



# FINAL PROGRAM

## SUNDAY, MARCH 5, 2017

- 1:30 – 5:00 PM Exhibitors’ Display Set Up (Exhibitors’ Area)
- 2:00 – 5:00 PM Registration (Conference Reception Desk)
- 4:00 – 5:00 PM Meeting of VLWA Board of Directors (2<sup>nd</sup> Floor York Room)
- 5:30 – 7:00 PM Exhibitor and Early Registrants’ Reception (James River Ballroom, Parlor H)

## MONDAY MORNING, MARCH 6, 2017

- 7:00 – 8:00 AM Registration and Check-In (Conference Reception Desk)
- 7:30 AM Coffee and Pastries
- 7:45 – 9:00 AM Welcome to the Conference, Stuart Stein, Conference Chair

**Keynote Address – SWIFT – One Initiative, Many Benefits**, Mr. Ted Henifin, PE, General Manager, Hampton Roads Sanitation District (HRSD)

Track A–Parlor A	Track B–Parlor B	Track C–Parlor F	Track D–Parlor G	Track E–Parlor E
------------------	------------------	------------------	------------------	------------------

### 9:15 – 10:30 AM First Concurrent Sessions

**Session 1A • Stormwater 1 • Moderator – Neely L. Law, Ph.D., Center for Watershed Protection, Inc.**

- (1) **Water Quality Swim Advisories: A Fascinating Tale of Beaches, Bacteria, Pipes, Technology, and People**, Don Cole, ENV SP, Brown and Caldwell; Kate Bernatitus, Newport News Public Works
- (2) **The Growing Pains of Stormwater Management Compliance**, Melissa J. Simpson, PE, LEED AP, ENV SP, WSP | Parsons Brinckerhoff
- (3) **Municipal Facility Stormwater Pollution Prevention Plan (SWPPP) Implementation Challenges and Solutions**, Max Kuker, GKY & Associates, Inc.
- (4) **The Road to Oz: Unravelling the Many Paths to Achieve Cost-Effective Pollutant Load Reductions for Phase III WIPs**, Neely L. Law, Ph.D., Center for Watershed Protection, Inc.; Bill Stack, PE, Center for Watershed Protection, Inc.; Laurel Williamson, Center for Watershed Protection, Inc.; Ari Daniels, Center for Watershed Protection, Inc.

**Session 1B • Dam Safety 1 • Moderator – Austen Bander, PE, Bander Smith, LLC**

- (1) **An Overview of the New and Improved Virginia Dam Safety, Flood Prevention and Protection Assistance Fund for 2017**, Robert J. VanLier, PE, Dept. of Conservation and Recreation, Division of Dam Safety and Floodplain Management
- (2) **Virginia DCR Dam Rehabilitation Study and Report Plans for the Rehabilitation of Aging Flood Control Dams**, Amanda S. Pennington, PE, Virginia Department of Conservation and Recreation (DCR)
- (3) **For Dams Without a Working Bottom Drain, Draining Pond by Siphoning, How and Why**, Author: Thomas I. Roberts, PE, CFM, Virginia Department of Conservation and Recreation; Presenter: Cameron Smith, Bander Smith, LLC)
- (4) **Experiences with Low Level Drain Valves on Dams in Virginia**, Austen Bander, PE, Bander Smith, LLC

**Session 1C • Banks, Trading, and Funding • Moderator – Jim Novak, EIT, ENV SP, LEED Green Associate, WSP | Parsons Brinckerhoff**

- (1) **Demystifying Innovative Financing and Project Delivery Approaches for Green Stormwater Infrastructure**, Seth P. Brown, PE, Storm & Stream Solutions, LLC

(2) **Mossy-Creek North River Environmental Bank: Case Study in Sediment and Nutrient Reduction**, Brian Wagner, Ecosystem Services, LLC; Annemarie Abbondanzo, M.S., Ecosystem Services, LLC

(3) **Non-Point Source Water Quality Credit Trading and the Nutrient Credit Marketplace**, Casey J. Jensen, Chesapeake Bay Nutrient Land Trust (CBNLT)

