

December 8-10, 2008
Riviera Hotel
Las Vegas, Nevada

NOWRA

Presents the 4th Annual

Installer Academy

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Featuring the
2nd Annual

Roe-D-Hoe

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PROGRAM HIGHLIGHTS

This unique education and training program focuses on advancing the knowledge, skills, and professionalism of practitioners in the decentralized wastewater industry. The 2008 Installer Academy program has been expanded to meet the ongoing needs of installers and service providers. Here's a preview of some of the program's features:

- The **2nd Annual Roe-D-Hoe** consists of timed skill activities on Bobcat equipment, testing Installers' abilities. Participation in the Roe-D-Hoe allows Installers a chance to display their skills and experience while enjoying themselves at the same time. The national champion will win both a \$1,000 cash prize and a commemorative belt buckle with runner-up prizes for 2nd and 3rd place. The event will culminate with the National Roe-D-Hoe Championship Awards Ceremony and Reception in the Exhibition Hall with food and refreshments provided.
- The **CIDWT Installer Training Curriculum** will again be presented during the 2008 Installer Academy. These comprehensive, peer reviewed training materials are being developed in conjunction with NOWRA and NEHA. This program is designed to support the NEHA Certified Installer of Onsite Wastewater Treatment Systems (CIOWTS) certification.
- This year's program includes a diverse range of **educational sessions** presented by over twenty onsite professionals. Technical, Practical, Business/Management and Credential/Legislative sessions will provide learning opportunities for everyone.
- **NAWT Vacuum Truck Technician Training** is a new addition to the Installer Academy line up this year. This full day training is for service providers who own or operate a vacuum truck used to clean septic tanks, aerobic treatment units, holding tanks or grease traps.
- **Vendor Product Training Rooms** are available for companies to provide hands-on instruction and education about their equipment and products. These sessions give attendees a valuable opportunity to learn directly from the source about the

attributes and capabilities of control panels, pumps, filters, wastewater treatment systems and other wastewater products.



Networking receptions in the Exhibit Hall give attendees the opportunity to connect with key manufacturers to learn the latest about their products and services.

- **Southwest Forum**—Participants for the Southwest states will discuss development of training and educational programs, as well as the challenges of designing onsite systems in this region for long-term sustainability of environmental resources.
- Attendees at all sessions receive **CEUs for professional advancement** (not applicable to licenses in all states). The Installer Academy provides incredible networking opportunities to learn the latest technologies that support customer needs and increase business.

PROGRAM OVERVIEW

DAY 1 MONDAY, DECEMBER 8

GENERAL SESSION

Keynote: *Tying It All Together—Design, Installation, O&M, Pumping*

Presenter: Tim Frank, Tim Frank Septic Tank Cleaning Co., Past NOWRA President

PANEL DISCUSSION: *Relationships and Troubleshooting among Designers, Installers, and Service Providers*

PANEL DISCUSSION: *Keeping Your Business Afloat in Tough Economic Times*

EDUCATIONAL SESSIONS

- Business & Management Sessions
- Credential & Legislative Programs
- Technical Education Sessions
- CIDWT Installer Training
- Exhibit Hall Opening Reception

DAY 2 TUESDAY, DECEMBER 9

- Roe-D-Hoe Competition (open all day)
- CIDWT Installer Training
- NAWT Vacuum Truck Technician Training
- Technical Education Sessions
- Vendor Product Training Rooms
- Roe-D-Hoe Award Ceremony and Reception

DAY 3 WEDNESDAY, DECEMBER 10

- CIDWT Installer Training
- Technical Education Sessions
- Southwest Networking Forum
- NEHA Exam

“I have attended many onsite training courses over the years, but I learned more here than ever before.”

— Kansas Installer



Roe-D-Hoe

NOWRA's 2nd Annual National Roe-D-Hoe skill competition is being held at NOWRA's 4th Annual Installer Academy on Tuesday, December 9th. This one-day event consists of timed skill activities on Bobcat equipment, testing installers' abilities.

