

# ONSITE ADVOCATE

## President's Pen

Another six months have passed since we last visited and how time flies when you are busy. And at times "busy" is an understatement. All this activity in the second half of the year began with the grand opening of the new training center. On July 24, the University of Tennessee hosted a kick-off party for the new Center for Decentralized Wastewater Management and more than 100 came to see what all the commotion was about. The event began with a presentation by the center's director, Dr. John Buchanan, and welcoming remarks by representatives from all of the major stakeholders (i.e., U.T., TVA, TDEC-GWP, TOWA and EPA). The program then continued outside with a walking tour of all of the system exhibits currently installed in the field. As the gallery of photos inside this issue shows, the event was a tremendous success. We look forward to many more successful events at the training center. The groundwork is in

*Tennessee Onsite  
Wastewater Association  
Formed in 1997,  
the Tennessee Onsite  
Wastewater Association is a  
professional organization  
open to those working to  
advance and promote the  
onsite wastewater industry in  
Tennessee.*

place for the center to make a real difference in on-site wastewater in Tennessee.

One of these differences is training people across the state in new technologies. In August, the center hosted a training seminar in Knoxville on drip disposal design. This was the second such workshop the center has held in various locations all across the state. About 25 people attended this event and brought the total to 45-50 engineers, designers, regulators, installers and soil scientists that the center has educated about this emerging technology this year.

In addition to training, Dr. Buchanan is also working to obtain grant money for research projects in the state. He has already applied for another EPA 319 grant that will focus on evaluating and demonstrating techniques for restoring failed on-site wastewater treatment systems. TOWA has again pledged their support with a commitment of \$42,000 worth of in-kind services to this proposed endeavor. Additional support has been committed by TVA and TDEC-GWP in the form of \$82,000 and \$45,000 (\$20,000 of which to be in the form of in-kind services), respectively. Dr. Buchanan expects to hear about the status of his application this coming spring.

Organizing and planning for the NOWRA conference really kicked into gear during the late summer and early fall months. During the first week of November, Tennessee welcomed the entire nation to the 12<sup>th</sup> Annual NOWRA Conference



Brian Corwin, President of TOWA

and Exhibit. Held at the Cool Springs Marriott and Convention Center in Franklin, TN, it was a great opportunity to showcase beautiful Middle Tennessee and the Music City area. In addition to the many educational sessions and exhibits, conference attendees were treated to two technical tours that highlighted the new training center as well as several functioning on-site systems in the area. TOWA was also able to extend a little southern hospitality by hosting a state leader's reception one evening. It was a great time to network and meet other leaders in this industry from all across the nation. By all accounts the entire conference was an enormous success. This year broke records in both the number of attendees and the number of exhibitors. I would like to express a special thanks to Leanne Whitehead for all of her hard work as co-chair of the conference; to Dr. Buchanan and his staff for the great TOWA/CDWM display board for our exhibit booth, and; to the many volunteers who contributed their time and energies to help

make the show a success. (See the gallery of photos inside this edition.)

Speaking of conferences, planning is well underway for TOWA's 7<sup>th</sup> Annual Conference & Exhibit. As president-elect, Louan Tillman is chairing this year's show, which again will be held in Spring Hill February 16-17, 2004. In addition to technical sessions and exhibits, attendees will have an opportunity to tour the new training center to see all of the hard work that has taken place to date. Please highlight these days on your calendar since this will be the only announcement you will receive. Registration and conference information can be found in this newsletter.

A few other miscellaneous items of interest:

- The CDWM has a new web site at <http://onsite.tennessee.edu>. There is a TOWA section where visitors can view past editions of our newsletter and minutes from our board meetings, among other things.
- NOWRA also has a new web site: [www.nowra.org](http://www.nowra.org). Sections will be provided for each state affiliate and hopefully TOWA will soon be able to develop a section here.
- A new septic tank association recently formed in Tennessee. I would like to welcome the Tennessee Septic Tank Association (TSTA) and hope we can work together to advance and promote the on-site wastewater industry in Tennessee.

Since this is my last issue as President of TOWA, I would like to thank the board of directors and other members for their time and advice throughout the year. It has been a very productive year and we have achieved a lot. I would especially like to thank Tonia Pass at TAUD for all of her work in putting together our newsletters. This is the third issue in the last year and they look great. Thanks also to Jim McClain for securing advertisers for our newsletter. Without the support of those companies these newsletters would not exist. Please show your support of them. Finally, I will pass the torch to the very capable hands of Louan Tillman. Louan works for ADS and has been a TOWA member for many years, previously serving on the board of directors. She is an extremely energetic person and will serve the membership well. I hope to see all of you at our conference in February.

**Brian K. Corwin**  
**TOWA President**

(Brian can be reached at 615-790-5751  
or at [brianc@williamson-tn.org](mailto:brianc@williamson-tn.org).)

