

## Delaware On-Site Wastewater Recycling Association

### A Message from the President

Greetings to all DOWRA members and associates! Summer has finally arrived and with it comes the craziness which can always be linked with this time of year. It seems like 24 hours isn't enough time to get everything done, but yet we all keep striving to move forward and plug away to meet our goals. With that said I am extremely appreciative of all of the extra effort put forth by the board and members. In only serving 6 months as the President, I can tell you that we have already met numerous goals established at the beginning of the year and I hope the following convinces you that the organization is hard at work on behalf of the membership.

#### Education

At the beginning of the year, the DOWRA board wanted to expand its education means by not only providing educational workshops on up to date technology but also wanted to produce literature and participate at local events. I am proud to say that so far this year that we have accomplished all three!

This year DOWRA has hosted two free educational workshops on peat biofilters which offered CET hours to all who attended.

For our first time we have participated as an exhibitor at the Rural Water Conference and will again exhibit at the upcoming State Fair. By exhibiting we are able to reach and educate a broader band within the community including homeowners and real estate agents. At these exhibits you will also find a membership directory and DOWRA's new brochure which illustrates the organizations goals, vision and benefits. It also comes complete with a membership application.

#### A Voice

DOWRA has prided itself in being your voice in the on-site industry. This voice has taken a front seat in the last six months in working with local and state governments trying to get them to realize that wastewater should not be used to control growth. Using its voice in a public forum, DOWRA officially went on public record against Kent County's Bulk Utility Standards, and has a meeting scheduled with a local state planner to discuss House Bill 280.

#### DNREC/DOWRA Partnership

The DNREC partnership committee has been busy establishing a commit-

tee to review CLASS H System Inspector inspection forms and processes. This committee consists of around 10 DOWRA members who will begin working with the DNREC in the upcoming future. This committee has also met with the managers of the Ground Water Discharges Section in order to review and assist with any issues they are facing with the regulated community.

#### Conference

The 10th Annual DOWRA Conference and Exhibition entitled "Your Voice in the On-Site Industry" is quickly approaching and will be held at the Delaware State Fairgrounds October 24 & 25, 2006! This years conference will again host a two tract presenter schedule and will host both regional and national exhibitors. Be on the look out for information shortly.

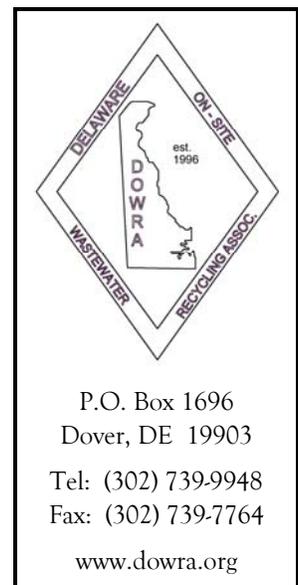
Well I hope this gives you an idea of what we all have been up to! As always if you have any questions please feel free to contact me at (302) 739-9331. I look forward to your continued support and I hope to see you at the Fair and Conference!!!!

*Hilary Moore*



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# Operation and Maintenance Contracts

By: Eric Valentine  
American Manufacturing, Inc.

As a manufacturers representative I've had the opportunity over the past twelve years to be involved with many states as they have worked through the sometimes arduous process of developing operational guidelines for on-site wastewater treatment and disposal systems. In most cases the process gets started after a high profile system failure or during the approval process of new technologies. Delaware is unique in that, without any requirement in place, a large number of residential systems are already operated by private companies through either an extended warranty; provided by the installer, or an operations and maintenance contract.

Before the end of the year all new Innovative and Alternative On-Site Wastewater Treatment and Disposal Systems will be required by DNREC through special permit conditions to have an ongoing Operation and Maintenance (O&M) contract in place. With this pending requirement it is time to decide if you and your company want to be in the O&M business. From my experience it is a business that can provide an important service to the community as well as an additional income stream for your business; however, I have also learned that if an O&M business is not handled properly it can be highly frustrating to manage.