Participation in the Roe-D-Hoe allows installers a chance to display their skills and experience, while enjoying themselves at the same time. The backhoe Roe-D-Hoe is "fun," but takes skill and "tests even the most seasoned operator." The winner must successfully complete all tests in the shortest total time. The national champion will win both a \$1,000 cash prize and a commemorative belt buckle with runner-up prizes for 2nd and 3rd place.

The Roe-D-Hoe will culminate with the Grand Finale National Roe-D-Hoe Championship, followed by the Awards Ceremony and Reception in the Exhibition Hall with food and refreshments provided. The participation fee is \$20. **You may pre-register with your Installer Academy registration or at the event.**

**For more info about the Roe-D-Hoe, please contact:
NOWRA Headquarters • 800-966-2942 • info@nowra.org**

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50 years ago, Bobcat Company unleashed a way to work better, smarter, faster. During 2008, Bobcat is celebrating the 50th anniversary of Bobcat compact equipment, which began with the Melroe Self-Propelled Loader - a three-wheeled front end loader - in 1958. That machine evolved into the Bobcat skid-steer loader and spawned the worldwide compact equipment industry. Today, Bobcat continues to lead the world in the design, manufacture and distribution of compact equipment. Bobcat manufactures and markets skid-steer and all-wheel steer loaders, compact track loaders, mini track loaders, compact hydraulic excavators, telescopic tool carriers, utility work machines, utility vehicles, compact tractors and a full line of complementary attachments. Bobcat Company, headquartered in West Fargo, ND, is part of Doosan Infracore International (DII), a U.S.-based subsidiary of Doosan Infracore, a global manufacturer of construction equipment.

EDUCATIONAL SESSIONS

BUSINESS/MANAGEMENT

it (RI)

Mon. Dec. 8th • 1:00 – 1:45 pm • Royale 7
Design Options and Your Business Plan, Eric Larson, Septic Check, Inc.
This presentation will address design and installation with your business model and your customers' long term needs in mind.

it (RI)

Mon. Dec. 8th • 1:45 - 2:45 pm • Royale 7
Routing and Mapping your Customers Effectively, Jon Denney, SAFE Software
Attendees in this session will learn the basics of mapping , software tools available, importing data and how mapping will reduce costs and increase productivity.

s (RI)

Mon. Dec. 8th • 3:15 – 4:00 pm • Royale 7
Post Construction Site Evaluation: The Beginning of the Onsite Septic Management Program, Albert Royster, Volusia County Health Department
A post inspection after the installation can make a star out of the contractor. This session will cover what you can do during the inspection to validate system performance, which will lead to a positive relationship with the system user.

it (RI)

Mon. Dec. 8th • 4:00 – 5:00 pm • Royale 7
Onsite Wastewater Management through Aggressive Technology Application, Eric Evans, Kitsap County Health District, Bremerton, Washington
A local health regulator faces major obstacles with respect to the management of onsite wastewater treatment systems. Information will be presented depicting the successful application of an onsite management model, thus demonstrating how partnered management and technology may reduce critical failures of onsite wastewater treatment systems while contributing to the financial sustainability of the regulatory community

“I always learn something here! I appreciated the business track by people who understand our industry.”

– Terri Jakoubek, 2007 IA attendee

TECHNICAL/PRACTICAL

it (RI)

Mon. Dec. 8th • 1:00 – 2:45 pm • Capri 114/115
Natural Wastewater Systems, David Del Porto, Ecological Engineering Group, Inc.
Increasingly, on-site natural systems, such as phytoremediation, zero-discharge evapotranspiration, sequenced aquatic ecosystems, and subsurface flow constructed wetlands are finding their way into communities across the globe. Installers will learn what they are, how they work, installation issues and how to maintain them.

Mon. Dec. 8th • 3:15 – 5:00 pm • Capri 114/115
Onsite System Layouts, Kathy Morris, Certified Subsurface Operator, February Associates, Inc. **0.875 CEUs**
Onsite system layout is the physical marking on the site of the proposed location of components such as tanks, trenches, and distribution systems. This presentation will focus on identifying contours, determining how topography influences siting of onsite systems and employing laser levels.

