

ONSITE Spring 2005 journal

NEWS FOR THE ONSITE WASTEWATER RECYCLING INDUSTRY



North Shore Skyline

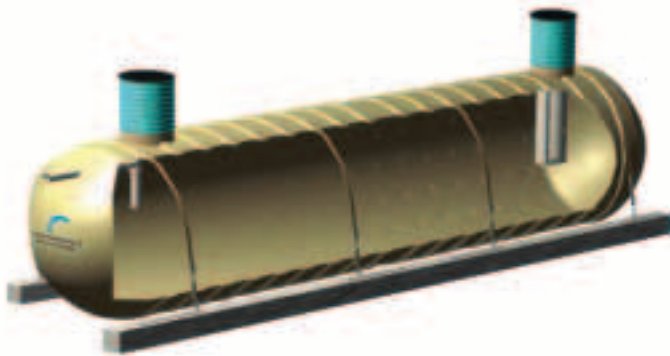
Cleveland, Ohio – Location
of the 2005 Annual Technical
Education Conference and
Exposition

2005 Annual Conference Announcement & Program Schedule

Vol. 14 No 2

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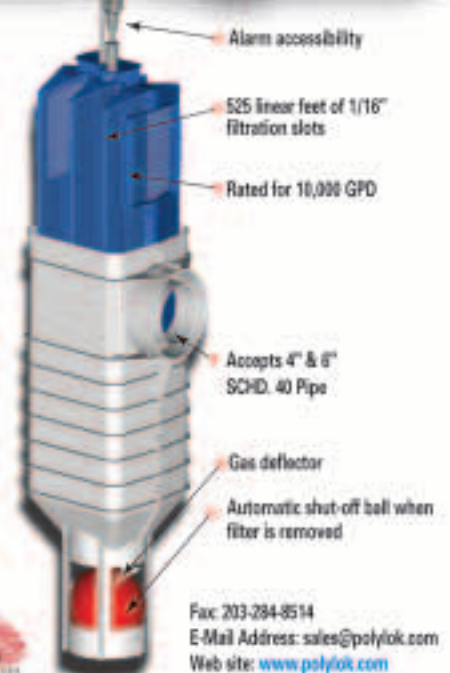


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ONSITE Spring 2005 journal

NEWS FOR THE ONSITE WASTEWATER RECYCLING INDUSTRY

National Onsite Wastewater Recycling Association

Vol. 14 No. 2

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A Report on NOWRA's Work

This issue of the Onsite Journal is but a small commentary of all of the activities underway on behalf of NOWRA members and the decentralized industry. Because of the importance of NOWRA's 2005 Conference, a significant section of this issue is devoted to the incredible program being provided. Never before has NOWRA ever had such a tremendous range of educational programs. As we go to press, nearly 2/3's of the exposition space has been sold, specific program plans are organized, and dignitaries invited as keynote speakers. Cleveland will be one hard program to follow.

There's a section about NOWRA's recent efforts in legislative activities. This too is a significant area affecting the economic interests of the decentralized industry. It is an area that NOWRA state leaders have requested during their April 4-5 meeting in Kansas City that need more resources in the future.

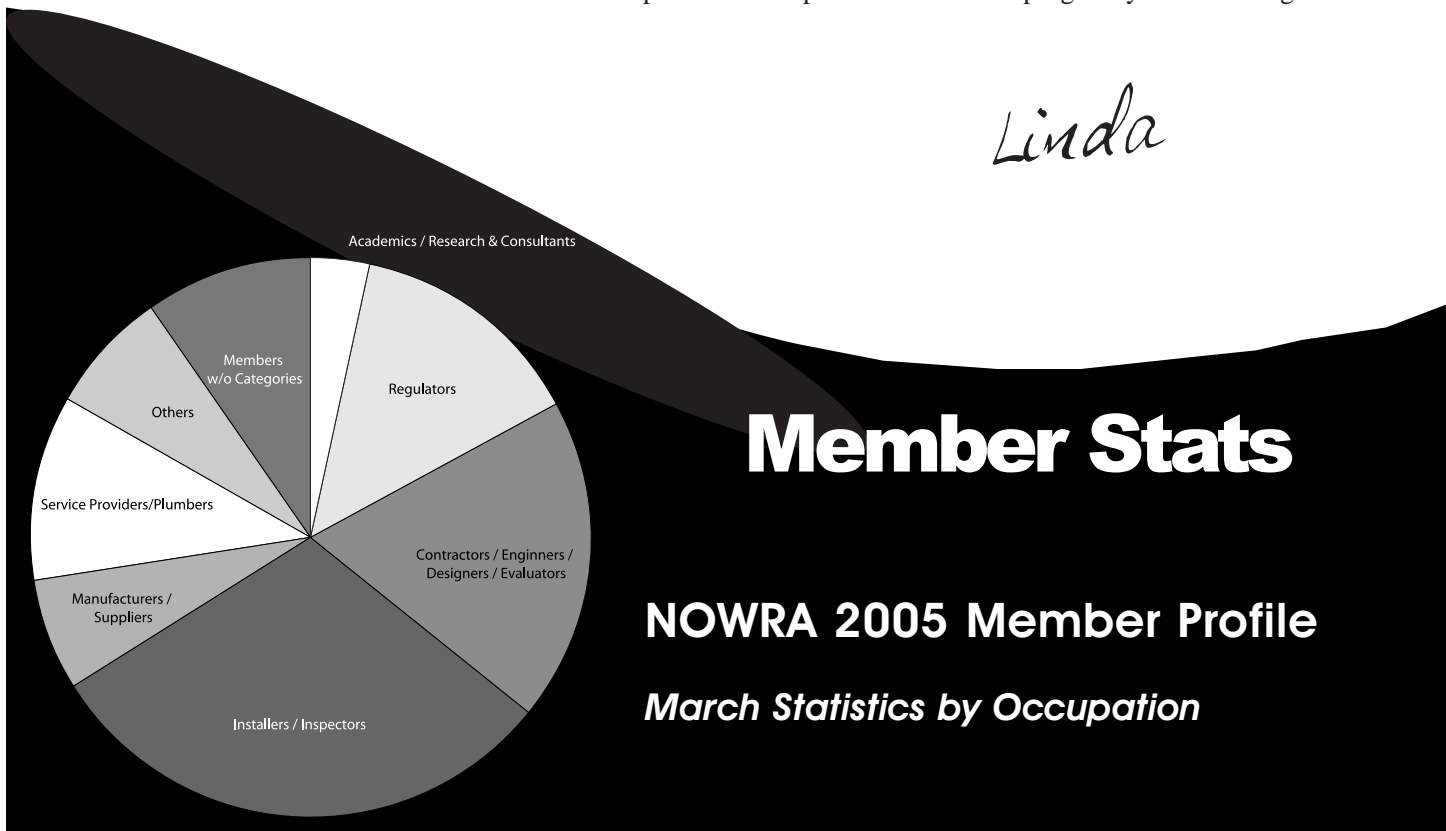
NOWRA's State Leaders Committee is the core group that is the voice of the membership. During the two-day meeting in April, they've identified major issues and areas for NOWRA's leaders to address. NOWRA's commitment to support the state's in their work represents a new direction in which programs and priorities are identified.

Not reported in spring issue, but in the summer one will be the results of NOWRA's Board of Directors 2-day March strategic planning session. The primary focus is obtaining resources to support the Associations operations. This is the 1st year that NOWRA has not had any grants to support its projects. A second planning session is scheduled to occur June 13-14 in Minneapolis, MN – at which time the framework for the business plan and 2005 strategies should be completed. A report on this work will be placed on the WEB site.

Speaking of which, yes, NOWRA's members attempting to use the website have experienced difficulties for several weeks. The reason is that the website transitioned from one location to another, and we are in the process of upgrading several of the technical components. We appreciate your patience – although, we are all anxious for this to be completed – which should be done by early June.

Also, please take note of the request for applications to serve on NOWRA's Board of Directors. NOWRA's committees also need volunteers. Also in the next issue of the Onsite Journal will be reports on NOWRA Committees and the Model Performance Code. In the mean time, don't forget to let us know of any issue or topic requiring attention. And start making your plans to attend the 2005 Technical Education Conference and Exposition – we promise this is one program you won't forget

Linda



Federal Legislation Affecting the Decentralized Industry

– Keeping NOWRA Involved

Linda Hanifin Bonner, NOWRA Executive Director

During the past months, as many of you are aware, I have been working with key congressional staff members on capital hill in attempts to secure funding for projects in the decentralized industry, and to make certain that congressional leaders and their staff members know about NOWRA and its work. This is a significant endeavor, and really requires the support of a professional lobbyist -- I am only able to devote 1 or 2 days every few weeks. The remaining time, most of these activities occur after hours, and involves sending email letters and messages to Senators and Congress leaders. As a result of participating in these meetings and communication with the established coalition, the efforts of NOWRA is now in a position to obtain current information about legislative actions that affect the onsite industry.

On April 8, a meeting occurred with majority and minority house and senate staff members regarding the proposed budget cuts to the Clean Water SRF program. As noted from previous communication to members, NOWRA has been involved in opposing this issue. The results of this meeting revealed several critical issues affecting the proposed reduced FY 06 federal budget allocation for the clean water

SRF program – that both indirectly and directly affect the businesses of the onsite industry.

1. The \$750 million cut from the \$1.35 billion dollar budget currently in place since 1997 will likely succeed, unless a significant grassroots opposition effort occurs to change the minds of the senators and congressional representatives on the appropriations committee by early Summer.
2. The direct impact of the budget reduction affects both the EPA program budget for SRF and NDWR-CDP program. It significantly affects ability of communities to upgrade wwtp, repair infrastructure, and wipes out in some areas the existing SRF programs. The cuts may eliminate STAG grants, funding for rural water utilities, and places in jeopardy any opportunities for funding efforts to replace decentralized systems. It also means that all of the “favored projects” that have “ear marks” are eliminated!
3. If the proposed 2006 budget reductions to the Clean Water SRF are passed in 2005, it appears very

likely that the budget for 2007 will be cut another 25%.

Another point worth noting! The only programs receiving funding increases are “brownfields” “superfunds” “homeland security”. The CBS 60 minutes program (Sunday, April 10) reported on the massive waste of “non-security projects” currently being funded by congress without any research and an understanding of direct need.

Key senators and congressional representatives on the appropriations subcommittees initially were not hearing any objections from mayors, governors, and municipal leaders throughout the US to the cuts to the Clean Water SRF program. Staff persons who support the Clean Water program state they are stunned that “no noise is coming from the municipalities.” Unless a major groundswell of opposition to the proposed budget cut to the Clean Water SRF program is heard by Congress from the states governors and mayors

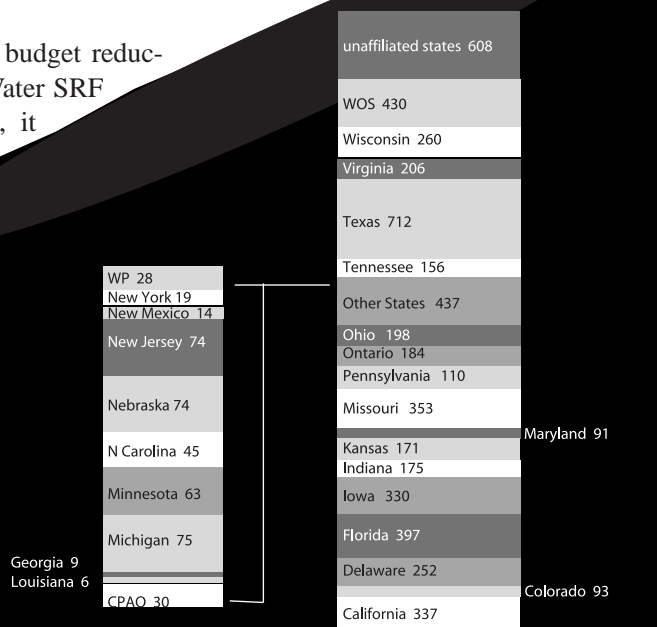
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5614 as of March 2005

NOWRA 2005 Member Profile

March Statistics by State

* excludes duplicate members for multiple states



and leaders of cities, counties and local jurisdiction, not only are the immediate funding needs jeopardized, but also, the future funding for the wastewater infrastructure is highly vulnerable. That did begin to change, as a result of calls, letters and support from many of NOWRA leaders and members.

As we go to press (May 2005) there are several key legislators who are amending the appropriations bills to the current levels and recommending that additional funding be included. However, this uphill challenge is far from over. There is major competition to the financial resources from other programs – primarily homeland security. It will be this summer before the 2006 budget is acted upon – and we cannot stop these overall efforts.

So, why should NOWRA care about this funding issue – which currently only gives minor attention to the decentralized industry? There are two important reasons – that respond to member needs. First, if NOWRA does not oppose these budget cuts now, it is not in a position to obtain future funding for decentralized projects in the future. Furthermore, the SRF program is in desperate need of reform – primarily because there are many states that do not recognize the SRF program for replacement or onsite systems. Even more important, there are decentralized projects that are now being funded – although small – that are also on the list to be cut. And second, during last weeks meeting with NOWRA State Leaders, it was stated that NOWRA's active representation role with Congress and government agencies to represent the interests of the onsite industry is a high priority

Here's the proposed action plan.

- Congressional leaders still need to hear from you and your elected officials.

- Contact Information for the house and senate appropriations committee members is on NOWRA's website.
- The list of the house and senate appropriations committee includes contact information.
- Sample Letters are included that can be down loaded and sent under your address.

HOWEVER, it is important that communications are faxed or emailed to congressional leaders. Regular mail takes as long as 2 weeks to reach key legislators because of security issues.

Strategic Approach

Congressional and Senate representatives, governors and mayors need to apply pressure to the members of the Senate and House Appropriations committee. NOWRA members should contact their representatives – don't forget the local offices!

- Personally send 1 basic letter to all of your elected senators & congressional representatives – either email or fax.
- **CALL** your governors office, county commissioners and other elected officials, inform them of this problem and ask them to call the state senator and to send a letter to the house and senate appropriation committee members.
- Contact other groups & organizations within your area, such as the homebuilders association, local realtors, business groups that include Rotary, Lions and environmental associations to inform them of this problem and urge them to apply pressure to local elected officials to understand urgency of this matter – and also to send letters to appropriations subcommittee members.

There is limited time to get this work accomplished. The projected schedule is this summer for the Senate appropriations subcommittee mark-up, which is

followed up with actions by the joint appropriations subcommittee. Then both committees have to be in agreement. Your actions today, represent the beginning of new attention for the onsite industry and its ongoing role for tomorrow. We need everyone's support to increase funding to the Clean Water SRF program and the decentralize industry projects.

Go to NOWRA's website – on the front page is the 2005 Legislative Action Alert. Go to the files within this folder download the sample letters and information contact lists. Print them off and get them in the mail.

Go to the EPA website and download the CWSRF 2004 Annual Report to see where some decentralized projects are being funded.

www.usepa.cwsrf-annreport2004.1.pdf

THE NEXT STEPS

NOWRA needs to have a "Legislative Action Strategy" that integrates both federal and state issues. NOWRA has a Legislative and Regulations Committee – but it needs significant more participation from NOWRA members. And, there may come a time when NOWRA needs to consider a political action committee. One of the immediate issues that NOWRA can address is to begin work with states to change regulations that allow states to use SRF funding for replacement of older septic systems.

STATE Activities Already Underway

Be certain to read the FOWA White Paper – this action represents a significant step in making regulatory changes in the decentralized industry. Also provided is an article about activities in Maryland. There are other states just as busy – and we are reporting them as we receive the information. •

National Onsite Wastewater Recycling Association

14th ANNUAL TECHNICAL EDUCATION
Conference & Exposition



Mark your calendar for **October 10-13, 2005**
and join us **Cleveland, Ohio**

ONSITE IS HERE TO STAY...



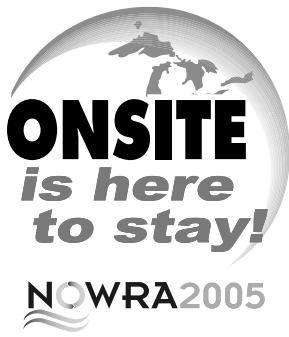
...AND NOWRA

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MESSAGE IN CLEVELAND**

LOCATION OF THE ROCK & ROLL
HALL OF FAME!