Based on conversations with other manufacturers and several service provid-

ers there are a few things to think about before entering into an O&M contract. They are as follows:

- 1) What's covered in the base contract?
  - Replacement parts?
  - Pumping of tanks (emergency and tri annual)?
  - Labor for repairs?
  - Sampling and reporting?
  - Emergency site visits?
- 2) How do you want to handle the billing?
  - Monthly fee?
  - Before each visit?
  - After each visit?
  - Yearly?
- 3) Do you have the required Class E System Contractor or Class H System Inspector license?
- 4) Are you certified by the manufacturer to operate proprietary systems?
- 5) How does the O&M business affect your existing business?
- 6) How many contracts do you need to make it worthwhile and how many can you handle without hiring more help?
- 7) Does your insurance cover O&M activities?
- 8) Can the system be operated in current condition or does it need repairs?



As a general practice many service companies will inspect a system; for a small fee,

and provide the property owner with a list of items that need to be fixed before the contract goes in place. Some of those items may include adding risers, improving storm water drainage, pumping and cleaning tanks. It's always frustrating to take on someone else's problems without knowing that they exist.

These are just a few of the things that you may want to consider before entering into an O&M contract. There are also specific laws for service companies and contracts. It is always a good idea to consult with you attorney. Many of the manufacturers of proprietary equipment offer templates of O&M contracts that can be used as a starting point.

If you are working on a system with proprietary equipment the manufacturer typically has O&M guidelines and manuals available. Many of the manufacturers have teamed with DelTech to provide operator training at the Georgetown On-site Training Center. If you have any general questions regarding O&M contracts and activities please contact me at [evalentine@americanonsite.com](mailto:evalentine@americanonsite.com).

## On-Site Professional of the Year Award

DOWRA is pleased to announce that we have partnered with Delaware Technical Community College in creating an **On-Site Professional of the Year Award**. This award is to be presented annually to the on-site professional who has demonstrated outstanding technical excellence and an exemplary work ethic in the on-site field.

Nominees will be chosen from a board consisting of three DOWRA

members, a DNREC representative and a Del-Tech representative. The first award will be presented in 2007 and the winner will receive a cash prize, plaque, and their name will be placed on a marquee at the school.



# Stonewater Creek Regional Wastewater Treatment Plant

By: Daniel P. Barbato, P.E.  
Manager of Engineering  
Artesian Wastewater Management, Inc.

The Stonewater Creek Wastewater Treatment Facility, located in the subdivision of Stonewater Creek on Route 5 near Harbeson, DE is owned and operated by Artesian Wastewater Management, Inc. The Stonewater plant is Delaware's first privately-owned regional community wastewater treatment facility.

The treatment plant currently consists of a dual-train Sequential Batch Reactor (SBR) capable of treating 225,000 gallons per day (gpd) of domestic wastewater, the equivalent of 750 dwelling units, or EDUs. The SBR equipment, manufactured by Aqua-Aerobic Systems, Inc., is a variation of the activated sludge process, and is unique in its ability to act as an equalization basin, aeration basin and clarifier within a single reactor. The SBR and all associated equipment is completely enclosed in a barn-style building compatible with local architecture.

Highly treated effluent from the SBR system is pumped to six rapid infiltration basins (RIBs) located adjacent to the treatment facility. Effluent from the plant will achieve limits of 30 mg/L

BOD, 30 mg/L TSS, and 10 mg/L total nitrogen. The RIBs are individual shallow earth basins approximately three feet in depth, located over approximately 6.5 acres, which allow treated effluent to percolate into the soil, returning clean water back into the aquifer. RIBs are best suited to flat topography, in soils with moderate infiltration rates, deeper limiting zones, and deeper water tables. RIBs provide a relatively compact disposal area with little or no negative visual impact. In the case of Stonewater, the RIBs appear as a grassy area with slightly rolling topography, surrounded by a white split rail style fence, with the barn-style treatment building in the background.

Artesian was recently granted approval to accept wastewater from nearby communities and planned developments in the area, and to increase the capacity of the treatment facility and disposal system to 450,000 gpd or 1,500 EDUs. Artesian designed the 5,000 square foot building to allow for future expansion and addition of treatment equipment, and the RIBs contain adequate capacity to handle the additional flow.

