Urban Storm Sewer Design

Fort Washington, PA - Tuesday, April 4, 2017

Learning Objectives

You’ll be able to:

Discuss municipal goals and get tips on working towards a green future.

Understand Philadelphia private development stormwater regulations.

Consider the regulatory practices surrounding flood control, water quality and public health and safety.

Examine stormwater sewer system layout.

Evaluate utilities conflicts and construction concerns.

Explore strategic planning for flood mitigation and climate change adaption.

Urban Hydrology and the Environmental Backdrop
Scott Jeffers
Overview of urban hydrology and environmental concerns
Separate versus combined sewer systems
Introduction to green stormwater infrastructure
Municipal goals and working towards a green future

Reviewing Regulations and Stormwater Modeling Techniques and How They Work Under the Hood
Adam Erispaha
Philadelphia private development stormwater regulations
Rational method, curve number, continuous simulation

GSI Implementation Case Study
Adam Erispaha
Parking lot design in Philadelphia
Technical considerations
Infiltration testing
Basin design
Regulatory considerations
Flood control
Water quality
Public health and safety

Designing a Separate Sewer - Case Study of a Stormwater Sewer in Philadelphia
Scott Jeffers
Reviewing drainage patterns
Locating and spacing inlets
Creating a system layout
Choosing pipe materials and diameters
Locating manholes
Design discharge
Gutter design
Longitudinal slopes
Utilities conflicts
Construction concerns

City-scale Strategic Stormwater Planning
Adam Erispaha
Sewer system renewal and aging dynamics
Progressive flood mitigation planning
Climate change adaptation

Storm Sewer Design Case Study
Steve Maakestad

Fort Washington, PA
Tuesday, April 4, 2017

Understanding urban hydrology and the environmental backdrop for storm sewer systems
Identify regulations and stormwater modeling techniques
Discuss sewer system renewal and aging dynamics
Explore separate vs. combined sewer systems
Consider green stormwater infrastructure
Examine stormwater sewer case studies

Continuing Education Credits
Architects
6.0 HSW Contact Hours
6.0 AIA HSW Learning Units
Professional Engineers
6.0 PDHs
Floodplain Managers
6.0 CECs
Contractors
Non-Credit Continuing Ed.
**Faculty**

Scott Jeffers, PE, PhD Candidate

Mr. Jeffers is a stormwater engineer at Mott MacDonald and a PhD candidate at the Drexel University Sustainable Water Resource Engineering Lab, studying green infrastructure and urban water resource management. His career spans both the professional consulting world and academia. Mr. Jeffers has designed separate stormwater sewers in Philadelphia, has partnered with research initiatives through the New York City Department of Environmental Protection and Department of Park and Recreation, and is currently a teaching fellow at Drexel. He believes in green solutions to urban environmental issues that promote sustainable planning for the future.

Adam Erispaha, PE

Mr. Erispaha is a licensed civil engineer with a passion for building tools, increasing efficiency, and finding innovative solutions to complex problems. Currently, he works as an on-site consultant for the Philadelphia Water Department's Planning and Research Division where he provides technical and strategic planning for the future. He has managed the development of drawings, schedules, specifications, and cost estimates for large combined sewer reconstruction projects and stormwater management practices of various types. Mr. Erispaha has designed extensive water main relay, storm sewer, and sanitary sewer replacement projects. He has prepared contract drawings for large-scale and small-scale best management practices (BMPs), and he has performed project modeling of control structures. He has also gained experience in sustainable building design and construction while working as a consultant and commissioning agent for LEED-certified and energy efficient commercial buildings, including pharmaceutical/healthcare facilities.

Stephen Maakestad, PE

Mr. Maakestad is an associate engineer at Mott MacDonald who gained most of his project management experience with the Philadelphia Water Department's Flood Relief Program and Long Term Combined Sewer Overflow (CSO) Control Program. As part of these programs, he managed the development of drawings, schedules, specifications, and cost estimates for large combined sewer reconstruction projects and stormwater management practices of various types. Mr. Maakestad has designed extensive water main relay, storm sewer, and sanitary sewer replacement projects. He has prepared contract drawings for large-scale and small-scale best management practices (BMPs), and he has performed project modeling of control structures. He has also gained experience in sustainable building design and construction while working as a consultant and commissioning agent for LEED-certified and energy efficient commercial buildings, including pharmaceutical/healthcare facilities.