Tues. Dec. 9th • 8:00 – 9:00 am • Capri 114/115
A Comprehensive Approach to Design of Conventional and Alternative Systems, Eric Larson, Septic Check, Inc. **0.5 CEUs**
The customer can be as important a variable as the site conditions when selecting system options. This discussion will address appropriate design options based on site, local government unit (LGU), and the customer.

Tues. Dec. 9th • 9:00 – 10:00 am • Capri 114/115
Design of Onsite Systems: Gravity Distribution, Kathy Morris, Certified Subsurface Operator, February Associates, Inc. **0.5 CEUs**
A basic onsite system consisting of a septic tank, a drainfield, and a scheme for distributing effluent from the tank into and through the field needs to be designed with critical factors in mind. Attendees in this session will learn to calculate component sizes using waste load and soil characteristics, compare gravity distribution options and devices, and determine how topography affects gravity systems.

Tues. Dec. 9th • 10:30 – 11:30 am • Capri 114/115
Alternative Disposal Area Technologies from a Regulatory Perspective, Russell Martin, Director, Division of Environmental Health, Maine DHHS **0.5 CEUs**
This session will provide a comparison of the various alternatives to stone disposal fields and include how stone systems and “proprietary devices” are sized.

Tues. Dec. 9th • 11:30 am – 12:30 pm • Capri 114/115
High Strength Wastewater, Russell Martin, Director, Division of Environmental Health, Maine DHHS **0.5 CEUs**
A discussion of factors affecting the composition and strength of domestic wastewater and why facilities such as restaurants need special consideration in the design and construction phases will be presented.

Tues. Dec. 9th • 1:00 – 2:00 pm • Capri 114/115
Design of Onsite Systems: Simple Pump Systems, Kathy Morris, Certified Subsurface Operator, February Associates, Inc. **0.5 CEUs**
Pumps are added to basic conventional onsite systems to achieve lift to a higher dispersal site, transport to a distant dispersal site, and/or pressure distribution to a site that for some reason is not suited to gravity distribution. Pump size depends on flow rate, elevation change, horizontal distance, and pipe size. This session will address pump-to-gravity and pump-to-simple-pressure-manifolds.

continued

EDUCATIONAL SESSIONS *(continued)*

s (RI) Tues. Dec. 9th • 2:00 – 3:00 pm • Capri 114/115
Pump Selection and Control Basics, Darren Meyers, Zoeller Pump Company
This presentation will cover different pump styles and their suitability in different applications. It will also include pump sizing basics, control systems and components, as well as provide some trouble shooting tips.

it (RI) Tues. Dec. 9th • 3:30 – 5:30 pm • Capri 114/115
Use of Imported Soil for Onsite Wastewater Systems in Marginal Soil-Site Conditions: Implications for Regulators and Installers, Randall Miles, Associate Professor, University of Missouri
This session will present data from the Table Rock Lake Water Quality Project in which imported soil was used for various onsite wastewater systems on limited area lots as well as in sloping and restrictive depth to bedrock situations. The discussion will cover the use of NSF Class I aeration followed by time dosed drip technology as well as the tight specifications of the soil, soil movement and placement, installation of the technology, and the rigid environmental conditions needed during installation. Both regulator and installer perspectives on the use of new technologies will also be discussed.

s (RI) Wed. Dec 10th • 8:00 – 9:00 am • Capri 114/115
Design, Operation, and Maintenance of Large Onsite Wastewater Systems, Dennis Hallahan, Infiltrator Systems, Inc.
In this presentation we will explore the technology and design criteria for large community systems for residential development, wastewater treatment plant extensions, and commercial projects such as stadiums and large casino projects. We will also discuss opportunities and approaches for recycling and reuse of treated wastewater.

s (RI) Wed. Dec 10th • 8:00 – 9:00 am • Capri 112/113
Troubleshooting Conventional Gravity Flow Septic Systems, Dan Tucker, NEHA CIOWTS, Alpine Excavating, LLC
The wastewater is backing up into the structure — now what do you do? This session will discuss how installers can prevent many, if not most, problems by installing systems correctly, thereby proving that prevention is far cheaper than repair. Topics to be covered include: finding the components (the septic tank, drain field, cleanout/access points); locating and assessing problems, and developing approaches to fix problems.