## 2004 TOWA Board of Directors

<b>Brian Corwin</b> President <i>Williamson Co. Dept. of Sewage Disposal Management</i>	<b>Louan Tillman</b> President-Elect <i>Advanced Drainage Systems, Inc.</i>
<b>John Gibi</b> Past-President <i>Gibi Soil Consulting</i>	<b>Leanne Whitehead</b> Secretary <i>Tennessee Valley Authority</i>
<b>Jim McClain</b> Treasurer <i>W.M. McClain Co., Inc.</i>	<b>Bill Pickney</b> Director Representing Installers <i>ONSITE</i>
<b>Larry Vaden</b> Director Representing Pumpers <i>Music City Septic/Grease Pumping</i>	<b>Dr. Steve Monteith</b> Director Representing Soil Scientists <i>Monteith Soil Services</i>
<b>Tommy Jarrett</b> Director Representing Manufacturers <i>Jarrett Concrete Products</i>	<b>Gary Ferguson</b> Director Representing Regulators <i>Blount Co. Health Department</i>
<b>Gregg Clingerman</b> Director Representing Engineers <i>Alley &amp; Associates, Inc.</i>	<b>Roger Seay</b> At-Large Director, East <i>R&amp;S Construction</i>
<b>Tim Burden</b> At-Large Director, Middle <i>B&amp;B Concrete Products, Inc.</i>	<b>Earle Beaty</b> At-Large Director, West <i>B&amp;D Gravel Co.</i>
<b>Dr. Roland Mote</b> Director Representing Academia <i>University of Tennessee-Knoxville</i>	

*The ONSITE ADVOCATE is published semi-annually by the Tennessee Association of Utility Districts. For more information, please call (615) 896-9022.*

 **HYDROMATIC®**  
Pentair Pump Group

**The highest quality name in sump, effluent and sewage pumps for over 40 years.**

**Contact the William McClain Company in Nashville, TN  
615-226-9601**



**[www.hydromatic.com](http://www.hydromatic.com)**

**T**ennessee  
**O**nsite  
**W**astewater  
**A**ssociation



Formed in 1997, The Tennessee Onsite Wastewater Association (TOWA) is a professional organization open to those working to advance and promote the onsite wastewater industry in Tennessee.

TOWA serves all members of the industry, including installers, manufacturers, field practitioners, suppliers, engineers, soil scientists, distributors, research professionals, educators, consultants and governmental regulatory personnel. We want you to be part of this Association!

Each year, TOWA sponsors an Annual Conference to bring onsite professionals in Tennessee

together to discuss issues relevant to the onsite industry in our state. Combining classroom presentations with an Exhibit Hall gives onsite professionals a chance to see and hear about the latest in onsite technologies and products.

**What We Do...**

- Establish uniform performance standards for design, installation, & servicing of onsite systems;
- Promote the need for regular service & maintenance of onsite systems;
- Communicate information among members as well as to other organizations,

agencies & individuals concerned with onsite sewage disposal;

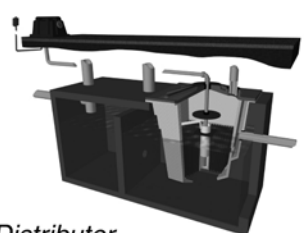
- Collect & disseminate statistics, studies & other facts affecting the onsite industry;
- Educate the general public concerning the value of recycling wastewater, & the need for properly maintained onsite sewage disposal systems;
- Assist in the development of sound ecological practices; and
- Expand the public's awareness of the important economic contributions of onsite systems in Tennessee.

*Join Today and Be a Part of This Active & Growing Onsite Association*

**Better Water...FAST®**

FAST® wastewater treatment systems provide superior treatment for:

- High Strength Waste
- Commercial Properties (restaurants, schools, trailer parks and others).



*Distributor Inquiries Welcome!*

**FAST® Advantages:**

- Robust aerobic process handles even the toughest applications.
- Pretreatment or complete treatment in a pre-engineered, modular design.

**Proven, reliable, affordable...FAST®**



Bio-Microbics, Inc. • Toll Free: (800)753-FAST • Fax: (913) 422-0808  
E-mail: onsite@biomicrobics.com • www.biomicrobics.com

**How Can You Join TOWA?**

Membership Fees: Price:

- Certified Installers, Licensed Septic Tank Pumpers, Engineers, Soil Scientists, & Consultants \$ 50
- Academicians, Regulators, & Research Professionals \$ 35
- Associate & Non-voting Members \$ 35

Total: \_\_\_\_\_

Company: \_\_\_\_\_  
 Name: \_\_\_\_\_ Title: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ St: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone: ( ) \_\_\_\_\_ - \_\_\_\_\_ Fax: ( ) \_\_\_\_\_ - \_\_\_\_\_

Please make checks payable to:  
 TOWA  
 P.O. Box 292983  
 Nashville, TN 37229-2983

**TOWA**

*Working together through the Onsite Wastewater Industry to protect our natural resources in Tennessee*



## TENNESSEE ON-SITE WASTEWATER ASSOCIATION

### 2004 ANNUAL CONFERENCE & PRODUCT EXPO

February 16-17, 2004

UAW Local 1853 Union Hall  
125 Town Center Parkway, Spring Hill, Tennessee 37174

#### **Conference program begins Monday,**

#### **February 16, at 1:00 p.m. :**

Technical sessions begin Monday at 1:00 with a presentation on Water Movement in Soils by Dr. Steve Monteith, consulting soil scientist. This will be followed by a discussion of structurally sound, watertight tanks by Michael Stidham of E-Z Set Tank Company and a presentation from the National Federation of Independent Business Member Services group on benefits for small businesses including property and casualty insurance, workers compensation insurance, and discounted business services. Technical sessions on Monday will conclude with Researchable Questions for the Onsite Industry in Tennessee presented by Dr. John Buchanan, Assistant Professor of Biosystems Engineering and Environmental Science at The University of Tennessee and Director of the Center for Decentralized Wastewater Management.

