



District Department of Transportation



U.S. Department of Transportation  
Federal Highway Administration



# registration materials

2014 National Stormwater Practitioners Meeting  
July 28th – July 31st  
Washington D.C.

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## 2014 National Stormwater Practitioners Meeting Workgroup

The workgroup has been instrumental in the content and agenda topics selected for the meeting. Please feel free to contact the following members of the planning committee during the meeting for any questions and/or additional information.

The committee includes:

Kate Kurgan, AASHTO

Leigh Waite, Arizona DOT

Scott McGowen, Caltrans

Vince Davis, Delaware DOT

Susan Jones, FHWA

Marcel Tchaou, FHWA

Dana Havlik, Maryland SHA

Chad Wallace, Mississippi, DOT

Melissa Scheperle, Missouri DOT

William Fletcher, Oregon DOT

Reginald Arno, Washington DC DOT

Ken Stone, Washington DOT

Merdith Upchurch, Washington DC DOT

Wendy Jones, RBF, a Company of Michael Baker International

Anna Lantin, RBF, a Company of Michael Baker International



July 28, 2014

To our Stormwater Practitioner colleagues:

Welcome to the District of Columbia, our nation's capital. It is our pleasure to serve as the host DOT for the 2014 National Stormwater Practitioners Meeting. We thank AASHTO for making this collaboration possible, in cooperation with FHWA and EPA, and for their participation which brings extreme value to this meeting.

The District Department of Transportation (DDOT) has made great progress in its stormwater program, and we at DDOT are looking forward to this opportunity to share our experiences with you. As we collaborate and share information over the next three days, we will showcase successes and discuss challenges in managing stormwater on the urban streets and highways of Washington, D.C.

DDOT created its Stormwater Team in 2004 when the District's second MS4 Permit was issued. The responsibilities of the team include ensuring that MS4 requirements are met, addressing drainage issues, managing culverts, installing and overseeing all stormwater best management practices, and reviewing all work in public space for compliance with new stormwater retention requirements. In the decade since team formation, DDOT has constructed innovative stormwater control measures in numerous projects, adapted to meet retention requirements, and issued Green Infrastructure Standards earlier this year, which include retention practices. In 2012, Mayor Vincent Gray announced that he wanted the District to be the greenest, healthiest city in the nation, and DDOT has progressively made sustainability and environmental goals key components of its projects, starting with the Anacostia Waterfront Initiative and Great Streets program.

This week we have the opportunity to collaborate and discuss our commonalities and differences across many varying DOT stormwater programs. Our hope, and the intent of this meeting, is that all attendees acquire new and useful information which can be used to develop sustainable solutions to challenging stormwater issues.

Thank you for joining us here in Washington, D.C. We look forward to a very successful and productive meeting together. If there is anything we can do to enhance your visit or your participation in this meeting, please do not hesitate to ask.

Sincerely,

Meredith Upchurch  
NCHRP 25-41 Panel member  
LID Team Lead  
DDOT

Reginald Arno, PE  
Hydraulics Team Lead  
DDOT

Muhammed Khalid, PE  
Chief Engineer  
DDOT



July 28, 2014

To all National Stormwater Practitioners and Delegates:

Thank you for your participation in our 2014 National Stormwater Practitioner's Meeting hosted by the Center for Environmental Excellence by AASHTO, District of Columbia DOT and the Federal Highway Administration. This will be the fourth meeting of our stormwater practitioners across the U.S. since our inaugural meeting in 2008, where we began to "Connect the DOTs" for stormwater management activities. We have come a long way, and all of you have made this collective effort a monumental success! We are excited to have this opportunity, once again, to bring our state DOT stormwater experts together with AASHTO, EPA and FHWA. This is a unique opportunity for us all to collaborate and seek continuous solutions in stormwater management for our transportation facilities.

Since our last meeting in 2012, continuous progress has been made in improving our DOT stormwater programs, learning best practices, understanding compliance with water quality regulations, and incorporating solutions appropriate for our unique transportation environment and day-to-day business practices. We have made progress in the area of stormwater quality in a highway environment, primarily due to the efforts of the professionals who are a part of this meeting. We look forward to sharing that progress with all of you as a part of this peer-to-peer exchange, as we move ahead to meet the stormwater challenges of the future.

Participation and collaboration are the two primary components that will combine to make this meeting a success. Our meeting will consist of 30 speakers, eight panel sessions represented by 16 of our DOTs and our partners, and table to table breakout sessions that have been designed to include all participants. We encourage everyone to be actively engaged and to share the best practices in stormwater that you have employed. Our objective is for you to gain value and insight from this meeting, develop effective and efficient solutions to the issues faced in your day to day activities, and learn from the experiences of your colleagues and other stakeholders.

We look forward to working with you over the next few days to help lead the way to solving the challenges of stormwater management in our highway environment. Each attendee is an integral part of our cumulative success in addressing these challenges to sustain the future of our nation's resources and the stewardship of our transportation programs.

Sincerely,

G. Scott McGowen, P.E.  
AASHTO Stormwater Working Group Chair

# Agenda

## Monday, July 28

5:00 PM – 6:00 PM	Registration
6:00 PM – 7:30 PM	Welcome Reception (Heights Ballroom - 9th Floor)

## Tuesday, July 29

*Breakfast and General Sessions will be held in Dupont A*

7:00 AM – 8:00 AM	Breakfast
8:00 AM – 8:45 AM	<p><b>Opening Plenary Session – Washington DC DOT Welcome</b></p> <p><i>Speakers:</i></p> <ul style="list-style-type: none"> <li>• <b>Muhammed Khalid</b>, District of Columbia DOT</li> <li>• <b>Gerry Solomon</b>, Federal Highway Administration</li> <li>• <b>Shannon Eggleston</b>, America Association of State Highway Transportation Officials</li> </ul> <p><i>Overview:</i> Welcome from Host State, Federal Highway Administration and American Association of State Highway Transportation Officials</p>
8:45 AM – 10:00 AM	<p><b>State Introductions</b></p> <p><i>Facilitators:</i></p> <ul style="list-style-type: none"> <li>• <b>Meredith Upchurch</b>, District of Columbia DOT</li> <li>• <b>Reggie Arno</b>, District of Columbia DOT</li> <li>• <b>Scott McGowen</b>, Caltrans</li> </ul> <p><i>Overview:</i> We will begin with a with big picture vision for the meeting, followed by an opportunity for peer-to-peer exchange, takeaways and expectations for the meeting, common challenges and help line from other states.</p>
10:00 AM – 10:15 AM	Break
10:15 AM – 11:45 AM	<p><b>Session 1</b> <b>Current Trends in Stormwater Management Programs and Regulations</b></p> <p><i>Moderator: Ken Stone</i>, Washington State DOT</p> <p><i>Speakers:</i></p> <ul style="list-style-type: none"> <li>• <b>Rachel Herbert</b>, Environmental Protection Agency</li> <li>• <b>Susan Jones</b>, Federal Highway Administration</li> <li>• <b>Julia Anastasio</b>, Association of Clean Water Administrators</li> </ul> <p><i>Overview:</i> In this session, EPA will discuss their pivot from rulemaking to enhanced program assistance, and lessons learned from the State DOT audits. Next, we will hear from FHWA on their support for research, programs, and knowledge transfer related to Stormwater, followed by ACWA speaking on trends for stormwater management and regulatory issues from the states' perspective. The session will end with a panel Q&amp;A and discussion session.</p>
11:45 AM – 12:45 PM	Lunch