Hosted at the
**Renaissance Hotel
Cleveland, Ohio**

Go to www.nowra.org for more details



October 10-13, 2005 • Renaissance Cleveland Conference Hotel • 24 Public Square, Cleveland, Ohio

Register before August 31, 2005 for a special reduced registration rate!

NOWRA's 14th Annual Technical Education Conference takes place this year within the traditional surroundings of a revitalized Cleveland, Ohio. All conference program events occur at the Renaissance Cleveland Hotel and Conference Center, located just 10 miles (20 minutes) from Cleveland-Hopkins International Airport. Both the "Rapid Transit" and Shuttle transportation are available for easy access directly to the hotel. During the week, guests staying at the Hotel are within easy walk to the local shops, restaurants and sites in the Cleveland historic area.

...AND NOWRA
WILL ROCK
WITH THE
MESSAGE
IN CLEVELAND

LOCATION OF THE
ROCK & ROLL
HALL OF FAME!

Again this year, attendees participate in technical education sessions providing continuing education requirements (CEU), additional knowledge and skills to support their ongoing professional development. NOWRA's technical exposition provides opportunities for meeting manufacturers and distributors from all over the United States to learn about new products and equipment with distributors. All events and non-session related activities occur in the Ballroom/Exposition Halls

Join onsite industry professionals at the most important and influential water quality event of the year!

NOWRA offers an unparalleled educational and training experience to individuals committed to achieving water quality results with decentralized systems. NOWRA also provides for industry practitioners and policy officials the largest and most comprehensive exposition of manufacturers and products in the States.

NOWRA's conference sessions are widely recognized for the in-depth expertise provided by educators and speakers who have years of experience in establishing onsite wastewater systems for homes, cluster and business developments. This year, two unique sessions focusing on essential practical skills for the onsite practitioner will be held. The first is a two-day **Leveling and Applications Course for Onsite Professionals**. This program is designed to provide practitioners with knowledge, skills and tools to perform accurate leveling work.

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Often cited as a model for urban rebirth and named one of the top 10 international visitor hotspots by Travel and Leisure magazine, the City of Cleveland, located on the shores of Lake Erie, has truly lived up to its image as the New American City. Cleveland's success story today is fueled by an on-going commitment to growth and a global vision for the future. In fact, Fortune magazine ranked Greater Cleveland as one of the 10 best cities for business in North America, Places Rated Almanac named the city the nation's #2 destination for recreation and Partners For Livable Communities named Cleveland one of four "most livable cities" in the United States this decade! Most recently, USA Today named Cleveland one of 10 great places to take a hike in the big city.

Cleveland boasts world-class cultural institutions, major-league sports, state-of-the-art attractions, unique ethnic neighborhoods, great shopping and dining, hot nightlife, a national park for outdoor recreation, internationally acclaimed education and health institutions and affordable housing that has people all over the world noticing what residents have always said...Cleveland is the best location in the nation!

SOME OF THE ATTRACTIONS AWAITING CLEVELAND VISITORS

Cleveland Play House "The longest running professional regional theatre in the country" ... "Graduated well-known actors such as Paul Newman, Joel Grey, Margaret Hamilton and Jack Weston from the Play House Curtain Puller acting classes." | **Playhouse Square Center** "The largest theater renovation project in the world" ... "The largest performing arts center in the country outside New York City" | **Great Lakes Theater Festival** "Only classics-based theater in Ohio" (roots in classic literature) ... "One of six regional theatres left in the country dedicated to presenting classics-based theater." | **Cleveland Museum of Art** "One of the world's leading art museums with more than 34,000 works of art ranging over 5,000 years, from ancient Egypt to the present and including masterpieces from Europe, Asia, Africa and the Americas." ... "Admission is always free." | **Health Museum of Cleveland** "The first Health Museum in the Western Hemisphere" ... "One of five Health Museums in the United States" ... "Recognized as an international model for health education programming" | **Great Lakes Science Center** "The largest hands-on exhibition about the Great Lakes in the world" ... "The only Omnimax Theater in the region" ... "Ninth largest Science Center in the U.S." ... "Largest video wall east of the Rocky Mountains" | **Cleveland Museum of Natural History** "The first museum of natural history established in Ohio." ... "The largest museum in Ohio; also considered as one of the finest natural history museums in North America." ... "A collections museum with more than one million fossils, artifacts and specimens." ... "Planet is one of the first permanent exhibitions in a natural history museum to integrate the sciences of geology and astronomy." ... "First recorded study cast and a painted cast of "LUCY," one of the world's oldest complete fossil skeletons of a human ancestor." ... "Oldest planetarium in Ohio." | **Cleveland Metroparks Zoo** "The 9th oldest zoo in the country and 2nd oldest zoo in Ohio" ... "Includes one of the largest primate collections in the country" | **RainForest at Cleveland Metroparks Zoo** "The largest and most comprehensive rain forest exhibit in the country" | **Cleveland Metroparks** "Cleveland Metroparks is the oldest and largest park district in Ohio" | **Crawford Auto Aviation Museum** "Named one of the top ten auto collections in the nation by Car Collector magazine." | **Rock and Roll Hall of Fame and Museum** "The world's first museum dedicated to the living legacy of rock & roll music"

The second session is NOWRA's Experiential Training Program for Onsite Industry practitioners providing unique education forums for professionals to prepare them for future. This year's program occurs at three locations with the focus on the timely subject of finding answers to disposal and management of septage. More details on these programs are provided. Advanced registration is required for this program.

TECHNICAL EDUCATION SESSIONS provide a valuable opportunity to become knowledgeable about the latest technology from industry leaders. All theories need to be applied in the field and these professionals value your input. After all, the best systems are the ones developed in the classroom and laboratory by the universities and proven in the field by the contractor.

NEW Edition of Onsite A to Z – This year – a new edition of the two-day program – onsite systems A to Z will be provided. Advanced registration is required for this program.

NETWORK with onsite industry colleagues throughout the United States who share your commitment to protecting and enhancing water quality.

IMPORTANT CONTACTS are achieved through the interaction with colleagues, manufacturers and representatives in the onsite industry. Over 170 exhibiting companies are expected to be on hand to answer questions and demonstrate cutting-edge technologies and services at NOWRA's exposition.

CONTINUING EDUCATION sessions provide experiential learning from comprehensive technical sessions and workshops. Experts in the onsite industry present the latest information on every topic necessary to advance your professional development.

See
NOWRA's
Website for the
most Current
Updates

**8th Annual Golf
Tournament – Saturday,
October 8th**

The NOWRA annual golf tournament will be held on Saturday, October 8th at the beautiful Bunker Hill Golf Course in Medina, OH. Northeast Ohio is blessed with many golf courses, 150 of which are within an hour of downtown Cleveland. Bunker Hill is set among rolling hills, meandering creeks and several ponds and lakes. It offers a challenge to the most avid golfer, but is still not too difficult and discouraging to the average player.

This course was voted the "Ohio Golf Course of the Year" in 2004. Along with 18 challenging holes, the course features 7 indoor state-of-the-art golf simulators and Bunker's Sports Bar & Grill. Tee-off time is noon at the course. NOWRA Contact organizer is Francis Hammersmith – 800-966-2942. Cost is \$125.00 per person, or \$400.00 for a 4-some, and includes lunch and dinner, contests and prizes. Additional information on the course is available at www.bunkerhillgolf.com.

**Special Fishing Charter – Sunday,
October 9th**

A perch fishing charter will be scheduled for Sunday, October 9th, leaving the dock at 7:00 a.m., returning at 1:00 p.m. There's no better way to spend the day than fishing for tasty perch on beautiful Lake Erie, especially during the heart of the prime perch fishing season. If you've ever fished for perch during this time of the year, you know the action can get fast and furious and it's not unusual to have your limit of 30 perch in an hour or two. We have a total of 44 spots available on two charter boats.

We hope to be able to plan a fish fry after the charter so everyone can enjoy their catch and not have to worry about keeping their fish during the rest of the conference. Don't wait too long to reserve your spot on the boats – they will be gone before you know it! Cost is \$60.00 per person and includes bait, rods, lunch, license and tackle. This charter occurs right in the heart of the prime perch fishing season on Lake Erie. Fish cleaning services are also available at the dock at a cost of 50 cents per fish. NOWRA Contact organizer is Rick Novickis – 216-201-2001, ext. 1208. Additional information is also available at www.discoverydive.com.

**Cleveland Browns Home Game –
Sunday, October 9th – 1:00 p.m.**

The Cleveland Browns football team will play against the CHICAGO BEARS at the Browns Stadium, which is ten minutes from the hotel. Information about tickets can be found by going to the website at www.cleveland-browns.com/tickets/schedule.php.

**NOWRA Annual Educational Field Program:
Providing An Experiential Learning
Environment for Practitioners
Thursday, October 13th**

**Onsite Systems and
Septage Management
Finding Answers to Disposal
and Management Issues**

The NOWRA Educational Field Program will occur on Thursday, October 13th. Participants attending this program will board buses at 8:00 a.m. at the hotel. The first location is University School, a private school in Hunting Valley, Ohio, where several buildings are serviced by a sewage treatment plant that utilizes a

wetlands system. The overflow from the wetlands drains to a stream on the property that supports a population of native trout. School representatives will discuss the sewage treatment system and a trout stocking program.

The second location is provide to participants a live installation of a drip distribution system either in eastern Cuyahoga County or western Lake County. The final location on the program tour is at the award-winning "Septage-Management" facility owned by The Tim Frank Company. Here at this private facility, practitioners will learn and observe first hand how a "responsible management entity" owns and operates a company that processes septage. At this facility, all materials collected are treated either by land application or spray irrigation.

In addition to learning the management and treatment processes at the Frank facility, additional companies will be on site with equipment available to provide sludge processing demonstrations. These companies will also have booths at the NOWRA Conference Exposition, and thus provide additional education materials prior to the demonstrations. The USEPA awarded the Tim Frank Septic Tank Cleaning Co. a special award for Outstanding Septage Gathering, Processing and Utilization Services in 1998. In 2001, Tim was recognized as the "Contractor of the Year". The fee for this program is \$95.00, and includes materials, transportation and catered lunch. Contact organizer is Rick Novickis at 216-201-2001, ext 1208. Additional information on Tim's company is available at www.timfrankseptic.com.

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Highlights

Conference Registration Information

The full-conference registration fee includes access to all education sessions and the technical exposition, break refreshments, Exhibitors Welcome Reception (Monday evening), Tuesday's NOWRA Member Recognition & Awards Luncheon with invited guest speakers, and Casino Night; and Thursdays Symposium and Conference Proceedings.

The daily registration fee covers the specific one-day access to education sessions and seminars, the Exposition, refreshment breaks, and Conference Proceedings.

Guest fee includes access to the technical exposition, Awards Lunch, Exhibitors Welcome Reception, Hospitality Area, and refreshment breaks.

Registration Procedures

DATES AND DEADLINES

- Registration at the rates identified below must be RECEIVED with payment in full by the dates listed.
- Early/reduced-rate registration: on or before August 31, 2004; no reduced-rate registrations will be accepted after September 1, 2005
- Regular Registration Fees after September 1 through September 30, 2005.
- Onsite Registration Fee – October 1-13, 2005.
- No phone-in registrations will be accepted. Changes in previously made registrations must be made by email or fax.
- Registration forms may be mailed with payment by check (payable to NOWRA) or with credit card payment information, or faxed with credit card information. All pre-registration forms must be received by September 30, 2005, and be accompanied by payment in full in order to be processed. Please visit our website www.nowra.org to register online.

Cancellation Policy

Registration cancellations must be in writing, and are refundable only until September 30, 2005, but will be charged processing fee of \$50.00. No cancellations are accepted after October 1, 2005 and no refunds will be given after that date.

NOWRA Membership

If you are not a current NOWRA member* but would like to become one, you may purchase a 2005 membership through your state group at \$20.00 or an individual basis at \$140/year and save on the full conference price! NOWRA individual membership forms available on our website www.nowra.org.

**NOWRA membership is held on an individual, nontransferable basis. To register at member rates, you must have a current (2005) membership paid in full. All current members have been sent 2005 membership cards and numbers. To verify your membership, check with your State group or go to the NOWRA website and follow instructions listed. Student fee includes full conference registration and a student membership in NOWRA through 2005. Students must be attending college or graduate school full-time in a course of study related to onsite wastewater technology.*

Conference Program Schedule - Check-in and Registration Hours

NOWRA Conference begins Monday, October 10, 2005 at 8:00 a.m. and concludes Thursday, October 13, 2005 at 4:00 p.m.

Registration Location - Cleveland Renaissance Hotel 3rd Floor Conference level.

Exhibitor Registration and materials are available for pick-up beginning Sunday, October 9th at 3:00 p.m.

CONFERENCE FEES

	Early <i>on or before Aug. 31, 2005</i>	Regular <i>Sept. 1 – Sept. 30, 2005</i>	Late <i>October 1-13 (at conference)</i>
Full Conference <i>NOWRA Members and Partnering Organizations**</i>	\$395.00	\$425.00	\$475.00
Full Conference <i>Non-Members</i>	\$495.00	\$525.00	\$600.00
Daily Conference Rate <i>NOWRA Members and Partnering Organizations</i>	\$300.00	\$325.00	\$350.00
Daily Conference Rate <i>Non-Member</i>	\$400.00	\$450.00	\$500.00
Special Student Fee <i>includes NOWRA membership</i>	\$125.00		

**NOWRA Partnering Associations include: The National Association of Wastewater Transporters, the National Environmental Health Association, and the National Groundwater Association, Rural Community Partnership, National Small Flows Clearing House

Other Fees

Post Conference Symposium Thursday, October 13, 2005 <i>(non conference attendees)</i>	\$50.00
Onsite Systems Field Trip <i>(includes transportation/lunch)</i>	\$95.00
Spouse/Guest <i>(includes awards lunch & opening reception, hospitality room and gift)</i>	\$125.00
Opening Reception* Monday, October 10	
<i>early registration</i>	\$30.00
<i>on site registration</i>	\$40.00
Casino Night*	\$125.00
Tuesday, October 11	
Awards/Member Recognition Luncheon*	
Wednesday, October 12	
<i>early registration</i>	\$40.00
<i>onsite registration</i>	\$55.00
GOLF Tournament	
Saturday, October 8	
<i>Individual</i>	\$125.00
<i>Foursome</i>	\$400.00
<i>Foursome/Hole Sponsor</i>	\$550.00
CHARTER FISHING	
Sunday, October 9 <i>(per person)</i>	\$60.00

* Included in full conference registration.

