



Missouri Smallflows Organization

OUTHOUSE POST

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Spring 2023

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LOOKING BACK AT 2022!

Maximize **NEW** Pressure Equipment Considerations Employee Safety



Septic Pumps Wiring Installation & Controls

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NOWRA National Roe-D-Hoe Finals Stole The WWETT *And* SHOW! *MORE!*



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If you are interested in being a part of our Business Partner Program check out the program on our website for more information.

INTERESTED IN MAKING YOUR COMPANY A BUSINESS PARTNER?

We appreciate all of our BPP members. This program enables you and your company to purchase exhibit space, newsletter advertising and your MSO membership all in one stop.

As a BPP, your company logo and link to your website will be on the MSO website. You have a certain number of membership slots to whom you can assign anyone. Our newsletter reaches over 400 people quarterly and the list is growing. We send our newsletter via email and mail to some patrons.

We have varying levels of sponsorships based on your need. You should check out our BPP webpage (www.mosmallflows.org) for the full details.

If you would like a copy of the brochure with prices and details, you may always contact Tammy Trantham at contact@mosmallflows.org.

Let us help you get your company name out to our membership and more. Thank you for supporting Missouri Smallflows.

A NOTE FROM THE EXECUTIVE DIRECTOR

MSO Members,

I'm longing for spring just like all of you. Winter has been long, cold and these couple of nice days in the 70s are teasing us for spring. I hope the winter has given you time to get a few things checked off your "to-do lists".

Many of you have been attending classes during the last couple of months to knock out some of your CEU requirements. We have more classes scheduled but we always have less in the summer. If you are short just a couple of CEUs, remember that you can take online classes to round out some of those requirements.

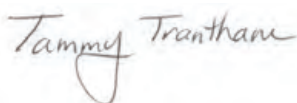
We did not get enough people signed up for our workshop we had planned in Columbia in March. The Board decided to move some of those course topics to the 2024 MSO Conference and Trade Show. The Conference Committee is about to start planning this event so stay tuned as more details roll in. Plan to attend as it will be great to be back in Columbia at the Holiday Inn Executive Center on January 15-17, 2024.

As the Conference Committee pulls together sessions for the 2024 Conference, if you are interested in presenting a topic at the show, please reach out to the MSO office. We are always looking for new ideas and presenters to make the educational sessions great.

MSO did move to a new platform to send out email updates on classes. If you haven't been receiving our once-a-week communications, re-sign up on our website here: <http://www.mosmallflows.org/seminar-classes.html>. It is helpful to receive reminders this way you know when we are in your neighborhood for classes.

Remember to renew your membership. Your membership fee helps MSO keep our doors open and work towards our goals. We hope to bring you more membership benefits soon!

Best regards,





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A Closer Look at Onsite System Control Boxes

By: Sara Heger, Ph.D.

Reprinted from Onsite Installer article published November 7, 2022.

Author's note: Be sure all electrical work is done by the appropriately licensed professional required in your jurisdiction. Often septic system installers must work with electricians to understand the needs of the system being installed.

Outdoor equipment used in residential wiring must be weatherproof. The two most common types of weatherproof equipment are driptight and watertight.

Driptight equipment seals against water falling vertically. Driptight boxes are usually made of painted sheet metal and have shrouds or shields that deflect rain falling from above. These boxes are not waterproof and should not be used where water can spray or splash on the unit. Driptight boxes are usually used for control or circuit breaker panels.

Watertight boxes seal against water coming from any direction. Individual junction boxes, switch boxes and receptacle boxes will usually be of the watertight type. Watertight boxes are designed to withstand temporary immersion or spray streams from any direction. They are commonly made of cast aluminum, zinc-dipped iron, bronze or heavy plastic, and have threaded entries for watertight fittings and covers sealed by gaskets.

In all cases, electrical components and connections must be properly protected from the elements and from the corrosive environment of the dosing tank. Ideally, this is achieved through use of a National Electrical Manufacturers Association rated box with properly sealed connections. NEMA ratings are standards that are useful in defining the types of environments in which an electrical enclosure can be used. The NEMA rating system is defined by the National Electrical Manufacturer Association, and frequently signifies a fixed enclosure's ability to withstand certain environmental conditions.

In nonhazardous locations, there are several different NEMA ratings for specific enclosure "types," their applications, and the environmental conditions they are designed to protect against, when completely and properly installed. The following provides an overview of the NEMA types. For complete definitions, descriptions and test criteria, see the NEMA Standards Publication No. 250.