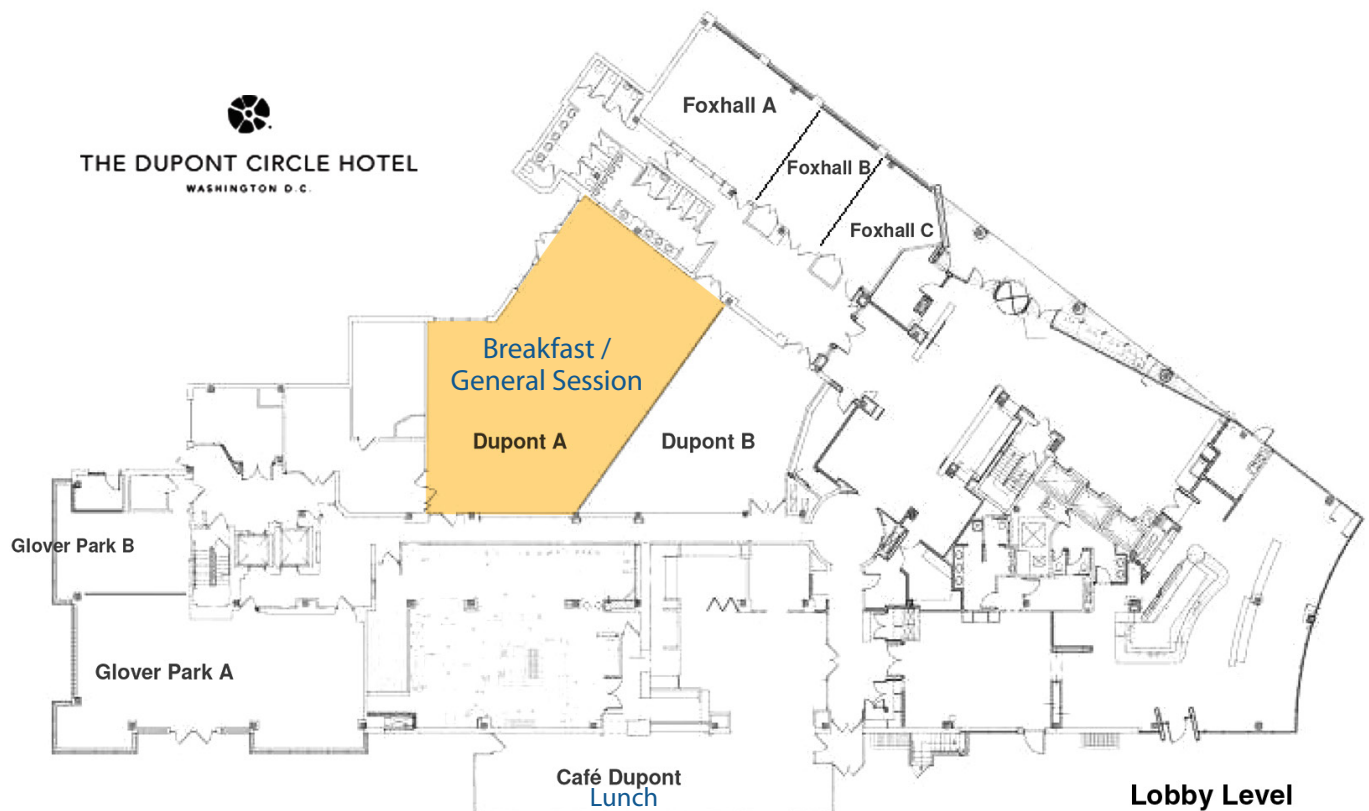
12:45 PM – 2:15 PM	<b>Session 2 – EPA Audit Preparations, MS4 Permits, Lessons Learned</b> <b>Moderator: Scott McGowen</b> , Caltrans <b>Speakers:</b> <ul style="list-style-type: none"> <li>• <b>Marianne Walch</b>, Delaware DOT</li> <li>• <b>Leigh Waite</b>, Arizona DOT</li> <li>• <b>Jerry Chaney</b>, Utah DOT</li> </ul> <b>Overview:</b> We will hear from recently audited DOTs on their unique experiences of lessons learned, as well as tools and techniques to prepare for an EPA MS4 Permit Audit. This session will conclude with an overview of the recently prepared AASHTO Audits White Paper.
2:15 PM – 2:30 PM	Break
2:30 PM – 3:45 PM	<b>Table to Table Part I: Collaboration and Discussion</b>
3:45 PM – 4:30 PM	<b>Table to Table Part II: Reporting</b>
4:30 PM – 5:30 PM	<b>Team Building Activity – Stormwater Jeopardy</b> Our version of the classic game show will involve technical, policy and regulatory questions focused on Stormwater.
<b>Wednesday, July 30</b> <i>Breakfast and General Sessions will be held in Dupont A</i>	
7:00 AM – 8:00 AM	Breakfast
8:00 AM – 8:15 AM	<b>Introduction of Tour - Meredith Upchurch</b> , District of Columbia DOT
8:15 AM – 8:30 AM	<b>Depart for Stormwater BMP's on Urban Streets &amp; Highways</b>
8:30 AM – 11:30 AM	<b>Project Tour- The District of Columbia's 30-year, \$10 billion Anacostia</b> The Waterfront Initiative is transforming the shores of the Anacostia River into a world class waterfront through multi-use development, new parks, and public infrastructure improvements. DDOT's work includes two bridge replacements, several miles of new trails, and numerous street and highway improvements. The Great Streets projects combined street improvements with economic development to spur neighborhood revitalization. Sustainability and water quality improvements are a core component of project goals to clean up the polluted Anacostia River. We will tour several DDOT projects at different scales in the Anacostia watershed where post construction stormwater BMPs, including bioretention, stormwater planters, and permeable paving, have been installed. We will enjoy lunch at The Yards Waterfront Park along the river, an area transformed from the industrial Navy Yard into a vibrant neighborhood. <b>Nannie Helen Burroughs Ave NE Great Street</b> <ul style="list-style-type: none"> <li>• <b>Reggie Arno</b>, NHB Ave Project Manager, District of Columbia DOT</li> <li>• <b>Neil Weinstein</b>, NHB Ave Designer, Low Impact Development Center</li> </ul> <b>Green Alleys</b> <ul style="list-style-type: none"> <li>• <b>Meredith Upchurch</b>, District of Columbia DOT, Green Alleys Project Manger</li> </ul> <b>Pennsylvania Ave SE Great Street</b> <ul style="list-style-type: none"> <li>• <b>Ben Lineberry</b>, Construction Manager, Volkert, Inc.</li> <li>• <b>Duff McCully</b>, Maintenance Manager, District of Columbia DOT Urban Forestry</li> </ul> <b>11th St Bridge (from the bus)</b> <b>The Yards Neighborhood Development</b>