Registration Form



Please print all of the following information:

 Last Name First Name

 Name for badge (if different from first name)

 Company/Organization

 Street Address

 City State/Province Zip/Postal Code Country

 Daytime Phone Fax E-mail

 Membership Number Section Number

Conference Registration Fee – see page 10 for the fee schedule

Mail this form with a check (payable to NOWRA) or fax your registration with credit card information. Registrations are only accepted with full payment in U.S. dollars. Registrations can be done online visit our website - www.nowra.org Conference Registration After September 30, 2005, registrations are only accepted at the Conference

Separate Fees

Full Conference (Monday–Thursday)		Spouse/Guest	
Student Conference/Membership		Saturday Golf Tournament	
Conference (Annual) 2005 Membership		Sunday, Charter Fishing	
Daily Conference Fee <input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday		Monday Exposition Reception (inc. with full registration)	
Exposition Pass (access to Exposition Ballroom and Exposition Hall) available at front desk <input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday		Tuesday Casino Nite (inc. with full registration)	
		Thursday - Field Experiential Education Program	
		Thursday - Symposium without Full Registration	
		Total Amount Enclosed	

I plan to attend:

- Onsite A to Z Systems Course (Advanced sign up required)
 Leveling Course – Restricted to 15 persons – Advanced registration is a must

PAYMENT & MEMBERSHIP INFORMATION

Name: _____ Member Number: _____

Registrations cannot be completed without full payment in U.S. Dollars. Please make checks payable to **NOWRA**

Payment Amount: \$ _____ Bill Company Check Enclosed Visa Mastercard

Credit Card Number _____ Exp. Date _____

Security Number (3 digits on back of card) _____

Print Name on Card _____ Corporate Personal

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Authorizing Signature (required) _____

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Forms to: 410-798-5741**

**For more information call us at
1-800-966-2942**

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SEE WEBSITE FOR ONLINE
REGISTRATION INFORMATION

Conference Program Schedule

Saturday — October 8, 2005

8:00 am	State Leaders Meeting <i>(Full day session)</i>
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Sunday — October 9, 2005

9:00 am	NOWRA Board Meeting
1:00 pm	Consortium Meeting

Monday — October 10, 2005

Track	1	2	3	4	5	6	
	Nutrient Removal	Onsite Basics A to Z	Operations & Maintenance	Clusters & Design / Soils	Planning & Performance	Leveling & Surveying	
Room	Gold 1	Ambassador	Whitehall	Severance	Gold 2	Van Aken	
8:00 am	Pio Lombardo		Dave Gustafson	Scott Wallace	Forum Panel: Balanced Growth Doug Malchow	Basic Leveling and Applications for Onsite Professionals	
8:45 am	P.B. Pedros		John Murphy	Anthony Gaudio			
9:30 am	Glen Dombeck		Jim Converse	Larry Stephens			
10:15 am	Break		Break	Break			
10:45 am	Mark Lubbers		Ted Loudon	David Kalen			Karen McBride
11:30 am	Carl Etneir		Doug Dent	Larry West			Eric Blasing
12:15 pm	Lunch		Lunch	Lunch			Harry Stark
1:30 pm	Erik Karrman		Mike Rowan	Daniel Wheeler			Lunch
2:15 pm	George Loomis		P.B. Pedros	Judith Kreig			Amy Macrellis
3:00 pm	Pio Lombardo		Bruce Lesikar	Curtis Sparks			Terrell Jones
3:30 pm	Jill Renzi		Megha Raj Regmi	Larry Stephens			Eperhard Roeder
4:15 pm	Mike Hines		Bjorn Vinneras	Cliff Stein			John McCray

Tuesday – October 11, 2005

8:00 am	<i>Ambassador Ballroom</i> Opening General Session <i>Keynote Speaker</i> Panel Forum: Watertight Septic Tanks Break in Exhibit Hall					
12:00 noon	<i>Gold / Whitehall Ballroom</i> Annual Awards & Recognition Luncheon					
2:00 pm	<i>Ballroom / Exhibit Hall</i> Exposition Show	COMMITTEE MEETINGS				
		<i>Severance</i> Education	<i>Ambassador</i> Technical	<i>Van Aken</i> Communications Practices		
6:00 pm	Casino Nite					

Wednesday – October 12, 2005

	1	2	3	4	5	6	7	
	Regulations	Onsite Basics A to Z	Management	Education Commercial	Design	Leveling	Advanced Treatment	
Room	Gold 1	Ambassador	Whitehall	Severance	Gold 2	Bush	Van Aken	
8:00 am	Carl Thompson		Panel Forum: Removing Barriers to Onsite	Anish Jantranica	Justin Jobin	Basic Leveling and Applications for Onsite Professionals	Steve Braband	
8:45 am	Joyce Hudson			Dave Gustafson	Scott Wallace		Bob Pickney	
9:30 am	Robert E. Lee			Richard Otis	Eli Hacker		Mark Liner	Eric Murdock
10:15 am	Break			Break	Break		Break	Break
10:45 am	Tony Smithson			Carl Etneir	George Loomis		Michael Stephens	Mike Rowan
11:30 am	Dave Cotton			Craig Gilbertson	John Kelley		Robert Sigerst	Craig Lindall
12:15 pm	Lunch			Lunch	Lunch		Lunch	Lunch
1:30 pm	Panel Forum: Performance			Albert Royster			Scott Wallace	Woon Kang
2:15 pm				Bob Pickney	R. S. Gaur		Richard Wagner	Ridderstolpe
3:00 pm	Tom Bruursema			John Murphy	Bill Stuth		Break	Morgan Powell
3:30 pm	Break			Break	Break		Robert Siegrist	Break
4:15 pm	Roger Bard			David Cotton	Bruce Lesikar		Bryan DeSmet	Jim Carroll

Thursday – October 13, 2005

8:00 am	<i>Ambassador Ballroom</i> Special Issues Symposium <i>Water Conditioning Impacts to Onsite Systems</i> NOWRA Experiential Field Education Program <i>Board Busses</i>					
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Special Presentations



Monday, October 10, 2005 at 8:00 a.m. —
Gold Ballroom

BALANCED GROWTH AND SURFACE WATER PROTECTION IN THE LAKE ERIE WATERSHED

*Presenters: Kirby Date, AICP, (Moderator)
Coordinator, The Countryside Program of Northeast Ohio
Edwin Hammett, Director, Ohio Lake Erie Commission
Kyle Dreyfuss-Wells, Director, Chagrin River Watershed Partners*

In 2000, the Ohio Lake Erie Commission released the Lake Erie Protection and Restoration Plan that provided a comprehensive set of recommendations for the State of Ohio and its partners to improve the quality of Lake Erie. A significant conclusion of the plan was that land-use trends in the basin are a major factor preventing the full restoration of the lake.

In meetings conducted over a two-year period, a Blue Ribbon Task Force of government and private stakeholders recommended a program for implementing balanced growth that is known as the Balanced Growth Initiative. This Initiative provides a new focus on land use and development planning in the major river tributary watersheds of Lake Erie. The goal of the initiative is to link land-use planning and development/construction decisions to the health of watersheds and the Lake. The Initiative is voluntary, incentive-based, and has two parts.

- 1) A Planning Framework recommends the creation of Watershed Planning Partnerships which will designate Priority Conservation Areas and Priority Development Areas in each watershed. These designations are intended to focus state development dollars and conservation efforts over the long term.
- 2) Best Local Land Use Practices recommends planning, development and zoning practices that can be implemented by local jurisdictions throughout the Lake Erie watershed.

Ed Hammett, director of the Ohio Lake Erie Commission, will present an overview of the Balanced Growth Initiative. Kirby Date, Coordinator of the Countryside Program, and leader of the Balanced Growth Initiative work group that developed the Best Local Practices, will address development, conservation and their relationship to surface water protection and on-site wastewater issues. Kyle Dreyfuss-Wells, Director of the Chagrin River Watershed Partners, and member of the Best Local Practices work group, will address the specifics of surface water protection, focused especially on issues in the Chagrin River Watershed.

Kirby Date, AICP is the coordinator of the Countryside Program, established in 1996 to help conserve resources and open space in Northeast Ohio through the encouragement of sensitive planning and development. The Program is a project of the Western Reserve Resource Conservation and Development Council, a consortium of Soil and Water Conservation Districts, and County Commissioners, in a 9-county area of Northeast Ohio. The Program is supported by grants from the George Gund Foundation, the Cleveland Foundation, the Nord Family Foundation, and the GAR Foundation.

A landscape architect and planner with over 20 years' experience, Ms. Date's areas of expertise include development design and planning, and planning for parks, open space, and environmental areas. Ms. Date holds a degree in landscape architecture from Cornell University, and is an Ohio registered landscape architect. She is a member of the Ohio Planning Conference and the American Institute of Certified Planners.

She is the author/editor of The Countryside Program Resource Manual, winner of a 1999 Ohio Planning Conference Award, which provides information about environmentally sound development practices to local officials, developers and landowners. She has spoken extensively throughout Ohio on topics related to balancing conservation and development, including conservation development, which often incorporates innovative on-site wastewater management techniques in nonsewered areas. Countryside Program's web address is www.countrysideprogram.org

Edwin J. Hammett, AICP is the Executive Director of Ohio's Lake Erie Commission. The Commission's purpose is to protect Lake Erie's natural resources, restore degraded elements of the Lake's ecosystem and promote economic development of Ohio's North Coast. The Commission's major initiatives include: implementing the Lake Erie Protection & Restoration Plan, developing periodic State of the Lake Reports and Progress reports, managing the Lake Erie Protection Fund grant programs and promoting Lake Erie awareness through such activities as the annual Coastweeks program.

Ed has a B.S. and an M.S. from The Ohio State University in Natural Resources Management with City and Regional Planning and is a member of the American Institute of Certified Planners. Ed has 32 years of experience in environmental planning and management, having also served in various positions in the Ohio EPA, Ohio Department of Natural Resources, Ohio Conservation Foundation and the Toledo Metropolitan Area Council of Governments. Ed is also currently serving as a Board Member for the Great Lakes Protection Fund. The Ohio Lake Erie Commission's web address is www.epa.state.oh.us/oleo

Kyle Dreyfuss-Wells is the Executive Director of the Chagrin River Watershed Partners, Inc. CRWP is a statewide leader in watershed management and is unique in Ohio because it is financially supported by the local governments of the watershed and works directly with these members to minimize flooding, erosion, and water quality problems. Ms. Dreyfuss-Wells works with member communities on model natural resource management zoning, implementation of NPDES Phase II Storm Water Management Programs, and a range of other member services including funding applications and development plan review. Ms. Dreyfuss-Wells received her undergraduate degree from the Ohio State University. She received a masters in public affairs and a masters in environmental science at Indiana University's School of Public and Environmental Affairs. Before joining CRWP, she worked with the Indiana Department of Environmental Management and served as a Peace Corps Volunteer. The Chagrin River Watershed Partners' web address is www.crwpp.org.

Wednesday, October 12 at 8:00 a.m. —
Whitehall Ballroom

Removing Barriers to Evaluation and Use of Decentralized Wastewater Technologies and Management – A Special Issues Forum

Over the past decades, the engineering community in the United States has primarily focused on centralized wastewater solutions as the only viable technology to meet the needs of municipal clients. While the engineering community is aware of decentralized technologies, something prevents them from even subjecting them to an equitable analysis against their centralized sibling. Most of these barriers to considering evaluating these systems are well known, and include:

- Decentralized solutions are smaller, with less prestige,
- Profit margins and grosses are lower for decentralized,

Special Presentations

- Clients are easier to sell on centralized, both because they are more familiar with it and engineers are more comfortable selling it,
- Financial assistance programs are exceedingly biased in favor of assisting centralized solutions, and
- Engineers learn little about decentralized wastewater treatment in college and beyond.

A key step in finding solutions is to thoroughly understand each barrier and its causes, then discussing them with members of the engineering field as well as stakeholder groups that influence engineers. At the same time, while tremendous bias exists for centralized solutions, there are case studies in which to gain valuable insights which are derived from communities and engineers who have tried decentralized approaches and been very satisfied with the results. These people faced many of the barriers

and found waysthrough or around them. Clearly, they have found solutions or thought of many ideas for how to resolve barriers.

In this forum, the first results of a project focused on understanding and overcoming the barriers to equitable evaluation of decentralized wastewater treatment technologies will be presented. The barriers found, and their root causes, will be discussed. NOWRA participants are invited to share their experiences with the barriers and tell the stories about how they have overcome them.

Leading this panel discussion is: Carl Etnier, Scott Johnstone, Stone Environmental, Inc., and Christy Bixler, Water Environment Research Foundation. Carl Etnier has worked with decentralized wastewater treatment for fifteen years. His Ph.D. studies (currently ABD) were in wastewater decision-making, including economic issues, and he has been a part of numerous communities wrestling with wastewater decisions.

New &
Improved

Onsite Systems and Technology A to Z

2 Days
Monday / Wednesday
8 am to 5 pm

NOWRA's Onsite Systems and Technology A to Z has historically provided invaluable instruction regarding onsite wastewater. With this critically acclaimed program as a starting point, the agenda has been updated for 2005 to provide practitioners, public officials, students, builders and realtors with comprehensive information regarding onsite wastewater treatment. The new program includes materials from the recently completed CIDWT Curriculum Project as well as several totally new presentations. The result is a well-rounded and inclusive short course that will appeal to attendees from all sectors of the industry.

History of Onsite Wastewater Treatment provides an historical perspective of wastewater treatment and chronicles the evolution of onsite systems.

Chemistry, Biology and Wastewater Characterization describes the basic science behind the technology and discusses the variable characteristics of wastewater that influence methods used to treat it.

Principles of Site and Soil Evaluation gives even the "non-soils" professional a baseline understanding of not only the soil parameters that control the efficacy of treatment but also the importance of overall site issues that must be considered for system design.

Water Movement and Treatment in Soils illustrates the concept of soil/water movement in relation to biomat formation and management.

Septic Tanks describes the wastewater treatment processes that occur in septic tanks, design features that improve tank function and facilitate O&M and discusses the importance of tank capacity and structural integrity.

Advanced Treatment Systems highlights the principles of onsite wastewater treatment using ATUs and media filters and focuses on effluent quality parameters that may affect their design and use.

Soil-based Treatment Technologies illustrates how gravity and pressure systems are designed and used for distribution to and dispersal within the soil treatment component.

Pump Selection and Controls provides detailed information on design, component selection and configuration of systems used to deliver effluent under pressure.

Construction Principles includes practical information on component installation, system watertightness, final grading/landscaping and quality assurance while emphasizing the importance of safety.

Operation and Maintenance provides the basic information for ensuring long-term system reliability via regularly scheduled, thorough and intensive system inspections.

Special Presentations



Basic Leveling and Applications for Onsite Professionals

Separate Registration Required – this course is limited to 15 participants.

This special two-day workshop is designed to provide installers, designers and inspectors with knowledge, skills and tools to perform accurate leveling work, and effectively apply it in the daily work within the onsite industry. In this course, participants have the opportunity to achieve a solid technical foundation of knowledge and the confidence to apply skills to accurate, consistent and efficient installations, or inspections. It enables practitioners to achieve a professional level and leader in Quality Installation Assurance. In this program you will learn how to apply the basics of differential and profile leveling and to develop field notes, and develop Quality Installation Assurance (QIA) Tools to:

- meet your specific needs,
- verify the accuracy of your work and the work of others,
- develop effective job control methods,
- improve communication on the job site,
- communicate effectively with other professionals,
- develop practical and valuable documentation, and
- protect your business interests and those of others'.

The workshop will be taught in a hands-on setting, using classroom instruction and laboratory practices with survey leveling equipment. Equipment and materials will be provided

Program Outline

- Introduction to Workshop, Instructors, Notebook, etc.
- The importance of installer-generated documentation for communicating effectively with designers and inspectors
- Protecting your interests with effective documentation
- Setting benchmarks with a Bench Level Circuit (a practical review of Day One)
- Introduction to plans for engineered designs
- Effective note keeping and quality installation assurance tools
- System lay out, plan confirmation and maintaining documentation
- Job control techniques
- As-built documentation
- Introduction to generic designs, or installer-designed systems
- Effective note keeping and quality installation assurance tools
- Determining controlling elevations
- System lay out, plan confirmation and maintaining documentation
- Job control techniques.
- As-built documentation
- The importance of system-specific installation guidance and documentation for both conventional and advanced technology
- Introduction to the Total Station and control in three dimensions
- Summary and Evaluation

Course Instructors:

Dr. Larry C. Brown, Professor, Extension Agricultural Engineer

Director, Overholt Drainage Education and Research Program, & Int'l Program for Water Management in Agriculture at the Ohio State University.

Ralph Benson, R.S., Clermont County General Health District

The authors have designed the workshop course on applications of basic leveling applications, targeted for onsite wastewater treatment system installers, designers and health department personnel who work with installers. Various parts of the workshop materials have been taught for a number of years at the OOWA/OLICA annual meetings or have been developed in field practice and incorporated into this program.

OPENING FORUM PANEL

Watertight Septic Tanks

The NOWRA Opening General Session for the 2005 Conference focuses on an industry issue receiving significant attention in recent years – watertight tanks. This topic has received significant attention during the model performance code committee meetings with a special subcommittee addressing the methods to assure water tightness. This subject also has broad application resulting from a decade long controversy regarding the tanks in the onsite industry. This session features a three-part discussion addressing the following topics.

- The issues and methods presented in the Model Performance Code
- An opportunity for each material manufacture (concrete, fiberglass and plastic) to discuss material quality, installation and testing protocols.
- Presentation on several tank testing programs from across the United States that have been implemented – addressing cost, performance and effectiveness.

