>Meeting Strict Summer Permit Requirements on Day One: Start-up of the Western Wake Regional Water Reclamation Facility</td>
<td>Chris White, Hazen and Sawyer</td>
<td>2 PM – 2:30 PM</td>
</tr>
<tr>
<td></td>
<td>Saving Money through Targeted Maintenance Training Development</td>
<td>Gary Fern, Whitman, Requardt &amp; Associates</td>
<td>2:30 PM – 3 PM</td>
</tr>
<tr>
<td></td>
<td>Increase Your MCC’s Brain Power – How Loudoun Water is Using Intelligent MCCs to Manage Their New Water Treatment Facility</td>
<td>Taha Mohammed, CDM Smith</td>
<td>4 PM – 4:30 PM</td>
</tr>
<tr>
<td></td>
<td>Integrating a Hydraulic Model with Daily Operations</td>
<td>Chris Basford, Newport News Waterworks</td>
<td>4:30 PM – 5 PM</td>
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</table>

### Session 21: Collection and Interceptor Systems II • VBCC MEETING ROOM 1D

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<th>Credits</th>
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<tr>
<td></td>
<td>Fiber Optic Technology Captures Vital Cure Temperature Information for Improving Quality Control During Cure-in-Place Installations</td>
<td>Don Barnhart, Pipeline Renewal Technologies</td>
<td>1:30 PM – 2 PM</td>
</tr>
<tr>
<td></td>
<td>Innovative Technology Required to Conquer 25 FT Deep Petrified Tree Roots</td>
<td>Joseph Landrum, Whitman, Requardt &amp; Associates</td>
<td>2 PM – 2:30 PM</td>
</tr>
<tr>
<td></td>
<td>Finite Element Analysis and the Application of an External V-Wrap Carbon Fiber Technology Aides in the Evaluation and Repairs of a 30- and 42-inch PCCP Pipe</td>
<td>Mark Notheis, CH2M HILL</td>
<td>2:30 PM – 3 PM</td>
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<td></td>
<td>Measured I&amp;I Reductions Using Various Trenchless Technologies</td>
<td>John Travis, ARCADIS</td>
<td>4 PM – 4:30 PM</td>
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<td></td>
<td>Optimized Operation of a Multi-Jurisdictional Wastewater Conveyance System</td>
<td>Marchelle Sossong, Henrico County</td>
<td>4:30 PM – 5 PM</td>
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### Session 22: Case Histories - Wastewater • VBCC MEETING ROOM 2A

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<tr>
<th>Credits</th>
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<tr>
<td></td>
<td>A Pilot Study of Combined Sewer Overflow Treatment Using Cloth Media Filtration Technology</td>
<td>Jack Ma, Aqua-Aerobic Systems, Inc.</td>
<td>2 PM – 2:30 PM</td>
</tr>
<tr>
<td></td>
<td>Pushing the Limits of Adsorption-Style High Rate Activated Sludge to Maximize Carbon Capture</td>
<td>Mark Miller, VTI/HRSD</td>
<td>2:30 PM – 3 PM</td>
</tr>
<tr>
<td></td>
<td>Fast Tracked Design: Designing New 800 MGD Headworks Facilities at the Back River WWTP in 15 Months</td>
<td>Ben Asavakarin, Johnson, Mirmiran &amp; Thompson</td>
<td>4 PM – 4:30 PM</td>
</tr>
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<td></td>
<td>Working Together – How Danville’s Public Private Partnership Reduced Operating Expenses while Achieving Record Nitrogen Removals</td>
<td>Barry Dunkley, City of Danville, Department of Utilities</td>
<td>4:30 PM – 5 PM</td>
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### Session 23: Condition Assessment • VBCC MEETING ROOM 2B