11:30 AM – 12:30 PM	Lunch at Yards Park on the Anacostia River
12:30 PM – 1:00 PM	Return from Tour
1:00 PM – 1:30 PM	Break
1:30 PM – 2:45 PM	<p><b>Session 3 – Construction Contract Administration</b></p> <p><i>Moderator:</i> <b>Vince Davis</b>, Delaware DOT</p> <p><i>Speakers:</i></p> <ul style="list-style-type: none"> <li>• <b>Hans Gucker</b>, Ohio DOT</li> <li>• <b>Ron Poe</b>, Nebraska DOR</li> <li>• <b>Tom Boyce</b>, Colorado DOT</li> </ul> <p><i>Overview:</i> Three states share their unique administrative facets for construction projects. It will entail NOI aspects as well as how they maintain compliance during construction. Topics Include: Findings and Orders – Ohio’s Incentive Based E&amp;S Control Construction Specification; Administering the Construction Stormwater Permit in Nebraska; and Stormwater Construction Permit.</p>
2:45 PM – 3:00 PM	Break
3:00 PM – 4:15 PM	<p><b>Session 4 – Asset/Data Management and Tracking</b></p> <p><i>Moderator:</i> <b>Chad Wallace</b>, Mississippi DOT</p> <p><i>Speakers:</i></p> <ul style="list-style-type: none"> <li>• <b>Chad Wallace</b>, Mississippi DOT</li> <li>• <b>Craig Deal</b>, North Carolina DOT</li> <li>• <b>Cornelius Barmer</b>, Maryland SHA</li> <li>• <b>Gabe Robertson</b>, Nebraska DOR</li> </ul> <p><i>Overview:</i> A discussion of some of the methodologies, systems, and software used to manage the data required for a stormwater program to be successful. The discussion will include means used in managing inventory, tracking, maintenance, and various activities of these programs. Topics Include: Stormwater Inspection Data – Collection and Management; Level of Service Ratings For Asset Management of BMPs; Stormwater and Drainage Asset Management Program – From Compliance Activities to an Asset Management Philosophy; and Tracking Environmental Commitments.</p>
4:15 PM – 5:30 PM	<p><b>Session 5 – Research Findings and Tools</b></p> <p><i>Moderator:</i> <b>Dana Havlik</b>, Maryland SHA</p> <p><i>Speakers:</i></p> <ul style="list-style-type: none"> <li>• <b>Ken Stone</b>, Washington State DOT</li> <li>• <b>William Fletcher</b>, Oregon DOT</li> <li>• <b>Nick Tiedeken</b>, Minnesota DOT</li> <li>• <b>Greg Granato</b>, USGS</li> </ul> <p><i>Overview:</i> Overview of research and studies focused on NCHRP 25-37 and NCHRP 25-40. Discussion on modeling tools, SELDM. Topics Include: Overview of AASHTO/SCOE/NCHRP Research Process; NCHRP 25-37: A Watershed Approach to Mitigating Stormwater Impacts; NCHRP 25-40: Long Term Performance and Life-Cycle Costs of Stormwater Best Management; and Stochastic Empirical Loading and Dilution Model – SELDM.</p>



7:00 AM – 8:00 AM	Breakfast
8:00 AM – 9:30 AM	<p><b>Session 6 – Maintenance and Water Quality</b></p> <p><b>Moderator:</b> Leigh Waite, Arizona DOT</p> <p><b>Speakers:</b></p> <ul style="list-style-type: none"> <li>• <b>Henry Barbaro</b>, Massachusetts DOT</li> <li>• <b>Nick Tiedeken</b>, Minnesota DOT</li> <li>• <b>Tom Boyce</b>, Colorado DOT</li> </ul> <p><b>Overview:</b> Stormwater permit compliance with respect to maintenance activities. The session begins with an overview of BMP inspecting, tracking, and reporting concepts. Next, winter storm management-related procedures will be presented with considerations to the region's environment. The session will conclude with a New Development and Redevelopment program designed to fund projects regionally. Topics Include: BMP Management: Inspections, Tracking, and Documentation and Redevelopment Program and Maintenance of Permanent Control Measures.</p>
9:30 AM – 10:00 AM	Break
10:00 AM – 11:15 AM	<p><b>Session 7 – TMDL Implementation / Watershed Approach</b></p> <p><b>Moderator:</b> William Fletcher, Oregon DOT</p> <p><b>Speakers:</b></p> <ul style="list-style-type: none"> <li>• <b>Scott McGowen</b>, Caltrans</li> <li>• <b>Dominique Lueckenhoff</b>, Environmental Protection Agency</li> <li>• <b>Ralph Spagnola</b>, Environmental Protection Agency</li> <li>• <b>Michael Herzberger</b>, Maryland Environmental Service</li> <li>• <b>Vince Davis</b>, Delaware DOT</li> </ul> <p><b>Overview:</b> Going beyond the impact site: Tools, TMDLs, and Fees-in lieu. For both practical and environmental reasons, stormwater management strategies must look beyond the project site. This session's topics include Maryland's Water Resources Registry, a tool that can support a watershed approach, Caltrans' new approach to TMDLs in a large, diverse state with a complex regulatory environment, and Delaware's fee-in-lieu program for stormwater quality. Topics Include: Caltrans' Statewide TMDLs – A New Way of Doing Business; Resources Registry: An Innovative, Collaborative Approach to Improving Regulatory Streamlining, and Achieving Sustainable Watershed Restoration and Protection; and Debits &amp; Credits make Dollars &amp; Sense.</p>

11:15 AM – 12:30 PM	<b>Session 8 – Stormwater Programs Interactive Session</b>  <i>Facilitator:</i> Melissa Scheperle, Missouri DOT  <i>Overview:</i> Gain insight on stormwater programs, BMPs and other topics using polling devices with pre-determined questions based on presentations and Stormwater needs.
12:30 PM – 1:30 PM	Lunch
1:30 PM – 3:30 PM	<b>Town Hall</b>  <i>Facilitators:</i> <ul style="list-style-type: none"> <li>• <b>Meredith Upchurch</b>, District of Columbia DOT</li> <li>• <b>Reggie Arno</b>, District of Columbia DOT</li> <li>• <b>Scott McGowen</b>, Caltrans</li> </ul> <i>Overview:</i> Open microphone will be available for open discussion, questions, and for collaboration among practitioners.
3:30 PM – 4:00 PM	<b>Moving Forward and Closing Session</b>  <i>Speakers:</i> <ul style="list-style-type: none"> <li>• <b>Kate Kurgan</b>, AASHTO</li> <li>• <b>Scott McGowen</b>, Caltrans</li> </ul> <i>Overview:</i> The closing session will summarize the meeting.