Participants in this session include representatives from the NOWRA Model Performance Code Tank Subcommittee, National Precast Concrete Association, Fiberglass and Plastic Industry Representatives as well as state and local testing program representatives. More detail will be updated on NOWRA's website and in the next issue of the Onsite Journal.

Panel Forum

Model Performance Codes

This panel discussion involves individuals who have, or who are working on "Performance Codes".

Topics to be address include, but are not limited to:

Identifying Key drivers within government and industry

Types of Performance Codes being considered

Objective based

Outcome based

Professional Reliance based

Common elements to a Performance Code

Roadblocks to implementation

Action Plan

Role of NOWRA, Consortium and state Associations

Participants in this panel discussion include: Michael Corry (NOWRA Model Performance Code), Frank Hay (British Columbia) and others to be announced.

Presentation Overview

MONDAY, OCTOBER 10, 2005

Nutrient Removal – TRACK 1 – GOLD1 ROOM

Phosphorus Geochemistry in Septic Tanks & Phos-Sand Innovative Phosphorous Removal System — Pio Lombardo

The role of phosphorus (P) loading from septic systems on water quality degradation remains an issue for onsite wastewater systems. Onsite systems represent a substantial source of P and the subsurface mobility is not fully understood. Recent studies have observed variability in P mobility between septic system sites on similarly textured sand. This appears to be due to P attenuation in the soil.

The Use of the Amphidrome Wastewater Treatment Stems — BAF, P.B. Pedros

The Amphidrome® process is an innovative biologically aerated filter (BAF) specifically designed for the simultaneous removal of soluble organic matter (SOM), nitrogen and suspended solids in a single reactor. The system offers low visibility (all tanks are underground) and minimal effect from cold air temperatures. The deep-bed sand filter operates as a sequencing batch reactor, in which the waste water is cycled back and forth through the filter. The filter is intermittently aerated to achieve both the aerobic environment required for the oxidation of organics and nitrification and the anoxic environment required for denitrification.

Decentralized Nutrient Removal, Microcontaminant Destruction and Disinfection Using a Novel Reduction Oxidation Platform — Glen Dombeck

An emerging challenge for onsite wastewater treatment is the need to enhance reuse capabilities while achieving very stringent performance requirements. A disinfection component is often necessary to prevent introduction of pathogens into groundwaters and is a requirement for higher levels of reuse. Another need is for reliably low effluent concentrations of total nitrogen and total phosphorus.

Nitrogen Removal for a Decentralized Infrastructure — Mark Lubbers

Exploring options and techniques for de-nitrification, including recirculation, as well as tertiary denitrification techniques on a variety of flows and wastewater characteristics. Schematics and Data and approximate costs per gallon are provided for residential systems that have been tested under the EPA ETV program as well as municipal clusters with years of data despite seasonal temperature variations.

Micro-Scale Evaluation of Phosphorus Management — Carl Ethier

Nutrient enrichment is a leading cause of water quality impairment in the waters of the United States, and wastewater inputs are a source of phosphorus pollution in aquatic ecosystems. Although there has been considerable focus on reduction of phosphorus in effluent from public wastewater treatment plants in the U.S., the environmental impacts of onsite wastewater treatment systems have received much less attention.

Environmental Impacts and Resource Use from Onsite Filter Beds – Stockholm County, Sweden — Erik Karrman

This study focuses on the use of natural resources, energy and the discharge of phosphorus and nitrogen to water (eutrophication) in addressing an environmental systems analysis for use of systems in a large community.

Treatment Performance of Innovative and Alternate Systems — George Loomis

Advanced or innovative and alternative (I&A) decentralized wastewater treatment systems have been used successfully for over two decades to achieve high levels of BOD, TSS, nutrient, and bacterial removal. New advanced treatment systems are emerging on an almost routine basis, some having been subjected to more testing than others. Testing centers have been used to evaluate treatment performance of certain technologies under controlled conditions. Several decentralized demonstration projects have monitored treatment performance of various technologies in an effort to determine system performance under actual use in the field.

Holistic Approach to Nitrogen Removal — Pio Lombardo

This paper addresses the development of a Holistic Approach to Nitrogen Management in a Cape Cod, Massachusetts watershed. The Great, Green, and Bourne Ponds area in Falmouth, Massachusetts are classified as “significantly impaired” or “severely degraded” due to excess nitrogen loading from non-point sources. Approximately 50 percent of the nitrogen loading to the ponds comes from septic systems, 25 percent from fertilizers, 20 percent from residual atmospheric deposition, and the remaining five percent from various other sources. Water quality is fiscally important to Falmouth.

A Preliminary Evaluation of the Amphidrome Systems in the Pinelands of New Jersey — Jill C. Renzi

The New Jersey Pinelands is a National Reserve and the largest body of open space on the Mid-Atlantic seaboard between Richmond and Boston. Underlain by aquifers containing 17 trillion gallons of some of the purest water in the nation, this important ecological region is 1.1 million acres in size and occupies 22% of New Jersey’s land area. In order to protect this ecologically sensitive area, the Pinelands Commission established strict guidelines for approving wastewater treatment systems in the area. The five currently selected technologies are being closely monitored especially with respect to the effluent total nitrogen limit of 14 mg/l.

The History of RSFs and the Hines/Pickney Recirculating Sand Filter — Michael Hines

In 1968, Mike Hines and Tony Favreau of the Illinois Department of Public Health developed the recirculating sand filter (RSF) concept and demonstrated its effectiveness. Initially, systems were built serving individual and small clusters of residences. Use of the system spread across the United States to serve small and large residential clusters, commercial developments, and small communities. Over its 40 years of use, design of the RSF has improved considerably. Hines and Robert Pickney have significantly modified the RSF to enhance recirculation control, denitrification, and system construction.

TRACK 3 – MANAGEMENT - WHITEHALL Operations & Maintenance

Troubleshooting Sick Septic Tanks — Dave Gustafson

A typical and advanced system many times relies on the septic tank to start the job of treatment. A septic tank that is not working can put a system in jeopardy of failing. Identifying the cause of the “ills” in the tank can be the key to turning the system around. A plan to help identify these problems will be addressed in this timely discussion.

Managing Long Term Solutions to Failing Septic Systems — John Murphy

This organization applied for and received a \$ 2 million cooperative agreement from the EPA to demonstrate management models for the installation and long-term management of advanced, decentralized treatment alternatives to failing septic systems. This presentation summarizes results to date of the Table Rock Lake national demonstration project.

Presentation Overview



Designing and Installing Onsite Systems for Ease of Maintenance and Increasing System Life — James C. Converse

This presentation will look at how systems should be designed and installed to make it easier to perform operation and maintenance on the total system. With the increased emphasis on operation and maintenance, we must make onsite systems more operator friendly. There are things that we can do to even the conventional septic tank soil absorption unit to make them easier to access for operation and maintenance.

Management of Recirculating Sand Filters — Ted L. Loudon

Management of Recirculating Sand Filters (RSFs) involves regular monitoring and occasional maintenance activities. Monitoring requires not only looking at effluent water quality but also looking at physical and biological aspects of the sand/gravel filter to access its functional characteristics. The service provider must be familiar with signs of good and potentially harmful biological activities.

The Microbial Ecology of Onsite Systems and Why Some Fail — Doug Dent

This topic and presentation covers the role and importance of microorganisms in on-site wastewater. Reviewing microbial processes in anaerobic and aerobic systems and microbial biological oxidation functionality in absorption systems; as well as, reviews the factors that lead to bio-mat formation.

The Clogging Incidence Of Drip Irrigation Emitters — Mike Rowan

Four types of drip irrigation emitters from three manufacturers were used to distribute effluents of different qualities. The control emitters were embedded in commercial grade landscape dripline, which was not designed for use with treated wastewater. The experimental emitters included one non-pressure compensating, turbulent flow emitter and two pressure compensating diaphragm regulated emitters.

A Submerged Attached Growth Bioreactor Coupled with Membrane Filtration for Water Reuse — P.B. Pedros

This paper discusses the integration of a submerged attached growth bioreactor (SAGB) with hollow fiber membrane microfiltration (MF) to meet the reuse requirements for a small onsite wastewater treatment plant. The single greatest obstacle to the development at The Jefferson in Bellingham, Massachusetts was the proximity of the site to the public drinking water supply well. To protect groundwater supplies, the Massachusetts Department of Environmental Protection, (DEP) has classified, groundwater discharges within such areas as a form of water reuse which are governed by strict regulations.

Reuse/Reduction

Urine Separation - Swedish Experiences — Bjorn Vinneras

The environmental effects of urine separation have been investigated in several studies. They have all concluded that compared to a conventional sewage system, urine separation will recycle much more plant nutrients, especially nitrogen and will have lower water emissions of nutrients. Generally, urine separation has also been found to save energy. Urine separation has in all studies been found preferable to the conventional system from an environmental point of view.

A Feasible Decentralised System of Sanitation for a Small Community in Nepal — Megha Raj Regmi

Our preference should be sustainable, ecological and on site systems, based on local materials and appropriate technology. This research work basically deals with dry toilets, with and without

sunrays, constructed in peri-urban area to study the viability of ecological toilet in Nepal. The work has used appropriate technology and studied their performances in the context of Nepal with full involvement of local people based on complete laboratory analysis and the regular monitoring.

TRACK 4 – OCTOBER 10 - SEVERENCE Design

Cost Effectiveness of Cluster Systems — Scott Wallace

Cluster systems have proved to be an invaluable solution to provide small communities with high quality wastewater treatment at an effective cost while protecting the character of the community.

Techniques for the Design, Installation and Maintenance of a High GPD Flow Rate Onsite WW System — Anthony Gaudio

The Chaires Elementary School in rural Leon County, Florida near Tallahassee was 12 years old and had a history of failed septic systems. Sewer was not an option so an innovative onsite wastewater design solution was required to handle the school's estimated 11,000 G.P.D. flow rate.

A Rational Method for Determining Design Flows for Cluster Systems — Larry Stephens

Cluster wastewater treatment systems (or community systems, as some may refer to them) have become a popular concept in some parts of the country. This concept permits homes to be clustered on less property, sometimes surrounded by green space, with the wastewater treatment system to be located in an area where the soil conditions are most appropriate. The use of such clustering options allows planners to provide for more housing for future residents in less space, thus helping to prevent urban sprawl.

Streamlining the Design and Regulatory Review Process — David Kalen

Ever since regulatory approval was granted for innovative and alternative (I&A) onsite wastewater technologies in Rhode Island, the design community and the regulatory review agencies have struggled with different styles and approaches to achieve a successfully approved design application.

Hydraulic Properties of Drainfield Trench Biomats formed in Georgia Soils — Larry T. West

Understanding hydraulic properties of biomats formed in different soils is critical for predicting long-term wastewater acceptance rates and for computer simulation of wastewater infiltration under different drainfield configurations.

Soil Properties Influencing Onsite Systems — Daniel Wheeler

This discussion identifies the importance of the soil properties that must be evaluated and understood at each onsite evaluation and discuss the role of additional soil properties on a more localized level. If local regulation does not require the accurate determination of these soil properties, there will likely be issues with onsite systems in these areas.

Treatment of Animal Shelter Wastewater Using a Constructed Wetland — Judith Krieg

The use of a constructed wetland system provided an opportunity to not only demonstrate that wastewater could be treated effectively, but it also became the focus for participation and education of the greater community.

Lake Elmo's Decentralized Wastewater Management Program, — Curtis J. Sparks

Presentation chronicles the long term development of a decentralized wastewater management system, the land use factors that

Presentation Overview

drove their city to cluster systems, a plan for old village redevelopment the operation issues and ultimate need to address ownership and management of a wastewater system.

Design of Pressure-Dosed Systems Using Spreadsheets — Larry Stephens

It is now a well established fact that the soil absorption component of an onsite wastewater treatment system functions better from a treatment perspective; and, in general, will have a longer life expectancy if the treated effluent is equally distributed over the entire soil interface. This is particularly important as the size of the system increases.

When are “Poor Perking” Soils the Best Soils? — Cliff Stein

This presentation is to stimulate thinking by challenging conventional wisdom in the use of “poor perking” soils for land based wastewater treatment and dispersal systems. Who among us would prefer a site with moderately well drained slowly permeable soils over a site with well-drained highly permeable soils?

TRACK 5 – GOLD2 **Planning Forum**

Balanced Growth & Surface Water Protection in the Lake Erie Watershed — Kirby Date

In 2000, the Ohio Lake Erie Commission released the Lake Erie Protection and Restoration Plan, which provides a comprehensive set of recommendations for the State of Ohio and its partners to improve the quality of Lake Erie. A significant conclusion of the plan was that land-use trends in the basin are a major factor preventing the full restoration of the lake.

SE Minnesota Wastewater Initiative: Small Community Assistance — Doug Malchow

For the past three years the Southeast Minnesota Wastewater Initiative (SMWI) has provided educational and facilitation assistance to numerous small communities, both unincorporated and incorporated, in Southeast Minnesota to address their wastewater needs. Educational resources have been provided to help the communities better understand the need for proper wastewater treatment; treatment, management, and funding options; and a community process to move through their wastewater treatment discussions.

Working with Communities to Achieve Wastewater Management Goals — Karen McBride

Many communities are unaware they have options when it comes to wastewater treatment and disposal, especially wastewater management. Knowing when communities are ready, where to begin, what tools to use and how to move the community to the next step will be offered. This presentation discusses how to keep a community engaged in their vision and how to work together to get members motivated to action.

Aerie Lake Sanitary District - A Demanding Shoreline — Eirc Blasing

Residents on the northwest shoreline of Aerie Lake in Alborn Township of St. Louis County, Minnesota had growing concerns regarding the impact of their existing individual sewage treatment systems (ISTS) on their health and the surrounding environment, and potential impacts to the lake and their drinking water. The challenged shoreline consists of thirty-three properties including approximately one-quarter year-round and three-quarters seasonal residents. Addressing these concerns, the thirty-three existing ISTS were inspected and evaluated for compliance and soils were investigated for the use of a future communal wastewater treatment system.

Watershed Protection in Cuyahoga County — Harry Stark, RS MPA

This presentation focuses on the Cuyahoga County Board of Health's (CCBH) Watershed Protection Unit which includes the HSTS Operation and Maintenance Program (O&M), Water Quality Program, Beach and Marina Program, Storm Water Programs and subsequent grants on these programs; the history of the State of Ohio's sewage rules, why the Watershed Protection Unit and its programs were started and expanded and what impact they have had on communities and watersheds.

Risk Assessment of Decentralized Systems in High Priority Areas — Amy Macrellis

The City of Malibu relies on onsite wastewater treatment systems for protection of valuable water resources. A team of consultants and City staff conducted a three-year risk assessment/risk management study in a high-priority area of the city. The study area included 400 properties around Malibu Creek and Lagoon, and the surfzone along Santa Monica Bay. Stakeholders, including residents, regulators, and environmental advocacy groups, were essential to the study's success.

Impacts of Onsite Systems on Ground Water in Karst Landscapes — Eberhard Roeder

Karst, a landscape formed in dissolving limestone, is widespread in Florida and other states. The dissolution of rock by water over time leads to the formation of solution holes and conduits that act like a network of pipes. This in turn, can be expected to affect the transport of onsite sewage treatment and disposal system (OSTDS) effluent in the groundwater, in particular increasing its velocity and the distance at which it is found. To clarify these effects, Florida Department of Health (DOH), with additional funding from EPA's Gulf of Mexico Program, sponsored a study of onsite systems in a karst area.

Modeling Phosphorus Reaction and Transport at an Experimental Onsite Wastewater Site — John E. McCray

Phosphorus (P) from onsite wastewater systems (OWS) is often considered to be a water-resources problem because of potential eutrophication of sensitive wetlands and other surface-water bodies. However, very little quantitative research has been conducted for P fate and transport from OWS. In particular, the relative importance of two simultaneous P reactions, soil sorption and chemical precipitation, has not been rigorously addressed. In addition, sparse research is available on the relative importance of the site-scale variability in P sorption capacity, precipitation rates, and soil-water hydraulic parameters on P transport.