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<tbody>
<tr>
<td></td>
<td>Innovative Water Main Replacement Planning Using a Combination of Statistical Modeling and Condition Assessment</td>
<td>Celine Hyer, ARCADIS</td>
<td>1:30 PM – 2 PM</td>
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<tr>
<td></td>
<td>What’s New for the NASCCO PACP® Version 7.0 – An Update</td>
<td>Christopher Garrett, Brown and Caldwell</td>
<td>2 PM – 2:30 PM</td>
</tr>
<tr>
<td></td>
<td>Planning and Executing a Successful Pipe Diver Condition Assessment</td>
<td>Russell Deason, Hatch Mott MacDonald</td>
<td>2:30 PM – 3 PM</td>
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<tr>
<td></td>
<td>The New S in SSES – Condition Assessment and Asset Management for Stormwater Systems</td>
<td>Benjamin Custalow, Greeley and Hansen</td>
<td>4 PM – 4:30 PM</td>
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<tr>
<td></td>
<td>Prevent Your Assets from Becoming a Liability (Transforming Infrastructure Data into Actionable Business Intelligence)</td>
<td>Jeffrey Griffiths, Hydromax USA</td>
<td>4:30 PM – 5 PM</td>
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</table>
**Session 24: Design and Construction I • VBCC MEETING ROOM 2CD**

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<th>Credits</th>
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<tr>
<td></td>
<td>Path to Mainstream Deammonification</td>
<td>Hong Yin, Alexandria Renew Enterprises</td>
<td>1:30 PM – 2 PM</td>
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<tr>
<td></td>
<td>The Data Is In: An Innovative WWTP Capacity Expansion Proves Successful</td>
<td>Jonathan Goodman, CHA Consulting, Inc.</td>
<td>2 PM – 2:30 PM</td>
</tr>
<tr>
<td></td>
<td>Incorporating Simplicity in the Design of an 800-MGD Fine Screen Facility</td>
<td>Dave Cox, Johnson, Mirmiran &amp; Thompson</td>
<td>2:30 PM – 3 PM</td>
</tr>
<tr>
<td></td>
<td>Oh No! Construction Is Slow, What Will We Do with the Flow?</td>
<td>Richard Harrell, City of Virginia Beach</td>
<td>4 PM – 4:30 PM</td>
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<tr>
<td></td>
<td>Lessons Learned in Rehabilitation and Repair of Concrete Tanks</td>
<td>Donald Marr, Parsons Corporation</td>
<td>4:30 PM – 5 PM</td>
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</tbody>
</table>

**Session 25: Distribution and Operations II • VBCC MEETING ROOM 3AB**

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<tr>
<th>Credits</th>
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<tbody>
<tr>
<td></td>
<td>84-Inch Diameter Gravity Pipeline Significantly Reduces Electrical Costs at 100-MGD Water Treatment Plant</td>
<td>Earl Schneider, Hatch Mott MacDonald</td>
<td>1:30 PM – 2 PM</td>
</tr>
<tr>
<td></td>
<td>Advanced Distribution System Monitoring and Event Management Technology Simplifies Operations, Increases Water Quality and Saves Treatment Expenses</td>
<td>Harold Mosley, Mueller Co.</td>
<td>2 PM – 2:30 PM</td>
</tr>
<tr>
<td></td>
<td>A Sustainable Holistic Approach to Distribution System Water Quality &amp; Asset Management</td>
<td>Brad Gresham, Utility Service Group</td>
<td>2:30 PM – 3 PM</td>
</tr>
<tr>
<td></td>
<td>The Tank Inspection Standard You’ve Been Waiting For!</td>
<td>Nicole Clarke, Tank Industry Consultants</td>
<td>4:30 PM – 5 PM</td>
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**Session 26: Water Treatment II • VBCC MEETING ROOM 3C**