NEMA Type	Application
NEMA type 1	Type 1 enclosures are intended for indoor use, primarily to provide a degree of protection against contact with the enclosed equipment in locations where unusual service conditions do not exist.
NEMA type 3R	Type 3 enclosures are intended for outdoor use, primarily to provide a degree of protection against windblown dust, rain, sleet and external ice formation.
NEMA type 4	Type 4 enclosures are intended for indoor or outdoor use, primarily to provide a degree of protection against windblown dust and rain, splashing water, and hose directed water and external ice formation.
NEMA type 4X nonmetallic, corrosion-resistant	Type 4X enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against corrosion, windblown dust, and rain, splashing water, and hose-directed water. Enclosure is manufactured with a synthetic rubber gasket between cover and base. This is ideal for such industries as chemical plants, paper mills and septic systems.

NEMA 4 or 4X with properly sealed connections are the most referenced types in septic system installation.



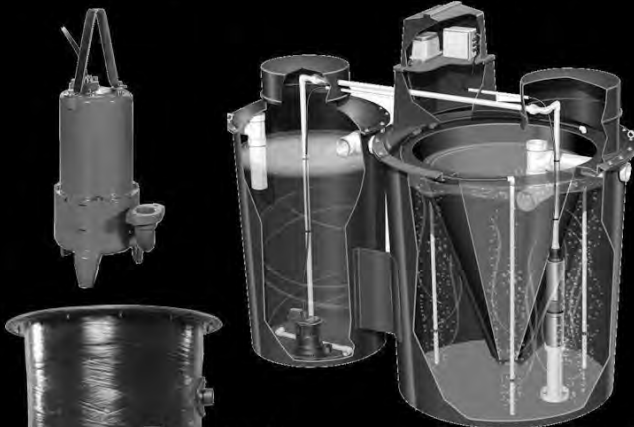
Wastewater Solutions

Treatment

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SJE RHOMBUS



Effluent Pumps

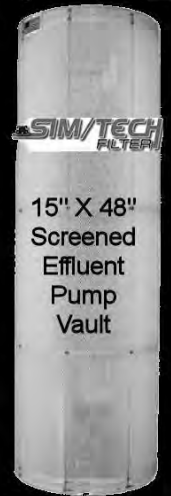
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MSO 2022 YEAR IN REVIEW

By: Tammy Trantham, Executive Director

2022 was a busy year for MSO. With two conferences in one year, it proved to be one of the most challenging ones to plan yet. Since we were unable to get enough people for our Annual Meeting in March 2023, this is an update to the membership about our past year.

Membership

MSO's membership has bloomed over the past few years and is finally holding steady over the 500 person mark. We are very pleased to have your support for the organization every year. We realize you don't always need CEUs every year, but your membership helps us keep furthering our goals. In total as of December 31, 2022, we had 587 MSO Members. Thank you!

As Members, you also have the ability to take advantage of the Daryel Brock Memorial Scholarship application for your family. In 2022, the following scholarships were awarded: Catherine Mayhan, daughter of Bryan Mayhan; Layla Boyer, daughter of Jim Boyer; Laura Coggin, daughter of Seth Coggin; and Emily Hufker, daughter of Dan Hufker. Each recipient received a \$750 scholarship towards their education. Keep in mind that every membership fee contributes \$5 to the scholarship fund! Thank you, members!

Board of Directors

A big thank you to all of our Board of Directors that served in 2022. The Board members voted to fill a vacancy until our January 2024 meeting, so welcome Chris Nothstine to our Board. You can always see the Board of Directors contact information on page 2 of the newsletter.

NOWRA Conference – October 2022

MSO was privileged to host the NOWRA On-Site Mega-Conference at the end of October 2022. With over 500 people in attendance, 6 concurrent sessions, and a sold-out exhibit hall, attendees had a great time at the conference. In addition, there were field trips that looked at systems in the ground around Greene County, Taney County and Stone County. Thank you to all our Missouri members who attended. You helped give the conference a great boost and representation from MSO.



NOWRA Conference – photo – Caption: Field Trip to the Onsite Wastewater Training Center

Institutes of Learning – Seminars and Online Learning

Providing quality education for your continuing education requirements is one of the goals of MSO. Our classes have top-notch instructors that know the industry and have experience in the field. We hope you enjoy attending our classes. Course development for new material is an on-going process and we hope to have more new classes in 2023.

- 427 people attended seminars
- 29 seminars across the state
- 126 people took online classes

Outreach Education

In 2022, MSO was able to work with AmeriCorps and have an assistant to work on homeowner education for onsite wastewater treatment systems. MSO designed homeowner brochures for different types of systems that include maintenance tips. In addition, there is a folder that you as members can request to have to hand out to your customers. This folder gives you a chance to give your customers information about their system on their property and a place to keep all of your contact information. Check out the literature on our website: "more...", "OWTS Demonstration Site", menus for each type of system.