A Working Model of Low-Income Assistance for Septic Repairs — Terrell Jones

A pilot project in its third year in western NC is providing reliable financial assistance for low to moderate-income homeowners in need of septic repairs. The program has the added benefit of providing referrals of low-income families to housing rehab agencies that are able to offer other types of housing assistance the homeowners may need. It also provides information to the homeowner on how to properly maintain their septic systems, how to reduce environmental impacts and avoid public health risks.

Sewering Narrow Lake, MI: Working Outside the Box

Presentation Overview



WEDNESDAY, OCTOBER 12

Track 1 – GOLD Regulations

Performance Based Authorization - a New approach to Technology Authorization — Carl Thompson

Throughout the United States, state and local regulatory authorities are challenged with improving onsite wastewater treatment to protect the environment, revising and enforcing existing regulations and codes, and developing new codes in response to the ever-changing technological environment. Complicating this matter are staff and funding cuts that are decreasing time and resource availability. In response, some manufacturers are working closely with those in charge of regulating onsite wastewater programs. Together, they are developing new ways to standardize the process of authorizing the use of gravelless (or non-gravel) drainfield technologies. This includes guidelines and provisions for verifying new technology, system sizing and design, and the testing and reporting of product performance.

Development of EPA MOU: A National Action Plan — Joyce Hudson

The U.S. Environmental Protection Agency (EPA) Office of Wastewater Management oversees the nation's effort to ensure that domestic, commercial, industrial, and other wastewaters are treated and discharged in a manner that does not cause deleterious impacts to human health or ecological resources. Malfunctioning onsite and clustered (decentralized) wastewater treatment systems have been implicated in health and environmental impacts in the past, due mostly to poor system management practices, e.g., inadequate planning, improper design, faulty construction, and lack of appropriate operation, maintenance, inspection, and residuals practices.

Civil Penalties for Enforcement Requires State Law in VA — Robert E. Lee

When Loudoun County, Virginia initiated a comprehensive management program for onsite wastewater treatment systems, little did they realize it would take drafting legislation and moving it through the Virginia General Assembly and to the Governor for enactment. Virginia is a Dillon Rule state. What that means in common terms is that if the state doesn't give local government specific authority to do something they cannot do it. In Virginia the state authorized local governments to regulate wastewater. But that doesn't necessarily mean manage.

Lake County Seeks Comfort and Security in a Performance Code — Tony Smithson

In response to the rapid growth, increasing demand for the small lake shore properties, and the challenge with replacing thousands of existing systems that had reached the end of their useful lives, LCDH adopted a "flexible" prescriptive code to allow alternative systems for non-conforming lots. While this new code eased the pressure on the LCDH staff in dealing with the rapid development in unsewered areas, the staff was concerned over the performance of the alternative systems that were being permitted.

Regulations Can Change Attitudes: The Massachusetts Approach — David Cotton

The Halifax Meadows Condominiums provides an example of successfully managing a failed system to reduce cost, protect public health and manage/monitor their systems for long term performance. This case study looks at how regulators, designers, installers, vendors and facility owners are taking a progressive approach to monitoring

and managing their system to drastically reduce and defer full replacement of the onsite system.

Panel Discussion: Issues Addressing Model Codes

A panel discussion involving individuals who have or who are working on "Performance Codes".

New Developments in American National Standards for Onsite Treatment Systems and Components — Tom Bruursema

The scope and capabilities of onsite wastewater treatment systems and components continues to grow. To keep pace with this growth, the American National Standards (NSF/ANSI) Standards have likewise been expanding.

Point of Sale: A Success Story — Roger Bard

In 2001, St. Louis County established an individual sewage treatment (ISTS) property transfer inspection program in northeastern Minnesota. The compliance inspection program is designed to upgrade failing septic systems without penalizing systems still treating and dispersing wastewater effluent. Public acceptance is based on performing inspections when financing is more readily available and the parties to the land exchange have the opportunity to negotiate issues concerning system upgrades.

Track 3 – WHITEHALL Forum

Removing Barriers to Evaluation and Use of Decentralized Wastewater Technologies and Management — Carl Etnier

A key step in finding solutions is to thoroughly understand each barrier and its causes, discussing them with members of the engineering field as well as stakeholder groups that influence engineers. Also, while tremendous bias exists for centralized solutions, there are wonderful case studies to learn from—communities and engineers who have tried decentralized approaches and been very satisfied with the results. These people faced many of the barriers and found ways through or around them. Clearly, they have found solutions or thought of many ideas for how to resolve barriers.

Management

Achieving Sound Watershed Planning Through Decentralized Wastewater Management —Richard Otis

In 1997, USEPA declared that "adequately managed" onsite wastewater treatment systems are "viable, long term alternatives to centralized wastewater facilities...particularly in small and rural communities". This declaration bestowed credibility on onsite and cluster systems, which has helped to overcome the perception that onsite systems are only poor interim solutions to be used only until sewers are extended. Yet, the full potential of onsite/cluster systems in helping to achieve our nation's public health and water quality goals is unrealized because we regard them as an alternative to central sewerage rather than a complement to central sewerage in providing safe and effective service to all residents and establishments in a watershed

Beyond the end of the pipe: Will there be a shortage of capacity for septage management? — Carl Etnier

Responsible management of onsite wastewater treatment systems includes regular checking of septic tanks and pumping when needed. The septage is generally taken to a wastewater treatment plant for processing or land applied.

Presentation Overview

Crow Wing County Wastewater Management District — Craig Gilbertson

To help assure protection of human health and the quality of the waters, a Joint Powers Board (JPB) of Crow Wing County and the Thirty Lakes Watershed District was established. Based on wastewater treatment solutions, documented in a wastewater management feasibility plan completed by the JPB and the Implementation Team (citizen volunteer advisory board to the JPB), a county wide decentralized sanitary management district with pilot subordinate districts is being established for the region.

Onsite Treatment System Management — Albert Royster

Presentation addresses "Ten ways to extend the Life of the Septic System" -- regarding things that enter the waste stream that should be recycled or reused -- together with several myths of what people add to a septic system.

Establishment of Responsible Management Entities — Bob Pickney

There is a growing trend in the decentralized community for Responsible Management Entities to provide ownership, operation, maintenance and replacement of decentralized wastewater systems. Utilities are leading the trend for this service. This management structure is providing a cost effective way to manage wastewater with sound financial and environmental principles.

Defining the Business Attributes in Successful RME's — John Murphy

The EPA recognizes Responsible Management Entities (RMEs) as excellent ways to protect the nation's water resources by ensuring the long-term management of decentralized wastewater treatment systems. Thus, the Water Environment Research Foundation, using funding from the EPA, commissioned a study team led by the National Rural Electric Cooperative Association (NRECA) to evaluate existing RMEs in order to identify business attributes that are common to successfully operating RMEs.

Proactive Management Saves Money — David Cotton

The Halifax Meadows Condominiums case study looks at how regulators, designers, vendors and facility owners taking a progressive approach to monitoring and managing a failed system were able to or drastically reduce and defer full replacement of the On-site system

Track 4 – Severance Room Education

Streamline Process for Certified Installers to Repair Nonfunctioning Onsite Systems — Anish Jantranina

Information on projects where properly trained installers have done repairs and replacement work for failing or inadequate onsite systems is presented with suggestions and ideas on how the industry can develop and implement training and certification programs for installers.

Consortium Activities Report — Dave Gustafson

The Consortium is a National organization developing Training materials and extension activities in the Onsite treatment field. These materials and activities are important for others to learn the lessons gained through the processes.

Educating Regulators About Onsite Wastewater Treatment — Eli Hacker

Health officials in 88 counties and environmental engineers in five districts issue permits for onsite wastewater treatment systems throughout Ohio. Educating this large and diverse audience about advances in onsite wastewater treatment is a challenge. A detailed

audience and needs analysis is being conducted to learn more about preferred learning styles and what regulators need-to-know.

A Satisfaction Survey of System Owners — George Loomis

During the past seven years, the University of Rhode Island's Cooperative Extension Onsite Wastewater Training Center installed 56 demonstration advanced wastewater treatment systems at local Rhode Island home sites. Many of these systems offer pioneering technology for advanced nitrogen and bacterial removal as well as custom design for challenging site conditions.

Northwest Michigan Onsite WW Infrastructure Survey and Public Outreach Program – John Kelley

A Summary of NW MI Onsite education programs was published in Volume 13, NO 5 September/October NOWRA Onsite Journal. This presentation discusses the success of those programs.

Commercial

Strength and Sources of Pollutants and Fog: A Case Study — Bill Stuth

This presentation provides an overview of a successful restaurant located near a shell fish growing area in the Pacific Northwest. The onsite system was designed and installed 24 years ago under prescriptive regulations and the system had been repaired three times within a 10 year period. When the onsite system failed the fourth time, in 1991, it was replaced with a performance based system incorporating many unique features and to date the system is still in operation. These unique features will be shared in this presentation.

Degradation of Turkey Fat — Rashmi Singh Gaur

Restaurants, food processing plants and dairy industries produce wastewater containing high levels of animal fat. The accumulation of animal fat can cause problems in wastewater treatment plants. Sand bioreactors show great potential to treat high-strength wastewater, however, high levels of fat can cause surface clogging. The objectives of this study were to consider the use of coarse sand and/or pea gravel caps to serve in pretreatment and go on to find the optimum depth. These studies will be helpful to anticipate the economic viability of proposed sand bioreactors for treatment of food plant and restaurant wastewater.

Track 5 - Gold 2 Design

Decentralized Wastewater Solutions for a Historic Mill Village – Justin Jobin

This presentation describes the results of a project that focuses on planning to meet wastewater needs for the future. Geographic information systems were used to evaluate water quality impacts of onsite systems to local water supplies, using multiple indicators of potential impact, including estimated nitrogen inputs to groundwater based on a simple mass balance model. Each parcel in the central village was categorized according to their suitability for hydraulic function of onsite systems based on lot size and soils, then re-evaluated based on environmental constraints such as location within buffers to public wells, waterbodies and wetlands

Construction Observation Training — Richard Wagner

Presentation discusses how to effectively train construction observers and why this training is critical to the overall success of the project.

Presentation Overview



Pilot test of Denitrification reactor for Large Subsurface Wastewater Treatment — Mark O. Liner, P.E.,

The integration of denitrification to onsite systems introduces significant challenges in that typical academic and technical approaches are more difficult to apply due to the low flows and significant diurnal variations. However, due to their smaller size, onsite systems do lend themselves to more robust (less sophisticated) solutions. One such solution for denitrification is the use of completely mixed, submerged, attached-growth media with a supplemental carbon feed.

Decentralized System Management — Bryan DeSmet, P.E.,

Various management models available for use in the ownership of decentralized wastewater treatment systems, along with the strengths and weaknesses of each of these models are presented. One model being developed over the last 3 to 5 years is the establishment of a rural water agency as an RME for decentralized systems. This will case study providing specific project information, along with a discussion of how the project was handled including design, permit review, construction, and operation.

Onsite Technology for Managing Primate Wastewater — Scott Wallace, Ph.D., P.E.,

The Great Ape Trust has developed a state-of-the-art research facility to investigate the communication patterns in higher primates (Orangutans and Bonobos). One of the challenges facing the facility designers was wastewater treatment. While sewer service was available from the City of Des Moines, Iowa, the remote location of the facility made connection to the regional sewer system very expensive. The Trust preferred an onsite, environmentally friendly treatment system over connecting to the regional sewer network.

Wastewater Management on a Remote Varrier Island — Scott Wallace

The Boy Scouts of America operate a camping program on Big Munson Island, a remote barrier island in the Florida Keys. Twelve campsites are scattered across the island, located less than five feet above sea level. As part of their environmental stewardship program, the Scouts have upgraded facilities on Big Munson Island. Composting toilets have been used for years to manage wastewater on the Island. Recently, the Florida Department of Health requested that the Scouts develop systems to manage greywater generated at each camp site from food preparation and washing dishes. Conventional treatment units are poorly suited to this challenge.

Factors Affecting Infiltration of Wastewater Effluents into Soil to Achieve Effective Treatment and System Performance" — Robert L. Siegrist, Ph.D and Kathryn S. Lowe

This presentation covers hydraulics of infiltration and design of soil treatment units to properly account for key factors such as effluent composition and loading, application method, and infiltrative surface architecture. This talk will integrate the results of previous research and modeling with the recent and ongoing results from our controlled field research at the CSM Mines Park Test Site.

"Characterization of Wastewater Effluents for Onsite System Design" — Robert L. Siegrist, Ph.D. and Kathy DeJong

This presentation describes wastewater characteristics important to system design as well as key pollutants, pathogens and emerging constituents that must be considered in evaluating system performance. This talk includes the results of research done by CSM in support of projects funded by the USEPA NDWRCDP, USGS, and others.

Track 7 – Van Aken

Advanced Treatment

Advanced Onsite Treatment and Dispersal Offers New Solution for Mobile Home Parks — Steve Braband

Many mobile home parks in California emerged from a "getaway RV park" into a permanent home site. Also occurring are changes in the wastewater treatment system. This presentation addresses many of the challenges associated with the project ranging from permit issues to identifying a suitable and reliable disinfection system

Addressing Drain Field Requirements — Bob Pickney

There is a growing trend in the decentralized community to provide ownership and operation of decentralized wastewater systems. Utilities are leading the trend for this service. Ownership, operation and maintenance, and replacement are included the service to the consumer. This management structure is providing a cost effective way to manage wastewater with sound environmental principles. The emphasis is changing from the least costly system to install to the system with the lowest long-term cost (usually a forty to fifty year analysis).

Evolution of Onsite Wastewater Treatment in the Skaneateles Lake Watershed — Erick Murdock

The onsite wastewater treatment industry has made tremendous advances in the last 100-years. Many of the commercially available secondary treatment units are a variation of old technology using new equipment. This discussion will take the viewer through a history of the lakefront development along Skaneateles Lake and the corresponding wastewater facilities installed during the last 100-years.

Onsite Sprinkler Irrigation of Treated Wastewater — Mike Rowan

This presentation will provide an overview of wastewater irrigation systems, beginning with a comparison between traditional irrigation and wastewater irrigation. The audience will learn where onsite irrigation is appropriate, what permits are required before installation and the step-by-step process for designing the irrigation system.

Distributed Sewer: The Demand Side —Craig Lindell

The town required the developer to build a treatment system to accommodate an existing supermarket strip mall and a variety of restaurants and retail outlets across the street. The combined flow is 40,000 GPD high strength wastewater. Essentially, the towns need to eliminate failed septic systems was exchanged for zoning variances that enabled Lowe's to build a new store. This exemplifies the potential of a distributed infrastructure.

Feasibility of Renovating Turkey Processing Wastewater Using Fixed Film Bioreactors — Young Woon Kang

This research investigated the feasibility of coarse/fine sand filtration for removing organic materials from turkey processing wastewater. The sand bioreactor operation was tested with three organic and hydraulic loadings.

Evaluation of Ecological Small Scale WW Systems within the Swedish Local Investment Programme —Peter Ridderstolpe

The Swedish Local Investment Programme (LIP) granted ecological small-scale wastewater systems during the period 1998-2002. This paper presents results from an evaluation of these systems

Presentation Overview

considering the aspects: user experiences, organisational and administrative experiences, economy and environmental performance. The compared systems were: Dry closets with urine diversion, Water closets with urine diversion, blackwater systems, composting toilets and small-scale wastewater systems.

Conversion of a Small Package Activated Sludge Treatment Plant to Vegetated Submerged-Bed Wetland System — Morgan Powell

A package plant with a river discharge treated wastewater from a seasonal change house/restroom facility at a Corps of Engineer's swimming beach in Kansas. This type of treatment system was commonly used for small recreational areas. It consisted of a small activated-sludge package plant with a duplex pump station and force main to deliver effluent to the river below the dam outlet.

Lessons Learned from a Level 5 EPA Management System — Jim Carroll

Southern Iowa Rural Water Association (SIRWA), a quasi public government body proposed to own and operate onsite wastewater treatment and disposal systems for each residence in Shannon City for the purpose of providing affordable and effective wastewater treatment. •

SPECIAL ISSUES SYMPOSIUM

Thursday, October 13, 2005 at 8:00 a.m.
- Ambassador Ballroom

ARE THE IMPACTS OF WATER CONDITIONING UPON THE OPERATIONS OF ONSITE SYSTEMS A MYTH OR REALITY?

