

Agenda

Presented by Dr. Karen Mancl

Septic Systems

Sewage disposal historical background
· Environmental Protection Agency and Ohio perspectives
What a basic septic system is composed of and how it works
Septic tank design and how they work

Onsite Wastewater Treatment Systems

System design
Siting
Construction

Alternative Treatment Technologies

Mound systems
Sand bioreactor systems (aka sand filter systems)
Media filters – peat, textile

System Management

System inspections
Regular maintenance
Troubleshooting

Can't Attend? Order the CD/Manual Package:

A full recording of this seminar is available for \$289, which includes shipping and handling. This learning method does not qualify for the continuing education credit for Ohio architects or engineers. Please allow five weeks from the seminar date for delivery.

Ohio Septic System Short Course
Worthington, OH - Wednesday, September 27, 2017



Halfmoon Education Inc.
PO BOX 278
Altoona, WI 54720-0278

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Learning Objectives

You'll be able to:

Define what a basic septic system is and understand how it works.

Discuss design, siting and construction considerations related to onsite wastewater treatment systems.

Identify alternative treatment technologies such as mound systems and media filters.

Utilize key tips related to septic system inspections and maintenance.

Troubleshoot septic system problems.



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Examine the historical background and regulation of sewage disposal

Explore septic tank function and design

Discuss onsite wastewater treatment system siting and construction considerations

Learn about alternative treatment technologies including sand bioreactor systems and media filters

Discuss key issues in septic system management

Continuing Education Credits

Architects

6.0 HSW Continuing Ed. Hours
6.0 AIA HSW Learning Units

Professional Engineers

6.0 PDHS

Construction Contractors

Non-Credit Continuing Ed.



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Faculty

Karen Mancl

Professor of Food, Agricultural and Biological Engineering and Water Quality Specialist at The Ohio State University

Dr. Mancl has published 35 journal articles and about 70 Extension publications on rural infrastructure and outreach initiatives. She is a nationally-known expert in onsite wastewater treatment, having conducted research, written and taught the subject for 30 years. Dr. Mancl is the President of the Ohio Onsite Wastewater Association. In 2013, Dr. Mancl constructed a teaching facility at a slaughterhouse in southwestern Ohio to teach low-cost, low-energy treatment of food processing wastewater. At this outdoor teaching and research facility, Dr. Mancl teaches designers, installers and regulators the science and technology of sand bioreactor wastewater treatment systems. She is originally from Wisconsin where she received her bachelor's degree in Environmental Science from the University of Wisconsin. Dr. Mancl has a master's degree in Environmental Science from the University of Texas, and received her PhD degree in Water Resources from Iowa State University in. In 2010 she received a second Master's degree in East Asian Studies, and she conducts research and teaches wastewater treatment in rural China. She was an assistant professor and water specialist at The Pennsylvania State University for four years before joining the Ohio State faculty in 1986.

Here's what past attendees had to say about the program and presenter Karen Mancl:

"Very informative overview of on-site wastewater treatment options in the state of Ohio."
— Civil engineer

"A great presentation—clear, well organized." — Architect

"High-energy, passionate about subject." — Mechanical engineer

"One of the best I have attended." — Civil engineer

Seminar Information

Holiday Inn Columbus/Worthington

7007 North High Street
Worthington, OH 43085
(614) 436-0700

Registration 8:00 - 8:30 am	Lunch (On your own) 11:45 am - 1:00 pm
Morning Session 8:30 - 11:45 am	Afternoon Session 1:00 - 4:15 pm

Tuition

\$279 for individual registration

\$259 for three or more simultaneous 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.

Additional Learning

August Webinar Series

Foundation Damage and Repair

• **Structure Loads, Soil Mechanics, Bearing Capacity and Geo-Environmental Hazards**
Wed., Aug. 16, 2017, 11:00 AM - 12:30 PM CDT

• **Foundation-Wall Design and Construction**
Wed., Aug. 16, 2017, 1:00 PM - 2:30 PM CDT

• **Assessment of Foundation-Slab Damage & Repair Alternatives**
Thurs., Aug. 17, 2017, 11:00 AM - 12:30 PM CDT

• **Assessment of Foundation- Retaining Wall Damage & Repair Alternatives**
Fri., Aug. 17, 2017, 1:00 PM - 2:30 PM CDT

Solar Batteries, Designing Solar Roofs and Introduction to Residential Solar

• **Solar Battery Management Systems**
Wed., Aug. 16, 2017, 11:00 AM - 2:15 PM CDT

• **Design Your Solar Roof**
Wed., Aug. 23, 2017, 11:00 AM - 2:15 PM CDT

• **Community Solar**
Wed., Aug. 30, 2017, 11:00 AM - 2:15 PM CDT

Small Wind Energy Systems

• **Small Wind Energy System Components**
Thurs., Aug. 24, 2017, 11:00 AM - 1:00 PM CDT

• **Small Wind Energy Siting and Sizing**
Fri., Aug. 25, 2017, 11:00 AM - 1:00 PM CDT

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

Continuing Education Credit Information

This live lecture presentation is open to the public and offers 6.0 HSW continuing education hours to architects and 6.0 PDHs to professional engineers in all states. Educators and courses are not subject to preapproval in Ohio.

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

HalfMoon Education is deemed an approved architect continuing education sponsor in New York. HalfMoon Education is an approved continuing education sponsor for engineers in Florida, Indiana, Louisiana, Maryland, New Jersey (Approval No. 24GP00000700), New York (NYSED Sponsor No. 35), North Carolina, and North Dakota.

This seminar offers a non-credit continuing education opportunity to contractors. It has not been approved by any state contractor licensing entity for mandatory continuing education credit.

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.

Registration

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How to Register	Registrant Information
Online: www.halfmoonseminars.org	Name: _____ Company/Firm: _____ Address: _____ City: _____ State: _____ Zip: _____ Occupation: _____ Email: _____ Phone: _____
Phone: 715-835-5900	Additional Registrants: Name: _____ Occupation: _____ Email: _____ Phone: _____
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.
<input type="checkbox"/> <input type="checkbox"/> 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: *Mastercard, Visa, American Express, or Discover*

Credit Card Number: _____

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Cardholder Name: _____

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