MSO Conference & Trade Show – January 2022

We hosted our annual conference and trade show on January 17-19, 2022. We had a great turnout and several fantastic speakers. With nearly 335 people in attendance, professionals learned about new topics in the wastewater industry. Thank you to all of you who attended and save the date for the 2024 MSO Conference and Trade Show on January 15-17, 2024. We'll be in Columbia at the Holiday Inn Executive Center.



2022 MSO Conference & Trade Show

Septic Smart Week – September 2022

This last year we were able to host a "Proclamation Day" with the Greene County Commission to dedicate the week to Septic Smart Week. We also got a proclamation from Governor Mike Parson. It was great to have our industry recognized. The day was at the Onsite Wastewater Demonstration Center in Springfield and we hosted an open house to the public to come learn about wastewater treatment systems.



Septic Smart Week 2022 – Greene County Commission honors Septic Smart Week!

Looking Ahead

In the last part of 2022, Missouri DHSS notified all professionals that they do not have the capacity to provide updates on CEUs for your certifications. We realize that this is a challenge to switch gears and monitor your own CEUs for your three-year renewal period. MSO is working on a few solutions to make this easier for you. Short-term, we will be putting together a video to show you how to use the "Tracking Tool" DHSS developed. Long-term, MSO is working towards creating a way for you to look up the classes you have taken with our organization. We hope that these additional tools will help you stay on top of your certifications.

As always, reach out to the MSO office when you have any questions or concerns about the industry in Missouri.

Installation of Wiring for Septic Pumps & Controls

Reprinted from Onsite Installer article published on November 14, 2022.
By: Sara Heger, Ph.D.

Power to the pump and alarm system, when located outside a building, will most frequently be supplied by an underground branch circuit from a nearby service entrance or subpanel.

Follow electrical code specifications for materials and burial depths. Avoid routing buried wiring through existing or anticipated gardens or landscaping areas to minimize the chances of damage due to spading. Power to the septic system should be from a single branch circuit with no other loads. The circuit breaker or fuse supplying this circuit should be clearly marked at the service entrance location.



Two methods, or a combination of the two, are common in outdoor wiring. One method is to place electrical wires inside a conduit. The other is to use cable. In either case, protection from physical damage, water and corrosion must be provided. Running wires through sealed conduit provides physical, water and corrosion protection. Several kinds of conduit are acceptable for outdoor use. Rigid metal conduit made from aluminum or steel provides equivalent wire protection. However, aluminum conduit is not recommended for installation where it is directly in contact with soil. Rigid PVC conduit can be used above ground. High-density polyethylene conduit is suitable for underground installation. Do not use thin wall conduit (EMT) for underground or outdoor installations.

An underground feeder cable can be buried without conduit protection, but physical protection for underground cable is highly recommended to reduce the risk of spading through the cable later. This is particularly true around the septic tank. Do not use nonmetallic cable for underground installations. While it is an excellent material for interior wiring, it will not withstand the moisture conditions in the soil.

Motor Rating		AWG Copper Wire Size					
volts	hp	14	12	10	8	6	4
115	1/3	130	210	340	540	840	1300
115	1/2	100	160	250	390	620	960
230	1/3	550	880	1390	2190	3400	5250
230	1/2	400	650	1020	1610	2510	3880
230	3/4	300	480	760	1200	1870	2890
230	1	250	400	630	990	1540	2380
230	1 1/2	190	310	480	770	1200	1870
230	2	150	250	390	620	970	1530
230	3	120*	190	300	470	750	1190
230	5	0	0	180	280	450	710
230	7 1/2	0	0	0	200*	310	490
230	10	0	0	0	160*	250*	390
230	15	0	0	0	0	170*	270*

2- or 3-wire cable, maximum length in feet, service entrance to motor

* Lengths meet U.S. National Electric Code (NEC) ampacity only for individual conductor 60C cable in free air or water; not in conduit. If cable rated other than 60C is used, lengths remain unchanged, but minimum size acceptable for each rating must be based on the NEC's table column for that temperature cable.

Lengths without asterisks meet NEC ampacity for individual conductors and jacketed 60C cable.

Flat molded cable is considered jacketed cable.

Maximum lengths shown maintain motor voltage at 95% service entrance voltage, running at maximum nameplate ampacity.

If service entrance voltage will be at least motor nameplate voltage under normal load conditions, 50% additional lengths is.