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Insights about the Future of Congressional Funding

A critique by Linda Hanifin Bonner

What ever happened to the support for clean water? Where are the voices for action? What has happened to ‘environmentalism’ is the result 5 contributing factors.

1. Demise of environmental activists
2. Environmental problems that exist are more complex
3. Funding sources are changing
4. White house priorities—not on the environment
5. Congress itself with its support

The origins of environmentalism began with grassroots activism to stimulate political leaders to act in congress to address major problems. In the 1970’s the environmental movement included major student activism, the establishment of the Environmental Protection Agency, the birth of industry organizations and the passage of major environmental laws – such as the clean water act. Today, 35 years later, there is a significant smaller level of activism.

The environmental movement has transition into the mainstream of society. We are all part of some form of environmental activism – but not as strong an advocate. The downside is that there are no longer outsiders now competing for interests of policy officials. In fact, many policy officials who now consider themselves as “environmental leaders” don’t always walk the talk.

At the same time, the notion of environmental activism may no longer have the prestige that it had years ago in the perspective of popular public opinion. Why? Well, today, environmental activism no longer commands the attention of media or special interest groups — nor does it have the clout

with policy officials that it did 20 years ago. One of the reasons for this change is in fact environmentally based. Today, the nature of environmental problems in the US today are much more complex and challenging. In fact, they are often intimidating for the average person – who was once a primary component in the environmental movement.

Over the past twenty years significant funds have been dedicated to addressing initial problems – such as contaminated waterways, leaking landfills – many of which were issues that affected people directly. But today, the environmental problems are more costly and vastly different – the substances that we are dealing with are much more focused on public health – and because

they are not as visual or conspicuous to the average person, there is less reason to devote the time to activism. The environmental issues today address threats to surface water resources, groundwater supplies, . The environmental issues to be addressed in the 21st century are more technically daunting and time consuming to the average person – when their priorities are focused on protecting health care coverage – decreasing funds for education.

Today’s environmental problems are also more difficult to regulate. How does a citizen activist develop strategies to address complex issues such as

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wet weather pollution, Americans behavior habits and mind set. Equally important is the issue now – given the reprioritizing of monies for “homeland security” of how to pay for a “clean environment.” With the complexity of the environmental problems also come costs to address — which are at a higher level than ever before.

Today, funding these programs are not at the same level of priority of the administration or congress as they were ten years ago. Organizations and municipalities have lost or are losing funding, once allocated to the environ-

ment, to homeland security, the war on terrorism, and health needs. Four years ago the budget surplus got a lot of attention (2001) – then the economy slowed and the wars took over. Current funding policies now make it much more difficult to make a case for funding for the environment. Because of these situations, organizations such as NOWRA must to look for new sources, to continue and finish the programs previously begun.

Priorities for the administration are not with clean water. The budget message in 2005 is clear – reduce – even less than in previous years, with even less to come in the next years.

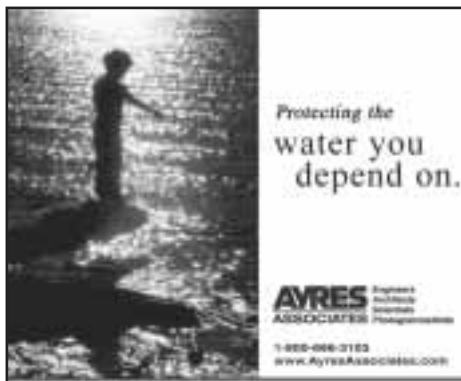
Congress itself is changing the way it does business. It is embarked upon major competitive and combative process on every issue – including clean water. Very little bi-partism & cooperation occurs among members. There is an “avoidance of controversy” attitude – and a major support of an issue is often viewed as suspicious. During the past months a small group of organizations has form a loose knit coalition and devoted considerable time to pursuing additional funding for the EPA clean water – state revolving fund loan program. As described in another article, these efforts have focused on very different strategies than used many years ago. Today, these strategies are to work directly with legislative staff members – which to a certain extent have more influence than the “suits” lobbying the political leaders.

Since 1987, the only bills with major funding for clean water projects have been for the Chesapeake Bay, Long Island estuary and Great Lakes restorations. These are not “big bill” solutions to major problems – as compared with the Clean Water Act of 1987. And, the funds allocated are no where near adequate to address the water quality problems that exist within these areas. The only way the real change will come is from changing human behavior.

Within Congress, inaction on clean water bills has now been ceded to “appropriations committees” and their members. This is where decisions are made about where to spent funds on more popular projects in communities and self interest groups. There are few, if any, “hearings” in which organizations of “environmental interests” appear in mass to persuade changes in voting patterns. Congress is not acting on new environmental laws or even bettering new ones. There is a cost associated with these actions.

The consequences is that there is no opportunity to engage in debates on issues. No hearings are being held on budgets. Reality is that congress is not interested in entertaining new ideas – nor are they entertaining the suggestions of environmentalism.

So, where does this leave us—with plans to move forward? The thoughts, actions and support of NOWRA members are needed to create a new paradigm. •



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NOWRA State Leaders Meeting: April 4-5, 2005 Update and Report to the NOWRA Board

Participants in this years meeting included the following association leaders.

Lee Orton, Stan Krose (Nebraska); Chuck Harwood, Janet Murray, Jerry Gilbert (Missouri); Mike Lynn, Chuck Jackson (Virginia); Ed Church (Colorado); Steve Braband (California); John Thomas (Washington); Jim Whitcraft (Ohio); Carol Evans, Sam Sliegal (Delaware), Arland Stephens, Alison Blodig, Dale Hayes, Raymond Peat (Kansas); Richard Beck (Indiana); Jennifer Brogdon (Tennessee); Cary Solberg, Alice Vinsand, Bob McKinney, (Iowa), Ron Suchecki (Texas); Linda Hanifin Bonner (Maryland); Kevin Sherman (Florida)

Of NOWRA's 32 state groups, 16 were represented at the 2nd annual meeting, two day meeting (April 4-5) in Kansas City, MO. The oldest group was Florida (32 years) and the youngest was Maryland (7 months).

Establishing a Management Systems for Training Centers: A review of the process, standards and program implementation steps.

An "early" special session occurred on Sunday, April 3rd, with a presentation and discussion on "implementing" a "Training Management System." The purpose of this session was to answer

questions about the next steps to get this program underway, and to establish dates for the training management program for those State Groups that are ready to begin this process.

Identified States ready to begin in program include:

- Kansas
- Maryland
- Missouri
- Nebraska
- Texas
- Virginia

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Concluding discussion resulted in the following actions of State Group Leaders Interested in Training Programs to be initiated.

- WOSSA (John Thomas) will begin preparation of basis documents for the participating Training Centers
- A proposed schedule will be prepared and agreed on for the summer months:

– **Review of the Training Center Standards:** *program implementation, local skills needs analysis, resource availability review and prioritization.*

– **Train the Trainer Program:** *This program will review details of program set-up and requirements to meet the Training Management System (TMS) registration program and enable local resources to conduct presentation skills training for local coursework instructors*

– **Technical Writing and Resource Development:** *This one – two day program will enable local training organizations to identify learning objectives based on skill set evaluation and prepare new or modify existing documents/programs to meet local needs.*

– Establish Training Calendar Programs for 2005-2006

Monday Session – April 4.

During the Monday morning session, state leaders provided updates on activities and identified their goals to be accomplished during the session. Member also stated the needs they had of NOWRA in order to successfully manage their state groups and to become stronger in membership recruitment.

Meeting objectives included:

- 1) To learn how to obtain help from NOWRA on the following activities.
 - a. Membership recruitment & retention – how to do it and with what materials.
 - b. Obtaining education program for trainers •
 - c. Preparing an RFP for an administrative director
 - d. Obtaining hosting and technical support to participate in NOWRA's Website
 - e. Defining member benefits
 - f. Defining “training” models within different states
 - g. Training program for realtors – not focusing on contracts
 - h. Political action at national/state level on changing codes

- i. Obtaining “Canned” education /training programs – to avoid duplicating efforts and wasting resources
- j. Knowing how to perform budgeting & planning activities
- k. Developing a Membership survey
 - i. How to provide key messages to members and non-members

2) To gain a stronger understanding and learn more about the following work areas within NOWRA.

- a. Status of the Model Code and its relationship to States
- b. Future website applications for states
- c. Professionalism – NOWRA Ethics statement – to receive a copy and use it.
- d. What NOWRA offers to state groups for their members.
- e. What are NOWRA's future initiatives and how to they relate to the members desires and needs.
- f. Defining the NOWRA/NEHA relationship – existing/future.
- g. Better ways to use NOWRA communication tools to enhance state work
- h. Dues restructuring
- i. Marketing NOWRA – State Groups – strengthening reputation

Members of NOWRA's new “Communications and Marketing Committee (Karen Borgeson, Ed Freedman and Brody Dorland) provided the group with a report on the planned action items and anticipated production schedule. Group discussion followed with needs being expressed regarding member recruitment and messages to convey to existing and new members.

NOWRA President, Raymond Peat discussed the new watershed management component being integrated with NOWRA's future work, provided a



report on NOWRA Board Strategic Planning Session.

Executive Director, Linda Bonner provided an update on the Association/membership insurance needs – security issues. Updating 2005 state membership lists – placement on system server and access by state, and NOWRA Future Conference locations & timeframe

During Tuesday's session, John Thomas, State Leaders Committee Chairperson presented the group with *Association Management Protocols* for Off-site file storage – emergency needs – how to address – critical documents and procedures to protect organization. This session was followed by a presentation on Grant writing and administration procedures – where to find them how to write them, how to get them and how to manage them – and the paperwork involved in the reporting process.

Concluding discussion of State Group Leaders resulted in several key actions, that will be reported to the NOWRA Board of Directors for subsequent action.

1) 2006 State membership fees

Motion made by Chuck Jackson to increase NOWRA membership dues by \$15 a year beginning in 2006; was seconded by Alison Blodig. During the discussion, Ron Suchecki proposed a friendly amendment to incrementally increase funding by \$10.00 for the next two years; and adding members to online locator free of charge to ensure value to the association. Jennifer also requested that a fact sheet on relative costs to increasing memberships be provided to the state leaders.

Action: The group unanimously approved a recommendation to the NOWRA Board, raising the NOWRA state group member dues rate by \$10.00 in 2006; and raising it another \$10.00 in 2009, with the provision that the online locator is provided free of charge (for the initial listing) as a member benefit. Additional services, e.g. logo, fancy designed would have a separate charge. It was also recommended to Board that to substantiate dues increase the reasons for more involvement in the process will ultimately reduce costs at state levels – e.g., marketing to membership. State leaders needs to have information to present to other board members.

2) Input on Timeframe of National Conferences

It was the sentiment of the group that changing the national conference to the spring would not dramatically affect state programs, provided that it was at least three months following the winter programs provided by the states – after

May/June. Discussions need to continue on revenue sharing to protect the financial sustainability of both NOWRA and Member States as future sites are selected

Action: Consensus was that spring was an acceptable timeframe as long as it was occurring in a month that States were not having their respective conferences. The group also unanimously supported the concept of a special “installer tradeshow” offered by NOWRA.

3) State Leader Association Leadership Information Request from NOWRA Board.

State leaders requested a breakdown of the operational costs per/member for member services – what are the major categories relative to costs. Leaders desire to have this information in order to present to their boards and provide support to NOWRA on cost of value per member. °

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The Status and Future of Wastewater Treatment

Leading the way with the most environmentally safe, cost-effective, and sustainable wastewater treatment and water recycling choices.

This white paper was commissioned by the Florida Onsite Wastewater Association, Inc. (FOWA), a non-profit corporation, and is intended to examine the status of Florida's water recycling efforts and offer sound choices for future water recycling efforts and offer sound choices for future water management efforts. A stated purpose of the organization's bylaws is "to protect and maintain the environment of the state of Florida..."[1]. Likewise, developing open communication channels about sustainable protection of Florida's environment is the underlying purpose of this white paper. However, the issues of managing water resources are extremely complex and dynamic, encompassing diverse commercial interest, economic impacts, and sociopolitical climates.

This paper addresses three main areas of concern:

- public and political perceptions and the influence they exert upon policies and practices relating to water conservation and recycling;
- the necessity for advancements in education and management efforts relating to water reclamation in order to implement standards for efficient and sustainable onsite wastewater treatment and water recycling; and
- the need for statewide communication, understanding and relationship-building among all those concerned with Florida's environment and water management issues.

Section 1: Perceptions

water, water, everywhere...(you know the rest)

Our planet is a magnificent hydrology system. The vast majority of the Earth's surface is covered by water, yet only three percent of the planet's total is fresh water. Of that amount, two-thirds is frozen. The remainder makes up our earthly freshwater "budget," compromising one percent of

the planet's hydrological total – two-thirds of which is categorized as groundwater (as apposed to surface water) [6].

Aside from irrigation and other industrial water usage, this freshwater is accomplished via two basic methods:

- generally consolidating mass volumes of contributing users' wastewater for processing and discharge—these centralized systems are often publicly owned treatment works (POTW); and
- decentralized or onsite wastewater treatment systems (OWTS), used to treat and discharge relatively small volumes of wastewater—these systems also are commonly referred to as septic systems, private sewage systems, or individual sewage systems [10].

Do not allow the simple language above (i.e., mass volumes and small volumes) to create false perceptions as to the size and scope of these two water-recycling methods. According to EPA,

"Decentralized wastewater treatment is a very common treatment option in the United States. About one-fourth of the total population is served by OWTS, and about one-third of new construction employs this type of treatment...more than one-half of the onsite systems are found in metropolitan areas" [10].

In Florida, 31 percent of the population is served by an estimated 2.3 million OWTS [2]. During the latest one-year reporting period, 42,000 new OWTS were permitted across the state. Besides potential misconceptions as to the numbers of Americans served by OWTS, there may exist perceptions that centralized systems yield a "better" treatment.

In its first report to Congress, which examined the feasibility of decentralized treatment as a lesser-cost option for many communities with wastewater management needs, EPA reported the following:

"Adequately managed decentralized wastewater treatment systems are a cost-effective and long-term option for meet-

Decentralized and Onsite Technologies in Florida

ing public health and water quality goals. New technologies are being applied to onsite systems, resulting in higher treatment levels, greater reliability, and more flexibility than ever before. In many communities, onsite and decentralized systems are the most appropriate, least costly treatment option, and the allow maximum flexibility in planning for future growth' [10].

In its second report to Congress in 2003, EPA states these findings even more strongly:

“Properly managed onsite/decentralized systems offer several advantages over centralized wastewater treatment facilities. The construction and maintenance costs of onsite/decentralized systems can be lower, especially in low-density residential areas, making them an attractive alternative.... (OWTS) also avoid potentially large transfers of water from one watershed to another via centralized collection and treatment. Both centralized and OWTS need to be considered when upgrading failing systems” [9].

In Florida, as we shall closely examine in Section 3, the freedom to choose OWTS technologies has been legislatively negated via statutory law, which dictates mandatory connections to centralized systems.

Listing barriers to implementation of more effective OWTS management programs, the first barrier mentioned by EPA is: “Lack of knowledge and public misperceptions that centralized sewage treatment plants perform better, protect property values, and are more acceptable than decentralized systems” [7]. EPA is committed to evaluating the standards of onsite wastewater management practices and removing barriers precludes widespread acceptance of onsite technologies [9].

A billion here, a billion there...pretty soon we're talking real money

After pointing out how very precious that usable water “budget” remains, you can correctly surmise that water does not come cheaply. The replacement value of the nation’s existing infrastructure for the

potable water supply and wastewater collection, treatment, and discharge amounts to an astonishing estimate in the trillions of dollars. No exact figure can be determined. EPA, however, is very exact in identifying current capital needs. In the newest report to Congress, the agency identifies \$181.2 billion dollars in existing needs for POTW collection and treatment facilities. that represents an increase of \$26.6 billion from the 1997 report to Congress.

Future needs will be even more pressing. According to the Water Infrastructure Network, “New solutions are needed to what amounts to nearly a trillion dollars in critical water and wastewater investments over the next two decades. Not meeting the investment needs of the next 20 years risks reversing the public health, environmental, and economic gains of the last three decades” [7].