s (RI) Wed. Dec 10th • 9:00 – 10:00 am • Capri 112/113
A Tool for Troubleshooting Conventional Residential Systems, Bill Stuth, Sr., Aqua Test, Inc.
This talk will focus on an extremely valuable tool, the troubleshooting checklist. Using a checklist not only provides the professional information needed for diagnosing the system but also can make the homeowner realize what they may be doing that is contributing to their failing system. The presentation will also include a discussion of the limitations of conventional systems.

Wed. Dec 10th • 9:00 – 10:00 am • Capri 114/115
Component Quality – Short-Term Choices Affect Long-term Costs, Darren Simmie, Sales Manager, Orenco Systems, Inc. **0.5 CEUs**
A wastewater treatment system is a harsh environment that can take its toll on the parts, pieces, and components that we choose to use for construction. The decisions that you make concerning the components that make up the systems will have a huge impact on the cost and longevity of that system. This presentation will challenge designers and installers to assess the suitability and durability of the parts they use or specify.

Wed. Dec 10th • 10:30 – 11:30 am • Capri 112/113
Erosion Control and Subsurface Wastewater Systems, Russell Martin, Director, Division of Environmental Health, Maine DHHS **0.5 CEUs (RI)**
A discussion of factors affecting the erosion of soil and why erosion control is important will be made.

Wed. Dec 10th • 10:30 – 11:30 am • Capri 114/115
Proving Decentralized Wastewater Sustainability, Eric Evans, Kitsap County Health District, Bremerton, Washington **0.5 CEU**
The focus of this presentation is to create an open discussion about the preconceptions and myths regarding management and sustainability of the decentralized wastewater treatment model. Discussion points will include a review of the frequency of surfacing effluent, pump failure rates, and repeated deficiencies of decentralized wastewater treatment systems that are maintained by certified professionals.

continued

SOUTHWEST NETWORKING FORUM

Wed., Dec. 10th • 10:30 am – 12:30 pm
Room: Royale 7

During this networking forum, participants from the Southwest states will discuss approaches to developing and implementing training and educational programs as well as the challenges of designing onsite systems in this region for long-term sustainability of environmental resources.

EDUCATIONAL SESSIONS *(continued)*

CREDENTIAL/LEGISLATIVE PROGRAMS

(RI) Mon. Dec. 8th • 1:00 – 1:45 pm • Capri 112/113
NEHA Certified Installer Credential Program, Christl Tate, National Environmental Health Association
An overview of the Certified Installer credential will be given in addition to new developments in the areas of training and credential qualifications. The discussion will include a description of the new training program being developed by the Consortium of Institutes for Decentralized Wastewater Treatment (CIDWT) – how it works with the Certified Installer credential and when it will be available.

(RI) Mon. Dec. 8th • 1:45 – 2:45 pm • Capri 112/113
Legislation, Is It a Necessary Evil of the Onsite Wastewater Industry? Roxanne Groover, Executive Director, Florida Onsite Wastewater Association
A practical look at the approach Florida is taking regarding Onsite Wastewater's rules, regulations, and legislation.

(RI) Mon. Dec. 8th • 3:15 – 4:00 pm • Capri 112/113
Alaska's Certified Septic Installer program – there's no reason YOU can't just do it..., Dan Tucker, NEHA, CIOWTS, Alpine Excavating, LLC
Alaska's 10 year old proven program whereby installers can take a class, then a test to become certified, will be presented in this session. Certified installers can completely install and document a conventional septic system – within parameters set by the program. The approach is that installers can assess sites and soils, plan/design, install and document many, if not most, 'cookie-cutter' conventional systems without layers of oversight and days of time.