#### **Conference program will continue Tuesday,** **February 17 beginning at 8:30 a.m.**

**\*\*8:30-10:00 session will be a tour of the Center for Decentralized Wastewater Management located at the Middle Tennessee Experiment Station in Spring Hill, TN**

Technical sessions will reconvene at the conference hall at 11:00 with a presentation on determining system health and renovation of a failing system by Tim Frank, a pumper for 20+ years and current president of NOWRA. This will be followed by a luncheon sponsored by TVA. The afternoon sessions will be The Theory and Science of Peat Systems by Martin Hally, President of Bord na Mona Environmental Products and The Design and Permitting of Decentralized Systems in Tennessee presented by Philip Simmons, Manager of the Municipal Facilities Section of Tennessee Division of Water Pollution Control.

***Professional Development Certificates  
will be available.***

***EXHIBIT HALL FEATURED BOTH DAYS !***

#### **Exhibitors:**

If you are interested in exhibiting at the conference

please contact Jim McClain at 615-226-9601 for details. Break sponsorships are still available. Exhibitor set up is scheduled for Monday, February 16<sup>th</sup> 9:00-12:30. Tear down will be at 3:00 Tuesday.

#### **Accommodations:**

A block of rooms has been reserved for TOWA at the Steeplechase Hill Inn & Suites (formally the Holiday Inn Express). The Steeplechase Hill Inn & Suites is located less than ½-mile from the UAW Union Hall. Room rates are \$65 plus tax per night for either two double beds or one king size bed. Complimentary deluxe breakfast is included. **Call 877-486-2234 for reservations.**

#### **Directions:**

To the UAW Union Hall and the Steeplechase Hill Inn & Suites in Spring Hill, TN (from Nashville):

From I-65 South, take Exit 53 (Highway 396 - Saturn Parkway - Spring Hill/Columbia);

Go approximately 4.5 miles to 3<sup>rd</sup> exit (Highway 31 - Spring Hill/Columbia); This exit will immediately split; Take Spring Hill North exit to Highway 31N; Go approximately 0.3 miles on Highway 31N to 1<sup>st</sup> traffic light; Turn left on Stephen P. Yokich Parkway (you will see a Food Lion store and a McDonald's on this corner); UAW Union Hall is on the left directly behind Food Lion; Entrance to banquet hall is to the left of flags; ***(the phone number of the UAW Union Hall is 931-486-0125).***

—To reach the Steeplechase Hill Inn & Suites, go an additional 0.3 miles (approximately) on Highway 31N to Kedron Road (this will be the 2<sup>nd</sup> traffic light on Highway 31); Turn left at traffic light to second drive on right.

#### **Membership and Conference Fees:**

***Special conference fees apply to all new members!*** If you are not already a TOWA member, then conference registration includes a one-year TOWA membership, which also includes membership in NOWRA (the National Onsite Wastewater Recycling Association). For current TOWA members, conference registration also includes dues for next year so you'll have membership through February, 2005. Academicians, regulators, research professionals, and associate members receive a discounted membership rate. Please note fee schedule below:

**\$35.00 new membership only or renewal only**  
*(academicians, regulators, research professionals, associate members)*  
**\$50.00 new membership only or renewal only**  
*(installers, pumpers, engineers, soil scientist & others)*  
**\$50.00 membership renewal & conference registration** *(academicians, regulators, research profes-*

*sionals, assoc. members)*  
**\$65.00 membership renewal & conference registration** *(installers, pumpers, engineers, soil scientists & others)*  
**\$50.00 conference registration & membership dues** *(all new or past members regardless of category)*

**TOWA 2004 ANNUAL CONFERENCE REGISTRATION FORM**

Name: \_\_\_\_\_ Phone: (\_\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_  
 Company name: \_\_\_\_\_ Fax : (\_\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_  
 Address: \_\_\_\_\_ E-mail: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
 Amount enclosed: \$ \_\_\_\_\_  
 Classification (Installer, Associate, Academician, etc.) \_\_\_\_\_

**\*\* CHECKS SHOULD BE MADE PAYABLE TO "TOWA" \*\***

Please send registration form, along with payment, to: TOWA, c/o Jim McClain, 2626 Hart Street, Nashville, TN 37207-4032

***IF YOU HAVE ANY QUESTIONS ABOUT THE CONFERENCE  
 PLEASE CALL LOUAN TILLMAN AT (615)331-8450***

***8th Annual  
 Conference and  
 Product Expo***

**TOWA 2004 Exhibitor's Registration Form  
 February 16-17, 2004  
 UAW Union Hall – Spring Hill, TN**

Name of Company \_\_\_\_\_ Phone: (\_\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_  
 Contact Person \_\_\_\_\_ Fax: (\_\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_  
 Mailing Address \_\_\_\_\_ E-mail address: \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Exhibitor's Badges\* 1) \_\_\_\_\_ 2) \_\_\_\_\_

*\*Two conference registrations are included with each company's registration.  
 Please enclose \$30 per attendee for additional registrants*