**About the Seminar**

Hilton Garden Inn Fort Washington
530 W. Pennsylvania Ave.
Fort Washington, PA 19034
(215) 646-4657

**Tuition**

$265 for individual registration
$245 for three or more simultaneous registrations. Each registration includes one copy of the seminar manual.

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Register online at www.halfmoonseminars.org, mail in the registration form to HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278, fax the form to (715) 835-6066, or call a customer service representative at (715) 835-5900.

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Registration

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<tr>
<th>Time</th>
<th>Description</th>
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<tr>
<td>8:00 - 8:30</td>
<td>Attendance</td>
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<td>8:31 - 11:45</td>
<td>Morning Session</td>
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<td>Lunch (on your own)</td>
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<td>Afternoon Session</td>
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**Continuing Education Credit Information**

This seminar is open to the public and offers up to 6.0 HSW continuing education contact/hours to architects and 6.0 PDHs to professional engineers in most states, including Pennsylvania, New Jersey (Approval No. 24GP00000700), and New York (NYSED Sponsor No. 35). Educators and courses are not subject to pre-appraisal in Pennsylvania. This seminar is approved by the American Institute of Architects for 6.0 HSW Learning Units (Sponsor No. J885). Engineers and architects seeking continuing education credit in other states will be able to claim the hours earned at this seminar, in most cases. Refer to specific state rules to determine eligibility.

The Association of State Floodplain Managers has approved this course for 6.0 CECs. This program offers a non-credit continuing education opportunity to construction contractors. It has not been submitted to any state contractor licensing entity for continuing education approval. Attendance will be monitored, and attendance certificates will be available after the seminar for most individuals who complete the entire event. Attendance certificates not available at the seminar will be mailed to participants within fifteen business days.

**Construction Cost Estimating**

- **Introduction to Cost Estimating**
  - Thurs., March 2, 11:00 AM - 1:00 PM CST
- **Cost Components - A Closer Look at the Estimates**
  - Thurs., March 2, 1:00 - 3:00 PM CST
- **Cost Estimate Organization**
  - Fri., March 3, 11:00 AM - 1:00 PM CST
- **Cost Estimating Topics**
  - Fri., March 3, 1:30 - 3:00 PM CST

**Residential Energy Code**

- **Introduction to the Residential Energy Code and REScheck Energy Modeling**
  - Thurs., March 9, 11:00 AM - 12:30 PM CST
- **Building Envelope**
  - Thurs., March 9, 1:00 - 3:00 PM CST
- **Heating, Ventilation and Air Conditioning Systems**
  - Fri., March 10, 11:00 AM - 12:30 PM CST
- **2015 Revised Residential Energy Code Standards**
  - Fri., March 10, 1:00 - 2:00 PM CST

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**Webinar Series**

**Deep Foundations**

- **Deep Foundation Building Site Evaluation**
  - Thurs., February 23, 11:00 AM - 12:30 PM CST
- **Overview of Deep Foundations**
  - Thurs., February 23, 1:00 - 2:30 PM CST
- **Design and Bearing Capacity of Deep Foundations**
  - Fri., February 24, 11:00 AM - 12:30 PM CST
  - Fri., February 24, 1:00 - 3:00 PM CST

**Residential Solar, Community Solar and Solar Batteries**

- **Introduction to Residential Solar**
  - Wed., March 1, 11:00 AM - 2:15 PM CST
- **Design Your Solar Root**
  - Wed., March 8, 11:00 AM - 2:15 PM CST
- **Community Solar**
  - Wed., March 15, 11:00 AM - 2:15 PM CST
- **Solar Battery Management Systems**
  - Wed., March 22, 11:00 AM - 2:15 PM CST

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**How to Register**

www.halfmoonseminars.org

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