# Biographies of Presenters and Moderators

*The following list of presenter and moderator biographies has been provided for informational purposes to meeting attendees. Please note that this list includes only presenters who elected to submit biographies and does not include all speakers.*

## **Julia Anastasio, Esq.**

Executive Director & General Counsel,  
Association of Clean Water Administrators  
"The Voice of States & Interstates" (ACWA)

Ms. Anastasio joined the Association of Clean Water Administrators in May 2014 as the new Executive Director and General Counsel. Ms. Anastasio has 18 years of experience in government law and policy. In the early 2000s she worked for the Pennsylvania Department of Environmental Protection and for the last 9 years she has worked with the America Public Works Association (APWA). With APWA, she focused on environmental, sustainability and infrastructure development at the local, state and federal levels, including extensive experience with federal advocacy and administrative law before Congress and the Executive branch agencies. She is passionate about the role of state government in developing and implementing national water policy. Ms. Anastasio earned her B.A. from Franklin Marshall College, her Masters in Environmental Law and Policy from Vermont Law School, and her J.D. from American University.

## **Reggie Arno, P.E.**

Stormwater Team Leader,  
District Department of Transportation (DDOT)

Mr. Arno, P.E. is a Supervisory Civil Engineer with the District Department of Transportation (DDOT), with over 17 years of experience (including 10 years with DDOT). Currently, Reggie is the Team Leader of the Stormwater Team, and his primary responsibility is related to Hydraulic and Hydrology components of Stormwater. This includes Asset Management of the Culverts and Stormwater Management Ponds, and Stormwater retrofits projects to reduce localized flooding. Reggie has overseen the design and / or construction DDOT's first Green Highway, Green Infrastructure, and Permeable Brick and Concrete Alleys.

## **Henry Barbaro**

Wetlands Unit Supervisor, Highway Division  
Massachusetts Department of Transportation  
(MassDOT)

Since 1993, Mr. Barbaro has served as the Supervisor of the Stormwater Management Unit for the Environmental Services Section of the Massachusetts Department of Transportation's Highway Division. Henry's experience includes developing the MassDOT Stormwater Handbook and the NPDES Stormwater Management Plan, as well as participating in the development of State and Federal water resource regulations. Henry has an M.S. in Natural Resources Planning from the University of Vermont, and a B.S. in Environmental Science from the University of Massachusetts in Amherst.

## **Cornelius Barmer, P.E**

Program Manager,  
Maryland State Highway Administration (MDSHA)

Mr. Barmer has a background in transportation design, highway hydrology and hydraulics and currently holds a position in the Highway Hydraulics Division (HHD) of the Maryland State Highway Administration (SHA). He serves as a program manager for the SHA's Stormwater Management Facility inventory remediation, operations and maintenance. Mr. Barmer also manages the NPDES compliance activities. As an adjunct faculty member with the surveying program at the Community College of Baltimore County, he teaches courses in hydrology, hydraulics, stormwater management, and NPDES.

# Biographies of Presenters and Moderators

## **Tom Boyce**

HRED Section Manager,  
Colorado Department of Transportation (CDOT)

Mr. Boyce began his water quality career in Southern Colorado in the early seventies, designing and installing Erosion and Sediment control structures alongside his father. He received his Biology and Chemistry degree and teaching credentials for secondary science, math, and physics from the University of Southern Colorado in Pueblo. Mr. Boyce has 25 years of experience with the state of Colorado beginning as a chemist with the State Water Laboratory. He then led river and lake studies and performed water analyses in the inorganic and radiological areas, most of which was regulatory driven. Furthermore, Mr. Boyce received the well-acclaimed position of Environmental Protection Specialist at the State Department of Health writing regulation and industrial discharge permits. He then moved to the Colorado Department of Transportation (CDOT) and began building the present Water Quality Program. At CDOT, his first job was drafting the company's first MS4 Permit and working in conjunction with the Landscape Architects. For the next 10 years Mr. Boyce served as the Natural Resource Section Manager for the Department in charge of the WQ, Wetlands, T&E and Wildlife, and Noxious Weed Program Units as well as the Landscape Architecture unit. Currently, he is the Section Manager for the Hydrologic Resource and Ecological Design Section. The Section is responsible for WQ, MS4, the E&S BMP training facility and Landscape Architecture and SWMP design.

## **Jerry Chaney**

Environmental Engineer,  
Utah Department of Transportation (UDOT)

Mr. Chaney graduated with a B.S. Degree in Civil Engineering from the University of Utah. He spent four years with a private engineering firm in Salt Lake City and the last 25 years with the Utah Department of Transportation in roadway design, environmental and hydraulics sections. Mr. Chaney has spent 15 years in UDOT's Central Environmental Services section and is currently serving as UDOT's Senior Hydraulics Engineer. He manages UDOT's NPDES Phase I and Phase II Permits, Stormwater Management Plans and Annual Report development.

## **Vincent W. Davis, P.E.**

Stormwater Engineer,  
Delaware Department of Transportation (DelDOT)

Mr. Davis graduated from North Carolina State University with a dual degree in Civil and Environmental Engineering and is a registered professional engineer in Delaware. He has been working in DelDOT's stormwater section since 1997 and has been DelDOT's Stormwater Engineer since 2007. The Stormwater section is responsible for reviewing and approving all DelDOT plans for stormwater management and E&S controls as well as the section is responsible for inspecting all DelDOT construction sites for E&S compliance. The Stormwater section also reviews all the subdivision plans in coordination with other DNREC delegated agencies for drainage, stormwater management, and E&S controls. He was a member of the team for the AASHTO Scan which was titled "Best Practices In Addressing NPDES And Other Water Quality Issues In Highway System Management" and has had the privilege of being at every Stormwater Practitioners conference to date.

## **Craig Deal, P.E.**

Highway Stormwater Program Manager,  
North Carolina Department of Transportation (NCDOT)

Mr. Deal assists in managing the NCDOT's Highway Stormwater Program in compliance with the Department's statewide NPDES stormwater permit. He is currently involved in several collaborative efforts with the NC Department of Environment and Natural Resources regarding Total Maximum Daily Load (TMDL) development and nutrient management efforts for transportation projects. These projects include a procedure for determining when NCDOT is considered a significant contributor, the development of a Category 4b demonstration for Little Alamance Creek and the development of other alternative impaired waters strategies. Additionally he is involved in identifying, designing and constructing stormwater BMP retrofits on existing NCDOT road development in the Falls Lake watershed. Before joining the NCDOT

# Biographies of Presenters and Moderators

in 2013, Mr. Deal spent over 20 years with the NC Department of Environment and Natural Resources in erosion and sedimentation control and inter-agency cooperation with the NCDOT. For six years Mr. Deal was involved in private consulting and spent the next five years with the City of Raleigh Stormwater Utility managing capitol stormwater projects and watershed studies for master planning. Mr. Deal has a Bachelor degree in Earth Science from the University of North Carolina at Charlotte and a Master of Science degree in Agricultural Engineering and Soil Science from North Carolina State University. He is a registered Professional Engineer and Licensed Soil Scientist in North Carolina.