**Standard Booth is 8 x 10, with 6' table; includes standard electricity, two chairs,**

**TOWA EXHIBIT FEES FOR 2004 CONFERENCE**

_____ Single Booth space reserved <u>and paid</u> by 1-31-04.	\$450
_____ <i>Each Additional booth paid by 1-31-04</i>	\$300
_____ Single Booth space reserved <u>and paid</u> after 1-31-04	\$500
_____ <i>Each Additional booth paid after 1-31-04</i>	\$400
_____ Sponsorship of a break	\$250

**2004 Conference Setup and location information:**

UAW Local Union Hall – Spring Hill, TN – Phone 931-486-0125  
 Set up time will be from 9:00 am – 12:30 am on 2-16-04  
 Show Hours 2-16-04 are 1:00 am – 5:00 pm  
 2-17-04 are 10:00 am – 3:00 pm

Return completed form and payment to:  
 Jim McClain  
 2626 Hart St  
 Nashville, TN 37207  
 Fax: 615-226-1026  
 E-mail jim@wmmclain.com

## Annual NOWRA Conference a Success!

The state of Tennessee was proud to host the National Onsite Wastewater Recycling Association (NOWRA) annual conference, held November 3-6, at the Franklin Cool Spring Marriott. How do you judge the success of a conference? Here's a few ways:

For the first time, exhibit space was sold out months ahead of time with 90 exhibitors, and, there was a waiting list. There were 10 new exhibitors



this year and several new, large, pieces of equipment shown in the exhibition hall. Over 300 people attended the conference. For

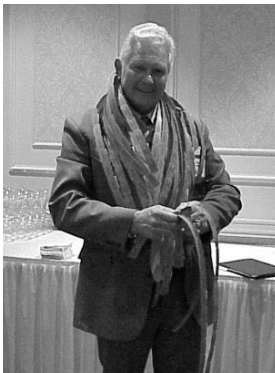
many, this was the first time. From the favorable comments, it won't be

their last.

The golf outing at Legends Golf Course was well attended with 36 players and the weather was beautiful.



The hotel rooms at the Marriott were sold out, with overflow going to various other hotels. Local restaurants enjoyed new business. This generated tax dollars for the area.



For the first time, there was a silent auction with the proceeds going to help support education at our training center. Special



thanks to Greg Clingerman for the Predator's Hockey stick and local items donated by Dr. Buchanan. A VERY SPECIAL item was a basketball signed by U.T.'s Lady Vols Basketball coach, Pat Summit.

Excellent educational sessions and pre-conference workshops. It was the first time the session "CPR for Onsite Systems" was presented and it was well attended.

Current TOWA President, Brian Corwin, and TOWA Secretary, Leanne Whitehead, were acknowledged for their contributions at the awards luncheon.

Based upon comments from the crowd, it was agreed that this was the best conference to date! Many Thanks to all that helped to make this conference so successful!

*By Leanne Whitehead  
Tennessee Valley Authority*

## Missouri Smallflows Organization Conference Scheduled

The Missouri Smallflows Organization (MSO) will be holding their eighth annual conference and exhibition January 20 and 21, 2004 at the Holiday Inn Select, Columbia, Missouri. MSO is a non-profit organization that draws from a wide variety of stakeholders with interests in emerging technology and regulations affecting the treatment, collection and disposal of residential wastewater.

Staff from Missouri Department of Natural Resources will give presentations on several topics including, cost effective sedimentation

and erosion control methods, and geology evaluations for subdivisions. Department staff will also take part in a panel discussion concerning individual on-site financing programs for failing systems.

Keynote speaker, Larry West, Ph.D., University of Georgia will discuss the science involved in getting effluent into the ground. Dave Casaletto, Table Rock Water Quality Group, will provide an update on the EPA funded on-site wastewater system study in Stone County. Other presentations will include on-site system maintenance,

and an overview of CARES, a Web site that uses geological information systems (GIS) for environmental modeling and internet mapping.

More than 30 vendors are expected to be on hand to display the latest technology for the individual on-site and smallflow wastewater industry. For more information about the conference, contact Charles Harwood, MSO President at (573) 751-9155 or David Casaletto, MSO Secretary at (417) 739-4100.

# Tennessee Onsite Wastewater Association Training Center Grand Opening



# Common Onsite Wastewater Treatment Systems

Decentralized wastewater systems are currently in 25% of the homes in the United States and in 33% of new development. These onsite systems can be called various names and can be described with various acronyms such as ATU, and SWIS. Since decentralized wastewater systems make up a large portion of the United States wastewater treatment for individual households it may be good to know what some of the systems are and where and how they are used. The following are some of the more common onsite wastewater systems.

**AEROBIC TREATMENT UNIT (ATU):** A mechanical wastewater unit provides secondary wastewater treatment for a single house, a cluster of homes, or a commercial establishment by mixing air (oxygen) and aerobic and facultative microbes with the wastewater. ATUs typically use a suspended growth process (such as activated sludge-extended aeration and batch reactors), a fixed-film process (similar to a trickling filter), or a combination of the two treatment processes.