(4) **More Bling for Your Cha-Ching – Efficiently Utilizing SLAF Grant Funds**, Jim Novak, EIT, ENV SP, LEED Green Associate, WSP | Parsons Brinckerhoff; Melissa J. Simpson, PE, LEED AP, ENV SP, WSP | Parsons Brinckerhoff; Sam Sawan, PE, City of Chesapeake

#### **Session 1D • BMP Maintenance and Inspection 1 • Moderator – Brian Finerfrock, PE, RK&K**

(1) **Inspection of Stormwater Controls for Better Performance**, Ryan O'Banion, Hazen and Sawyer; Karlee Copeland, Fairfax County

(2) **Evaluation of Publicly Maintained Permeable Surfaces with a Focus on Proper Installation and Maintenance**, Asad Rouhi, Ph.D., Northern Virginia Soil and Water Conservation District; Daniel N. Schwartz, Northern Virginia Soil and Water Conservation District; Heather Ambrose, Fairfax County Department of Public Works and Environmental Sciences

(3) **It's All in the Cards: Communicating the Maintenance History and Goals of Enhanced Extended Detention (EED) Facilities**, Susanna G. Orndorff, GKY and Associates, Inc.; John N. Burke, Fairfax County Stormwater Management

(4) **The Good, the Bad, the Ugly in Post-Construction BMP Inspections – A Lessons Learned of BMPs After Construction**, Brian Finerfrock, PE, RK&K, LLP; Erin Cox, EIT, RK&K, LLP

#### **Session 1E • Floodplain Management 1 • Moderator – Jeff Smith, PE, PMP, CFM, AECOM**

(1) **USGS Flood Monitoring in Virginia**, R. Russell Lotspeich, U.S. Geological Survey Virginia and West Virginia Water Science Center

(2) **High Tides, High Precipitation and High Groundwater: Coastal Flooding and the Water Cycle Virginia**, Kurt McCoy, U.S. Geological Survey Virginia and West Virginia Science Center; R. Russell Lotspeich, U.S. Geological Survey Virginia and West Virginia Science Center

(3) **New Design Coastal Tailwater Table for Virginia Beach and Norfolk**, Kaveh Zomorodi, Ph.D., PE, CFM, Dewberry; Gregory Johnson, PE, City of Virginia Beach; Brian K. Batten, Ph.D., CFM, Dewberry

(4) **Leveraging FEMA's Published Discharge Data for Needs Assessment and Trend Analysis**, William Jiang, PE, CFM, AECOM; Jeff Smith, PE, PMP, CFM, AECOM

**10:30 – 10:45 AM Coffee Break**

**10:45 AM – 12:00 PM Second Concurrent Sessions**

#### **Session 2A • Stormwater 2 • Moderator – Shelly Frie, PE, CH2M HILL**

(1) **Loudoun County's Evolving Approach to Identifying and Eliminating Illicit Discharges, Part II**, Jason W. George, CFM, GKY & Associates, Inc.; Chris Stone, CFM, PG, Loudoun County Department of General Services

(2) **Playing in the Mud (Lynnhaven River Now's Stewardship and Access Committee)**, Eric S. Loescher, EIT, Timmons Group

(3) **The National Green Infrastructure Certification Program**, Brice Kutch, PE, GKY & Associates, Inc.; Karlee Copeland, Fairfax County, Maintenance and Stormwater Management Division

(4) **Getting People (and Their Dogs) Motivated about Cleaner Stormwater**, Shelly Frie, PE, CH2M HILL

#### **Session 2B • Dam Safety 2 • Moderator – Rebecca Evans, United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS)**

(1) **A Rocky Road at Stony Creek – The Challenges of Rehabilitating Two NRCS Flood Control Dams Simultaneously; Stony Creek Dams #9 and #10, Lake Laura and Lake Bird Haven, Shenandoah County, VA**, Jonathan M. Pittman, PE, Schnabel Engineering; Daniel Cox, VA DCR Design and Construction

(2) **A Simplified Design Guide to Utilizing ACB's in Dam Rehabilitations**, Jim Nadeau, ACF Environmental; Susan McGhee, PE, PMP, Gannett Fleming, Inc.