Combining the conduit and cable wiring methods is also an option. Conduit can be used around cable for physical protection. Conduit is particularly useful to protect cables where they enter and exit the soil. If conduit and cable are used in combination, appropriate connectors and bushings are needed for transitions from one system to the other. Minimum burial requirements apply to wire in conduit and cables. The size of the wire is determined from the electrical need (the motor size) and the length of wire. The table gives wire specifications for various lengths and motor ratings.

Make sure the wire has the proper capacity for the electrical demands of the pump. This is done by comparing the length of wire necessary from the pump to the power box and the horsepower required for the pump. Having these two values allows for proper selection of the wire sizes. A second wire should be run for the alarm and should be on a second circuit.

The power cable to the pump and float switch cables running from the control center into the tank should be run in conduit (metal or PVC) where physical protection is needed. The area around the conduit entering the tank should be sealed to prevent surface water from entering the tank through the conduit. If the conduit provides a continuous connection between the control center box and the tank, the conduit entrance to the box should be plugged with electrical putty to prevent the movement of moisture and corrosive gases into the control box. Provide an outlet for the wires through the side of the cleaning access. Consider installing a section of 6-inch plastic pipe with a cap alongside the cleaning access to contain the pumping station wires.

Power cables used in these installations, such as Types SE, SJ or SOW, must be suitable for moist and corrosive environments. The power cable to the pump must have a grounding conductor (usually a green insulated wire) to ground the pump motor frame. Metallic conduit should not be used for equipment grounding to or within the tank. Since the pump is considered a motor load, it must have appropriate disconnecting means. The disconnect for units of one horsepower or greater (circuit breaker or switch) must be clearly marked and either in sight of the pump location or lockable. This prevents inadvertent reactivation of the circuit during servicing of the unit. Below 1 hp, receptacles and plugs listed for motor loads (hp listed) may be used.

Wires for float switches should be color-coded for easy identification. Do not cut off extra wire since it allows service providers to pull components out of the tank to service them. Roll the extra wire up and tether it inside of the riser.

When wiring is conveyed over long distances, wire size must be appropriately increased to compensate for the resulting power loss. All the electric lines must be contained within code approved conduits and junction boxes. Because of the corrosive nature of wastewater, gases and moisture all conduits should be sealed. The openings in electrical conduit should be sealed to prevent moisture and gases from entering the enclosure. Duct seal is the best choice for this since it will effectively seal the openings while remaining flexible.



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Equipment Considerations to Minimize Ground Pressure During Septic Installation

Reprinted from Onsite Installer article published January 3, 2022.

By: Sara Heger, Ph.D.

Often your choice of equipment for installing an onsite system is predetermined by the equipment your company owns. It is important, however, to understand the limitations of different pieces of equipment and recognize when renting or leasing equipment will facilitate effective and efficient system installation.

It's important to select the right piece of equipment for the job; the size of job and impact on the site must be considered. For example, it is often more cost-effective to rent a track hoe for a day than to dig for a week with a backhoe. Likewise, a skid-steer with tracks often has less compaction potential than a man's boot print.



The key issues for an installer to consider regarding equipment are:

- Equipment currently owned
- Range of site conditions where work will occur (reach of equipment, accessibility, wet soils, slopes, etc.)
- Application — what type of technologies you plan to install
- Tasks you plan to perform related to the types of technologies
- Speed required for installations
- Matching equipment to the size of the crew
- Ground pressure and compaction

If you are considering buying new equipment, most suppliers will let you demo a machine before you purchase it. You can then determine if this equipment is essential to your day-to-day operations or if a rental is a better option.

For efficient installations, the speed of the machine and the skill of the operator typically dictate the crew size. Another important variable that impacts the crew size is site constraints. If you only have a small space to operate the equipment, one ground laborer may be all that is needed to keep up with the equipment operator. Membership in a professional association offers good opportunities to discuss equipment choices and issues with other installers.

Ground pressure

Ground pressure is one key issue to consider with the equipment you own or when you are making a purchase. Ground pressure is the pressure exerted on the ground by the tires or tracks of a motorized vehicle and is one measure of its potential mobility, especially over soft ground. Ground pressure is measured in pounds per square inch. It can be calculated with the formula:

$$\text{Loaded weight} \div \text{Ground contact area}$$

Increasing the size of the contact area, or footprint, on the ground in relation to the weight decreases the ground pressure. The ground pressure of motorized vehicles is often compared to the ground pressure of a human foot, which can be 9 to 12 psi while walking. A wheeled all-terrain vehicle may have a ground pressure of 35 psi while a tracked all-terrain vehicle has 0.75 psi.