## **Shannon Eggleston**

**Program Director for Environment,  
American Association of State Highway and  
Transportation Officials (AASHTO)**

Shannon Eggleston is the Program Director for Environment at AASHTO. She is also the Director of the Center for Environmental Excellence by AASHTO (Center). She oversees Center programs and products and strives to find innovative ways to assist state transportation agencies in improving public trust, environmental performance and program delivery. Shannon also serves as the liaison to the AASHTO Standing Committee on Environment (SCOE). In this capacity, Shannon assists in formulating and developing AASHTO positions and responses to policy initiatives by Congress, federal agencies, and other organizations, works with SCOE to develop environmental policy positions for AASHTO Board consideration, and works to advance AASHTO policy positions and initiatives.

Prior to joining AASHTO in 2004, Shannon served as environmental counsel to the New York State Thruway Authority in Albany, NY. Shannon also served as counsel to the New York State Senate Transportation Committee, and worked at the New York State Department of Environmental Conservation, the U.S. House of Representatives, and the Rensselaer County District Attorney's Office.

Shannon earned a Bachelor of Arts degree in political science and finance from the Catholic University of America and a law degree from the Albany Law School of Union University.

## **Barry Fagan, PE/PLS, CPESC**

**Environmental Program Engineer,  
Alabama Department of Transportation (ALDOT)**

Mr. Fagan leads the ALDOT Environmental Program. He serves as promoter, coordinator, communicator, educator, and problem solver within and outside of ALDOT. He aims to spark innovation and promote a culture of continual improvement. Mr. Fagan has over 23 years of road and bridge construction experience, with about half of that being in areas related to environmental protection and regulatory compliance. He is licensed in Alabama as a Professional Engineer and Professional Land Surveyor and is a Certified Professional in Erosion and Sediment Control. Mr. Fagan is an active member of the Alabama Erosion and Sediment Control Program Steering Committee, the AASHTO Stormwater Community of Practice, and Water Working Group of the Interfaith Environmental Initiative of Alabama. He also serves as the Alabama Area Representative for CPESC, Inc.

## **William Fletcher**

**Water Resources Program Coordinator,  
Oregon Department of Transportation (ODOT)**

Mr. Fletcher is the Water Resources Program Coordinator for the Oregon Department of Transportation (ODOT). As a native Oregonian, he got his Bachelor of Science in Geology at the University of Oregon, and his Cand. Real. in Fluvial Geomorphology at the University of Oslo, Norway. He worked on sediment quality and bank erosion studies for three years with the Corps of Engineers. During his 25 years at ODOT, he has focused on stormwater, with an emphasis in wetlands and environmentally sensitive streambank protection. He was a leading participant of the stormwater management criteria that was developed by a multi-agency working group which incorporated the Federal Aid Highway Programmatic Biologic Opinion for Oregon project. The FAHP won an FHWA Environmental Excellence Award. His knowledge of Norwegian gained him minor celebrity



# Biographies of Presenters and Moderators

as a political pundit during the last presidential election when he was interviewed by a Norwegian newspaper and appeared on its website under the headline “See what this former Norwegian pig farmer has to say about the election”.

## **Greg Granato**

Hydrologist, U.S. Geological Survey (USGS)

Mr. Granato is a Civil Engineer working as a hydrologist for the U.S. Geological Survey. He has done several stormwater projects in cooperation with the Federal Highway Administration and the Massachusetts Department of Transportation. He is author or coauthor of more than 30 stormwater publications; he has served on 3 NCHRP panels, and is serving on the technical review panel for the International BMP database. He developed the Stochastic Empirical Dilution Model (SELDM) as a replacement for the 1990 Driscoll runoff model in cooperation with the FHWA. Currently, he is working with FHWA to provide training and technical support to help State DOTs adopt and apply this stormwater model.

## **Hans Gucker, P.E., CPESC**

Construction Hydraulic Engineer,  
Ohio Department of Transportation (ODOT)

Mr. Gucker is the Construction Hydraulic Engineer for the Ohio Department of Transportation and is responsible for development and administration of ODOT’s stormwater and environmental construction specifications. He provides training and direction to construction personnel statewide and serves as the regulatory liaison for environmental compliance on ODOT’s construction projects. Mr. Gucker is a graduate of the University of Toledo with a Bachelor of Science in Civil Engineering. He has over 15 years of professional engineering experience as a project engineer.

## **Dana N. Havlik, P.E.**

Assistant Division Chief of Highway Hydraulics  
Division within Office of Highway Development,  
Maryland State Highway Administration (MDSHA)

Ms. Havlik has been working with MD SHA since 1993, after graduating with a Bachelor of Science Degree in Civil Engineering from the University of

Maryland. She graduated with a Master’s Degree in Civil Engineering focusing on Water Resources from the University of Maryland in 2000. Dana oversees the Stormwater Management Facilities and Drainage Assets Program to assure proper functionality of drainage and stormwater management assets as well as compliance with SHA’s NPDES Permit requirements. She is responsible for fund management of drainage, stormwater management and water quality projects. These projects include remedial activities, restoration and functional enhancements along with other environmental stewardship initiatives.

## **Rachel Herbert**

Physical Scientist, United States Environmental  
Protection Agency (EPA)

Ms. Herbert is a physical scientist in the United States Environmental Protection Agency (EPA)’s Office of Wastewater Management in Washington, DC. She’s been a member of the stormwater permitting team for over 8 years and works with EPA regions, states, municipalities, departments of transportation, and other stakeholders on implementing the stormwater program. She is currently concentrating on activities related to the municipal stormwater program. She has a Master of Science in Marine Estuarine Environmental Science and a Bachelor of Science in Natural Resources Management both from the University of Maryland at College Park.

## **Michael S. Herzberger**

GIS Manager, Maryland Environmental Service (MES)

Mr. Herzberger is a GIS Manager working with Maryland Environmental Service. MES is a not-for-profit Independent State agency. The organization focuses on working with both governmental and private sector clients to find innovative solutions to some of the most complex environmental challenges. As a Manager, he is responsible for coordination and oversight of various MES-based services for numerous entities within the public sector. Michael is a Certified Floodplain Manager and he has a Bachelor of Science degree in Geography and Environmental Planning with a minor in Geographic Information Systems from Towson University (2005).



