

2024 WWETT Education Program Course Codes, Title, Day, Time

Code: WE01
Course Title: NASSCO's Drain Cleaning Certification Program
Date: Wednesday, 1/24/2024
Time: 9:00am-10:00am

An overview of the new NASSCO certification program on the subject of proper drain cleaning.

1. Review of drivers for creating this program including safety and knowledge of processes, equipment and tools for proper drain cleaning.
2. Summary of the certification curriculum
3. Discuss benefits to industry as we improve professionalism and quality for proper cleaning and care of laterals and private side sewers

Code: WE02
Course Title: What Is an NSF Certification and How to Obtain and Maintain It
Date: Wednesday, 1/24/2024
Time: 9:00am-10:00am

Have you ever wondered what the steps and processes are that the NSF uses to critique and certify OWTS components? This session will uncover what the NSF is, where did they come from, and what does it mean to be NSF Certified. It will go through what the steps, processes and procedures are that NSF utilizes to evaluate and certify OWTS products for the marketplace. We will delve into why a manufacturer would want to make sure their product has the NSF seal on it and what it takes to obtain and maintain this vital credential. Be more informed on this vital process for our industry

1. Discuss what the NSF is and its history
2. Explain NSF's purpose within the onsite industry and how they came to be recognized as the leader for setting standards for sanitation in the country
3. Identify what steps are taken by the NSF to review, evaluate and certify OWTS products that are on the market
4. Describe the protocol that is in place to ensure that the product meets certain sanitary and regulatory requirements before it receives the NSF seal

Code: WE03
Course Title: How are OWTS Contaminants Transported and Treated Beneath the Soil Treatment Area?
Date: Wednesday, 1/24/2024
Time: 9:00am-10:00am

Onsite Wastewater Treatment Systems (OWTS) are designed to treat key pollutants in wastewater before effluent is released to the environment. While the complete removal of pollutants is ideal, OWTS' are mainly designed to reduce the concentration of certain pollutants to levels that pose very minimal risk when the effluent is ultimately dispersed. This means that when treated effluent eventually find its way to the soil treatment area (STA), it will still have pollutants like nitrogen, phosphorus, pathogenic bacteria, and other pollutants. The decision related to where and how to disperse treated effluent to the environment largely depends on soil properties at the STA. Whether the pollutants in the effluent are sorbed, transformed, and/or rendered immobile will largely depend on the treatment ability and capacity of the soil. This talk will start with a discussion about the negative effects of key pollutants in OWTS effluents. It will then be followed with detailed discussions about the fates in the soil of nitrogen, phosphorus, pathogenic bacteria, and emerging contaminants. At the end of the talk, participants are expected to have a better understanding of the fates of OWTS pollutants in the soil and to gain an improved appreciation of the ability of the soil to accomplish treatment.

1. Articulate the ill-effects of untreated pollutants from OWTS that are released to the environment
2. Discuss the mechanisms involved in the retention and/or mobility of dissolved contaminants that are found in OWTS effluent
3. Describe the fates and processes involved in the treatment of bacterial contaminants in the soil

2024 WWETT Education Program Course Codes, Title, Day, Time

4. Recognize the importance of having an ideal set of soil properties that could lead to effective treatment of OWTS effluent

Code: WE04
Course Title: Artificial Intelligence (AI): The Future of Pipeline Assessment
Date: Wednesday, 1/24/2024
Time: 9:00am-10:00am

Artificial Intelligence, or AI, is a buzzword we hear everywhere these days. But what is it, how does it work and how does it affect the water and wastewater industry? In this class we will take a deep dive into AI and look at the impact it is having in the industry today. We will discuss how it's being used to standardize pipeline inspections as well as monitor various aspects in wastewater treatment plants. We will also look at the future of AI and the emerging technologies that will help extract valuable information in assessment and evaluation of our current infrastructure. We will also look at various platforms that compliment AI technology.

1. Explain what AI coding is and how it works
2. Discuss the various platforms that are currently utilizing AI
3. Discuss the future of AI and its impact on the industry

Code: WE05
Course Title: Basin Sizing for Submersible Pumps
Date: Wednesday, 1/24/2024
Time: 9:00am-10:00am

This session focuses on sizing wet wells for submersible wastewater pumps used in residential, commercial, or municipal applications. The presentation addresses why it is important to size basins for each application and how to gather and identify the critical information to properly size the wet well. The presentation will bring all this information together with an example and a review of some common basin accessories.

