

Agenda

Presented by Sara Heger, PH.D

Development of Onsite Wastewater Treatment Technologies and Regulations

- Historical background and evolution
- Problems with conventional onsite systems
- Technology and operation of conventional wastewater treatment systems
- Federal regulation of systems
- Key contaminant removal
- Recent scientific and technical advances

Evaluating Sites and Setting Treatment Goals and Conventional System Design

- Factors for selecting and sizing systems
- Design considerations
- Site and soil evaluation
- System boundaries and loadings
- Initial system design

Alternative and Sustainable Treatment Technologies

- Aerobic treatment units
- Media filters
- Constructed wetlands
- Drip dispersal

Management Programs for Onsite Wastewater Treatment Systems

- Monitoring of systems
- Developing maintenance plans
- Inspection and troubleshooting procedures
- Repair options

Septic System Design, Construction and Maintenance
Ft. Washington, PA - Wednesday, April 11, 2018

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Learning Objectives

You'll be able to:

Examine onsite wastewater treatment technologies and regulations.

Evaluate potential sites for onsite treatment systems.

Explore factors for selecting and sizing systems.

Examine alternative and sustainable treatment technologies, including aerobic treatment units, media filters and constructed wetlands.

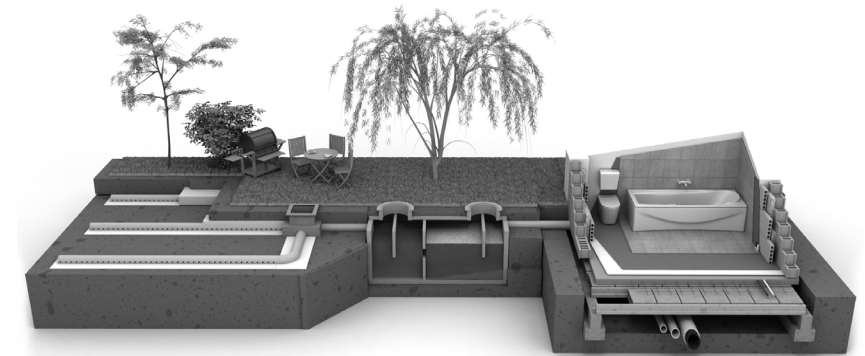
Develop septic system maintenance plans.

Review inspection and troubleshooting procedures.



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Examine onsite wastewater treatment technologies and regulations

Explore factors for selecting and sizing systems

Examine alternative and sustainable treatment technologies

Develop septic system maintenance plans

Review inspection and troubleshooting procedures

Continuing Education Credits

Professional Engineers

6.0 PDHs

Architects

6.0 HSW Continuing Ed. Hours

6.0 AIA HSW Learning Units



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Faculty

Sara Heger, Ph.D *University of Minnesota (UMN)*
Dr. Sara Heger is an engineer, researcher and instructor in the Onsite Sewage Treatment Program in the Water Resources Center at the University of Minnesota. Since 1999, she has been providing education and technical assistance to homeowners, small communities, onsite professionals and local units of government regarding onsite wastewater treatment. Dr. Heger coordinates the research program at the UMN and serves as the principal investigator on grants to create online owner’s guides and evaluate rest stops served by septic systems. She presents at many local and national training events regarding the design, installation and management of septic systems and related research. Dr. Heger is education chair of the Minnesota Onsite Wastewater Association (MOWA) and the National Onsite Wastewater Recycling Association (NOWRA). She serves on the NSF International Committee on Wastewater Treatment Systems and the Chesapeake Bay Review Panel. Dr. Heger is also the chair of the Minnesota State Advisory Committee on Decentralized Systems. She has BS degree in Biosystems & Agricultural Engineering and a PhD degree in Water Resource Science.

Testimonials from attendees at previous programs presented by Sara Heger:

- “Finest presenter – easily understood” – *Engineer*
- “Excellent, useful information” – *Land Surveyor*
- “Very informative” – *County Planner*

Seminar Information

Hilton Garden Inn Fort Washington
530 W. Pennsylvania Ave.
Ft. Washington, PA 19034
(215) 646-4637

Registration
8:00 - 8:30 am
Morning Session
8:30 - 11:45 am
Lunch (on your own)
11:45 am - 12:45 pm
Afternoon Session
12:45 - 4:00 pm

Tuition
\$279 for individual registration
\$259 for three or more registrations.