# Biographies of Presenters and Moderators

## **Susan Jones, P.E.**

Civil Engineer,  
Federal Highway Administration (FHWA)

Ms. Jones is a Civil Engineer with the Federal Highway Administration's (FHWA) Office of Project Development and Environmental Review, Mitigation Team. Susan has over four years of experience in the Office of Planning, Environment and Realty at the headquarters. She serves as senior technical expert and advisor on all matters relating to water quality, erosion and sediment control, stormwater management, and water resources coordination in connection with highway programs. She also serves as Project Development Specialist for NEPA for the states of RI, MA and CT. Prior to FHWA, Susan worked for the Virginia Department of Transportation. Susan has her Bachelor of Science in Civil Engineering from the University of Virginia and her Masters in Civil and Infrastructure Engineering from George Mason University. She is also a registered Professional Engineer in Virginia and a Young Member on the Transportation Research Board Committee on Environmental Analysis in Transportation (ADC10).

## **Mohammad Khalid**

Interim Chief Engineer,  
District Department of Transportation (DDOT)

Mr. Khalid is the Interim Chief Engineer for the District Department of Transportation responsible for the design, engineering and construction of roadways, bridges, and tunnels in the District of Columbia. As the Chief Engineer he is also in charge of several high profile mega projects in the District which includes 11th Street Bridge, South Capitol Street Bridge and Streetcar Infrastructure. He holds Degree in Civil Engineering from the George Washington University and done graduate studies in Structural Engineering from University of Virginia. He is a licensed Professional Engineer in the District of Columbia and a Certified Public Manager trained at the George Washington University. He serves in several AASHTO committees and local and regional Transportation organizations.

## **Kate Kurgan**

Senior Program Manager for Environment,  
American Association of State Highway and  
Transportation Officials (AASHTO)

Ms. Kurgan is the Senior Program Manager for Environment at AASHTO. In this capacity, she is responsible for acting as the AASHTO liaison on select environmental and transportation initiatives and representing AASHTO in numerous environmental meetings and conferences relating to the Center for Environmental Excellence (Center), the Standing Committee on Environment (SCOE), its four subcommittees and the Environmental Technical Assistance Program (ETAP). Ms. Kurgan also serves as the AASHTO liaison for the SCOE Community and Cultural Concerns and SCOE Natural Resources Subcommittees. She manages and oversees environmental program and services including providing technical assistance in the areas of water quality, stormwater, wetlands, endangered species, environmental justice, cultural resource and historic preservation. Ms. Kurgan has served as the primary AASHTO contact on the planning committee for the National Stormwater Practitioners Meetings. Ms. Kurgan earned a Bachelor of Arts in Anthropology and minor certificates in Classic and Ancient Mediterranean Studies, International Studies, and Sociology from Penn State University.

## **Dominique Lueckenhoff**

Deputy Director,  
Environmental Protection Agency (EPA)

Ms. Lueckenhoff currently serves as Deputy Director of the EPA Region 3 Water Protection Division. In this capacity she supports and shares with the Division Director in the administration and management of all division activities and water protection programs for the Mid-Atlantic. She presently serves as EPA's point of contact on the Green Infrastructure (GI) and Urban Waters/Federal Partnership Initiatives in the Mid-Atlantic, in addition to participating on a number of related internal and external workgroups.

# Biographies of Presenters and Moderators

Her efforts and leadership have helped to garner national recognition for Region 3's GI activities, a number of which have been nationally recognized as EPA Office of Water (OW) Best Management Practices. Her leadership in advancing innovative, collaborative approaches and green practices to achieve sustainability is highlighted by her vision and creation of the Green Communities Program over 18 years ago, the Green Highways Partnership, and more recently, development and implementation of the Chesapeake Bay Green Streets, Green Jobs, Green Towns (G3) Initiative and Partnership. The G3 was developed to assist local communities and brings a town's Green Vision together with tools and capacity to accelerate smart greening efforts that improve water quality, protect human health, reduce flooding, increase community cohesion, and build a green economy, among other benefits. Due to its importance as a national model, the EPA Administrator announced this effort in the summer of 2010. In 2011 the G3 Partnership received an EPA National Honor Award for Outstanding Leadership in Collaborative Problem-Solving.

## **Scott McGowen, P.E.**

Chief Environmental Engineer,  
California Department of Transportation (Caltrans)

Mr. McGowen is responsible for the Departments environmental engineering activities, including statewide polices of environmental and statewide significance, in hazardous waste, noise, air quality and the integrated stormwater quality management program. Scott graduated from California Polytechnic State University, San Luis Obispo. He is a registered civil engineer and his experience with Caltrans spans over 30 years. Scott serves on the Board of Directors of the California Stormwater Quality Association, and was an appointed expert by the State Water Resources Control Board to the Stormwater Management Task Force, as required by legislation, representing the regulated community. He has served on several NCHRP panels, was AASHTO Chair for the stormwater

management practices Domestic Scan, participates on the SCOE Resources Subcommittee, and in the SCOE Stormwater Working Group Chair. He was instrumental in spear heading the first nationwide AASHTO Stormwater conference in June 2008, which brought together nationwide Departments of Transportation to collaborate on current and future stormwater perspectives and challenges.

## **Ron Poe, PLA, CPESC**

Highway Environmental Program Manager,  
Nebraska Department of Roads (NDOR)

Mr. Poe is a Highway Environmental Program Manager in Nebraska Department of Roads Environmental Section. He received a Bachelor of Landscape Architecture from Iowa State University in May 1993. Ron manages NDOR's Roadside Stabilization Unit. Some of the Unit's responsibilities include erosion and sediment control design, specifications, and seed mixtures for construction and maintenance projects. The Unit also manages the environmental compliance on construction sites, multiple water quality permits and NDOR's vegetation management program.

## **Gabe Robertson**

Highway Environmental Program Specialist,  
Nebraska Department of Roads (NDOR)

Mr. Robertson is a Highway Environmental Program Specialist for the Nebraska Department of Roads, responsible for coordinating the Department's Municipal Separate Storm Sewer System (MS4) Permit and other water quality management programs. In addition, he is overseeing the development and operation of the NDOR Environmental Compliance Oversight Database (ECOD), developed to document and track environmental commitments on construction sites. Robertson graduated from the University of Nebraska and has worked in the stormwater field for over twelve years.

# Biographies of Presenters and Moderators

## **Melissa Scheperle**

Senior Environmental Specialist,  
Missouri Department of Transportation (MDOT)

Ms. Scheperle has worked for Missouri Department of Transportation (MoDOT) for over 10 years in the Environmental Section of the Design Division. She received a Bachelor of Science degree in Biology from Avila University and a Master of Science degree in Biology from Missouri State University. Melissa previously worked for the Missouri Department of Conservation and Missouri Department of Natural Resources before joining MoDOT. Her work at MoDOT has been primarily wetland and stream assessments and permitting of roadway impacts and maintenance work. She became the statewide MS4 (Municipal Separate Storm Sewer System) contact for MoDOT in 2011.