1. Explain the difference between Sump, Effluent, Sewage & Grinder pumps
2. The different design considerations for sump, effluent & sewage applications
3. What equipment is typically provided for a complete installation

Code: WE06
Course Title: Wood Chip and Chamber Systems - Canadian Examples of Installation Best Practices
Date: Wednesday, 1/24/2024
Time: 9:00am-10:00am

Onsite systems that reuse onsite materials complement the landscape and contribute to groundwater replenishment. In this presentation you will learn how a combination of shallow based recycled plastic chambers combined with locally sourced wood chips are producing almost drinking quality effluent. You will learn how to design installations to complement the natural landscape and woodlands; what kind of climate and terrain these can be installed in; and the options for cost benefit installation in your locality.

LFH At-Grade Systems utilize a wood chip cover to provide berming over the infiltration area of a pressure distributed chamber system that is built on the surface of leaf litter in established treed areas. These systems utilize the leaf litter to help with the treatment and distribution of effluent and the wood chip cover to provide protection from environmental concerns such as wind erosion. The wood chip cover also provides a base for natural vegetation to develop over the onsite wastewater treatment system. These systems were researched extensively through both the University of Calgary and the University of Alberta to prove their effectiveness of treatment and dispersal. This presentation will take a look at the design and installation of LFH At-Grades.

- 1, Design installations to complement the natural landscape and woodlands
2. Discover what kind of climate and terrain these can be installed in
3. Discuss the options for cost benefit installations

2024 WWETT Education Program Course Codes, Title, Day, Time

Code: WE07
Course Title: Branding - Going Beyond the Logo
Date: Wednesday, 1/24/2024
Time: 9:00am-10:00am

This session is designed for seasoned business pros and startups alike. It will cover 3 Key Pillars for company, personal and virtual branding that creates a circle of influence to build business, as well as useful and mutually beneficial relationships.

Company Branding: the image that goes beyond the logo and the pretty truck wrap, its importance and meaning and how to carry it through all aspects of external and internal communications. What do you stand for, what is your mission and how your clients and prospects perceive you and how you want to be perceived.

Personal Branding: the vital extension of the company brand - defining your personal position, how to get out of the comfort zone and build a strong network of business partners, referral sources, talent pools and mentors.

We will include a fun interactive network exercise that will provide a chance to learn how to "work the room."

Virtual Branding: the online version of you and your company - is your website, social and digital presence a powerful or correct reflection of your firm and if not, we will share the steps needed to bring everything into alignment in order to provide a consistent message across all platforms of communication.

1. Gain a deeper understanding of what branding encompasses and its many facets
2. Develop or redefine a personal brand that is memorable and elicits trust
3. Assess your online brand and why/what is needed to have real-world and virtual world messaging in alignment
4. Recognize your brand strengths and how to communicate them to their greatest advantage

Code: WE08
Course Title: Playing Ball with Others – How Consensus Building Trumps Working on an Island Every Time
Date: Wednesday, 1/24/2024
Time: 9:00am-10:00am

From the outside, it can be easy to think that owners and managers always get their way, that they have the luxury of mandating what happens within a team. The truth, however, is that even the highest person in an organization has multiple internal and external stakeholders they must work with and please on a daily basis to successfully run their business. During this reflective, interactive session, we'll work together to learn:

- How to "win" effectively without being confrontational;
- The power of listening and the art of doing so;
- Mastering pivoting to find multiple ways to accomplish your goals;
- Building consensus and fostering collaboration; and
- Creating strategic partnerships to help you achieve success.

1. Discover methods to alleviate confrontation
2. Discuss the power of listening
3. Build consensus and foster collaboration
4. Create strategic partnerships

Code: WE09
Course Title: Trenchless Rehabilitation Technology Review
Date: Wednesday, 1/24/2024
Time: 10:30am-12:00pm

Overview of the many trenchless rehabilitation technologies available for gravity and pressure pipes of various sizes.