Ecological damage from system failures can be equally costly, just as the EPA supports advancements in OWTS, new rules are being proposed to expand and clarify permit requirements for 19,000 POTW collection systems in order to reduce sanitary sewer overflows (SSOs). EPA estimates there are at least 40,000 SSOs each year. Untreated

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Visitors to the Florida Onsite Wastewater Association (FOWA) Training Center in Lake Alfred learn about alternative onsite system technologies.

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sewage from these overflows contaminates our waters, causing serious water quality problems. It can also back up into basements, causing property damage and threatening public health [8].

The Citizens Environmental Research Council estimates that of the 42,600 POTW and privately owned sewer systems, two-thirds may experience SSOs annually. The council's research indicates that the average number of overflows per system is 50 per year for medium-sized sewage operations serving 10,000 to 25,000 populations. Using these estimates, at least 140,000 SSOs occur nationally each year. "Even this number, most likely, seriously underestimates the total size of the SSO problem," states the council. Regulators currently estimate that SSOs are responsible for 1.26 trillion gallons of untreated sewage flowing into the nation's waters annually. In the most recent report to congress, EPA estimates immediate needs of \$50.6 billion gallons of improperly treated wastewater discharge [9].

Perceptions and impressions aside, this data speaks for itself. The environmental crisis of SSOs from our nation's centralized treatment systems is at least fivefold the impact of OWTS failures. Using the Citizens Environmental Research Council estimates, POTWS could discharge 1,600 percent greater amounts of untreated

ed sewage into our environment than all the OWTS combined. Yet the public misconceptions persist, as EPA points out, " ... the centralized sewage treatment plants perform better, protect property values, and are more acceptable..." than OWTS.

Section 2: Advancements

Do not mistake the aforementioned facts to represent an argument portraying centralized water and wastewater utilities in America as "the enemy" of our environment, the national economy, or the onsite wastewater industry. Centralized collection and treatment certainly has its place where development densities and geographic/geologic limitation preclude OWTS entirely. The purpose of this white paper is to factually inform the public and the publicize EPA's stance that "both centralized and onsite/decentralized systems need to be considered when upgrading systems" and that "adequately managed

decentralized wastewater systems are a cost-effective long-term option for meeting public health and water quality goals."

Knowledge is good.

This brings us to the important topic of an "adequately managed" system. The Groundwater Foundation reiterates EPA's acceptance of OWTS as a viable treatment choice: "Homeowners who have a septic system that is properly designed and installed, and correctly operated and maintained, should receive years of reliable service with minimum or risks to human and environmental health" [3].

The Foundation notes numerous ways for OWTS owners to minimize potential impacts that onsite wastewater systems may have on the environment, including the following:

- Regular inspection every two to three years is generally recommended.
- Conserve hydraulic overloads, a major cause of system failure.
- Care for the drainfield—plant/tree roots and vehicles/heavy equipment are common damage culprits.
- Limit the type and amount of household wastes poured down the drain [3].

Referring again to the most recent report to Congress, "EPA is committed to elevating the standards of onsite wastewater management practices to preclude widespread acceptance wastewater management programs, "Ineffective or nonexistent public education and training programs." Actually, information abounds pertaining to proper maintenance and management of OWTS. Public attention (i.e. media awareness and exposure) and public access to this information is what's needed. State health agencies, local health departments, cooperative extension offices, and



FOWA Director Kevin Sherman (foreground) and Jim Owen of the Polk county health department measure fluid flow from short to long pipes at the training center

many of the agencies and organization referred to at the end of this paper are excellent resources.

One of the most concise references to OWTS owners is published by FOWA, titled *The Magic Box: Your Septic Tank*. The short pamphlet is an excellent source of information about how an OWTS operates, promoting awareness about maintaining your system and the need for regular inspection. The pamphlet is available from FOWA (see contact information at the end of this article), and will be available on the associations's website at www.fowaonsite.com.

FOWA is spearheading an industry-wide movement in Florida and across the nation to develop management standards for OWTS. Along with support from EPA's OWTS program, the Groundwater Foundation's septic system education project, and others, a relatively new *Model Framework For Unsewered Wastewater Infrastructure* guides FOWA's efforts [4]. Adopted in late 1999 by the board of the National Onsite Wastewater Association (NOWRA), the goal of the Model Framework is to achieve sustainable development while protecting human health and environmental quality. NOWRA, as in the case of previously cited parties of interest, recognizes that "The most critical element to ensure that consistency is maintained is Education." We will devote space and attention here to this Model Framework, as it is one of the most

thoughtful and forward-looking observations of the current (and future) state of our natural water resources, and water recycling.

the Model Framework states that traditional "prescribed" models cannot achieve the goal of sustainability. A prescribed model is detrimental to achieving such goals because it largely ignores local environmental sensitivities and thwarts innovation. The prescribed model approach is unable to adequately balance human health and environmental protection with economic development pressures. The Model Framework contains critical components to achieve its goal—sustainable development. However, NOWRA emphasizes the necessity of each element, which collectively constitutes a total system capable of excellence in performance, and therefore, promotes

each of these seven elements equally:

1. performance requirements that protect human health and the environment;
2. system management to maintain performance within the established performance requirements;
3. compliance monitoring and enforcement to ensure system performance is achieved and maintained;
4. technical guidelines for site evaluation, design, construction, operation and acceptable prescriptive designs for specific site conditions and use;
5. education /training for all practitioners, planners, and owners;
6. certification/licensing for all practitioners to maintain standards of competence and conduct; and

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7. program reviews to identify knowledge gaps, implementing shortcomings and necessary corrective actions [4].

NOWRA intends its Model Framework as the national ideal for building and maintaining OWTS infrastructure, and FOWA supports and advances its goal as the base for developing and sustaining similar standards in Florida.

Creating the Standards

In the state of Florida, OWTS installation and use is regulated by the state Department of Health (DOH) Bureau of Onsite Sewage Programs, and individual county environmental health units (through Chapter 381, Florida Statutes and Chapter 64E-6, Florida Administrative Code). Onsite wastewater system contractors are licensed by DOH, which also issues individual permits for new OWTS construction and repair of existing systems. The actual repair permits issued by DOH during the latest reporting year was 18,708. As a percentage of the state's estimated 2.3 million OWTS, less than one percent required repair. DOH contracts with FOWA to provide continuing education courses required for its personnel and licensed OWTS contractors' continuing education units. An actual hands-on training center is owned and operated by FOWA near Lake Alfred, Florida. Another of the vital elements of its Model Framework, NOWRA contends that "Licensing/certification of all practitioners is the fundamental link to maintain high standards of competence and conduct. Continuing education is a central tenet...for licensing and certification programs."

One of the FOWA's goals, in line with the NOWRA Model Framework, is to develop standards of OWTS management. NOWRA's model calls for a govern-

mental regulatory agency to develop standards of OWTS management. NOWRA's model calls for a governmental regulatory agency to have continuous oversight of the performance of all OWTS. Management of an OWTS must be provided by the system's owner. Upon surveillance and documentation of performance by said regulatory agency, a renewable operating permit would be issued to the responsible party (i.e. owner) [4].

A more manageable plan might be for specifically trained and sanctioned private contractors to conduct the direct inspection, permitting and reporting duties called for—ultimately overseen by DOH. Onsite systems across the state could be required to obtain a new "DOH certified system" designation, a statewide renewable operating permit granted by licensed private inspection professionals, following acceptable performance evaluations at set intervals (i.e., every two to three years). DOH could ensure compliance and administer enforcement by conducting spot checks randomly. The renewable operating permit, documented and filed with DOH, could be required to be current before granting transfers of title/property, rezoning, estate settlements, or other legal proceedings under the jurisdiction of and requiring state and/or county documentation and recording.

Whatever form these standards take for management of Florida's OWTS infrastructure, they must be economically and logistically feasible, accountable, and sustainable.

Section 3: Relationship Building

As noted earlier, there are disparate interests across Florida concerning environmental issues and, in particular, water recycling. It is clear that all con-

cerned could benefit from a level playing field, where one framework is established that applies fairly and equitably. Sustainability of the state's existing and future economic and environmental assets should drive this framework of fairness.

Doublespeak, double standards, double jeopardy.

Florida Statutes title XXIX, chapter 381.0065, begins as follows:

"It is the intent of the Legislature that where a publicly owned or investor-owned sewerage system is not available, the department (DOH) shall issue permits for the construction, installation, modification, abandonment, or repair of onsite sewage treatment and disposal systems."

Chapter 381.00655 follows:

"Connection of existing onsite sewage treatment and disposal systems to central sewerage system; requirements. (1)(a) The owner of a properly functioning onsite sewage treatment and disposal system... must connect the system of the building's plumbing to an available publicly owned or investor-owned sewerage system within 365 days after written notification that the system is available for connection."

Therefore, while Florida encourages a properly installed and maintained OWTS, a property owner with a brand new state-of-the-art OWTS could very soon be legally forced to abandon that system in favor of a (mandatory) hookup to an expanding POTW and pay dearly for the "privilege." The statute (381) reads that the POTW notify owners one year in advance of expected completion of centralized collection lines abutting said property. Once available for hookup, states 381, that owner then has exactly 365 days to connect into the POTW collection

lines, complete with accompanying connection fees imposed as the local jurisdictional governmental body sees fit. These “impact fees” vary in amounts across Florida, ranging as high as \$30,000 for water and sewer connections. That same owner then becomes the POTW’s customer, paying for his monthly sewer service. The only costs associated with the new OWTS, after installation expense, would have been routing maintenance.

That’s where the double standard—and much more than double expense—comes in. This same owner has already complied with statutory mandates for the installation of his OWTS. (No more than four OWTS, adhering to strict setback limitations, are permissible per acre in Florida, where public water is available. Where private wells are concerned, no more than two OWTS are allowable per acre. Localized zoning statutes set “no-greater-than” density requirements).

Our owner in this example has obtained all proper OWTS permits from DOH, and paid for the system’s installation. With proper management and maintenance, that system could be expected to function properly for 30 years or more. But, alas, the owner has elected to build his future in the path of “progress.” Sewer expansions are announced. Construction begins the next year. Completion the year following. The comes hookup year for our owner—some “progress.” It’s more like our owner built in the path of poverty.

Certainly, anyone faced with the preceding scenario would feel himself or herself somewhat poorer for the experience—a legislatively mandated experience at that. (Chapter 381 does provide provisions for financial “hardship”: owners who can prove said hardship get to extend their hookup fees over five years worth of interest-free monthly payments).

Fair play for Floridians? Or fair game for fee collectors?

Most citizens remain of the belief that their government exists to protect property values and standards of living. This is certainly not the case when it comes to Chapter 381. Though contention can be made against mandatory POTW hookups in general, even where existing centralized systems exist, they most troublesome aspect of the 381 is the hookup to a future centralized collection expansion. Local governments and investor-owned utilities have come to relish and rely on these “legislated” income sources. Annexation attempts—and POTW utility expansions—are in the news daily across Florida. What fiscally aware and budget-conscious official wouldn’t grasp at such a generous source of income potential? The thinking goes as follows: One hundred new homes in that sewered subdivision, times \$10,000 hookup fees per home, plus ongoing (i.e. never-ending) monthly service rate of \$100 a month. That’s \$2.2 million over ten years, and none of it includes ad-valorem taxes (i.e. \$2.2 million into the county/city coffers, with no tax increase).

The above example is not a fictitious fable. A proposed 2003 town ordinance in Florida calls for creation of a wastewater utility district extending up to five miles beyond the corporate limits of the municipality, requiring customer in that area to connect within 180 days of when it becomes available [5]. The problem here is not development, POTW systems, impact fees, or local government and the utility systems they own/operate. A sustainable Florida for the future must include functional and increasingly efficient POTW and OWTS. We have already examined the expense of maintaining existing POTW infrastructure, let alone constructing and maintaining new systems brought online. The problem with Florida’s legislation as it exists now in regards to

mandatory POTW connections is the double standard language we have examined. The statute creates the potential for Florida’s citizens to suffer the double whammy of paying twice for the same intent: recycling our precious water resources in an ecologically sound and sustainable manner.

The Message

Perhaps our language is skewed, because our perceptions, as we discussed in Section 1 of this paper. Somewhere along the line the message became garbled. Or perhaps, given the advantages to development interests and municipal government budget coffers, we deceived ourselves that somehow centralized systems are superior and more acceptable compared to onsite systems. EPA has certainly recognized this, as we again refer to its latest Report to Congress, citing as the main barriers towards implementing more effective onsite programs:

- lack of knowledge and public misperceptions that centralized sewage treatment plants perform better, protect property values and are more acceptable than decentralized systems;
- legislative and regulatory constraints and prescriptive requirements that discourage local jurisdictions from developing or implementing effective management and oversight functions;
- splitting of regulatory authority, which limits the evaluation of alternatives;
- liability laws that discourage innovation...in designing innovative, effective, low-cost systems; and
- other financial or institutional barriers that prevent communities from accessing funds, considering alternative wastewater treatment entities that span jurisdictions of

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multiple agencies [9].

The message needs to be turned around. Instead of clamoring to expand centralized utility systems, local jurisdictional leaders should be champions of “Florida’s economically sustainable and ecologically sound future, utilizing the nation’s leading onsite treatment technologies and management, in concert with progressive centralized treatment systems.” We cannot emphasize EPA’s current stance strongly and loudly enough:

“Adequately management decentralized systems are a cost-effective and long-term option for meeting public health and water quality goals. Properly managed onsite systems offer several advantages over centralized wastewater treatment facilities. Onsite systems can protect public health and the environment and can lower capital and maintenance costs.”

A balance must be maintained in the ratio between waters recycled through onsite and centralized systems. Any further “lean” of that ratio towards the centralized system will simply not be sustainable for our future. Floridians of every social, economic, and political persuasion need to get this message through their heads: we’re going to have to scramble to scrape together every available penny to maintain and retrofit the state’s existing centralized water/wastewater infrastructure. If we continue to demand expansion of those systems, there simply will not be enough money to go around. Seeking to subsidize such a losing proposition with the hard-earned dollars of the 31 percent of Florida’s population already served by modern and efficient onsite water recycling? That’s simply not sustainable. In fact, it’s outright unacceptable.

Conclusions (with a call to action)

FOWA will do its part to help lead this effort towards creating the most efficient, cost-effective, environmentally-safe and sustainable wastewater treatment and water recycling choices. The prioritized three-year action plan of FOWA includes the following goal:

- continuing to advance the professionalism of the onsite wastewater industry statewide,
- continuing to communicate the economic and sustainability benefits of OWTS in Florida,
- developing the OWTS standards for compliance certifications and renewable operating permits, and
- providing education, developing communication channels, and lobbying political support to eliminate the bias against free choice and potential economic hardships currently dictate by Florida Statute 381.

Where allowable, building densities exist—or can be planned—within master communities and/or subdivisions, developers utilizing OWTS can gain the position of being the cost-cutting, nature-loving, environmentally friendly builders, improving Florida’s water recycling efforts and ecology, while saving their customers money. Instead of a legacy of annexation and utility expansions, Florida’s politicians who embrace the pro-choice stance for OWTS can point to a record of cost savings for citizens (i.e., voters), while diminishing future large-scale ecological dangers and liability from potential SSOs. Knowing there is a sustainable economic future in store, educators, students, scientists and engineers can exert influence and brainpower towards developing yet more efficient generations of onsite treatment technologies.

They can expand the existing universe of site evaluations, with the correct environmental conditions where OWTS may be the innovative alternative.

Florida residents and homeowners can know that their choice of an WOTS is a sound option, environmentally and economically. The option carries responsibilities to understand and ensure proper operation, management and maintenance of that system. OWTS owners can be assured of keeping their systems operating at optimal performance for decades of service, via regular inspection and certification from a trained, licensed environmental professional the public can hold in trust. That same owner also needs to live with the peace of knowing that he/she will not be forced to pay premiums to connect to a future centralized collection expansion.