**ALTERNATIVE ONSITE TREATMENT SYSTEM:** A wastewater treatment system that includes components different from those typically used in a conventional septic tank and subsurface wastewater infiltration system (SWIS). An alternative system is used to achieve acceptable treatment and dispersal of wastewater where conventional systems either might not be capable of protecting public health and water quality or are inappropriate for properties with shallow soils over ground water or bedrock or soils with low permeability. Examples of components that can be used in alternative systems are sand

filters, aerobic treatment units, disinfection devices, and alternative subsurface infiltration designs such as mounds, gravelless trenches and pressure and drip distribution.

**CENTRALIZED WASTEWATER SYSTEM:** A managed system consisting of collection sewers and a single treatment plant used to collect and treat wastewater from an entire service area. Traditionally, such a system has been called a publicly owned treatment works (POTW) as defined at 40 CFR 122.2

**CLUSTERED SYSTEM:** A wastewater collection and treatment system under some form of common ownership that collects wastewater from two or more dwellings or buildings and conveys it to a treatment and dispersal system located on a suitable site near the dwellings or buildings.

**CONVENTIONAL ONSITE TREATMENT SYSTEM:** A wastewater treatment system consisting of a septic tank and a typical trench or bed subsurface wastewater infiltration system.

**DECENTRALIZED SYSTEM:** An onsite or clustered system used to collect, treat, and disperse or reclaim wastewater from a small community or service area.

**DISPERSAL SYSTEM:** A system that receives pretreated wastewater and releases it into the air, into surface or ground water, or onto or under the land surface. A subsurface wastewater infiltration system is an example of a dispersal system.

**LARGE-CAPACITY SEPTIC SYSTEM:** An onsite method of partially treating and disposing of sanitary wastewater having the capacity to serve 20 or more persons per day subject to EPA's Under-

ground Injection Control regulations.

**ONSITE WASTEWATER TREATMENT SYSTEM (OWTS):** A system relying on natural processes and/or mechanical components to collect, treat, and disperse or reclaim wastewater from a single dwelling or building.

**UNDERGROUND INJECTION WELL:** A constructed system designed to place waste fluids above, into, or below aquifers classified as underground sources of drinking water. As regulated under the Underground Injection Control (UIC) Program of the Safe Drinking Water Act (40 CFR Parts 144 and 146), injection wells are grouped into five classes. Class V includes shallow systems such as cesspools and subsurface wastewater infiltration systems. Subsurface wastewater infiltration systems with the capacity to serve 20 or more people per day, or similar systems receiving non-sanitary wastes, are subject to federal regulation. Class V motor vehicle waste inspection wells and large-capacity cesspools are specifically prohibited under the UIC regulations.

To find out more about decentralized wastewater treatment you can visit the EPA's web site at [www.epa.gov/owm/onsite](http://www.epa.gov/owm/onsite). This site includes a copy of the Draft Management Handbook, fact sheets on technologies, useful links to other sites, a calendar of events, frequently asked questions, sources of funding information on demonstration projects, and numerous reference documents such as EPA's new Onsite Wastewater Treatment Systems Manual.

*By Greg Clingerman  
Alley & Associates, Inc.*





# Tennessee Onsite Wastewater Association

## 2004 TOWA Newsletter Annual Advertising Rates and Schedule

<u>Article Size</u>	<u>Single Issue</u>	<u>Annual (2 Issues)</u>
One half back page ad ( <i>Only 1 space available!</i> )	\$ 500	\$ 450
One full page ad	\$ 375	\$ 338
One half page ad	\$ 250	\$ 225
One quarter page ad	\$ 175	\$ 158

### Deadlines:

Fall issue - Ads submitted by 5-30-04

Spring issue - Ads submitted by 11-30-04

*\*\* All Ads are printed in Black and White. Preference is to receive ads via e-mail in eps or pdf files.*

Please send to: Brian Corwin [brianc@Williamson-tn.org](mailto:brianc@Williamson-tn.org)  
 P.O. Box 292983  
 Nashville, TN 37229

## Odor Control

## The Solution to Odor Problems

We have developed products and procedures to reduce and/or eliminate "Odors and Grease" in sewer lines, lift stations, effluent collection lines, low pressure lines and wastetreatment plants. With the cooperation of International Dioxide (Dupont) we are able to resolve these difficult problems with chemicals or a biological and remain cost effective.

### "System One" for:

- Odor Control in Lift Station
- Grease Control in Lift Stations
- Line Maintenance Services

### "Odor Suppression System" for:

Effluent Collection Lines from  
 STEP, STAG, AND GRINDER  
 PUMPS

The MESS Company LLC  
 1045 Fontaine Drive  
 Goodlettsville, TN 37072

Ofc: 877-592-6676  
 Ofc: 615-851-7855  
 Fax: 615-851-3516  
 Cell: 615-414-8315

Visit our web site for more information on our systems and services offered to municipalities for their need for a cost effective solution to odor and grease control.



[www.themessco.com](http://www.themessco.com)

## Did you know...

### Wastewater and Disease-*Some historical notes*

**1700BC** Ahead of his time by a few thousand years, King Minos of Crete had running water in his bathrooms in his palace at Knossos. Although there is evidence of plumbing and sewerage systems at several ancient sites, including the cloaca maxima (or great sewer) of ancient Rome, their use did not become widespread until modern times.