1. Review of rehabilitation technologies most widely used in North America for sanitary, water and storm applications

2024 WWETT Education Program Course Codes, Title, Day, Time

2. Review of selection, design and installation considerations for these technologies
3. Summary of national standards and NASSCO performance specification guidelines for these technologies

Code: WE10
Course Title: Locating System Components - Tips and Tricks
Date: Wednesday, 1/24/2024
Time: 10:30am-12:00pm

If you have ever been frustrated with trying to locate and identify the different components of an onsite system, this presentation is designed to look at some of the tips and tricks that have been utilized over the years by professionals in the industry. Casey will introduce and discuss why finding a system can initially be a complicated process. Being new to the industry, he will cover some of the topics and issues he wishes someone would have sat down and told him about as he began his inspection career. In addition, we will have on hand individuals who have upwards of 50 years of experience locating and identifying the different components of an OWTS and some of the challenges they have faced over the years. We will also be reaching out to the audience in the discussion to get a broad perspective from across the country of what processes have been helpful in locating and identifying OWTS.

1. Discuss the importance of understanding the OWTS as a whole and multifaceted components of an OWTS
2. Identify the key structures of an OWTS and how vital they are to the entire system
3. Explain that each component is not a stand-alone component but relies on those pieces before and after for the system to function as intended
4. Recognize different “signs and signals” that will lead the practitioner to locate and identify the components of a system

Code: WE11
Course Title: Design Considerations for Multiple Tank Wastewater Treatment Systems
Date: Wednesday, 1/24/2024
Time: 10:30am-12:00pm

Some onsite wastewater systems may require multiple tanks to handle larger flows, reduce downstream surges, and incorporate additional treatment systems. When designing these types of systems, the positioning and layout of the tanks will influence the tank designs to ensure efficiency and avoid problems.

During this session, presenters will discuss best practices when designing multiple tank systems. They will share what layouts and tank designs work best for different systems. They will explain how to consider installation and maintenance in the design, so that tanks can be properly installed, connected and backfilled, when they are in close proximity. They will talk about types and positioning of connectors to ensure multiple tanks are functioning as intended. The presenters will also discuss buoyancy considerations to avoid differential movement among connected tanks. This is essential information for those who design, manufacture, install, regulate, and inspect underground structures.

1. Define 3 key considerations when installing tanks in close proximity
2. Describe how to design a multiple tank system to operate hydraulically as one
3. Evaluate different multiple tank layout options to determine what will work best
4. Describe 3 measures to counter buoyancy for underground tanks

Code: WE12
Course Title: Transportation and Logistics in Portable Sanitation
Date: Wednesday, 1/24/2024
Time: 10:30am-12:00pm

This course is designed to address the major areas of competency required for portable sanitation professionals operating vehicles and setting up sites in the field.

2024 WWETT Education Program Course Codes, Title, Day, Time

1. Discuss the fundamentals of preparing portable sanitation equipment for safe transportation on public highways
2. Identify specific equipment and explain its function in tank vehicles, and understand the unique issues involved in transporting loads of liquid waste
3. Describe how to select sites and place equipment under a variety of conditions
4. Identify the relevant laws and regulations that apply to waste disposal

Code: WE13
Course Title: Combination Sewer Cleaner Maintenance
Date: Wednesday, 1/24/2024
Time: 10:30am-12:00pm

This presentation will focus on the key safety, maintenance, component adjustment, and pre-trip inspection of the vehicle to be completed through the normal operation day. Attendees will gain expert knowledge on how to maintain their vehicles to prolong the life of their equipment while also staying safe on the job. It is our intent and passion, to provide a curriculum that will educate attendees on how to safely maintain their combination sewer cleaners no matter what type of unit they are using. Our educational approach is to inform operators and mechanics on how to operate and maintain the equipment safely so they can go home to their families every night, while not detouring them by using “scare tactics” to ensure safety.

1. Discuss the methods of safely jetting a sewer line
2. Recognize how to identify issues with your equipment and when it needs to be turned in for maintenance
3. Discuss fundamentals of a Pre-Trip Inspection
4. Identify areas where components need to be adjusted and inspected on a regular basis

Code: WE14
Course Title: Pump Sizing 102: The System Head Curve
Date: Wednesday, 1/24/2024
Time: 10:30am-12:00pm

Understanding System Head Curves will pump up your pump sizing skills. This presentation will review pump sizing 101 topics such as static head, friction loss, operating head, pump curves and the elements of a “design point.” It then dives deeper into the limitations of a design point and how the system head curve provides the bigger picture of pump sizing and design by determining operating points and how to analyze applications such as simultaneous operation, piping design, VFDs, varying design conditions and conservative vs expected performance.