Each registration includes a complimentary continental breakfast and printed seminar manual.

- How to Register**
- Visit us online at www.halfmoonseminars.org
 - Mail-in or fax the attached form to 715-835-6066
 - Call customer service at 715-835-5900

Cancellations: Cancel at least 48 hours before the start of the seminar, and receive a full tuition refund, minus a \$39 service charge for each registrant. Cancellations within 48 hours will receive a credit toward another seminar or the CD/manual package. You may also send another person to take your place.

Continuing Education Credit Information

This seminar is open to the public and offers 6.0 PDHs to professional engineers and 6.0 continuing education hours to architects in most states, including Pennsylvania engineers. Educators and courses for Pennsylvania engineers are not subject to pre-approval in Pennsylvania.

This seminar is approved by the American Institute of Architects for 6.0 Learning Units (Sponsor No. J885). Only full attendance can be reported to the AIA/CES.

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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.

Additional Learning

February Webinar Series

- Building Operations and Efficiency**
- **Identifying Energy Efficiency Opportunities in Major Renovations**
Thurs., Feb. 1, 2018, 11:00 AM - 12:30 PM CST
 - **Integration of “Energy Modeling” in the Design of High Performance Buildings**
Thurs., Feb. 1, 2018, 1:00 - 2:30 PM CST
 - **High Efficiency Building Design Standards**
Fri., Feb. 2, 2018, 11:00 AM - 12:30 PM CST
 - **Commissioning and Operation of High Performance Buildings**
Fri., Feb. 2, 2018, 1:00 - 3:00 PM CST

- International Mechanical Code**
- **International Mechanical Code Background and Application**
Thurs., Feb. 15, 2018, 11:00 AM - 12:30 PM CST
 - **Chapters 2-5: Definitions, Regulations an Ventilation**
Thurs., Feb. 15, 2018, 1:00 - 3:00 PM CST
 - **Chapters 6-10: Ventilation, Appliances and Equipment**
Fri., Feb. 16, 2018, 11:00 AM - 1:00 PM CST
 - **Chapters 11-15: Refrigeration, Piping and Appendices**
Fri., Feb. 16, 2018, 1:30 - 3:00 PM CST

- NFPA 70E**
- **NFPA 70E, Part I**
Thurs., Feb. 8, 2018, 11:00 AM - 3:30 PM CST
 - **NFPA 70E, Part II**
Fri., Feb. 9, 2018, 11:00 AM - 3:30 PM CST

- National Electrical Code: A Solar Photovoltaic System Perspective**
- **National Electrical Code for Building Professionals, Part I**
Wed., Feb. 21, 2018, 11:00 AM - 2:15 PM CST
 - **National Electrical Code for Building Professionals, Part II**
Thurs., Feb. 22, 2018, 11:00 AM - 2:15 PM CST

For more information visit:
www.halfmoonseminars.org/webinars/

Can’t Attend? Order the CD/Manual Package:
An audio recording of this seminar is available for \$289 (including shipping). Allow five weeks from the seminar date for delivery. Please refer to specific state licensing rules or certification requirements to determine if this learning method is eligible for continuing education credit.

Registration

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How to Register		Registrant Information
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Fax: 715-835-6066		Name: _____ Occupation: _____ Email: _____ Phone: _____
Mail: HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278		Name: _____ Occupation: _____ Email: _____ Phone: _____
Complete the entire form. Attach duplicates if necessary.		Email address is required for credit card receipt, program changes, and notification of upcoming seminars and products. Your email will not be sold or transferred.

() I need special accommodations. Please contact me.

Tuition
() I will be attending the live seminar. Single Registrant - \$279.00 . Three or more registrants from the same company registering at the same time - \$259.00 each.
() I am not attending. Please send me the CD manual package for \$289.00 . (S&H included. Please allow five weeks from seminar date for delivery)
Checks: Make payable to HalfMoon Education Inc.
Credit Card: <i>Mastercard, Visa, American Express, or Discover</i>
Credit Card Number: _____
Expiration Date: _____ CVV2 Code: _____
Cardholder Name: _____
Billing Address: _____
City: _____ State: _____ Zip: _____
Signature: _____
Email: _____