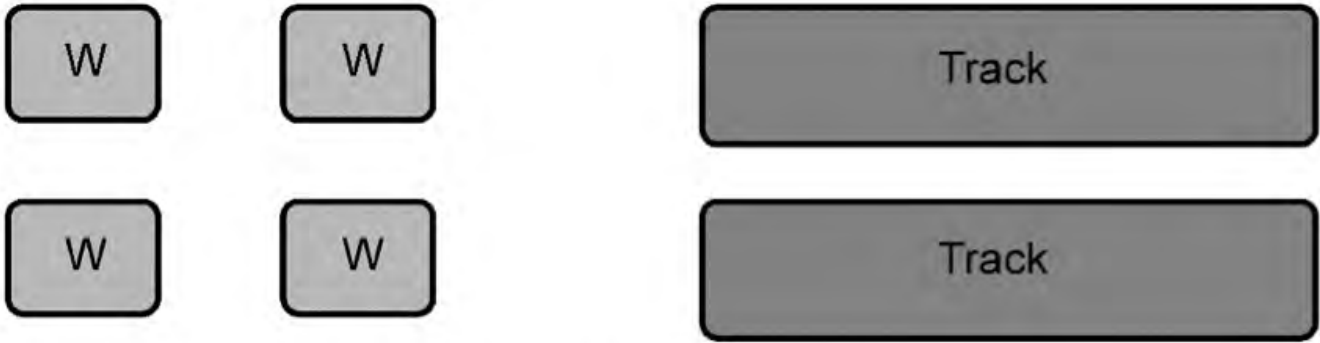
Ask the dealer about the ground pressure of a particular machine. The ground pressure of all equipment on the site must be considered during construction particularly those delivering the tank and materials, but also from other contractors who may be on the construction site. The property owner should also be advised that traffic over the system should be avoided over the long term to minimize damage to the system.



Another issue to consider is that a loaded bucket can shift the weight to the front of a piece of wheeled equipment and change the ground pressure of the machine.

Wheels vs. tracks

Wheeled equipment has greater ground pressure than tracked equipment, as shown in the figure, due to the reduced ground contact area and therefore should not be used in areas where compaction is a concern. Wheels do provide quicker movement and do not damage paved roads as much as tracks but they provide less traction in muddy soils.



Ground contact area for wheeled versus tracked equipment

Tracked equipment has lower ground pressure due to the larger footprint of the tracks. Tracked equipment is more stable, particularly on steeper slopes, and can be driven over a small spoil pile, whereas the material has to be moved out of the way with wheeled equipment.

There are multiple types of tracks:

- Low ground pressure tracks versus standard tracks
- “True” tracks versus those added to wheeled equipment
- Steel versus rubber

LGP equipment causes less compaction than narrow/standard tracks due to their greater width. Tracks can be added to equipment that is wheeled, but these are not as effective as “true” tracked equipment. Steel tracks last longer and are therefore more economical particularly on large equipment, but rubber tracks have better traction and cause less damage to pavement and grass.

Whenever possible you want to avoid compaction of the soil treatment area and choosing the correct equipment is a great step to meeting this goal.

REMEMBER TO RENEW YOUR MSO MEMBERSHIP!

Most members renew at convention time (December - January)



Call or email the MSO office to check your membership status or just send in your \$140 renewal!

Thank you for supporting MSO!



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Missouri Smallflows Organization

WHY SHOULD I BECOME A MEMBER OF THE MISSOURI SMALLFLOWS ORGANIZATION (MSO)?

MSO is a state-wide organization that brings together wastewater professionals to provide a network of information and education. Not only will you have the opportunity to take part in an annual conference and trade show, but you will get discounts on classes to keep up your state license.

As a MSO Member you can also become a member of the National Onsite Wastewater Recycling Association (NOWRA), our national affiliate. This national organization strives to bring top-notch educational opportunities to the state and takes part in lobbying at the national level for wastewater professionals.

MSO MEMBER BENEFITS

- Discounts on MSO classes throughout the state
- Discounted ticket for the Annual MSO Conference and Trade Show
- Quarterly newsletter sent via email or mail
- Tracking of MSO classes taken
- Opportunities to network statewide with other wastewater professionals
- Daryel Brock Memorial Scholarship opportunity for son or daughter

NOWRA MEMBER BENEFITS

- Discounts on National NOWRA Conference
- Listing on Septic Locator on NOWRA website
- Wells Fargo 0.25% financing discount for equipment over \$50,000
- Can order magnetic signs for business
- Lobbying at the national level
- Receive bi-annual NOWRA magazine

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REGISTRATION FORM

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Sign me up for email updates on classes

I would prefer the quarterly newsletter by: Email Mail

DHSS License Numbers:

Basic Installer: _____ Advanced Installer: _____ Inspector: _____

Onsite Soil Evaluator: _____ Percolation Tester: _____



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LISTING OF MSO CLASSES

PLEASE REGISTER AT LEAST TWO WEEKS PRIOR TO THE CLASS!