(3) **Developing a Small Dam Repair Prioritization and Selection Process for District Owned Dams (Putting a Round Peg in a Square Box)**, Charles T. Wilson, PE, Virginia Department of Conservation and Recreation – Division of Soil and Water Conservation

(4) **Rehabilitation of Todd Lake Dam, The Construction Phase**, Rebecca Evans, United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS)

**Session 2C • Water Quality and Drainage • Moderator – Dan I. Sweet, PLA, City of Charlottesville**

(1) **Little Things Matter, Incorporating Water Quality into Drainage Improvement Projects**, Lisa Jeffrey, PE, Hazen and Sawyer; PE; Fran Geissler, James City County

(2) **Equipping Homeowner Associations to Manage and Maintain Their Stormwater Infrastructure**, Frances C. Geissler, James City County; John M. Fuqua, James City County; Phillip Doggett, James City County

(3) **Utilizing SWMM to Solve Residential Drainage Issues – A Case Study, Loudoun County, Virginia**, Jon D'Alessandro, PE, Timmons Group; Rich Brawley, PE, Timmons Group

(4) **The City of Charlottesville's Water Resources Master Plan: Integrated Planning for Water Quality and Drainage**, Dan I. Sweet, PLA, City of Charlottesville; John Miller, AMEC Foster Wheeler

**Session 2D • BMP Maintenance and Inspection 2 • Moderator – J. Douglas Fritz, CPESC, GKY & Associates, Inc.**

(1) **Lifecycle of Urban Green Infrastructure: 5 Years After Pilot Implementation**, Matthew P. Jones, Ph.D., PE, Hazen and Sawyer

(2) **Prioritizing Increasing BMP Maintenance Requirements with Decreasing Budgets**, Kay Cabe, PE, Associate, EEE Consulting, Inc.

(3) **It's Not Blasphemy, It's Economics: The Policy and Equity Dynamics of Public Maintenance for Legacy Stormwater Management Facilities**, J. Douglas Fritz, CPESC, GKY & Associates, Inc.; Douglas H. Moseley III, AICP, CFM, GKY & Associates, Inc.

**Session 2E • Floodplain Management 2 • Moderator – Shane Parson, Ph.D., PE, CFM, AECOM**

(1) **MAP Virginia's Floodplains with Greater Accuracy**, Jangwoan Choi, Ph.D., CFM, Stream Methods, Inc.; John Sun, Stream Methods, Inc.

(2) **HEC-RAS 101: Introduction to River Modeling**, David M. Gunn, PE, CFM, Henrico County Department of Public Works

(3) **HEC-RAS 201: What Else Can It Do?** John Paine, PE, PH, GKY & Associates, Inc.

(4) **Review Process for a Letter of Map Revision Request**, M. Tariq Makhdoom, Ph.D., CFM, Atkins

**12:15 – 1:15 PM Luncheon**

**Keynote Address – Arming Water Resource Managers with Data and Tools to Inform Decision Making**, Dr. Nancy Beller-Simms, Program Manager, U.S. National Oceanic and Atmospheric Administration (NOAA) Climate Program Office, Sectoral Applications Research Program (SARP)

## MONDAY AFTERNOON, MARCH 6, 2017

### 1:30 – 2:45 PM Third Concurrent Sessions

#### Session 3A • BMPs 1 • Moderator – Robert Kerr, RWP, Kerr Environmental Services Corp.

- (1) **Advancements in Biofiltration Design for Nutrient Removal and Resiliency**, Jessica Fears, EIT, Geosyntec Consultants, Inc.; Duane Graves, Ph.D., Geosyntec Consultants, Inc.; Linxi Chen, Ph.D., EIT, Geosyntec Consultants, Inc.; Jacques Smith, Geosyntec Consultants, Inc.; Aaron Poresky, PE, Geosyntec Consultants, Inc.; Austin Orr, EIT, Geosyntec Consultants, Inc.
- (2) **Bridge Over Troubled Water: Laying Down the Issues with Stormwater Management and Bridge Construction**, Amity B. Dewey, PE, WSP | Parsons Brinckerhoff
- (3) **Regenerative Stormwater Conveyance Channels Construction in the Coastal Plain - Lessons Learned**, Robert Kerr, RWP, Kerr Environmental Services Corp.; Shawn Gordon, PE, James City County