Artesian managed the fast-track design/build contract for the plant and disposal from the winter of 2004 through the summer of 2005, and the

plant was granted approval to operate in November of 2005. The collection system, treatment plant and disposal system is operated by a staff of highly trained licensed operators employed by Artesian Wastewater Management, Inc.

Artesian Wastewater Management, Inc. (AWMI) is a subsidiary of Artesian Resources Corporation, the parent company of Artesian Water Company, Inc., Delaware's oldest and largest public water utility. Together, these subsidiaries operate and maintain water and wastewater treatment and distribution systems throughout the state of Delaware. Artesian is currently celebrating the completion of its 100 years of operation in Delaware. Visit Artesian's website at [www.artesianwater.com](http://www.artesianwater.com).



## Clarification - Tire Chips as an Aggregate Substitute

In an effort to clear up some misconceptions regarding the use of tire chips as an aggregate substitute, we would like to relay the DNREC requirements. Tire chips (shreds) from Magnus Environmental Processing Facility may be used as a substitute aggregate in conventional disposal systems. This shall include use in gravity, pressure dosed, lpp and elevated sand mounds.

For non-engineered systems (i.e.

gravity systems), which do not specify the use of tire chips on the permit, the Class E System Contractor may substitute tire chips for aggregate and note the change on an as built.

However, if tire chips are not specified to be used in engineered permits, the Class E System Contractor must seek ap-



proval from the Design Engineer prior to the switch taking place. Both the Design Engineer and System Contractor must then note the change on their respective engineer inspection report and as built.

Should you have any questions regarding the DNREC tire chip policy, please contact Sue Marsett at (302) 739-9947.

# NOWRA 2006 Annual Conference & Exposition

**FLY WEST  
FOR THE BEST ON-SITE  
AND DECENTRALIZED  
EDUCATION PROGRAM IN  
NORTH AMERICA. DIRECT  
FLIGHTS ON SOUTHWEST  
GET THE GREAT RATES!**



NOWRA 2006  
Annual Technical  
Education Conference  
and Exposition  
August 28-31, 2006  
Adams Mark Hotel  
Denver, CO



NOWRA's 2006 Technical Education Conference and Exposition takes place in the beautiful city of Denver, August 28-31, at the expansive Adams Mark Hotel. This is a great opportunity to combine a "last minute" family trip with a professional advancement, education and learning!

If you are committed to achieving water quality results with decentralized systems, NOWRA's 15th annual conference offers an educational and training experience that you can't get anywhere else. It's also the largest and most comprehensive exposition of onsite wastewater treatment products in the United States. Whether you're an installer, a regulator, designer, or service provider, and involved in the onsite wastewater industry, there's no better time for you to get the information you need ~ all in one location.

This year's technical education sessions and exhibits provide you with information about the latest technologies, understanding how to address situations encountered in the field, and learn about research occurring on the industry issues. Some of the subjects on the program include:

- Soils applications for system designs
- Site Assessment tools
- Innovative systems, technologies,

and solutions

- Planning System planning, performance and evaluations
- Regulations and the regulatory framework

And of course, NOWRA's premier program, "The Basics of Onsite Systems -A to Z" is one that cannot be replicated. It is updated annually to include core information that is good for those starting in the business or just needing a refresher.

NOWRA's technical exposition is the largest in the US - featuring North America's leading manufacturers and distributors of onsite wastewater treatment products and services. It's a unique opportunity to get your questions answered and see demonstrations of cutting-edge technologies and services.

The Thursday Field Training Program for onsite industry practitioners provides a unique hands-on education experience in the field. Here industry professionals assist you in addressing problems experienced in your area and learning new installation and maintenance methods. Hosted by the Colorado Professionals in Onsite Wastewater (CPOW), this year's program includes a tour of the Colorado School of Mines, site tours to alternative systems, and a session about watertight tanks.

NOWRA is also honored this year to welcome Dr. Bryan Brooks, a unique national educator, to its conference and to hear his perspective about the industry issues. The topic of his message is, "Emerging Water Quality Issues for Onsite Systems." Dr. Brooks is affiliated with the Center for Reservoir and Aquatic Systems Research and Baylor Wastewater Research Program at Baylor University, Waco, Texas where he has served since 2002.