1. What questions to ask
2. What is a pump system head curve
3. How to address sizing issues
4. Best practices for pump installation and performance

Code: WE15
Course Title: Troubleshooting and Repairing Onsite & Decentralized Systems
Date: Wednesday, 1/24/2024
Time: 10:30am-12:00pm

Murphy’s Law: If something can go wrong, it will go wrong, is true all over the world. If you’re installing and maintaining onsite and decentralized wastewater systems it’s pretty much a given that Murphy is interested in what you are doing and will follow you around. Your company may also be called in to work on a failing system that somebody else has supplied. These customers have already made a substantial capital investment, and typically are not looking for a replacement system; but somebody to make the existing installation work. Systems may fail for a number of reasons, including design error, maintenance issues, site changes, technology problems, and user issues. In this course you will learn how to diagnose why a wastewater treatment unit is failing. We will also learn, that several things can be going wrong at the same time. You will learn how to bring a

2024 WWETT Education Program Course Codes, Title, Day, Time

system back into compliance. We will discuss when a repair becomes uneconomic and a replacement is required. We will examine how practical a partial replacement of a failed system is in reality. We will look at domestic and commercial case studies.

1. Diagnose why a wastewater treatment unit is failing
2. Realize why several things can be going wrong at the same time
3. Discuss bringing a system back into compliance
4. Examine how practical a partial replacement of a failed system is in reality

Code: WE16
Course Title: Communication is King: Providing Calm Leadership and Vision in the Midst of Calamity
Date: Wednesday, 1/24/2024
Time: 10:30am-12:00pm

Labor shortages. Record-high inflation. Divisive politics. Challenging housing market. Continued supply chain issues. And more. These days, your workforce has more to worry about than if they are on time to work. Your ability to effectively communicate with your employees and provide them with the leadership they need will directly impact their performance, the health of your organization's culture, and the profitability of your bottom line. Attend this insightful, interactive presentation to learn to: Crave constructive feedback and effectively give and receive it; Cultivate open lines of internal communication, including an anonymous reporting system when appropriate, to build trust, promote information sharing, and continually make organizational improvements; Value social interactions, express gratitude and appreciation, extend grace, and leverage personal relationships; and Cut bureaucracy to foster a solutions-oriented, growth mindset to best serve the organization and its team members.

1. Evaluate the amount of information that leadership shares with employees and when and how it is shared
2. Analyze the intersectionality between honesty and positivity
3. Determine the difference between "wartime" and "peacetime" communications
4. Craft and tell the story of the company's "why"

Code: WE17
Course Title: Update and the Future of CIPP Considering Styrene Concerns
Date: Wednesday, 1/24/2024
Time: 1:00pm-2:30pm

Review the worker and public health and safety concerns of styrene emissions from CIPP installations

1. Summary of history of the styrene emissions research and regulation from various agencies
2. NASSCO-sponsored research and findings of best practices
3. Recommendations for worker and public health protective measures
4. Review of cost implications for recommended protective measures

Code: WE18
Course Title: Inspections 103 - Advanced OWTS Inspections
Date: Wednesday, 1/24/2024
Time: 1:00pm-2:30pm

This session will discuss some of the fundamental requirements that an inspector will need for that next level of inspection. Ray will cover advanced inspection techniques and the importance of advanced inspection training. Through the utilization of a set of recognized standards, Ray will explain how any inspector would come to the same conclusion regarding the condition and functionality of the onsite system. Ray will utilize case studies and cover some of the techniques and procedures that are available to the practitioner to help evaluate and determine the health and safety of an onsite system. He will discuss how best to use and evaluate the results of tools like an HLT for a more comprehensive, complete evaluation of a system. This session will prepare the inspector for the next level of inspection and evaluation of systems.