#### Session 3B • Dam Safety 3 • Moderator – David A. Krisnitski, PE, CFM, Froehling & Robertson, Inc.

- (1) **Geomembranes to Waterproof Embankment Dams**, John Wilkes, PE, Carpi USA and Carpi Tech Canada
- (2) **Decommissioning (Removal, Retirement, Deactivation) of Dams**, Charles Karpowicz, PE, Water Resources Management
- (3) **No Dam Failure Before Its Time – A Dam in a Conflict**, Jonathan T. Phillippe, PE, LS, J. T. Phillippe, PE, LS
- (4) **Dam Safety – Crab Orchard Dam, Bland, VA**, David A. Krisnitski, PE, CFM, Froehling & Robertson, Inc.

#### Session 3C • Flood Issues 1 • Moderator – Scott Blossom, Stantec

- (1) **Increasing Risk Resilience in Virginia Communities**, Mari Radford, CFM, Federal Emergency Management Agency Region 3; Charley Banks, CFM, Virginia Department of Conservation and Recreation; Matthew Wall, Virginia Department of Emergency Management
- (2) **Tools for Flood Risk Management and Increased Resiliency through Intelligent Infrastructure Control**, Andrea Braga, PE, CPESC, Geosyntec Consultants, Inc.; David Roman, PE, CFM, CPESC, Geosyntec Consultants, Inc.
- (3) **Lessons Learned in the Elevation of Flood Prone Structures**, Ken Somerset, CBO, CZA, CFM, City of Poquoson
- (4) **Introducing the Commonwealth Center for Recurrent Flooding Resiliency (CCRFR)**, Emily E. Steinhilber, Old Dominion University

#### Session 3D • Watersheds and TMDLs • Moderator – Deva K. Borah, Ph.D., PE, F.ASCE, City of Chesapeake

- (1) **Leveraging the GIS Platform for Watershed Analysis and Identification of Green Infrastructure Opportunities**, P. Eric Mains, PE, Gannett Fleming, Inc.
- (2) **An Investigation of Headwater Catchments and the Effects of Impervious Surface in the Valley Creek Watershed**, William R. Akin, PE, University of Pennsylvania and Pennoni
- (3) **Harmful Aquatic Bloom Management Provides Potential TMDL Credits**, Bruce W. Schwenneker, Ph.D., Whitman Requardt and Associates, LLP; Ron Harris, PG, Newport News Waterworks Department
- (4) **Watershed Modeling for TMDL Development and Implementation**, Deva K. Borah, Ph.D., PE, F.ASCE, City of Chesapeake; G. Padmanabhan, Ph.D., PE, F.ASCE, North Dakota State University

#### Session 3E • Floodplain Management 3 • Moderator – M. Tariq Makhdoom, Ph.D., CFM, Atkins

- (1) **Hurricane Matthew Impact on Southeast Virginia**, Lee Brancheau, FEMA Region III; Zane Hadzick, FEMA Region III
- (2) **The West Virginia/Virginia Historic and Devastating Floods of 23 June 2016: Summary of Impacts and National Weather Service Decision Support Services**, Peter Corrigan, NOAA/NWS Blacksburg, VA; Stephen J. Keighton, NOAA/NWS Blacksburg, VA

- (3) **Survey Results from Flood Prone Communities**, Mark Slauter, CFM, Virginia Department of Emergency Management
- (4) **Understanding Flood Opening Regulations**, Kurt Luecke, CFM, Smart Vent Products Inc.