Call our office to register at 417-631-4027

Or find the Registration Form on our website: www.mosmallflows.org

What's in My Yard?

Location: Camdenton, Mid-County Fire Department

Date: March 23, 2023

Full day class: 8:30 AM—4:00 PM

DHSS General CEUs: 6.5

Select: Basic: 5.5, Advanced: 5.5, Inspector: 1.5, OSE: 1,
and Perc Tester: 0

Basic Soils & How to Read a Soils Report

Location: Perryville, Perry County Health Department

Date: March 29, 2023

Half day class: 8:30 AM—2:00 PM

DHSS General CEUs: 5

Select: Basic: 5, Advanced: 5, Inspector: 0, OSE: 5, and Perc Tester: 2

What's in my Yard?

Location: Perryville, Perry County Health Department

Date: March 31, 2023

Full day class: 8:30 AM - 4:00 PM

DHSS General CEUs: 6.5

Select: Basic: 5.5, Advanced: 5.5, Inspector: 1.5, OSE: 1,
and Perc Tester: 0

Earthen Structures

Location: Liberty, Clay County Health Department

Date: April 21, 2023

Half day class: 8:30 AM - 1:30 PM

DHSS General CEUs: 4.00

Select: Basic: 3.50, Advanced: 3.75, Inspector: 3.25, OSE: 3.25,
and Perc Testers: 3.25

Trickling through Media Filers

Location: Troy, Lincoln County Health Department

Date: April 28, 2023

Full day class: 8:30 AM - 4:00 PM

DHSS General CEUs: 6

Select: Basic: 0, Advanced: 6, Inspector: 4, OSE: 0, Perc Tester: 0

What's in My Yard?

Location: Jefferson City, Cole County Health Department

Date: May 9, 2023

Full day class: 8:30 AM - 4:00 PM

DHSS General CEUs: 6.5

Select: Basic: 5.5, Advanced: 5.5, Inspector: 1.5, OSE: 1, Perc Tester: 0

Drain Fields & Water Management

Location: Jefferson City, Cole County Health Department

Date: May 10, 2023

Full day class: 8:30 AM - 4:00 PM

DHSS General CEUs = 6

Select: Basic: 4.5, Advanced: 6, Inspectors: 3.5, OSE: 6, Perc Tester: 4.5

Basic Soils & How to Read a Soils Report

Location: Camdenton, Mid-County Fire Department

Date: March 24, 2023

Half day class: 8:30 AM—2:00 PM

DHSS General CEUs: 5

Select: Basic: 5, Advanced: 5, Inspector: 0, OSE: 5,
and Perc Tester: 2

Drain Fields & Water Management

Location: Perryville, Perry County Health Department

Date: March 30, 2023

Full day class: 8:30 AM - 4:00 PM

DHSS General CEUs = 6

Select: Basic: 4.5, Advanced: 6, Inspectors: 3.5, OSE: 6,
Perc Tester: 4.5

Aerated Treatment Units

Location: Liberty, Clay County Health Department

Date: April 20, 2023

Full day class: 8:30 AM - 4:00 PM

DHSS General CEUs: 6

Select: Basic: 3.5, Advanced: 6, Inspector: 3.5, OSE: 1,
and Perc Tester: 1

Inspecting Tanks, Lagoons & LPP

Location: Troy, Lincoln County Health Department

Date: April 27, 2023

Full day class: 8:30 AM - 3:00 PM

DHSS General CEUs: 5

Select: Basic: 0, Advanced: 0, Inspector: 5, OSE: 0, Perc Tester: 0

Earthen Structures

Location: Springfield, SI Precast

Date: June 20, 2023

Half day class: 8:30 AM - 1:30 PM

DHSS General CEUs: 4.25

Select: Basic: 3.5, Advanced: 3.75, Inspector: 3.25, OSE: 3.25,
Perc Tester: 3.25

***Note: This location has 2 flights of stairs to the meeting room. There is no elevator available.**

Onsite Pumps Panels & Electrical

Location: Springfield, SI Precast

Date: June 21, 2023

Half day class: 8:30 AM - 1:30 PM

DHSS General CEUs: 4

Select: Basic: 3.5, Advanced: 3.5, Inspector: 3.5, OSE: 0,
Perc Tester: 0

***Note: This location has 2 flights of stairs to the meeting room. There is no elevator available.**

More classes are being scheduled.