<table>
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<tr>
<th>Credits</th>
<th>Presentation Title</th>
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<tbody>
<tr>
<td></td>
<td>Maintaining Water Supply to Washington D.C. – Upgrades within a Historic Facility</td>
<td>Shirley Luu, Black &amp; Veatch</td>
<td>1:30 PM – 2 PM</td>
</tr>
<tr>
<td></td>
<td>Recent Advancements in Treatment and Removal of Cyanobacteria and Their Toxins from the Contaminated Water</td>
<td>Ishan Jain, Virginia Tech</td>
<td>2 PM – 2:30 PM</td>
</tr>
<tr>
<td></td>
<td>Occurrence and Consequences of Increased Bromide in Drinking Water Sources</td>
<td>Nancy McTigue, EE&amp;T</td>
<td>2:30 PM – 3 PM</td>
</tr>
<tr>
<td></td>
<td>Evaluation of Alternatives for Fe and Mn Removal from Groundwater for an Existing Water Utility System</td>
<td>Bruce Neu, Hatch Mott MacDonald</td>
<td>4:30 PM – 5 PM</td>
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**Session 27: Government Affairs • VBCC MEETING ROOM 3DE**

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<th>Credits</th>
<th>Presentation Title</th>
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<tbody>
<tr>
<td></td>
<td>DEQ - TMDLs Update</td>
<td>Liz McKercher, Virginia Department of Environmental Quality</td>
<td>1:30 PM – 2 PM</td>
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<td></td>
<td>Water Division Regulatory Update</td>
<td>Melanie Davenport, Virginia Department of Environmental Quality</td>
<td>2 PM – 2:30 PM</td>
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<td></td>
<td>Current Priorities at DEQ</td>
<td>Dave Payar, Virginia Department of Environmental Quality</td>
<td>2:30 PM – 3 PM</td>
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<td></td>
<td>Storm Water Regulatory Update</td>
<td>Fred Cunningham, Virginia Department of Environmental Quality</td>
<td>4 PM – 4:30 PM</td>
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<td></td>
<td>Triennial Review and Chlorophyll-a Study Updates</td>
<td>John Kennedy, Virginia Department of Environmental Quality</td>
<td>4:30 PM – 5 PM</td>
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**Session 28: Student competition presentations • VBCC MEETING ROOM 4AB**

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<tr>
<th>Credits</th>
<th>Presentation Title</th>
<th>Presenter</th>
<th>Time</th>
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<tbody>
<tr>
<td>2015 WVEA Student Design Competition Winning Presentation</td>
<td>Zachary Purvis, Kimley-Horn</td>
<td>2:30 PM – 3 PM</td>
<td></td>
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<tr>
<td>Student Water Challenge Presentations</td>
<td>MOHAN QIN, Virginia Tech</td>
<td>3 PM – 4 PM</td>
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</table>

The winning team of the 2015 WVEA Student Design Competition will give their presentation in preparation for representing Virginia at WEFTEC 2015. Immediately following, the teams for the 2015 VA AWWA Student Water Challenge will present their findings from their day’s work on a water quality, treatment, or distribution problem. Winners will be announced at the Awards Banquet.

**Session 29: Emerging Technology • VBCC MEETING ROOM 4C**

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<th>Credits</th>
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<tbody>
<tr>
<td></td>
<td>A New Spin On Pump Station Testing And Analysis: What You Wish You Knew About Your Pump Station</td>
<td>Zachary Purvis, Kimley-Horn</td>
<td>1:30 PM – 2 PM</td>
</tr>
<tr>
<td></td>
<td>Self-Supplied NH3-CO2 Draw Solute for Achieving Wastewater Treatment and Recovery in a Microbial Electrolysis Cell-Forward Osmosis-Coupled System</td>
<td>MOHAN QIN, Virginia Tech</td>
<td>2 PM – 2:30 PM</td>
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<tr>
<td></td>
<td>Shorter Schedule, Reduced Cost and Improved Project Communication Using 3D BIM Software and 3D Laser Scanning Technology on a Design-Build Project</td>
<td>Charlie Rocheleau, Haskell Company</td>
<td>2:30 PM – 3 PM</td>
</tr>
<tr>
<td></td>
<td>Economic Benefits of Using Acoustic Inspection to Prioritize Sewer Cleaning</td>
<td>George Selembo, InfoSense, Inc.</td>
<td>4 PM – 4:30 PM</td>
</tr>
<tr>
<td></td>
<td>Big Data and the Water/Wastewater Industry – Turning Data into Decisions</td>
<td>Gregory Quist, SmartCover Systems</td>
<td>4:30 PM – 5 PM</td>
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# THURSDAY, SEPTEMBER 17  8:30 AM – NOON (Sessions 30-34)