When you attend NOWRA's technical education sessions and the Experiential Training Program you receive continuing education units (CEU) to support your ongoing professional de-

velopment and industry skills and knowledge. Go to NOWRA's website - [www.nowra.org](http://www.nowra.org) to the 2006 Technical Education Program in the side bar for additional details and registration forms. ONLINE Registration is also available - just click on the picture on the home page - and make registration an easy "one-stop" experience.

Deadline for reduced conference registration rates - July 31, 2006

Deadline for reduced hotel room reservation - August 4, 2006

All events will take place at the Adam's Mark Denver Hotel, accessible from the Denver International Airport.

Make this Conference a Special Opportunity. August temperatures will be in the 80s with very low humidity. You or your family will find numerous recreational opportunities within an hour or two of downtown Denver. Any of these trips can be accomplished in a day, bringing you back to the city for an exciting evening.

**CONFERENCE REGISTRATION - IS NOW ONLINE - GO TO NOWRA'S WEBSITE - [WWW.NOWRA.ORG](http://WWW.NOWRA.ORG) - CLICK ON THE PICTURE AND GET TO THE REGISTRATION SITE.**

**CAN'T REMEMBER YOUR MEMBERSHIP NUMBER? GO BACK TO THE HOMEPAGE - SIGN IN - AND RETRIEVE YOUR NUMBER. AS A LAST RESORT, CALL THE NOWRA OFFICE AT 800-966-2942**

**Delaware On-Site  
Wastewater Recycling  
Association**

DOWRA  
P.O. Box 1696  
Dover, DE 19901  
Phone: 302-739-9331  
Fax: 302-739-7764  
E-mail: Hilary.Moore@state.de.us



Visit Us On The Web  
[www.DOWRA.org](http://www.DOWRA.org)

**2006 DOWRA Board Members**

President	Hilary Moore	(302) 739-9948
Vice President	Ken Walsh	(302) 436-8822
Secretary	Carol Ohm	(302) 994-1900
Treasurer	Brian Carbaugh	(302) 736-5245
Installer	Mike White	(302) 629-4848
Manufacturer	Eric Valentine	(800) 345-3132
Pumper	Wayne Hudson	(302) 684-4723
Soil Scientist	Jack Hayes	(302) 739-9948
Operator	Sam Schlegel	(302) 945-0196
Supplier/Wholesaler	Kevin Sockriter	(302) 349-5528
VIP	Niki Evans	(302) 430-0284
Past President	Carol Evans	(302) 398-4951

**DOWRA is proud to be a member of:**



**NOWRA**  
National Onsite Wastewater Recycling Association  
P.O. Box 1270 \* Edgewater, MD 21037  
Tel: (410) 798-1697 \* Fax: (410) 798-5741

**Ecoflo Peat Biofilter Workshop**

DOWRA hosted two Ecoflo Peat Biofilter Workshops on January 31, 2006 and February 1, 2006. Duane Mowery and Charlie Barkman of Falling Spring Technologies conducted the workshops aimed to aid Designers and Installers with familiarizing themselves with utilizing Ecoflo Peat Biofilters by providing them with the following information: introduction to Ecoflo Peat Biofilters; theory of operation; function of the Ecoflo Peat Biofilter; overview of DNREC regulations and design criteria; installation procedures; and proper operation and maintenance.

The Ecoflo Peat Biofilter uses natural biofiltration mecha-

nisms resulting from allowing wastewater which has been treated by a septic tank to percolate through a porous, well-oxygenated filtering media known as peat. Solids remaining in the wastewater are trapped between peat fibers while microorganisms, attached to the filtering media, decompose the organics in the wastewater. Most of the uses in

Delaware involve an Ecoflo module which does not have a bottom; therefore, after percolating through the peat-based filter, the wastewater is distributed and infiltrated into the soil via a crushed stone layer. The size of the disposal pad (bed) varies depending on the soil permeability and the daily flow rate.

Both classes were fully attended and free to DOWRA members and participants were awarded with CET credit hours. If you would like to learn more about the Ecoflo Peat Biofilters please call Duane Mowery at 1-877-432-6356.