## 2:45 – 3:15 PM Coffee Break

## 3:15 – 4:30 PM Fourth Concurrent Sessions

### Session 4A • BMPs 2 • Moderator – Sean Simonpietri, EXACT Stormwater Management, LLC

- (1) **Potential of CU-Soil™ as a New Stormwater BMP**, Christopher W. Fields-Johnson, M.S., Davey Institute, a Division of the Davey Tree Expert Company; Kateri S. Shreve, PE, LEED AP, VCCO, Luck Ecosystems
- (2) **Erosion Control Practices & Reducing Stormwater Infrastructure Costs through Better Soil Management**, Gary Gittere, McGill Environmental Systems, Inc.-Virginia Composting Council
- (3) **Assessing Performance of “Smart” Rainwater Harvesting and Permeable Friction Course (PFC) Asphalt**, Andrea Braga, PE, CPESC, Geosyntec Consultants, Inc.; Turgay Dabak, Ph.D., PE, Geosyntec Consultants, Inc.; Genevieve Ho, OptiRTC; Stephen Reiling, Department of Energy & Environment
- (4) **Permeable Pavement Testing in Washington, DC: What's Working & How to Replicate it**, Sean Simonpietri, EXACT Stormwater Management, LLC; Corey Simonpietri, ACF Environmental

### Session 4B • Dam Safety 4 • Moderator – Benjamin Israel-Devadason, PE, CFM, Gannett Fleming, Inc.

- (1) **An Insight into DCR's Dam Break Modeling and Mapping World**, David P. Wilmoth, PE, CFM, PH, Virginia Department of Conservation and Recreation (DCR)
- (2) **Improving an NRCS-Type Water Supply Dam to Safely Pass Its Spillway Design Flood**, N. Johan Anestad, PE, O'Brien & Gere Engineers, Inc.
- (3) **Lake Bird Haven Dam: A Story of One vs. Two Dimensional Hydraulic Modeling**, Maridee Graves, PE, Schnabel Engineering; Jonathan M. Pittman, PE, Schnabel Engineering; Daniel Cox, VA DCR Design and Construction
- (4) **Why CFD Modeling Should Be a Spillway Designer's Best Friend**, Benjamin Israel-Devadason, PE, CFM, Gannett Fleming, Inc.; Paul G. Schweiger, PE, CFM; Gannett Fleming, Inc.

### Session 4C • Flood Issues 2 • Moderator – Cheryl B. Hannan, PE, CFM, AECOM

- (1) **NC Flood Warning System: Ground Truth Comparisons During Hurricane Matthew**, Kurt Golembesky, PE, CFM, North Carolina Floodplain Mapping Program (NCFMP), Division of North Carolina Emergency Management; David Key, PE, CFM, ESP Associates, P.A.
- (2) **Flooding from Tropical Storm Julia Followed by Hurricane Matthew on a Virginia Coastal-Plain City: Lessons Learned and Remediation Planning**, Sam Sawan, PE, City of Chesapeake; Kelly Mills, PE, City of Chesapeake; Deva Borah, Ph.D., PE, F.ASCE, City of Chesapeake; Indra Paudel, PE, City of Chesapeake; Arnold Lucero, City of Chesapeake; Cole Stinnette, City of Chesapeake
- (3) **In and Out Letter of Map Revision (LOMR) (Greasing the Wheels of the LOMR Process)**, Cheryl B. Hannan, PE, CFM, AECOM

### Session 4D • Coastal Issues • Moderator – Mark A. Jones, PE, City of Virginia Beach

- (1) **Coastal Area Drainage Issues: What Can Be Done? – Step Back and Take a Big Picture!** Seshadri Iyer, Ph.D., PE, CFM, AECOM; Bill Walker, PE, AECOM; Jeff Waller, PE, City of Virginia Beach
- (2) **Chesterfield Heights – Coastal Community of the Future**, Scott A. Smith, PE, LS, City of Norfolk
- (3) **Coastal Resiliency and Shoreline Restoration: Restoring Miles of Shorelines and Acres of Wetlands and Oysters**, Ben Nash, PLA, Brown and Caldwell; C. W. Gaskill, Jr., PE, City of Norfolk
- (4) **Proactive Hurricane Protection in Virginia Beach**, Mark A. Jones, PE, City of Virginia Beach; Jamie Bondurant, PE, Hazen and Sawyer