## Session 30: Wastewater Forum • VBCC MEETING ROOM 1C

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<tr>
<td></td>
<td>Design Considerations for Pumping Station Upgrades</td>
<td>Steven Carter, GHD</td>
<td>8:30 AM – 9 AM</td>
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<tr>
<td></td>
<td>Two Stages Are Better than One – A Two-Stage Textile Media Filter System Produces Exceptional Treatment Performance</td>
<td>Doug Urquhart, CHA Consulting, Inc.</td>
<td>9 AM – 9:30 AM</td>
</tr>
<tr>
<td></td>
<td>The Changing Face of Wet Weather Disinfection – Challenges and Opportunities</td>
<td>Samuel Jeyanayagam, CH2M HILL</td>
<td>9:30 AM – 10 AM</td>
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<tr>
<td></td>
<td>Imagination to Reality – Baltimore Design Combines Physical and Design Models to Deliver Wet Weather Solution</td>
<td>Burton Curry, Johnson, Mirmiran &amp; Thompson</td>
<td>10:30 AM – 11 AM</td>
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<td></td>
<td>Through the Park, Under a Stream, and In a Levee – Rehabilitation of a 102-inch Sewer</td>
<td>Thomas DiLego, Greeley and Hansen</td>
<td>11 AM – 11:30 AM</td>
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<td></td>
<td>Design Verification of a Complex Tunnel Dewatering Pump Station with Physical Modeling: A Case Study</td>
<td>Carl Frizzell, CDM Smith</td>
<td>11:30 AM – Noon</td>
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## Session 31: Energy Management & Reduction • VBCC MEETING ROOM 1D

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<tr>
<td></td>
<td>Use of the Biochemical Methane Potential Test to Evaluate the Feasibility of High Strength Waste Co-Digestion for Revenue Generation</td>
<td>Shawn Veltman, CHA Consulting, Inc.</td>
<td>8:30 AM – 9 AM</td>
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<td></td>
<td>Microbial Fuel Cells for Energy-Efficient Wastewater Treatment: Can We Do It?</td>
<td>Zheng Ge, Virginia Tech</td>
<td>9 AM – 9:30 AM</td>
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<td></td>
<td>Can You Have It All? Reducing Operating Costs without Reducing Operational Efficiency</td>
<td>Blair Wisdom, Black &amp; Veatch</td>
<td>9:30 AM – 10 AM</td>
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<td></td>
<td>Sustainable Wastewater Treatment in Membrane Bioelectrochemical Reactor (MBER) System</td>
<td>Jian Li, Virginia Tech</td>
<td>10:30 AM – 11 AM</td>
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<td>HRSD’s Path to Long-Term Energy Management</td>
<td>Christina Alto, HDR</td>
<td>11 AM – 11:30 AM</td>
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<td></td>
<td>Recent Thermal Hydrolysis Plants in the UK: Lessons Learned from BioThelys at Oxford and Cambi at Longreach</td>
<td>Charles Goss, AECOM</td>
<td>11:30 AM – Noon</td>
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## Session 32: Instrumentation and Process Control • VBCC MEETING ROOM 2A