See our online classes available on our website: www.mosmallflows.org

Seminar refund policy available online

NOWRA National Roe-D-Hoe Finals Stole The WWETT Show

By: Jessi Wood, Residential Sewage Treatment Company

The NOWRA National Backhoe Roe-D-Hoe® finals were held at the WWETT Show in Indianapolis February 21st, 22nd, and 23rd. We ran 175 operators through the three game course during the two and a half days of the trials. We had one State Champion check in, Jordan Boley from Robins, Iowa. He won the IOWWA Roe-D-Hoe® at the state show early in the month. Even though Jordan was already qualified for the finals, he remained on the leader board with some great times during trials.

We had some fast times and record breaking scores this year with Dan Shriver breaking the basketball and bowling times! He son was close by during the competitions cheering Dad on. After the dust settled, five lone operators remained to compete with one state champ. Albert Breech from Lucasville, OH, Lawrence Triolo from Sandy, UT, Dan Shriver from Marianna, PA, Adrian Keiper from Wadsworth, OH, and Mark Shepard from Stilwell, KS. One by one they climbed onto the equipment they run every day to earn their wage. Today it was for money and a buckle, but most of all, bragging rights.

The competition began at high noon. Our own Randy Miles announcing scores and cheering them on as each took their turn in hopes to leave a champion. After the bucket was dropped for the last run it was Jordan Boley on top. Albert Breech took 2nd and Lawrence Triolo taking that 3rd place spot.

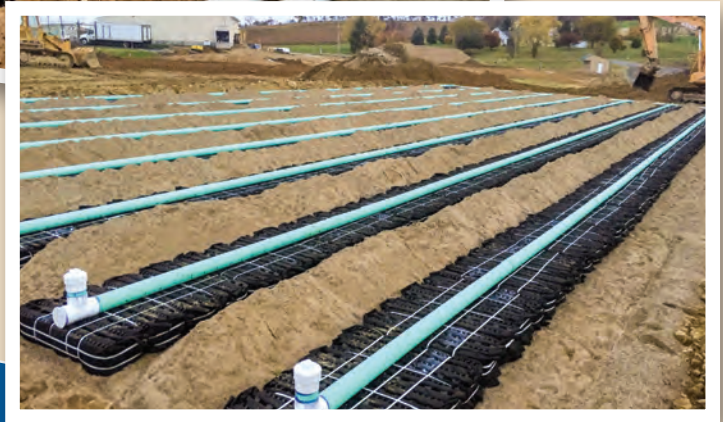


Pictured Left to Right: Dan Shriver, Jordan Boley, Albert Breech, Lawrence Triolo, and Adrian Keiper. Mark Shepard not pictured.

Every year this event gets bigger and the competition gets hotter. Join us for the 2024 MSO Conference in January 2024 and try your hand at becoming the Missouri State Champion and then come see us at the WWETT Show January 24th – 27th 2024. We can't wait to see you there!

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NOWRA Onsite Mega 2020	6 different classes from the 2020 NOWRA Virtual Conference. Only available for a limited time!

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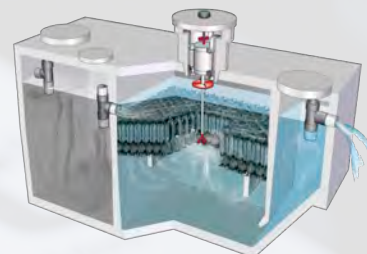
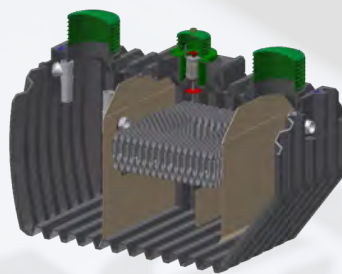
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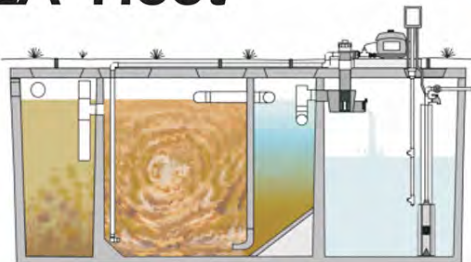
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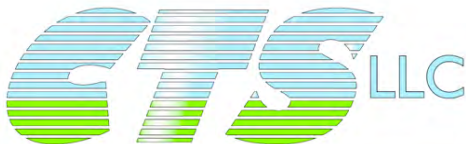
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NEW EMPLOYEE SAFETY

SEE MORE INFORMATION AT WWW.MEM-INS.COM

New employees are at a higher risk for incident and injury. Statistics show that up to 40% of all work injuries are new employees within their first year of employment. And the average lost workday claim costs can average \$70,000! Reasons for new hire injuries include lack of training and supervision, poor hiring practices, and poor work experience. Your new employee is learning a new job and is simply trying to fit in. Discuss safety requirements on their first day of the job. Make sure safety rules are communicated to all employees and enforced. Provide training on all equipment and machines a new hire will be using.