Finally, the centralized utilities themselves can adapt their collect mindset from the expansionist mode. The final paragraph of 381 reads: “A publicly owned or investor-owned sewerage system may, with the approval of DOH, waive the requirement of mandatory onsite sewage disposal connection if it determines that such connection is not required in the public interest due to public health considerations.” More and more Floridians—influential economic leaders and average homeowners alike—will be calling that phrase to the attention of policymakers. After all, the “owners” of these POTWs are you and I, the taxpaying public. •

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Maryland

Legislative Initiative Introduced to Advance Industry Professionalism

During the early months of 2005, MOWPA also address major changes needed to Maryland's regulations regarding education and training of industry professionals, creating a certification program, requiring that septic systems have service contracts and be inspected and deemed to be in compliance during and at the time of property transfers.

At the request of the Maryland Onsite Wastewater Professionals Association

(MOWPA), Senator John Giannetti introduced Senate Bill 996. The primary purpose of this proposed legislation is to strengthen the work of the Chesapeake Restoration Fund by establishing higher professional standards for the onsite industry. This type of legislation, when enacted, is another major step in the overall goal to address and reduce nitrogen contributions to the Chesapeake Bay. Equally important is the message being conveyed in this effort — that the onsite

industry wants to ensure that the highest professional standards are in place for industry practitioners involved in the work of regulating, designing, replacing, installing, servicing and inspecting the systems within the State of Maryland.

In MOWPA's letter to Senator Paula Hollinger, Chairperson of the Senate Environmental Matters Committee, it was emphasized the initiators of this legislation originated from the Maryland Association, the affiliated state group of the National Onsite Wastewater Recycling Association, who's headquarters are located Edgewater, MD. Both of these organizations represent the interests of the practitioners involved in this work, and are committed to raising the professional standards of the industry. Maryland is part of a national program of regulatory reform being conducted throughout the states, that was adopted NOWRA September 2004.

NOWRA Executive Director, Linda Hanifin Bonner reported that Senator Giannetti and his legislative staff produced an excellent model of regulatory reform that MOWPA strongly urged should be supported by all Maryland senators. However, before this document could be addressed by other committee members, the bill was withdrawn due to objections from representatives of the Maryland Realtors Association, William Castelli, and their lobbyist, Joel Rozner. Specifically, their objections focused on the perception of negative financial impact to sellers, particularly in lower

Key points in the proposed legislation were:

1. Establishing professional competency procedures of all onsite industry practitioners – through state registration with the MD Department of the Environment at a rate of \$150.00 for a three year period - including, but not limited to, installers, inspectors, equipment and service providers, pumpers, designers/engineers and regulators.
2. Establishing requirements for education and training courses to secure the initial registration, and continuing education requirements for 3 year registration renewals (provided by sanctioned educational entities not affiliated with the MDE)
3. Establishing procedures that integrates existing licensing of professional services within the onsite industry with the new registration program – including, but not limited to, installers, inspectors, equipment and service providers, pumpers, designers/engineers and regulators.
4. Establishing requirement for the use of performance management procedures, for onsite systems installed after 2006, as defined in the NOWRA Model Performance Code Report
5. Establishing requirements for owners of onsite systems to be provided with education and information materials on the use of their system as well as operating manuals and 3-5 year service and management contracts to be issued from installers and service
6. Establishing requirements for point of sale inspections to be completed by registered and/or certified inspectors (through a professional organization) prior to the transfer of property between owners.

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income areas with older systems during inspection of systems at property transfer and the requirement to transfer service and maintenance contract beyond the 3-year period of ownership.

MOWPA reinforced in a message to the State of Maryland officials, the following key points and advantages of this proposed legislation.

- MDE does not have to provide staff for inspections: this service should be done by private sector, who are or will be certified and licensed under MD agency. Government should not, or be required, to provide education and training programs for the certification of industry practitioners. When government is involved in this practice, these actions represent a direct legal conflict of interest with respect to regulation and enforcement responsibilities of public officials. Private industry has already established practitioner education, training and certification programs to comply with industry standards that can be conducted for this purpose, that are adaptable to State certification requirements, and can be provided under the State's direction.
- Licensing procedures already exist within the state — relative to the MD State Board of Sanitarians, professional engineers, architects and others. This process should increase revenues to the state, not negatively affect them, and can be easily assimilated into current programs.
- Inspection procedures of property prior to completing a sales contract already exists for numerous structural conditions of houses and building during sales and transfers — termite, roofs, electrical and

wells, etc. Septic and onsite systems are legally considered a part of the property's infrastructure structure that conveys with the deed during transfer of ownership. The wastewater system via septic and onsite treatment represents an important owner investment to the infrastructure system that not only provide needed services, but adds value to the property, as well as attributing to water quality factors. To convey property without inspection and correction of malfunctioning or replacing failing systems legally places sellers in a legal jeopardy; it directly impacts the fiscal value of the property being conveyed; it also jeopardizes the ability of owners to sell, for potential buyers to obtain financing, and may well in fact be a direct violation of water quality regulations.

- Inspection of septic and onsite systems should be conducted by a certified, licensed practitioner, not by a "homeowner" inspector, pumper or service provider who has not completed specific education and training requirements. They very different entities.
- The onsite industry is working with the national financial associations to make property inspections, corrections to system malfunctions, replacement of failing systems, the requirement of service contracts all a requirement or conditions to be made prior to issuance of financing for property ownership.
- Performance requirements of onsite systems needs to be addressed, particularly with the installation of newer or replacement systems.

Specifically, with respect to the realtors association concerns regarding the requirement of a comprehensive inspection of septic systems at the peri-

od of property transfer, MOWPA pointed out that currently 5 counties within the state of Maryland are currently performing this service.

The importance of this proposal legislation is far reaching. The state of Maryland in its goal to support the Chesapeake Bay Foundation in actions to reduce nitrogen into the waterways, is significantly lacking in the legislative requirements to make this significant financial investment a success. As an example, the Virginia Legislature has already enacted regulations giving the counties and local jurisdictions the ability to issue civil citations and fines for owners who's systems are found to be out of compliance, or not receiving adequate service and maintenance. They have also required that all inspectors be certified and require continuing education to maintain that certification.

Similarly, the state of New Jersey is also far advanced in its legislative actions to protect estuarine waters from nitrogen; as are the States of Massachusetts, New Hampshire, Pennsylvania and Ohio. Maryland needs to not only catch up, but also assume a leadership role — there is no other state receiving as much federal funding for the purpose or the Chesapeake Bay, as is MD. It is believed that if these efforts are not supported, future funding of resources to achieve these goals may well be compromised.

Defeat is not an option! A new action plan is underway, and MOWPA and NOWRA will begin this summer to organize a new legislative effort for a major change in Maryland's regulations. Senator Giannetti, and his legislative staff is recognized for their support in this work, and MOWPA will look forward to a continued working relationship on these issues. •

Minnesota

City of Rutledge, MN and North American Wetland Engineering Recognized at USDA 2005 Earth Day Project Awards

Forest Lake, Minnesota (May 2005)—The Rural Development/Rural Utilities Service arm of the United States Department of Agriculture (USDA) recently announced that the City of Rutledge, Minnesota wastewater project had been designated as a 2005 Earth Day Project in Minnesota. The Rutledge wastewater project is the only wastewater project in Minnesota to earn the highly coveted Earth Day Project designation this year. North American Wetland Engineering LLC (NAWE) of Forest Lake, Minnesota was also recognized by state and national Rural Development representatives for their eco-engineering work on this project.

Rutledge is a community in East Central Minnesota with a population of approximately 200. Currently homeowners operate individual onsite systems, many of which are failing. The city has been working to get a community system for five years. After making limited progress, they engaged NAWE in the process last year because of NAWE's experience and reputation with small communities. It was this experience that resulted in the project receiving funding through the USDA Rural Development program.

Reflecting their commitment to small communities, NAWE-designed projects have been the recipients of three Earth Day funding awards by USDA Rural Development in Minnesota and Wisconsin over the last two years. In 2004, the City of Prinsburg wastewater project was recognized as the Minnesota Earth Day project by USDA and the St. Croix Chippewa wastewater project were selected as the Wisconsin

Earth Day project. Both of these projects are now in construction. The Earth Day project designation recognizes major ecological achievements and provides necessary grant and loan funding to facilitate construction of the project.

"We are extremely proud to be a part of the City of Rutledge project and the Earth Day Project recognition that they have received," says Curt Sparks, President of NAWE. "Small cities and towns are struggling to protect the environment and the health of their communities while encouraging economic growth through planned development. Rutledge, with their community wastewater system design, is at the forefront of the solution to this dilemma."

Planned community development is a "smart growth" concept that works for small communities because it places homes in wastewater treatment clusters that can be easily served by wastewater treatment. Community wastewater systems using constructed wetlands, like the one designed for the City of Rutledge, also allow for environmental preservation and improved wastewater system management. North American Wetland Engineering is known for bringing ecologically sound wastewater technology to towns and small communities, which are outside the boundaries of centralized sewage treatment.

In their remarks, USDA personnel stated that NAWE's engineered wetland approach to community wastewater management is an economical alternative for small communities. The City of Rutledge wastewater project

includes a gravity sewer collection system, a constructed wetland treatment system, and a drip irrigation field for disposal of treated wastewater. Constructed wetlands were chosen for the project based on the fact that the wetlands are simple to operate, a cost effective alternative for small cities, and are environmentally friendly. The project will begin installation late in 2005 following completion of final design documents by NAWE. Completion of the project will occur in 2006.

Engineered wetlands are an eco-engineering technology that are used worldwide and continue to gain acceptance throughout the US and Canada. NAWE is committed to using ecological technologies that balance the needs of development and the environment.

NAWE engineers participate in some of the most important environmental engineering projects around the globe. These include the restoration of the Mesopotamian Marshes in Iraq, protection of the Meso-American Reef in Mexico, and restoration of the Yarqon River in Israel, and discussions regarding the restoration of the Mesopotamian Marshes in Iraq. Closer to home, NAWE engineers are leaders in developing innovative, cost-effective wastewater solutions for small communities and residential developments.

For more information, contact North American Wetland Engineering LLC, 20 North Lake Street, Suite 210, Forest Lake Minnesota, 55025, 651-255-5050 (office), 651-255-5060 (fax), www.nawe-pa.com •

SJE Rhombus Hosts the 2nd Annual Panel Training School

SJE-Rhombus hosted 21 installers, distributors and representatives for the second annual Panel Training School, an educational course on control panel operation. The Panel Training School was held at the SJE-Rhombus facilities in Detroit Lakes, Minnesota.

Attendees began with a tour of the SJE-Rhombus production facilities, followed by two days of in-depth panel training. Topics covered included: theory of panel operation, troubleshooting, component review, and SJE-Rhombus Build-A-Panel™ panel model review (including the new Installer Friendly Series™ panels). Attendees also received first hand experience at control panel assembly with a hands-on panel building session where they assembled Model 122 control panels.

Sound interesting? SJE-Rhombus will be offering a 2006 session of the Panel Training School. Details are not yet finalized, but class size is limited. If you are interested in attending, please contact Jen Oemichen at 218-847-1317, ext. 363 to reserve your space. You can learn more about the Panel Training School (including additional photos) on-line under the press release section at www.sjerrhombus.com.

Infiltrator® Systems Introduces the Most Advanced Chamber in the Onsite Industry

With regulations getting tighter and quality building sites becoming scarce, more advanced, forward thinking product innovations are being demanded by our industry. Infiltrator Systems Inc. is proud to continue our commitment to research and design and manufacturing of advanced onsite chamber technology that answers the demand for technology and meets tough applications challenges. To this end, the company introduced the new Quick4™ Standard and the Quick4™ Equalizer® 36 Chambers in 2005.

The Quick 4 products represent a dramatic evolution in the advancement of the onsite industry. They provide optimal design, installation, and inspection flexibility through a unique contouring capability, a four-foot length and a multiple port end cap. They are ideal for curved and straight systems and for all leachfield applications.

This combination of leading edge design and enhanced performance features could only come out of Infiltrator Systems' long-term expertise in onsite wastewater technology. Until now, the features of the Quick4 Standard and Quick4 Equalizer 36 chambers have not been available in one product.

The Contour Swivel Connection™ allows the Quick4 Chamber System to easily follow contours or form an "S"

curve, avoiding obstacles during installation without additional parts or accessories. The 10- to 15-degree right or left turning capability gives designers greater system design flexibility.

The shorter four-foot length of both models provides greater design and installation options and their compact nesting makes transportation easier and more efficient.

The MultiPort™ End Cap design has molded-in inlets/outlets that allow piping to enter or exit the system in any direction. The molded-in, tear out tabs assure a tight fit to the pipe to assure proper performance. The end cap can also be used on either end of the chamber or trench.

Quick4 Standard and Quick4 Equalizer 36 chambers have exceptional structural strength. Structural tests, as certified by independent professional engineers, show that Quick4 Chambers withstand 16,000 lb/axle with only 6 inches of cover.

The Quick4 Standard and Quick4 Equalizer 36 Chambers are the latest in the extensive line of plastic leaching chambers from Infiltrator Systems, Inc. For more information call 1-800-221-4436 or visit us on the web at www.infiltratorsystems.com

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BOB VILA'S HOME AGAIN TO FEATURE ONSITE SYSTEMS FOR AFFORDABLE HOUSING PROJECT

Segment will Air the Week of
July 18, 2005

Bob Vila's Home Again, the nationally syndicated home building and improvement show will feature the construction of a new onsite system utilizing Infiltrator® septic leaching chambers in a segment scheduled to air the week of July 18th. In the featured project, Bob works with a Cape Cod developer to apply Massachusetts' land use statute 40B to create affordable housing in a neighborhood of homes in Mashpee, Massachusetts. These Energy Star certified homes show how professional building practices and reasonably

priced, quality products, can work together to provide livable, affordable homes and neighborhoods.

Infiltrator Systems, Inc. provided product and design and installation expertise for construction of the onsite system for the 12 River Road home at the Mashpee project. ISI chambers were chosen for their ability to work on the small site, their high performance, and their competitive market price. ISI chambers are approved for general use by the Massachusetts DEP when the chambers are installed at 60% of the size of a traditional gravel absorption trench. Bob Vila interviewed NOWRA board member Carl Thompson, ISI's

Assistant Vice President of Marketing and Government Affairs. Carl explained on camera the benefits of onsite systems and chamber absorption systems over traditional stone and pipe systems.

Information on the project and specific air times can be found at www.bobvila.com. Infiltrator product and company information can also be viewed at the Bob Vila website and at www.infiltratorsystems.com. Infiltrator Systems Inc. is based in Old Saybrook, Connecticut and has manufacturing facilities in Utah and Kentucky. •

NOWRA APPLICATION FOR 2006/2008 BOARD OF DIRECTOR POSITIONS

In 2005, there are 5 positions on the NOWRA Board of Directors to be filled in the October elections. The position categories include: regulator, service provider, manufacturer, designer/engineer, and academic. State groups and individuals are encouraged to apply for serving in this role. Directors and officers who serve in these positions, do so on a voluntary basis, and are not financially compensated for this work.

Expectations/Roles & Responsibilities of NOWRA Board members.

- Participating in 4 meetings (that includes a 2-day strategic planning session)
- Serving as an active liaison and mentor with state groups on topics
- Contributing your time in a leadership role on committees and special task groups when requested
- Providing guidance and direction to the NOWRA Board on the issues representing your industry sector or organizations positions.

Application Process

Potential candidates should prepare a letter to the NOWRA Nominations Committee c/o Executive Director. The letter should include:

- a statement of your desire to be considered for one of the positions within a specific category, and understanding of the commitment to fulfilling the expectations, roles and responsibilities as a member of the Board of Directors,
- your current employment, professional title, and position,• number of years of work or affiliation within the onsite industry, and relevant expertise and/or credentials.

In addition, please provide a brief statement that answers the following questions.

- Any specific area of interest you desire to work with the NOWRA Board on industry issues and how you will make a contribution
- Why you are willing to serve on NOWRA's Board as a leader in the onsite industry
- Your perspectives on the directions that NOWRA as an organization should consider in order to increase its leadership role in the industry
- What are the critical issues that NOWRA's should be addressing on behalf of its industry members

Send this information by August 1, 2005 to NOWRA's Executive Director,

Linda Hanifin Bonner, either by mail (PO Box 1270, Edgewater, MD 21037) or email: lhbonner@hanifin.com



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