**Session 4E • Floodplain Management 4 • Moderator – John Paine, PE, PH, GKY & Associates, Inc.**

- (1) **Virginia Flood Risk Information System**, Gina DiCicco, AICP, CFM, Virginia Department of Conversation & Recreation Division of Dam Safety and Floodplain Management; Charley Banks, CFM, Virginia Department of Conversation & Recreation Division of Dam Safety and Floodplain Management
- (2) **Permitting All Development in the SFHA: A Dilemma that must be Addressed**, Charley Banks, CFM, Virginia Department of Conversation & Recreation Division of Dam Safety and Floodplain Management
- (3) **NFIP Legislation Implementation Update**, Richard J. Sobota, CPCU, FEMA Region III
- (4) **The NFIP'S Community Rating System: Bridging Adaptation Gaps in Coastal Communities**, Mary-Carson S. Stiff, CFM, JD, Wetlands Watch

**MONDAY EVENING, MARCH 6, 2017**

**4:45 – 6:00 PM Reception (James River Ballroom Parlor H)**

**6:00 – 6:30 PM Virginia Lakes and Watersheds Association Business Meeting, Parlor F**

**TUESDAY MORNING, MARCH 7, 2017**

**7:15 – 8:15 AM Virginia Floodplain Management Association Business Meeting, Parlor E**

**8:30 – 9:45 AM Fifth Concurrent Sessions**

**Session 5A • BMP Site Selection • Moderator – Mira Micin, Brown and Caldwell**

- (1) **Henrico Countywide Energy Dissipater Retrofit Assessments**, Alex Lucado, EIT, CFM, Timmons Group
- (2) **Using SUSTAIN to Find Potential Locations and Costs of BMPs**, John E. Schooler, Jr., PE, Woolpert, Inc.
- (3) **Considerations for Selecting BMP Sites in Rural Locations**, Mira Micin, Brown and Caldwell

**Session 5B • Flood Modeling 1 • Moderator – Alaurah Moss, Dewberry Engineers**

- (1) **Hydraulic Modeling to Verify Depths for Major Intersections Known to Flood Outside of the Regulatory Floodplain**, Celeste R. Ostman, EIT, CH2M HILL; Laurens Van der Tak, PE, D.WRE, CH2M HILL
- (2) **Innovative Two-Dimensional Modeling for Stormwater Flood Mitigation**, Maged Aboelata, Ph.D., PE, CFM, AECOM; Brian Rahal, PE, CFM, City of Alexandria; Joni Calmbacher, PE, CFM, City of Alexandria
- (3) **Coastal Water Table Mapping: Incorporating Groundwater Data Into Flood Inundation Forecasts**, Alaurah Moss, Dewberry Engineers; Marco Marani, Ph.D., Duke University

**Session 5C • Environmental Restoration • Moderator – Sravan Krovidi, PE, CFM, Amec Foster Wheeler**

- (1) **County-Wide Stream Assessments**, Matthew Webb, EIT, Timmons Group
- (2) **Functional Lift for Stream Assessments and Restoration**, Kelly S. Mattfield, PE, Brown and Caldwell
- (3) **Materials Management as a Major Cost Driver in Environmental Restoration Construction, and Analysis of the White Marsh Stream Restoration and Sanitary Sewer Stabilization Project**, Katrina Emery, Environmental Quality Resources, LLC; Rick Scaffidi, Environmental Quality Resources, LLC; Ken Williams, Environmental Quality Resources, LLC
- (4) **The Largest Wildlife Refuge Restoration Project in Eastern U.S.**, Sravan Krovidi, PE, CFM, Amec Foster Wheeler