Mon. Dec. 8th • 4:00 – 5:00 pm • Capri 112/113
Being the Advocate for Mandated Licensing and Mandated Maintenance Programs, K. R. "Trapper" Davis, Coastal Plains Environmental Group

In 2007 Virginia passed a new law that will require practitioners in the onsite wastewater treatment industry, including soil evaluators, installers and companies providing operation and maintenance (O&M) services, to be licensed through the Department of Professional and Occupational Regulation (DPOR) in 2009. Challenges associated with implementing this law, including controversies concerning mandated examinations for all professionals as well as necessary experience and education requirements, will be discussed.

No CEU Credit

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For fun things to do while in Vegas, go to www.visitlasvegas.com

VENDOR TRAINING ROOM

(RI) Tues. Dec. 9th • 8:00 - 10:00 am • Royale 7
The Eljen Geotextile Sand Filter, Jim Donlin, Eljen
The Geotextile Sand Filter functions as a passive alternative for obtaining a secondary level of treatment. Internal surface area comparisons and results from recent treatment testing conducted at the Massachusetts Alternative Septic System Testing Center (MASSTC) will be presented. Installation procedures for a wide variety of site conditions will be explained in detail.

(RI) Tues. Dec. 9th • 10:30 - 11:30 am • Royale 7
Advancements in Septic Tanks Shape the Future of Onsite Treatment, Dennis Hallahan, Infiltrator Systems, Inc.
New manufacturing processes are allowing for vast improvements in the world of septic tanks, providing structurally reliable, and exceedingly strong new versions of plastic tanks. These tanks are a revolutionary improvement in plastic septic tank design, offering exceptional strength comparable to concrete tanks and are easier to transport and install than concrete tanks but with all of the performance benefits. This presentation will explore the manufacturing advancements that have enabled the production of the evolved septic tank and provide project examples of its use.

Tues. Dec. 9th • 1:00 - 3:00 pm • Royale 7
Plop, Plop, Fizz, Fizz. Oh What a Relief It Is . . . **1 CEU (RI)**
Remediating Biologically Clogged and Hydraulically Overloaded Drainfields, Judd Efinger, Infiltrator Systems, Inc.
The modern household often uses too much water, and heightening the problem, often concentrates water usage during a few hours of the day – in the morning and evening. One cost effective solution for hydraulic overload is to spread out the peak flows over the entire 24 hour period. This session will demonstrate how the Aerobic Bacteria Generator (ABG) and timed dosing technologies are excellent alternatives to the high cost of a full drainfield replacement.

Tues. Dec 8th • 3:30 – 5:30 pm • Royale 7
Fixed Film Media, Trent Lydic, Jet, Inc. **No CEU Credit (RI)**
A discussion of the basic requirements for installing, servicing and maintaining media systems will be presented. Also covered will be scientific principles of the fixed film and suspended growth treatment process, troubleshooting plants and disinfection systems.

CIDWT PILOT INSTALLER TRAINING PROGRAM

Sessions in this track run Monday through Wednesday. The Consortium of Institutes for Decentralized Wastewater Treatment (CIDWT) is an organization of professionals from educational institutions, training entities, private industry, regulatory agencies and citizens' groups who cooperate on decentralized wastewater research, outreach training and education. CIDWT, NOWRA, and the National Environmental Health Association (NEHA) are cooperating to establish and communicate a set of minimum guidelines for the installation of onsite wastewater treatment systems. The National Installation Training curriculum under development by CIDWT defines the body of knowledge for professional installers and supports the NEHA Certified Installer of Onsite Wastewater Treatment Systems (CIOWTS) credential. **The NEHA CIOWTS examination will be administered at the conclusion of the pilot training event for those who wish to pursue this important national certification.**

MONDAY, DECEMBER 8

Mon. Dec. 8th • 10:15 -11:15 am • Room: Royale 8
Welcome and Introduction, Bruce J. Lesikar, Ph.D., P.E., CIOWTS, Texas A&M University – An overview of the CIDWT National Installation training program will be provided. A professional installation requires effective communication among the installer, facility owner, designer and regulatory community. Documentation that facilitates this effective communication will be discussed. Available educational resources for use by the professional installer will be described.

Mon. Dec. 8th • 11:15 am -12:00 pm • Room: Royale 8
Professional Ethics, Bruce J. Lesikar, Ph.D., P.E., CIOWTS, Texas A&M University – Ethics are important in any business endeavor since it determines the level of respect that professionals earn from their clientele as well as their peers. The pathways to gaining this respect will be described and explored relative to the professional installer.