CHAIN OF COMMAND:

- Describe the chain of command within the company.
- Who is the employee's supervisor?
- How does the employee contact the supervisor?
- Who can the employee contact for a problem?
- Who can the employee contact to report a hazard or unsafe condition with a truck, tool or trailer?
- Provide important & after-hrs. company phone nos.
- Review the company's injury reporting process.
- Review after-hours injury reporting expectations.
- Review the company drug-free workplace policy.
- Review all safety rules & require employee signature.
- Have employee sign & date the safety policy.

REVIEW COMMON HAZARDS OF THE JOB

- Discuss the major hazards / dangers of the job:
 - Slips, trips and falls, also falls from ladders
 - Struck-by hazards and vehicle accident
 - Loud machines, heavy lifting & overexertion
 - Underground and overhead utilities
 - Confined spaces and trench collapse.
- Encourage safe decisions. They can make the difference between life and death!
- Encourage employee to take personal responsibility for their actions & make safe decisions.
- Discuss training the employee will need on specific trucks & equipment and ensure they get it.

ISSUE PERSONAL PROTECTIVE EQUIPMENT

- Provide new employee with a list of personal protective equipment (PPE) needed on the job.
- Advise the employee how to obtain P.P.E. if theirs is lost, stolen, damaged, forgotten or worn out.
- Describe the tools and equipment produce hazards that require P.P.E. use. (saws, hammers, noise, etc.)
- Advise of disciplinary action regarding P.P.E.

INJURY and ACCIDENT REPORTING

- New employees must report incidents to their supervisor immediately.
- Report witnessed incidents to the supervisor by the end of the work shift.
- A post-incident drug/alcohol screen will be required after incidents and injuries.
- Report all incidents in writing before going home for the day.

SEAT BELTS and SAFE DRIVING

- Vehicle incidents are the most common cause of worker fatality in the U.S.
- Employees will use safety belts in vehicles or on machines equipped with safety belts.
- Employees discovered not wearing safety belts will be subject to disciplinary action.
- Distracted driving is prohibited. Do not text, dial or use smart phone functions while driving. Follow speed limits please.
- Drive at a safe speed. Do not tailgate.
- Never intimidate other motorists with your larger truck or put them at risk for a crash.
- Advise employee of fire extinguisher locations on the jobsite or in vehicles and machines.

**FOLLOW COMPANY SAFETY RULES.
ALWAYS DRIVE SAFELY AND WEAR YOUR
SEAT BELT WHEN IN COMPANY VEHICLES!**

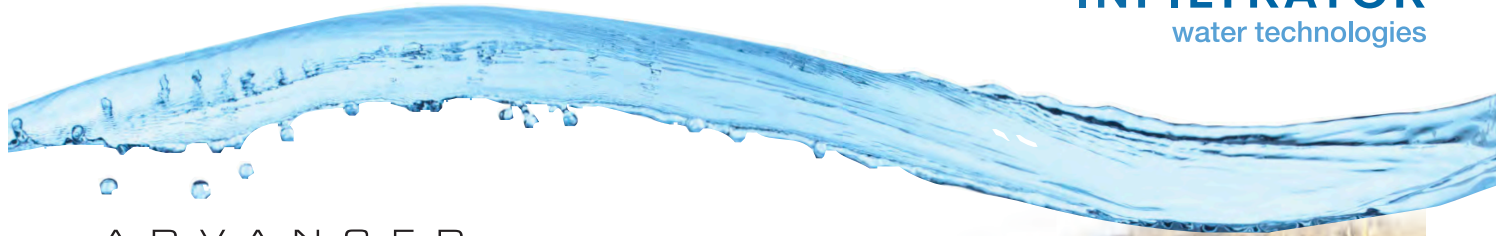


These advisory materials have been developed from national standards and sources believed to be reliable, however, no guarantee is made as to the sufficiency of the information contained in the material and Missouri Smallflows Organization assumes no liability for its use. Advice about specific situations should be obtained from a safety professional. 09-30-2020 by MW

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