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<tr>
<td></td>
<td>When SCADA Fails, What Will You Do? Manual Operation Exercises at Two Large Plants</td>
<td>Joel Thompson, Fairfax Water</td>
<td>8:30 AM – 9 AM</td>
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<td></td>
<td>On Demand Pump Condition Assessment and Optimization</td>
<td>Jeff Miller, Schneider Electric</td>
<td>9 AM – 9:30 AM</td>
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<td></td>
<td>Virtualizing SCADA: Improving Control System Reliability with Proven IT Technology</td>
<td>Jason Hamlin, City of Lynchburg Regional Wastewater Treatment Plant</td>
<td>10:30 AM – 11 AM</td>
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<td></td>
<td>The Value of Accurate AWWA Water Audits</td>
<td>Craig Hannah, Johnson Controls, Inc.</td>
<td>11 AM – 11:30 AM</td>
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<td></td>
<td>Climbing the Decision Tree – The Art to Right Sizing and Phasing SCADA System Upgrades</td>
<td>Robert Krallinger, MWH Global</td>
<td>11:30 AM – Noon</td>
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## Session 33: Asset Management II • VBCC MEETING ROOM 2B

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<tr>
<td></td>
<td>Effective Maintenance Equals Baby Steps Toward Sustainability</td>
<td>Nina Andgren, Upper Occoquan Service Authority</td>
<td>8:30 AM – 9 AM</td>
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<tr>
<td></td>
<td>A Triple Bottom Line Approach to Asset Management</td>
<td>Ann McPherson, Black &amp; Veatch</td>
<td>9 AM – 9:30 AM</td>
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<td></td>
<td>How Do You Spell Relief? O-O: Operational Optimization through Industry Best Practice</td>
<td>James Cherry, City of Virginia Beach</td>
<td>9:30 AM – 10:AM</td>
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<td></td>
<td>From 0 to 60 MPH: Fast-Tracking an Effective Asset Management Program in the City of Baltimore</td>
<td>Tasneem Hussam, MWH Global</td>
<td>10:30 AM – 11 AM</td>
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<td></td>
<td>Achieving ISO 55000 Certification – Case Study Examples Show How to Leverage Best Practices</td>
<td>Linda Blankenship, ARCADIS</td>
<td>11 AM – 11:30 AM</td>
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<tr>
<td></td>
<td>Triple Bottom Line Assessment of Alternatives for a Small Diameter Transmission Main in a Challenging Location</td>
<td>Casey Murray, O’Brien &amp; Gere</td>
<td>11:30 AM – Noon</td>
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## Session 34: Planning and Modeling II • VBCC MEETING ROOM 2CD

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<tr>
<td></td>
<td>Gaming the System – How to Choose Favorable (and Defensible) Design Conditions for Capacity and SSO Planning and Design</td>
<td>Eric Harold, ARCADIS</td>
<td>8:30 AM – 9 AM</td>
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<td></td>
<td>Suppressing the Surge: A Two-Stage Modeling Approach to Transient Analysis and Mitigation for a Deep CSO Storage Tunnel</td>
<td>Brandon Flora, Greeley and Hansen</td>
<td>9 AM – 9:30 AM</td>
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<td></td>
<td>Modeling and Process Considerations for the Implementation of a Thermal Hydrolysis Process</td>
<td>Daniel Hingley, HDR</td>
<td>9:30 AM – 10 AM</td>
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<td></td>
<td>Defusing the Bomb – Modeling Gas Generation, Emissions and Control Strategies for a Wastewater Force Main Network</td>
<td>Matthew Ward, CH2M HILL</td>
<td>10:30 AM – 11 AM</td>
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<td></td>
<td>Cybersecurity Assessment of 24 Waterworks in Virginia</td>
<td>Christian Manalo, Booz Allen Hamilton</td>
<td>11 AM – 11:30 AM</td>
</tr>
<tr>
<td></td>
<td>Stormwater Planning and TMDL Compliance using BayFAST</td>
<td>Alaina Armel, AECOM</td>
<td>11:30 AM – Noon</td>
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Thursday, September 17