Mon. Dec. 8th • 1:00 -1:45 pm • Room: Royale 8
Soils and Site Evaluation for Installers, David Lindbo, Ph.D., NCLSS, CPSS, North Carolina State University – Part of the installation process is having a system that is appropriate for the soil and site conditions. The processes that affect water movement through soils are also discussed with respect to installation activities that may influence system performance. This discussion includes information to help the professional installer be able to identify and understand soils information and interpret soil and site conditions in order to install an effective and sustainable system.

Mon. Dec. 8th • 1:45 – 2:45 pm • Room: Royale 8
Distribution, Nancy Deal, M.S., R.E.H.S., CIOWTS, NC State University – Distribution is a critical mechanism for initiating contaminant removal in wastewater treatment systems. This section discusses loading rates, appropriate use of gravity and pressure regimes according to site limitations, and typical system configurations. The general requirements for installing components to maximize treatment capabilities of components while maintaining the natural soil conditions of the site are presented. The critical nature of providing accessibility for operation and maintenance is also discussed.

Mon. Dec. 8th • 3:15 – 4:15 pm • Room: Royale 8
Installation Safety, Nancy Deal, M.S., R.E.H.S., CIOWTS, NC State University – Safety is a necessary consideration for any business. OSHA construction practices must be followed on the job site to limit

the risk of worker injuries and the installer's liability exposure. OSHA terminology and safety practices are presented. General and specific site safety issues are identified and discussed and first aid and emergency response are highlighted.

Mon. Dec. 8th • 4:15 – 5:00 pm • Room: Royale 8
Installation Techniques and Materials, Sara Christopherson, M.S., University of Minnesota – Proper installation techniques, materials, and equipment must be used during construction of onsite wastewater treatment systems to help ensure adequate treatment and acceptance of the wastewater. This section discusses these topics on the basis of maintaining the natural soil conditions of the site while installing a system at the proper depth and elevation.

“The Installer Academy is a very good venue for beginners in the industry”

– 2007 IA attendee

TUESDAY, DECEMBER 9

Tues. Dec. 9th • 8:00 – 9:15 am • Room: Royale 8
Installation Planning, George Loomis, University of Rhode Island – Planning is the first step in the installation process. A construction plan that matches the constraints of the site and the capabilities of the installer must be developed and implemented. Approaches and considerations for achieving this are presented including planning, staging and scheduling.

Tues. Dec. 9th • 9:15 – 10:00 am • Room: Royale 8
Installation of Piping, Sara Christopherson, MS, University of Minnesota – Piping is used to convey influent and effluent to system components. Critical information describing methods for installing piping in a manner that limits movement following installation are presented. Key methods for facilitating long-term management are included.

Tues. Dec. 9th • 10:30 – 11:15 am • Room: Royale 8
Watertight Tanks, Nancy Deal, M.S., R.E.H.S., CIOWTS, NC State University – Tanks are constructed of various materials and serve a variety of purposes in onsite treatment systems. Stable and watertight installation of tanks with accessibility for performing appropriate operation and maintenance facilitates long-term performance of the system as a whole. The key steps of installation are presented.

continued

CIDWT PILOT INSTALLER TRAINING PROGRAM *(continued)*

(RI) Tues. Dec. 9th • 11:15 am – 12:00 pm • Room: Royale 8
Installing Pumps & Controls, David Kalen, University of Rhode Island – Pumps are used to convey sewage and effluent in onsite wastewater treatment systems. The different types of pumps and their associated purposes are discussed. Proper pump selection and sizing criteria are identified. Appropriate construction methods for installation of pumps, controls and discharge assemblies are presented.

(RI) Tues. Dec. 9th • 1:00 – 2:15 pm • Room: Royale 8
Media Filter Installation, George Loomis, University of Rhode Island – Media filters are discussed with respect to their expected operational criteria. Critical construction practices for media filter components used for advanced treatment will be presented with respect to facilitating operation and maintenance for optimal long-term performance.