**1817** A major epidemic of cholera hit Calcutta, India, after a national festival. There is no record of exactly how many people were affected, but there were 10,000 fatalities among British troops there alone. The epidemic then spread to other countries and to the U.S. and Canada in 1832. The governor of New York quarantined the Canadian border in a vain attempt to stop the epidemic. When cholera reached New York City, people were so frightened they either fled or stayed inside, leaving the city streets deserted.

**1854** A London physician, Dr. John Snow, demonstrated that cholera deaths in an area of the city could all be traced to a common public drinking water pump that was contaminated with sewage from a nearby house. Although he couldn't identify the exact cause, he did convince authorities to close the pump.

**1859** The British Parliament

was suspended during the summer because of the stench coming from the Thames. As was the case in many cities at this time, storm sewers carried a combination of sewage, street debris and other wastes, and storm water to the nearest body of water. According to one account, the river began to "seethe and ferment under a burning sun."

**1892** The comma-shaped bacteria that causes cholera was identified by German scientist Robert Koch during an epidemic in Hamburg. His discovery proved the relationship between contaminated water and the disease.

**1939** Sixty people died in an outbreak of typhoid fever at Manteno State Hospital in Illinois. The cause was traced to a sewer line passing too close to the hospital's water supply.

**1940** A valve [that was] accidentally opened caused polluted water from the Genessee River to be pumped into the Rochester, New York, public water supply system. Approximately 35,000 cases of gastroenteritis and six cases of typhoid fever were reported.

**1955** Water containing a large amount of sewage was blamed for overwhelming a water treatment plant and causing an epidemic of hepatitis in Delhi, India.

An estimated 1 million people were infected.

**1961** A worldwide epidemic of cholera began in Indonesia and spread to eastern Asia and India by 1964; Russia, Iran, and Iraq by 1966; Africa by 1970; and Latin America by 1991.

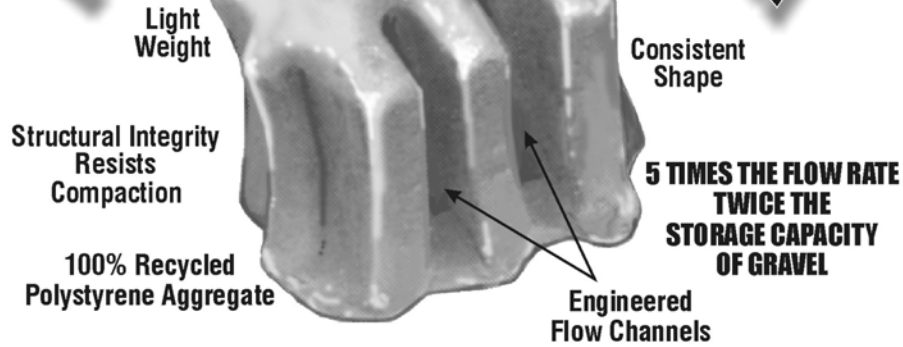
**1968** A four-year epidemic of dysentery began in Central America resulting in more than 500,000 cases and at least 20,000 deaths. Epidemic dysentery is currently a problem in many African nations.

**1993** An outbreak of cryptosporidiosis in Milwaukee, Wisconsin, claimed 104 lives and infected more than 400,000 people, making it the largest recorded outbreak of waterborne disease in the U.S.

Sources: *Pipeline*, Summer 1996; Vol. 7, No. 3; *Plumbing and Mechanical Magazine*; *Environmental Engineering and Sanitation*, 4th ed., by J. Salvato; and *Water and Wastewater Engineering*, vol. 1, Fair, Geyer, and Okun.

*Note: This information was re-printed with permission from the National Small Flows Clearinghouse. Visit their web site at <http://www.nesc.wvu.edu> to view their entire page on wastewater history.*

# THE PERFECT ROCK



*EZflow* Drain systems are designed specifically to replace stone aggregate (gravel) in a variety of applications. The primary advantage is its light-weight, prefabricated assembly which makes installation easier, greatly reduces labor, and ensures high system performance.



The heart of the *EZflow* unit is the patented EPS aggregate. Designed with “flow channels” to allow for a larger flow,

the *EZflow* EPS aggregate surrounds a four-inch perforated, corrugated plastic pipe, and its cylindrical shape is held together by high-strength polyethylene netting. The product is delivered in pre-assembled, easy-to-handle 10-foot sections.



## USE *EZflow* TO REPLACE GRAVEL IN:

- Foundation Drains • Golf Courses • French Drains • Bridge Abutments
- Athletic Fields • Retaining Walls • Farm Fields • Road Underdrains
- Vertical Drains • Perimeter Drains • Interceptor Drains • Septic Drain Fields



TOLL FREE 1-800-649-0253 [www.ezflowlp.com](http://www.ezflowlp.com)

# Training Center Update

The training facility located near Springhill, Tennessee continues to evolve. Since our opening celebration on July 24, additional displays have been constructed. A Puraflo Peat Biofilter, donated by Bord na Mona, has been installed. The Bio-Microbics, Inc. FAST System has been placed at-grade and is ready for demonstration. Advanced Drainage Systems provided samples of chambers and graveless pipe to be demonstrated as alternatives to conventional drainfield systems.

As you know, the National Onsite Wastewater Recycling Association's (NOWRA) annual meeting was held near Franklin, Tennessee during November of 2003. We hosted a tour of the training center for NOWRA attendees. Several of the people who participated in the tour are associated with other onsite wastewater training centers across the USA. These people were complimentary of the layout of the Center's displays and envious of the excellent donations of equipment and services that TOWA members have provided to the training center. I believe that the training center is off to a good start, but we have much more to do.