**Session 5D • Water Quality 1 • Moderator – Stephanie Smith, Brown and Caldwell**

- (1) **What's in Your Water? Experiential Education and Well Water Testing for High School Students and Their Families**, Erin Ling, MS and M. EPC, Virginia Tech and Virginia Cooperative Extension; Rachelle Rasco, MEd, Carroll County High School; Gabrielle Coleman, BS, Carroll County High School; Randy Webb, Ph.D. Candidate, Virginia Tech and Carroll County High School; Alan Webb, MEd, Carroll County High School; Dwayne Huff, MAT, Carroll County High School; Hannah Scherer, Ph.D., Virginia Tech and Virginia Cooperative Extension
- (2) **Case Study – Contamination of Groundwater from Coal Ash Ponds and Possible Remediation Techniques using the Duke Energy Sutton North Carolina Facility**, Victoria Njuki, Old Dominion University; Nathan Guess, Old Dominion University; Jaewan Yoon, Ph.D., Old Dominion University
- (3) **Management Alters Carbon Dioxide and Methane Dynamics in Drinking Water Reservoirs**, Ryan P. McClure, Virginia Tech; Mary E. Lofton, Virginia Tech; Shengyang Chen, University of Sydney; Nicole K. Ward, MS, Virginia Tech; Jonathan P. Doubek, MS, Virginia Tech; Charlotte W. Harrell, Virginia Tech; Katie Krueger, Virginia Tech; Barbara R. Niederlehner, MS, Virginia Tech, Madeline E. Schreiber, Ph.D., Virginia Tech; Cayelan C. Carey, Ph.D., Virginia Tech
- (4) **A Data Management Strategy for MS4 Permit Compliance by the City of Virginia Beach**, Stephanie Smith, Brown and Caldwell; Diana St. John, PE, City of Virginia Beach; Co-Presenter: Melanie Coffey, City of Virginia Beach

**Session 5E • Floodplain Management 5 • Moderator – Turgay Dabak, Geosyntec Consultants, Inc.**

- (1) **FEMA Risk MAP and Hazus Model: The Latest Updates for Hazus and Related Risk MAP Standards and Guidance**, Shane Parson, Ph.D., PE, CFM, AECOM
- (2) **Not all Hazus Analyses are Created Equal: How to Get the Most Accurate Hazus-Estimated Flood Losses**, Brandon Cramer, Amec Foster Wheeler
- (3) **Shall We Play a Game?** Michelle L. Hamor, CFM, U.S. Army Corps of Engineers, Norfolk District
- (4) **Understanding the Risks and Consequences of Earthquakes on a Semi-Hydraulic Fill Dam**, Lucas de Melo, Ph.D., PE, Geosyntec Consultants, Inc.; Glenn Rix, Ph.D., Geosyntec Consultants, Inc.

**9:45 – 10:15 AM Coffee Break**

**10:15 – 11:30 AM Sixth Concurrent Sessions**

**Session 6A • BMP Retrofits • Moderator – Sheila Reeves, PE, Timmons Group**

- (1) **Charlottesville High School: Stormwater Retrofit in the Teacher Parking Lot**, Don Rissmeyer, PE, CFM, A. Morton Thomas and Associates, Inc.
- (2) **Making the Most of a Retrofit**, Umar Shahid, PE, PMP, LEED AP, AECOM; Sara DeGroot, PE, CFM, City of Alexandria
- (3) **Big Benefits from Public-Private Partnerships for Dry Pond Retrofits**, Stavros Calos, County of Albemarle; Laurel Williamson, Center for Watershed Protection, Inc.; Ari Daniels, EIT, Center for Watershed Protection, Inc.
- (4) **Jefferson Park BMP Retrofit: Construction Case Study**, Sheila Reeves, PE, Timmons Group; Trafford McRae, City of Waynesboro, VA

**Session 6B • Flood Modeling 2 • Moderator – Adrienne K. Shaner, PE, Gannett Fleming, Inc.**

- (1) **Projecting the Change in Heavy Rainfall Under Future Climate Scenarios**, Jason Giovannetone, Ph.D., Dewberry; Dmitry Smirnov, Ph.D., Dewberry; Gregory Johnson, PE, City of Virginia Beach; Shanda Davenport, PE, AICP, CFM, City of Virginia Beach; Brian K. Batten, Ph.D., CFM, Dewberry
- (2) **The New NRCS Rainfall Distributions and How They Will Change Your Hydrologic Analysis Results**, Steve Godfrey, PE, CFM, Woolpert, Inc.
- (3) **The Effects of Soil Map Changes on Watershed Hydrology**, Adrienne K. Shaner, PE, Gannett Fleming, Inc.; Amanda J. Hess, PE, Gannett Fleming, Inc.; William J. Kingston, PE, CFM, Gannett Fleming, Inc.