Tues. Dec. 9th • 2:15 – 3:00 pm • Room: Royale 8
Installing Disinfection Systems, George Loomis, University of Rhode Island – Disinfection is a critical part of many treatment trains located across the country. The disinfections methods used and effective approaches to installing these systems will be discussed.

Tues. Dec. 9th • 3:30 – 4:45 pm • Room: Royale 8
ATU Installation, Bruce J. Lesikar, Ph.D., P.E., CIOWTS, Texas A&M University – The components of an ATU system, their operational criteria and associated installation practices will be presented. Construction techniques that facilitate system stability, accessibility, and long-term performance will be discussed.

Tues. Dec. 9th • 4:45 – 5:00 pm • Room: Royale 8
Homework Distribution and Concluding Remarks

No CEU Credit (RI)

WEDNESDAY, DECEMBER 10

Wed. Dec. 10th • 7:30 – 8:30 am • Room: Royale 8
Homework Review, David Kalen, University of Rhode Island – In this presentation the homework problems will be reviewed and critical calculations will be discussed.

Wed. Dec. 10th • 8:30 – 10:00 am • Room: Royale 8
Installing Soil Treatment Areas, Sara Christopherson, MS, University of Minnesota – Soil treatment areas (STAs) are the final component of the onsite wastewater treatment system. The soil distribution technologies and their associated components are presented with a discussion on estimation of material needs. Topics related to installation of below grade soil treatment areas will be presented, including staking, excavation, placement of trench media and final cover. For installation of above-grade systems, staking and site preparation, placement of imported material and media as well as final cover will be discussed. The key considerations for installation of soil distribution systems that will be able to accept and treat wastewater will be identified.

Wed. Dec. 10th • 10:30 – 11:45 am • Room: Royale 8
Installing Drip Distribution Systems, Bruce J. Lesikar, Ph.D., P.E., CIOWTS, Texas A&M University – Drip distribution system components and potential treatment trains will be discussed. The critical considerations regarding the installation of the drip distribution technology components in a manner that facilitates long-term performance are presented. Key differences between drip distribution and other pressure distribution methods will be highlighted.

Wed. Dec. 10th • 11:45 am – 12:00pm • Room: Royale 8
Summary and Concluding Remarks

No CEU Credit (RI)



“I encourage anyone who has not attended a NOWRA conference not to miss the Installer Academy. It provides learning opportunities, educational materials, and exhibits— not to mention the fun of Vegas and the chance to win a thousand bucks!”

—Bill Morton, 2007 NOWRA Roe-D-Hoe Winner

NEHA Examination for Credential as Certified Installer of Onsite Wastewater Treatment Systems

Wed. Dec. 10th • 1:00 – 4:00 pm • Room: Royale 8

Visit www.neha.org/onsite for more information

NAWT VACUUM TRUCK TECHNICIAN TRAINING

Full day training on Tuesday • 8:00 am – 5:30 pm • Room: Capri 112/113

Presenter: Bruce Fox, Past President of the National Association of Wastewater Transporters, Inc. (NAWT) and a trainer for the Pennsylvania Septage Management Association

8:00 am INTRODUCTIONS AND HOUSEKEEPING

8:15 – 10:00 am CLASS TIME

Goals: Participants should be able to recognize trucks and their associated equipment, understand the equipment's function, understand the vocabulary of pumping, learn how to apply safety principals and how to operate equipment safely, recognize materials they will encounter and some they may have to avoid, recognize how their job is regulated by government, and learn how to speak to customers with confidence

Definitions: All professionals must understand and use the proper terms when referring to equipment and activities associated with onsite wastewater treatment systems.

Materials: Vacuum trucks are called upon to load and transport a wide range of materials. The operator should be aware of materials that he or she may encounter that should not be loaded into the truck. Often that final decision is made by the operator.

Government Regulations: The hauling and final disposition of septage, portable toilet waste, grease trap waste, etc. is regulated by many levels of government. The operator must have an awareness of Federal, State, and Local regulations.