2024 WWETT Education Program Course Codes, Title, Day, Time

1. Discuss the fundamental differences in the types of OWTS inspections and the importance of having and following a set standard for inspections
2. Recognize the benefits of a set standard that can be followed by any and all practitioners resulting in a uniformed conclusion regardless of location or inspector
3. Gain perspective and recognize the need for additional training and skill set for advanced inspections
4. Create a path and plan on how you can conduct more complex inspections and create the necessary processes and procedures to do so

Code: WE19
Course Title: Commercial System Design Considerations
Date: Wednesday, 1/24/2024
Time: 1:00pm-2:30pm

Septic systems used for commercial and high strength waste (HSW) applications often encounter significantly different usage patterns, waste strength, and waste stream characteristics. Designers, engineers and regulators must understand and account for these variation to assure long term system performance. An overview of key design wastewater characteristics such as organics, solids and nutrients will be discussed along with the need for characterization of these facilities. Commercial facilities can have flow extremes which can impact system performance. This presentation will discuss design solutions to mitigate the issues focusing on flow equalization. Design solutions for commercial and high strength waste will be offered.

1. Recognize businesses that are likely to generate high strength or hard to treat wastewater
2. Offer solutions for commercial systems to manage their challenging wastewater.
3. Calculate the organic loading from a facility.
4. Recognize the benefit of obtaining flow and waste strength data

Code: WE20
Course Title: Portable Sanitation and Work Sites
Date: Wednesday, 1/24/2024
Time: 1:00pm-2:30pm

This course is designed to assist portable sanitation operators and their teams in growing their skills and confidence in serving work site customers.

1. Identify the different needs and best practices for different types of work sites
2. Discuss the fundamentals of servicing special types of work sites such as federal installations, schools, and big box stores
3. Identify key considerations in determining the optimal number and types of portable units required for work sites
4. Identify both ideal and acceptable placement configuration options at various work sites

Code: WE21
Course Title: Award Winning and Unique Trenchless Project Case Studies for Sewer, Storm Water and Potable Water
Date: Wednesday, 1/24/2024
Time: 1:00pm-2:30pm

Collection systems are the wastewater utilities largest asset more than the treatment plant. The US Environmental Protection Agency (EPA) estimates that there are over 800,000 miles of mainline sewer pipelines in the US and over 500,000 miles of private sewer service laterals. Each of these conveyance systems is susceptible to structural failure, blockages, and overflows. EPA estimate that \$271 billion is needed to maintain and improve the nation's wastewater infrastructure. Trenchless technologies have become a major alternative to traditional digging for replacement for pipelines and maintenance holes. This session will use understandable approach using photo's, videos, and case histories to cover the following:

2024 WWETT Education Program Course Codes, Title, Day, Time

1. Problems such as infiltration, exfiltration, roots, corrosion, and structural defects
 2. The new advanced technologies available to remove heavy deposits to prepare for pipes for lining
 3. Where trenchless technologies can be used
 4. The five basic styles of technologies used for replacement & rehabilitation of gravity & pressure pipelines.
 5. Case histories for each style of liner: Dig & Replace; Trenchless spot repair; Slipliners including continuous, sectional, and spiral wound liners; d. Cured-in-Place pipe liners; Folded and Re-formed pipe liners
- This session will give an overview of the advancements in pipeline cleaning, inspection, and maintenance technology. We will provide a toolbox of the advancements in trenchless technologies that are available to eliminate most of the general maintenance problems and extend the life of the pipelines for another 50 + years. Case histories of award winning and unique installations for each style of liner will be highlighted.

1. Discuss the conditions that increase costs of maintenance and shorten the life of pipelines
2. Review the applications that require dig and replace, and which are candidates for trenchless technology
3. Discuss the unique equipment required for different trenchless rehabilitation methods

Code: WE22
Course Title: Gel Flocculant Technology - New Options for Passive and Semi-Passive Treatment Methods
Date: Wednesday, 1/24/2024
Time: 1:00pm-2:30pm

Very little has changed in regards to water treatment for the removal of Suspended and Dissolved Solids over the past 100 years. In many regions, water supply has been an ignored resource. Given that only 3% of the world's water is fresh water, and 68% of that is in glaciers, it is more important than ever to address water recycling seriously. Clearflow Group has developed an innovative approach to water treatment for solids, including metals and nutrient removal. This approach involves passive and semi-passive treatment methods, reducing the footprint, saving energy, and achieving high levels of efficiency. Clearflow's Gel Flocculant technology is a semi aqueous gel format which only requires natural flow energy or pump flow energy to create the reaction. The Gel Product is self-dosing, self-limiting, and scientifically proven environmentally safe for fish, aquatic organisms, and mammals. Clearflow's Gel Flocculant technology has been in use since 2006 in North America and is now being distributed in 6 countries. Reuse, Recycle and Replenishment of our water waste streams is the sign of the future. We believe that Clearflow's Gel Flocculant technology represents a major step forward in water treatment, and we urge organizations and individuals to join us in pursuing sustainable water management practices. You will learn how this low energy, environmentally safe, chemical treatment method reduces total suspended solids, metals, some organics, and phosphorus. You will also learn how it has a very low operational cost and labour requirement. You will gain an understanding on how the process is environmentally safe, especially in regards to aquatic life, such as fish.