Now that the major educational displays are in place, I want to start focusing on ways to make the training center more functional for hands-on training.

For example, near the parallel distribution, conventional system, I want to build a bench that hold various distribution boxes and a water source. This display will be used to educate folks about how various manufacturers construct distribution boxes and how challenging it can be to evenly distribute water by gravity. Likewise, I want to build a pump control station that is completely aboveground. The two pump stations that are currently in place are real-world examples, but the small access holes in the top of the tanks make it difficult to show the floats to a large group of students.

Permanent signs are needed to provide educational details about the individual displays and to allow a person to take a self-guided tour of the displays. It has been suggested to use metal signs that are similar to the "real estate for sale" signs. I am hopeful that the TOWA membership can provide signs as part of the continued in-kind support.

The Center for Decentralized Wastewater Management (CDWM) is on the world wide web. Type in the URL "<http://onsite.tennessee.edu>" and check it out. Robert Cook, the Center's Research Associate, is our web master and he has assembled an excellent website. This site is an important tool in our educational efforts. It is a goal that some of our training programs will be

web-based. The TOWA newsletters and a calendar of events are included on the new web page. Also included are quick links to State and local regulatory web sites, a virtual tour of the training center and a directory of the CDWM advisory board members. If you have suggestions or comments about our web page, please drop us a note. Our contact information is given on the front page of the web site.

The CDWM is pleased to announce that Ms. Adrienne Roach has signed-on as a Graduate Research Associate. Adrienne earned a B. S. Degree in Biology (with a minor in Chemistry) from Alabama A&M University and began her program at The University of Tennessee during the 2003 fall semester. She is pursuing an M. S. Degree in Biosystems Engineering Technology with a focus on the public health aspects of decentralized wastewater management systems. Adrienne comes to us with outstanding faculty recommendations from Alabama A&M, and I am certainly pleased that she chose to help us contribute new knowledge to the onsite industry.

Getting our research program started is the Center's next major focus. TOWA members have suggested many projects, and this is a strong indication that there are still many researchable questions that need to be answered. The Center's first pro-

jects will focus on the infiltration of effluent into the soil. There is much discussion about whether field size reductions should be allowed for various types of distribution systems. From the standpoint of hydraulics, conventional gravel-aggregate systems are the standards that alternative systems are compared against. I believe that there is much to be learned about how these different distribution methods can impact the renovation of the wastewater. The Center plans to establish a field laboratory that has all the approved alternative systems installed and each will receive the same effluent. Water samples will be taken at various depths below each distribution method to note whether there are differences in renovation relative to distribution method.

There is a strong interest in drip dispersal systems in Tennessee. This interest has generated many questions about the appropriate application of this technology. Drip lines are installed close to the soil surface, and therefore natural aeration can provide a greater supply of oxygen to the microbes in the soil. By maintaining aerobic conditions, it is expected that there will be a minimal biomat formation. Historically, the research literature has indicated that the biomat is important for pathogen removal. The Center is going to conduct research on drip dispersal systems and explore whether the lack of biomat is significant to the removal of pathogens.

The Center for Decentralized Wastewater Management is partially funded by the products and services donated by the TOWA membership. With your continued support, it is fully expected that we will have a premier training facility and educational programs. I look forward to seeing you at TOWA's Annual Conference in February.

*By Dr. John R. Buchanan, P. E.  
Assistant Professor  
and Center Director*



## Highway Culverts

3" to 48"

- Airport Runway/Parking Lot  
Golf Course Storm Drains

- Industrial Waste Water  
Applications

- Constructed Wetlands
- Landfill Drainage

- Sewer Sludge Compost Pipe

3" to 48"

## SEPTIC SEWER DRAIN PIPES

**Crumpler Plastic Pipe, Inc.**



Post Office Box 2088  
Roseboro, NC 28382

Phone: 910-525-4046

For the Best Quality and Service Call

FAX 910-525-5801

WEB SITE: [www.cpp-pipe.com](http://www.cpp-pipe.com)

**TOLL FREE: 1-800-334-5071**

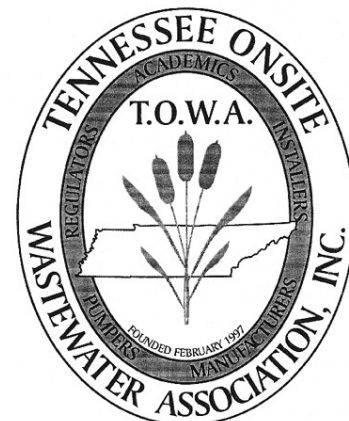
# B&B

## Concrete Products, Inc.

Toll (888)-440-4732 (931)-388-4732

1102 Santa Fe Pike  
Columbia, TN. 38401

P.O. Box 124  
Loretto, TN. 38469



# Biodiffuser™ Leaching Chambers from ADS...

From the company that introduced polyethylene on-site products in 1968. BioDiffuser chambers are **approved for use in the State of Tennessee\***. Call your local ADS Sales Representative for technical assistance and product availability.