## **Gerry Solomon**

Director of Project Development  
and Environmental Review,  
Federal Highway Administration (FHWA)

Mr. Solomon is the Director with Federal Highway Administration's (FHWA) Office of Project Development and Environmental Review. In this capacity, he is responsible for policies, programs, and technical assistance to promote effective transportation and environmental decision making on Federal-aid highway and Federal land highway projects using principles and processes that satisfy FHWA responsibilities under the National Environmental Policy Act (NEPA) and other relevant Federal statutes. He previously served as Director of Office of Real Estate Services where he was responsible for development of policies for all aspects of Federal and Federal-aid right-of-way and related responsibilities. Prior to FHWA, Mr. Solomon held various positions with the Massachusetts Highway Department including Director of the Right of Way Bureau, Manager - Central Artery/Third Harbor Tunnel Project, and Acting Chief Counsel. He also held various positions at the Massachusetts Department

of Capital Planning and Operations including Assistant General Counsel, Associate General Counsel, and Acting General Counsel. Mr. Solomon holds a Bachelor's Degree in Political Science from the University of Massachusetts, a Master's degree in Public Administration from Suffolk University, and a JD degree from the University Of Miami School Of Law.

## **Ken Stone**

Resource Programs Branch Manager,  
Washington State Department of Transportation  
(WSDOT)

Mr. Stone holds a B.A. in Physical Geography from the State University of New York at Buffalo, and a Certificate in Environmental Management from the University of Washington. Stone has 34 years of experience in the environmental field, including positions with Dames and Moore, the Minnesota Department of Natural Resources, and the Washington State Department of Ecology. He is a member of the Natural Resources Subcommittee of SCOE, the TRB Hydrology, Hydraulics and Water Quality Committee, and has served on NCHRP panels.

## **Nicklas Tiedeken**

Hydrologist,  
Minnesota Department of Transportation (MnDOT)

Mr. Tiedeken is a hydrologist within MnDOT's Office of Environmental Stewardship. He facilitates MnDOT compliance with water and wetland requirements to ensure that project and environmental documents are satisfactorily developed, while providing guidance and training. Having worked for MnDOT for 23 years, he is MnDOT's outstate MS4 coordinator and represents MnDOT on policy and stakeholder groups, including working to develop streamlined approval processes. Mr. Tiedeken received his engineering degree from the University of Minnesota. He is currently Chair of the Panel for NCHRP Project 25-40: Long Term Performance and Life Cycle Costs of Stormwater Best Management Practices.

# Biographies of Presenters and Moderators

## **Meredith Upchurch**

Stormwater LID Team Lead,  
District Department of Transportation (DDOT)

Ms. Upchurch leads the Low Impact Development program at the District Department of Transportation in Washington, D.C. She coordinates stormwater policy and projects for the public right-of-way, including developing Green Infrastructure Design Standards, the LID Action Plan, Green Alleys program, and building LID retrofit projects. Meredith has more than 20 years' experience in urban greening, systems integration, and engineering across local, federal, private, and non-profit sectors. She has degrees in Engineering, Landscape Architecture, and Natural Resources from Duke and Virginia Tech.

## **Leigh Waite**

Certified Municipal Separate Storm  
Sewer Specialist (CMS4S) Program Coordinator,  
Arizona Department of Transportation (ADOT)

Ms. Waite has 14 years of experience in the environmental field. After graduating Arizona State University with a Bachelor's Degree in Conservation Biology, she worked as a biology technician and research assistant with the goal of reclaiming a cattle ranch. For the next seven years, Ms. Waite was a consultant to ADOT and participated in numerous development projects that required NEPA documentation. As a planner, biologist, and water-related permitting specialist, she became knowledgeable in most aspects of the transportation business. As a full-time State employee these last seven years, her tasks have become more focused on water-related permits. Ms. Waite primarily implements and tracks National Pollutant Discharge Elimination System and Arizona Pollutant Discharge Elimination System programs and simplifies complex regulatory requirements for regional staff.

## **Marianne Walch**

Environmental Scientist,  
Delaware Department of Transportation (DelDOT)

Marianne Walch is an environmental scientist in DelDOT's Stormwater Quality Program. She manages DelDOT's water quality monitoring programs and participates in most aspects of the Department's MS4 and Industrial permits. Marianne received a B.S. in microbiology from the University of Maryland, and a Ph.D. in environmental microbiology and engineering from Harvard University. She worked in both academic and federal research positions before moving to Delaware 13 years ago. Currently she serves on a number of professional committees and boards, including the Delaware Chapter of the American Water Resources Association board, the Delaware Association for Environmental Education board, the Center for the Inland Bays Scientific and Technical Advisory Committee, and Delaware's Chesapeake Bay WIP stormwater committee.

## **R. Chad Wallace, P.E.**

Assistant Division Engineer,  
Environmental Division of the Mississippi  
Department of Transportation (MDOT)

Mr. Wallace has been employed with the Department of Transportation for nearly twenty years where he has served the Bridge Division as a hydraulic engineer in the design of bridges and culverts for hydraulic crossings, a location engineer guiding many of MDOT's projects through the NEPA process to minimize environmental impacts and to determine the best feasible location of MDOT's transportation facilities, and most recently as the Assistant Division Engineer of MDOT's Environmental Division where he oversees much of the NEPA process as well as the Stewardship and Compliance section of the Division. He has a background in hydraulics serving as a cooperative student with the U.S. Geological Survey Water Resources District in Jackson, MS over a period of 4 years while obtaining a degree in Civil Engineering from Mississippi State University. He is the father of eight and the husband of his precious wife, Tamara, the mother of those eight.



# Biographies of Project Tour Presenters

**Neil Weinstein, P.E., ASLA, AICP, MASCE, ENV PV**  
Executive Director,  
The Low Impact Development Center, Inc.

Mr. Weinstein has lead research efforts on the use of Low Impact Development and Green Infrastructure for the National Academy of Sciences Transportation Research Board, USEPA, and FHWA. He was the co-chair of the first national American Society of Civil Engineers conference on Green Highways and Green Streets. His work has included the development of pilot projects, industry standards, and manuals of practice on Green Highways and Green Streets. He has developed and conducted numerous training programs on green and innovative transportation strategies and techniques that address Context Sensitive Solutions, Environmental Management Systems, urban planning and design, and green infrastructure for transportation officials, regulatory and resource agencies, and stakeholders.

**Ben Lineberry**  
Assistant Vice President,  
Volkert, Inc.

Mr. Lineberry, P.E. has more than 23 years of experience with the design and construction of civil infrastructure projects of all sizes and complexity. His experience includes all aspects of construction inspection; cost, schedule, document, claims, and contract management; constructability reviews; value engineering; issue resolution; partnering; and public outreach. Having managed

construction management and inspection services for several DDOT projects (including the high-profile reconstruction of Pennsylvania Avenue), he has experience coordinating with DDOT, District agencies, utility providers, and community leaders; proactively resolving complex field issues in the District; and meeting accelerated construction schedules. In addition to his DDOT experience, Mr. Lineberry was an Area Construction Engineer for VDOT, where he was responsible for a \$75 million construction program including bridge construction, urban reconstruction and widening projects, and maintenance and resurfacing projects on interstate, primary, and secondary road systems. As a VDOT Assistant Resident Engineer, he managed preliminary engineering, right-of-way, and construction. Mr. Lineberry earned his B.S. degree from Virginia Tech and is registered as a professional engineer in the District of Columbia, Virginia, and Maryland.