1. Discuss an innovative approach to water treatment for solids, including metals and nutrient removal
2. Discover how passive and semi-passive treatment methods reduce the footprint, save energy, and achieve high levels of efficiency
3. Examine how Gel Flocculant technology represents a major step forward in water treatment

Code: WE23
Course Title: Small Business Administration 101 - Start, Grow, Expand and Recover
Date: Wednesday, 1/24/2024
Time: 1:00pm-2:30pm

Business owners and potential owners get informed! Come and sit down with an SBA employee and learn how the U.S. Small Business Administration can assist your business. Learn about the resources available to start a new business, grow an existing business, expand a business through exporting and government contracting, and recover a business after a disaster.

1. Discuss how the SBA can assist you
2. Discover the resources available to you and your business
3. Explain how you can recover a business after a disaster

2024 WWETT Education Program Course Codes, Title, Day, Time

Code: WE24
Course Title: Service Plumbing: What's Worth Your Time & Money
Date: Wednesday, 1/24/2024
Time: 1:00pm-2:30pm

Service plumbing is a high paced and reactive business. Every day we have demands on 20 different fronts. We all want to succeed and make more money but where should we put our energy? What matters most? How do you stay on task and accomplish what will produce the best results?

In this class we will spend some time in open discussion talking about many key areas that impact service plumbers. We will be using live examples, talk through solutions and allow you time to share some of your personal experiences. I'm confident from this session you will walk away challenged yet encouraged on how to grow your business.

1. Managers, Technicians, Apprentices & Office Staff: What really matters to them? How do we gain & keep talent?
2. Company Culture: What works? What doesn't? Is it worth the time & money?
3. Salary & Benefits: Labor costs have greatly increased and talent decrease yet people are one of our biggest ROI. How we handling that?
4. The Challenging Areas: On-call, Attendance, Procedure compliance, What metrics matter and more... What's worth fixing and putting time and energy into?

Code: WE25
Course Title: NASSCO's Building Sewer and Drain Inspector Training Program
Date: Wednesday, 1/24/2024
Time: 3:00pm-4:00pm

An overview of the new NASSCO Building Sewer and Drain Inspector Training Program designed to assist in the inspection of laterals in real estate transactions.

1. Critical steps involved in the proper inspection of a private property building sewers or drains for private property real estate transactions.
2. Summary of certification curriculum
3. Steps municipalities can take to implement inspection programs

Code: WE26
Course Title: How to Educate the Homeowner About Their OWTS
Date: Wednesday, 1/24/2024
Time: 3:00pm-4:00pm

This session will cover information on how to educate the homeowner about their system, why it is important that they understand how it works, and the impact their usage has on the system and the environment. We will cover how to learn to read the individuals reactions and interpret whether they are engaged in the conversation and being active listeners. We will discuss using and honing your communication skills and knowledge on OWTS to help the homeowner help themselves, ensuring they are properly utilizing their systems and how they can save themselves unnecessary repair bills. We will review how important it is to create a company policy for homeowner education and discuss how to create materials and marketing strategies for your business that includes homeowner education. We will review how to effectively use different platforms to educate consumers and build your customer base.

1. Describe the importance of educating the homeowner on their system and how their usage impacts the functionality of their system and what their responsibilities are to their system and the environment
2. Recognize and read the individual's reaction to the information the practitioner is imparting and use that information when communicating with the individual to better connect and influence the homeowner
3. Create a company policy for consumer education and create materials and marketing information and strategies to reach their customer base

2024 WWETT Education Program Course Codes, Title, Day, Time

Code: WE27
Course Title: Unsaturated Media Filters: Design, Installation and Operation Keys
Date: Wednesday, 1/24/2024
Time: 3:00pm-4:00pm

Unsaturated media filters use either naturally occurring or man-made media to encourage oxygen found in air spaces to diffuse into thin liquid films surrounding media particles. As microorganisms colonize, attach and reproduce on the media, their combined respiration reduces wastewater contaminant concentrations in the film and creates an oxygen diffusion gradient leading deeper into the media filter.