Field Safety: It is the sole responsibility of the operator to be sure that what they do is done safely. Usually, the operator is responsible for either compliance with the law or a costly violation for the employer.

Pumping: A discussion on the procedures for proper tank cleaning based on the NAWT Pumping Standards will be presented, including safety considerations for positioning of the truck, notification of the owner of arrival, scanning of the area for obstacles and hazards, locating the tank to be pumped, and verification of contents of the tank.

Understanding Vacuum-Understanding Pressure: The pumping system on modern vacuum trucks is designed to move only air. In layman's terms the physics of vacuum and pressure is explained.

Vacuum Equipment: Rotary vane pumps, the most commonly used pumps, are explained in detail. The four way valve that allows air to move into and out of the truck tank is thoroughly explained.

Other Pumps: Other pumps may be used in various applications. Liquid Ring, rotary lobe, diaphragm, and centrifugal pumps are explained.

Drive Mechanisms: Any of three drive mechanisms (direct drive, belt drive, and hydraulic drive) may be installed to transmit the engine's power to the pump. An description of each is given.

Equipment Configurations: All of the components found on vacuum trucks can be configured in many ways to accomplish the purpose of moving materials. Straight trucks, semi's, tow behind trailers, and skid mounted equipment are the most common configurations.

10:00 – 10:15 am BREAK

10:15 am – Noon CLASS TIME

Tools: Vacuum trucks carry a varying assortment of tools to make the technician's job easier and more efficient. Lists of recommended equipment are provided.

Locating Tanks: A procedure is given on how to locate septic tanks.

Accessing Tanks: Pumping the tanks through the proper access is stressed. Pumping through an observation point prevents a thorough cleaning.

continued

VENDOR OPPORTUNITIES

Gain great exposure and connect with new buyers by exhibiting at the only in-depth educational venue for installers.

With attendance growing each year, this show is a great opportunity for you to expand your market and increase sales. **Sponsoring an activity or advertising in the conference program** are other excellent ways for your business to reach the 250+ attendees at NOWRA's 4th Annual Installer Academy.

Visit www.nowra.org/exhibitor for more information.

NAWT VACUUM TRUCK TECHNICIAN TRAINING *(continued)*

Service Call Reports: It is emphasized that part of the pumping service is to report your findings to the system owner. A sample report is provided.

Filters: The procedure to properly clean and encourage the use of effluent filters is presented.

Hose Handling: Vacuum hoses, tubes, suction nozzles and connectors are all designed to convey materials. Some work best with solids, other with granular materials, and others with liquids. Safe hose handling is stressed.

Unloading: Various methods of unloading or transferring truck to truck are explained. Safety is stressed.

Tips & Tricks: Years of experience brings to the classroom tips and tricks learned. Audience participation is encouraged and everyone learns something new.

Teachable Moments: In the customer's eyes the technician is the expert. When you are on their property working on their system is the "Teachable Moment" when you have their attention. Participants are encouraged to use this opportunity to explain the system to the homeowner.

Noon – 1:00 pm LUNCH

1:00 – 2:00 pm Class time

Safety Equipment: A list of recommended safety tools is provided and safe practices encouraged.

Pre-Trip Inspection: In addition to the responsibilities of a person with a commercial driver's license (CDL) to check the truck before leaving the shop, a checklist is provided for the vacuum truck portion of the vehicle. Other topics considered are required paperwork, truck routing, and restocking of supplies for vehicle inventory.

Spill Response: Owners must provide written spill and emergency response plans that cover every type of material likely to be transported. The plans, which do not need to be lengthy, must include emergency contact phone numbers and must be readily available in the truck. A sample plan is provided.

2:00 – 3:00 pm FIELD TRIP TO VACUUM TRUCK

A hands-on demonstration of the workings of an actual vacuum truck is presented, providing an opportunity for participants to 'touch and feel' the components they learned about in the classroom.

3:00 – 3:30 pm BREAK

3:30 – 4:30 pm QUESTIONS, OPEN DISCUSSION, REVIEW

4:30 – 5:30 pm EXAMINATION FOR NAWT VACUUM TRUCK TECHNICIAN CERTIFICATION

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