**Session 6C • Lake and Reservoir Management • Moderator – W. Weedon Cloe III, Chesterfield County Department of Environmental Engineering**

- (1) **Wilde Lake Dredging & Aquatic Bench Design**, Chris Nelson, EIT, Timmons Group
- (2) **Retrofit Forebays – More to it than You'd Think**, Laurie Coffman, PE, Timmons Group
- (3) **Challenges of Permitting Chesapeake Bay Preservation Act Water Dependant Structures in the Swift Creek Reservoir**, W. Weedon Cloe III, Chesterfield County Department of Environmental Engineering

**Session 6D • Water Quality 2 • Moderator – Christopher Mihalkovic, Old Dominion University**

- (1) **Examining Spatial Variability of Water Quality Using High Frequency Spatial Sampling**, Tyler A. Keys, Virginia Tech; Madeline F. Ryan, Virginia Tech; Durelle T. Scott, Virginia Tech
- (2) **Effects of Epilimnetic Mixing on Algae Populations: Implications for Management**, Mary E. Lofton, Virginia Tech; Ryan P. McClure, Virginia Tech; Shengyang Chen, University of Sydney; Charlotte Harrell, Virginia Tech; Katie Krueger, Virginia Tech; Madeline Schreiber, Ph.D., Virginia Tech; John Little, Ph.D., Virginia Tech; Cayelan C. Carey, Ph.D., Virginia Tech
- (3) **Reservoir Discharge and Management are Important Drivers of Zooplankton Community Structure Across the Continental United States**, Jonathan P. Doubek, M.S., Virginia Tech; Michael Lavender, Queen's University; Amanda K. Winegardner, McGill University; Marieke Beaulieu, Université de Sherbrooke; Patrick T. Kelly, Ph.D., University of Miami-Ohio; Cayelan C. Carey, Ph.D., Virginia Tech; Amina I. Pollard, Ph.D., U.S. Environmental Protection Agency; Dietmar Straile, Ph.D., University of Konstanz; Jason D. Stockwell, Ph.D., University of Vermont
- (4) **Wetland Plantings and Their Relationship to Salinity Regimes**, Christopher Mihalkovic, Old Dominion University; Nathan Sturre, Old Dominion University; Jaewan Yoon, Ph.D., Old Dominion University

**Session 6E • Floodplain Management 6 • Moderator – Mark Slauter, CFM, Virginia Department of Emergency Management**

**Dam Safety Panel Discussion**

- (1) Jill C. Stewart, PE, South Carolina Department of Health & Environmental Control – Dam Safety and Stormwater Permitting Division
- (2) John Kaylor, Headwaters Soil & Water Conversation District
- (3) Thomas Roberts, Virginia Department of Conversation & Recreation Division of Dam Safety and Floodplain Management
- (4) Mike Winters, Dominion Power Generation Engineering

**11:45 – 1:00 PM Luncheon**

**VLWA Dam Safety Committee Dam Awards:**

**Best Maintained Dam, Publically Owned – Newman Lake Dam** in the City of Harrisonburg owned by James Madison University

**Best Rehabilitation Projects – Stony Creek Dam #9 & #10 (Lake Laura & Bird Haven Lake)** in Shenandoah County owned by Lord Fairfax Soil and Water Conservation District

**Most Improved Dam, Private – Crab Orchard Creek Dam** in Bland County owned by IMOK LLC



**Dave Pearson Watershed Excellence Award**

**Making the Most of a Retrofit**, by Umar Shahid, PE, PMP, LEED AP, AECOM; Sara DeGroot, PE, CFM, City of Alexandria

**Keynote Address – South Carolina's Dam Safety Program – Before and After the Flood**, Ms. Jill C. Stewart, PE, Director, Dam Safety and Stormwater Permitting Division, South Carolina Department of Health & Environmental Control