Because media filters promote the growth of oxygen breathing (aerobic) microorganisms, they are a subclass of the aerobic treatment unit category. In media filters attached microorganism types are encouraged to thrive. The typical performance of an unsaturated media filter is robust – meaning the effluent concentration is consistent even if the influent concentration is variable, and resilient – meaning the performance of the filter quickly regains functionality after a stress event.

Media Filter systems scale up proportionately based on simple hydraulic residence time and volume of media to accommodate larger flows such as from a multi-residence cluster system. In larger flow designs more expensive investments such as flow equalization tanks and remote monitoring control panels become feasible options.

Media filters require professional operation and maintenance services with an annual to biannual frequency. Areas of special focus are the media surface interface, the uniformity the wastewater application system, and effluent sampling if required. Fats, Oils and Greases (FOG) are kryptonite to an unsaturated media filter. Recirculating media filters are designed to remove nitrogen from wastewater effluent through multiple effluent passes through the media. Over years of use, sewage solids accumulate in media, adding to their density. Depending on the model, accumulated solids removal or complete media replacement may be required.

1. Recognize the material properties that are prized in a media filter from a provided list
2. Pick the two most common media filter effluent routes from a provided list
3. Discuss whether the typical treatment from an unsaturated media filter is robust and resilient or not
4. Detail the ways an unsaturated media filter can be hydraulically or organically overloaded

Code: WE28
Course Title: Advancements in Trenchless Structure Rehab Using Fiberglass Reinforced Structural Lining Systems
Date: Wednesday, 1/24/2024
Time: 3:00pm-4:00pm

This presentation will offer insights into the structural aspects of manhole rehabilitation, what methods are available and the merits of each. There will also be a detailed description of when and why a more structural method of manhole rehab is necessary and how a structure is prepared for receiving a fiberglass structural lining system. Field success and history will be shown in pictures and video with discussion of life span pertaining to this method of rehabilitation.

1. Explain the difference between permanent and temporary manhole rehabilitation methods
2. Discuss the methods of structure preparation for receiving a structural fiberglass reinforced liner
3. Recognize how to know what method of rehab a deteriorated manhole needs
4. Create a plan or program to obtain the best value for manhole rehab for your municipality or client

Code: WE29
Course Title: Best Practices and Troubleshooting Onsite Electronics
Date: Wednesday, 1/24/2024
Time: 3:00pm-4:00pm

This presentation is intended to demonstrate a better working knowledge of how control panels works, and how to safely and correctly identify problems in the field. We will discuss electrical terms and what they mean,

2024 WWETT Education Program Course Codes, Title, Day, Time

explain the physical and electrical differences in floats and how they work, and control panel components and how they relate and work together in a control panel. We will touch on multi meters, the proper ways to troubleshoot a float, and tricks to point us in the right direction when troubleshooting a panel.

1. Discuss Components - what they are and how they work, physically and electrically
2. Explain theory of operation for residential & light commercial onsite control panels
3. Read schematics and wiring diagrams to give a basic understanding of installation and troubleshooting and care of residential and light commercial onsite control panels
4. Demonstrate basic knowledge and understanding of electrical terms

Code: WE30

Course Title: Killer Culture! Create an Environment that Transforms Employees Into Raving Fans of Your Business

Date: Wednesday, 1/24/2024

Time: 3:00pm-4:00pm

Creating a culture that supports and reflects the best aspects of your business with these strategies, from free and simple-to-use tools to well-executed programs both you and your employees will love! Learn to discern the investment of employee retention efforts that will empower you with the ability to transform your team from clock-punchers to your best recruiting and marketing devotees!

1. Explain the difference between Killer culture vs culture killer
2. Explain how to identify your company's core values
3. Explain the importance and place of security, connection, dignity, and belonging in the workplace
4. Discuss the do's and don'ts of keeping positive culture alive

Code: WE31

Course Title: First Steps to Government Contracting

Date: Wednesday, 1/24/2024

Time: 3:00pm-4:00pm

Join the Small Business Administration for this informative seminar. Learn how to make the world's largest buyer of goods and services your customer! Learn about the first steps necessary to becoming a federal contractor; Federal Certifications – what they are, how they can benefit you, and how to apply; and finding opportunities and marketing your company to the federal agencies.