Session 35: Stormwater II • VBCC Meeting Room 3AB

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<tbody>
<tr>
<td></td>
<td>Successful Maintenance of Green Infrastructure</td>
<td>Shelly Frie, CH2M HILL</td>
<td>8:30 AM – 9 AM</td>
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<td></td>
<td>Financing Strategies for Stormwater Programs – Applying WEF’s Stormwater Manuals Principles to Practice</td>
<td>Fernando Pasquel, ARCADIS</td>
<td>9 AM – 9:30 AM</td>
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<td></td>
<td>New Methods for Managing Stormwater</td>
<td>Stephen Bourne, Atkins</td>
<td>9:30 AM – 10 AM</td>
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<td></td>
<td>Thinking Ahead on TMDLs – Optimizing TMDL Action Plans through Innovative Scenario Tools</td>
<td>Lin Liang, Greeley and Hansen</td>
<td>10:30 AM – 11 AM</td>
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<td></td>
<td>Owl Creek Stream Assessment and Impacts Analysis: Identifying Potential Sources of Water Quality Impairment in a Tidal Watershed to Support a Stormwater Management Plan</td>
<td>Matt Petty, CDM Smith</td>
<td>11 AM – 11:30 AM</td>
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<td></td>
<td>Creating A Strategic Asset Management Plan for Your “Other” Utility</td>
<td>Melanie Coffey, Brown and Caldwell</td>
<td>11:30 AM – Noon</td>
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Session 36: Design and Construction II • VBCC Meeting Room 3C

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<tr>
<td></td>
<td>Design Approaches and Challenges for Implementing Green Infrastructure in New York</td>
<td>Neepa Shah, Greeley and Hansen</td>
<td>8:30 AM – 9 AM</td>
</tr>
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<td></td>
<td>Innovative Integrated Fixed-Film Activated Sludge (IFAS) Oxidation Ditch Conversion for Total Nitrogen Control in Virginia</td>
<td>Jason Bowman, Entex Technologies Inc.</td>
<td>9 AM – 9:30 AM</td>
</tr>
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<td></td>
<td>Utilizing 3D Design for Small-Scale Wastewater Applications</td>
<td>Ben Chester, RK&amp;K/Old Dominion University</td>
<td>9:30 AM – 10:AM</td>
</tr>
<tr>
<td></td>
<td>Boats, Trains, and Automobiles: Alignments, Challenges and Lessons Learned from a Major Horizontal Directional Drill River Crossing and Interceptor Installation</td>
<td>Will Hinz, Whitman, Requardt &amp; Associates</td>
<td>11 AM – 11:30 AM</td>
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<td></td>
<td>Pilot Study: Streamlined Rehabilitation Plans and Construction Challenges</td>
<td>Mike Mull, Woolpert</td>
<td>11:30 AM – Noon</td>
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Session 37: Alternative Project Delivery • VBCC Meeting Room 3DE

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<tr>
<td></td>
<td>Memphis Blues – Helping the City Weather the Challenges of Implementing a Consent Decree Program</td>
<td>Pete Baskette, Black &amp; Veatch</td>
<td>8:30 AM – 9 AM</td>
</tr>
<tr>
<td></td>
<td>Implementing a Large-Scale Urban Stormwater Retrofit Program Using a Public-Private Partnership Model</td>
<td>Scott Weikert, CH2M HILL</td>
<td>9 AM – 9:30 AM</td>
</tr>
<tr>
<td></td>
<td>Unique Alternative Project Delivery Saved Significant Costs and Time for Conveyance System Rehabilitation and Provides Other Owner Benefits</td>
<td>William Hixon, ARCADIS</td>
<td>9:30 AM – 10 AM</td>
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<tr>
<td></td>
<td>Using Design-Build to Replace Aging SCADA Systems</td>
<td>Joshua Gelman, CDM Smith</td>
<td>10:30 AM – 11 AM</td>
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<td></td>
<td>Optimized Sewer Cleaning – Utilizing an Innovative Predictive Decision Support System (DSS)</td>
<td>Paul Meschino, Utility Service Company, Inc.</td>
<td>11:30 AM – Noon</td>
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Session 38: Case Histories - Water • VBCC Meeting Room 4AB