**New Angle Chambers**  
Allow left or right angles up to 22° for greater flexibility



www.ads-pipe.com  
800-821-6710



\* Contact your County Sanitarian for local approval status

# JARRETT CONCRETE PRODUCTS & SUPPLY



Manufacturer of water tight septic tanks, grease traps 1000 gallon to 5000 gallon available.

Tom Jarrett 615-792-9332  
2012 Highway 12 South,  
Ashland City, TN 37015

## Tennessee Septic Tank Association

The **TSTA** is a non-profit organization formed to achieve clean water through sound engineering practices that promote structurally solid and water tight concrete septic tanks and to provide quality standards for both design and manufacture of commercial and home sewage treatment plants. Changes that affect all of us involved in the on-site waste water industry are inevitable and we want **YOU** to be involved in the decisions that will directly affect your business. Join the **TSTA** and let your voice be heard. Membership is open to manufacturers, suppliers, installers and maintenance providers. Join today to be **INVOLVED** and **INFORMED**.

Company: \_\_\_\_\_ Address: \_\_\_\_\_

Contact: \_\_\_\_\_ Phone #: \_\_\_\_\_ Fax#: \_\_\_\_\_

Are you a: Manufacturer \_\_\_ Supplier \_\_\_ Installer \_\_\_ Retailer \_\_\_ Maintenance \_\_\_

Membership: Manufacturer/Supplier-\$250.<sup>00</sup> per year; Installer/Maintenance - \$35.<sup>00</sup> per year

Mail to: TSTA, 5233 Plateau Rd., Crossville, TN 38571; 931-277-5122

Meetings are held the 1<sup>st</sup> Wednesday of each month at the Best Western in Lebanon, TN - 2:00 p.m.

# Pump It Up!

**It doesn't always flow downhill.**

**Orenco's ProSTEP™ Effluent Pumping System** provides a *totally integrated and easy to install package* of effluent dosing components. Ideal for use with:

- Sand Filters
- Textile Filters
- Effluent Sewers
- Mounds
- Peat Filters
- Aerobic Units
- Wetlands
- Drip Irrigation
- Pressure Drainfields

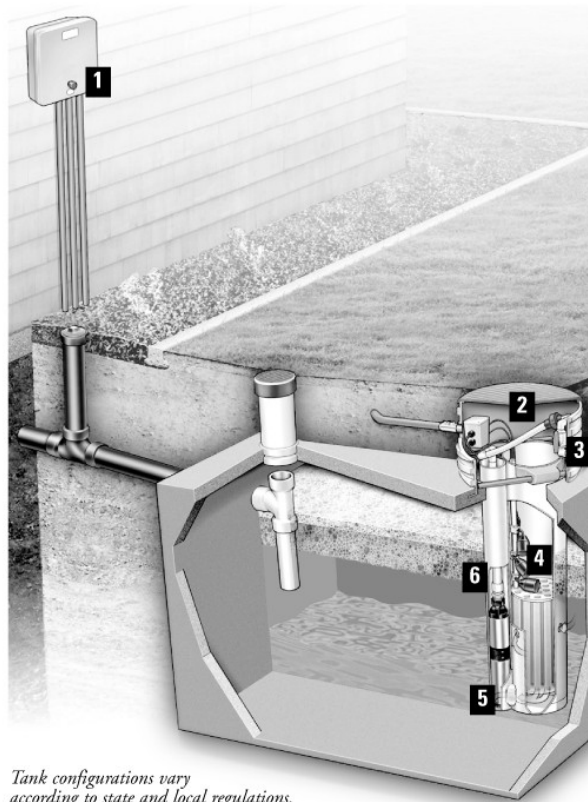
ProSTEP™ Systems are approved and installed all over the state of Tennessee. For sales and service, call **Effluent Collection Supply**.

- More than 100 ProSTEP™ systems are in stock at our warehouse in LaVergne, TN
- Training and Certification available to installers
- Support available to developers and engineers



**1**  
Control Panel

**2**  
Riser, Lid, and Accessories



*Tank configurations vary according to state and local regulations.*



**3**  
Discharge Assembly



**4**  
Level Control Float Assembly



**5**  
Effluent Pump



**6**  
Biotube® Pump Vault\*  
\*covered by patent nos. 5,492,635 and 4,439,323.



**Effluent Collection Supply, LLC**  
615-793-1291



**Orenco Systems**  
Incorporated

**Orenco's ProSTEP™ Effluent Pumping System**  
Call Effluent Collection Supply for brochure.

Tennessee Onsite  
Wastewater Association

P.O. Box 292983  
Nashville, TN 37229-2983



How to...



Install Confidence

Control Panels ■ Alarms ■ Float Switches

**SJE**  
**Rhombus**  
CONTROLS

[www.sjrhombus.com](http://www.sjrhombus.com)



**Do you have confidence in the products you're installing?**

You will, if you use SJE-Rhombus floats, alarms and control panels for your systems. SJE-Rhombus is the **industry leader** in providing **quality** controls for water, wastewater and sewage applications.

With nearly 30 years of experience, SJE-Rhombus offers **tough, reliable** controls with the **ease of installation** that you can depend on to get the job done **right** the first time.

Install confidence in your systems... install SJE-Rhombus controls.

*For more information, contact:*

**Wm. M. McClain Co., Inc.**

Phone: **615-226-9601**

Fax: **615-226-1026**