**Duff McCully**  
Urban Forester,  
District Department of Transportation (DDOT)

Mr. McCully has been an Urban Forester with the District Department of Transportation for eight years. He leads the management of street trees in Wards 7 and 8 in the District of Columbia and oversees maintenance of landscaped areas in the public right-of-way, including vegetated stormwater best management practices.

# Attendees

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# Attendees

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## Tour: Stormwater BMPs on Urban Streets & Highways

The District of Columbia's 30-year, \$10 billion Anacostia Waterfront Initiative is transforming the shores of the Anacostia River into a world class waterfront through multi-use development, new parks, and public infrastructure improvements. DDOT's work includes two bridge replacements, several miles of new trails, and numerous street and highway improvements. The Great Streets projects combined street improvements with economic development to spur neighborhood revitalization. Sustainability and water quality improvements are a core component of project goals to clean up the polluted Anacostia River. We will tour several DDOT projects at different scales in the Anacostia watershed where post construction stormwater BMPs, including bioretention, stormwater planters, and permeable paving, have been installed. We will enjoy lunch at The Yards Waterfront Park along the river, an area transformed from the industrial Navy Yard into a vibrant neighborhood.

### **Tour Introduction (MU)**

- Meredith Upchurch, DDOT

### **Nannie Helen Burroughs Ave NE Great Street**

- Reggie Arno, NHB Ave Project Manager, DDOT
- Neil Weinstein, NHB Ave Designer, Low Impact Development Center

### **Green Alleys**

- Meredith Upchurch, DDOT, Green Alleys Project Manger

### **Pennsylvania Ave SE Great Street**

- Ben Lineberry, Construction Manager, Volkert, Inc.
- Duff McCully, Maintenance Manager, DDOT Urban Forestry

### **11th St Bridge (from the bus)**

### **The Yards Neighborhood Development**



“To struggle and battle and overcome and absolutely defeat every force designed against us is the only way to achieve.”

– Nannie Helen Burroughs

Ms. Burroughs was a tenacious, committed, energetic and tough as nails reformer who at every opportunity strove to raise up the quality of life for her community. Those same characteristics can be said of the neighborhoods and communities lining the street named in her honor.

Yesterday, the District Department of Transportation contributed in some small measure to her legacy and the future of these northeast DC communities with the initiation of a major streetscape along the corridor – Great Street worthy of a great lady.

The Nannie Helen Burroughs Avenue Great Street project marks a new era for the District Department of Transportation in looking to enhance communities not only economically and with transportation efficiency, but also with an eye toward the environment – both social and natural. The project evolved through the vision and guidance of local neighborhood leaders who have worked for more than a decade to restore and revitalize the Watts Branch stream that runs parallel to the corridor and the new Marvin Gaye Park that surrounds it.

Transportation infrastructure – roads, sidewalks, alleys, and the like – account for roughly 1/3 of the land area in any urban neighborhood. That’s a lot of land which is usually covered in a lot of pavement which means a lot of stormwater runoff leading to soil erosion, stream contamination, and other unfortunate consequences. Not this time, or at least that is the hope and vision.

Nannie Helen Burroughs Avenue will be our first truly green street featuring significant low-impact design (LID) landscape features that will capture the stormwater and hold it after major rains preventing the surge of stormwater from rushing into the streambed while keeping it off the roadway and sidewalks. These features are attractive as well as functional giving the corridor a significant streetscape enhancement and potentially a competitive advantage in attracting neighborhood serving retail and community amenities. The Nannie Helen Burroughs Great Street project is a prime example of how DDOT’s recently



*The ARRA funded NHB Great Streets project will significantly change the corridor with infrastructure, safety and environmental improvements getting underway.*

launched Sustainability Plan will significantly change how DDOT approaches and designs infrastructure and streetscape projects throughout the city.

But sustainability doesn’t just mean a healthy stream, it means a healthy and economically viable community as well. It means jobs. So called “green jobs” are an emerging industry and one that the Washington Region is just beginning to tap into. While low maintenance, these LID features are by no means “no maintenance.” Maintenance will be necessary and will require some level of specialization, which means now is the time to start developing these skills among the local workforce. Thanks to new and stricter stormwater regulations, DDOT, the private developers and other builders will need to install and utilize more and more of these features which means demand for “green infrastructure” maintenance jobs will grow over time. DDOT is pleased to participate in a number of partnerships with EPA, the District Department of Environment, and multiple non-profits aimed at training and building this future workforce.

Nannie Helen Burroughs championed education leading to employment. It is fitting that the streetscape now beginning also provides an opportunity to learn skills for an emerging future employment sector.

*(Posted on DDOT’s Blog site, D.ish by Karina Ricks, DDOT Associate Director, Policy, Planning and Sustainability Administration (and former Great Streets Program Manager) on November 19, 2010 <http://ddotdish.com/2010/11/19/nannie-helen-burroughs-into-the-next-century/>)*

# Instructions

## Table-to-Table Breakout Sessions

The National Stormwater Practitioners Meeting has been developed with an underlying theme of collaboration. Based upon suggested topics, these were developed to address the issues with the most interest. The format and content of the table-to-table session is outlined in the following:

### **Tuesday, July 29th, 2:30 p.m. - 4:30 p.m.**

**Format:** Tables set up with tabletop of suggested topic. Participants circulate as desired

**Materials Needed:** Markers, Tabletop sign for recording

**Table Participants Needed:** Table facilitator/scribe/presenter

This collaborative session provides attendees an opportunity to share and discuss topics pertaining to stormwater. The table-to-table break out will consist of approximately nine tables, each identifying a different topic to be discussed. Participants may circulate to various topic tables. Topics were identified prior to the conference based on surveys from the group. An assigned facilitator at each table will record and present ideas gathered from the discussion. Notes will be reported out directly following the session.

### **Elements of Exercise:**

- 75 minutes of participants circulating table-to-table, as desired, to discuss various topics. Discussion to include top issues, recommendations on how to deal with issues, future needs, and DOT benefits. The following topics have been identified.

#### Table Topics

- Construction Best Practices
  - Incorporating Post-construction (treatment) BMPs into the project delivery process
  - Maintenance Best Practices - institutional controls, BMP maintenance, challenges
  - Watershed/TMDL Programs – challenges and solutions
  - Statewide Program Challenges/Solutions – can include audits, annual reporting, public education
  - Enforcement Response Program - include construction, maintenance, ICID
  - Training (programmatic and specific program elements)
  - Asset Management for Stormwater Program Needs
  - Chlorides and Deicers
- 45 Minutes of brief facilitator reports (5 minutes each).

**Notes**