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<td></td>
<td>Forest Management on a Municipal Watershed</td>
<td>Eddie Harrah, Newport News Waterworks</td>
<td>8:30 AM – 9 AM</td>
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<tr>
<td></td>
<td>Effectiveness of Tank Aeration for Stage 2 DBP Compliance</td>
<td>David Briley, Hazen and Sawyer</td>
<td>9 AM – 9:30 AM</td>
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<tr>
<td></td>
<td>New Approaches to Filter Condition Assessment and Optimization</td>
<td>Vinod Korategere, Brown and Caldwell</td>
<td>9:30 AM – 10 AM</td>
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<tr>
<td></td>
<td>Application of Chlorine Dioxide to Improve Water Treatment Plant Performance</td>
<td>John Civardi, Hatch Mott MacDonald</td>
<td>10:30 AM – 11 AM</td>
</tr>
<tr>
<td></td>
<td>Design Approaches for Creating Value and Overcoming Challenges in Construction of a $200 Million Surface Water Treatment Plant Upgrade and Expansion</td>
<td>Brian Whitaker, CH2M HILL</td>
<td>11 AM – 11:30 AM</td>
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<tr>
<td></td>
<td>Addressing the Requirements of a Bin 2 Classification with UV Disinfection</td>
<td>Eric Anderson, CHA Consulting, Inc.</td>
<td>11:30 AM – Noon</td>
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Session 39: Water Resources II • VBCC Meeting Room 4C

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<tr>
<td></td>
<td>Why Isn’t There a Regional Solution to Groundwater Management?</td>
<td>Whitney Katchmark, Hampton Roads Planning District Commission</td>
<td>8:30 AM – 9 AM</td>
</tr>
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<td></td>
<td>Occurrence, Fate and Distribution of Trace Organics in the Potable Surface Water Reuse Scenario of the Occoquan Watershed</td>
<td>Robert Angelotti, Upper Occoquan Service Authority</td>
<td>9 AM – 9:30 AM</td>
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<td></td>
<td>An Assessment of the Coal Ash Spill Impact on the City of Danville Drinking Water</td>
<td>Richard Brown, EE&amp;T</td>
<td>9:30 AM – 10 AM</td>
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<tr>
<td></td>
<td>They’re Here…An Experience With an Unusual Organism in a Water Supply Reservoir</td>
<td>Ben Wright, Hazen and Sawyer</td>
<td>10:30 AM – 11 AM</td>
</tr>
<tr>
<td></td>
<td>Source Water Monitoring Technology – Monitoring Surrogates for Safety Purposes</td>
<td>Daniel Pomeroy, Hatch Mott MacDonald</td>
<td>11:30 AM – Noon</td>
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</table>
Alternates

This year, the WaterJAM Committee has slated alternate speakers and presentations. These individuals have agreed to present in case of a cancellation. Additionally, they have the option of displaying a poster on their topic. These posters will be displayed outside the technical session meeting rooms. The alternate speakers, with their respective sessions and presentations, are listed here.
Calling All Students...

VA AWWA 12th Annual Student Water Challenge
Gather your team together and compete in this year’s 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
- The winners will be announced on Wednesday evening at the Awards Banquet

2015 VWEA Student Design Competition
See the winning team presentation from the 2015 VWEA Student Design Competition who will compete in the National Student Design Competition at WEFTEC 2015 in Chicago, Illinois.

Student Presentation Awards
For all student presenters at this year’s JAM – The Joint VWEA/VA AWWA Student Activities Committee will be judging all Virginia college and university student presentations. The first and second place water-themed and wastewater-themed presentation will be awarded $500 and $250, respectively.

For additional information, please contact:
Kevin Smith, Chair, O’Brien & Gere – kevin.smith@obg.com
Christene Mitchell, Vice Chair, HDR, Inc. – christene.mitchell@hdrinc.com

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Come to cheer on your alma mater!

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Dave Gill, Marketing Manager
Toll Free: 866-985-9791
E-mail: david@kelman.ca
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