1. Explore how to become a federal contractor
2. Discover how to apply for a federal certification and how it can benefit you
3. Find opportunities to market your company to federal agencies

Code: WE32

Course Title: The 2023 Portable Sanitation Benchmark Report

Date: Wednesday, 1/24/2024

Time: 3:00pm-4:00pm

Over the past 2 years, ServiceCore has surveyed hundreds of portable sanitation businesses in order to identify what the most profitable portable sanitation businesses are doing to achieve more growth and success than their competition. In this session we will share the results of the 2023 Portable Sanitation Benchmark Report. You'll learn:

- The 6 measurable benchmarks of operations
- What revenue category drove the most profits in 2023
- How PROs have changed their billing practices
- How the supply chain improved in 2023
- Where growth will come from in 2024

2024 WWETT Education Program Course Codes, Title, Day, Time

1. Compare your portable sanitation business against others in your region
2. Analyze the 6 measurable benchmarks of operations
3. Discuss the categories that are driving the most profits for a portable sanitation business
4. Review the billing practices of the most profitable portable sanitation businesses in the US

Code: WE33
Course Title: NASSCO's Large Diameter Sewer Cleaning and O&M Standards
Date: Wednesday, 1/24/2024
Time: 4:30pm-5:30pm

Review of the large diameter gravity and pressure pipe cleaning standard and best practices associated with large diameter sewer cleaning.

1. Review of drivers for developing these standards
2. Review cleaning technologies appropriate for large diameter pipes
3. Overview of standards and their application to productive cleaning operations

Code: WE34
Course Title: Designing with Constructability and Ease of Operation in Mind
Date: Wednesday, 1/24/2024
Time: 4:30pm-5:30pm

Onsite Wastewater Systems are designed to fit individual sites using general plumbing equipment plus equipment available from manufacturers that specialize in onsite wastewater products. The designer must determine the appropriate wastewater treatment level needed to make most efficient use of the dispersal site, identify and choose products to reliably treat the wastewater characteristics and site conditions, the conveyance method to deliver the treated wastewater to the dispersal site, and the technology to provide reliable dispersal. A high priority for all decentralized wastewater systems is to prevent infiltration of surface or ground water into the system. How do existing site conditions affect installation of each component? Will seasonal conditions make the installation easier or tougher? What steps can be taken to facilitate the installation? What material options are available for this component (i.e., concrete, plastic, fiberglass for tanks) and which option will be the most constructible for this component? Will the most constructible option also be the most reliable throughout the life of the onsite system?

This session will help the attendee learn to ask the correct questions to identify the priorities at each stage of design and construction of a decentralized or onsite wastewater system and then to choose the most constructible and operationally reliable option

1. Assess the constructability of a supplied example site
2. Identify the level of treatment required
3. Determine the most important priorities during the design stage of an onsite wastewater system, who is responsible for this stage and from whom that individual should seek input
4. Describe the impacts of a difficult to install system on the jobs of installer, operator, inspector, and owner

Code: WE35
Course Title: Composite Manhole Covers - Offering Never-Seen-Before Infrastructure Tools and Solutions
Date: Wednesday, 1/24/2024
Time: 4:30pm-5:30pm

Rainwater, river spillover, snowmelt, rising tidal waters, overflowing levees and waters from drainage system backflow, that are meant to be transported into our natural waterways via storm systems will also flow into our sanitary sewer system (Infiltration and Inflow or I&I). Unlike the drainage systems, the sanitary systems deliver fecal matter and toxic chemicals to wastewater treatment plants. These sanitary systems have limited capacities, and when the I&I – not requiring treatment – enters the sanitary system, volumes can exceed that capacity. The result of exceeding the sanitary capacity is that the pathogen-filled sewer water reverses,

surcharges, and spills into the streets, and waterways. Spilling toxic waters into fresh waters (Sanitary Sewer Overflows or SSOs) is a leading cause of water pollution amounting to 32 trillion gallons of pollution each year. SSOs also cost cities millions each year from EPA fines, unnecessary rain guards, high wastewater treatment costs, electricity for added pump-time operation, and astronomic capital costs on over-capacity plants designed for high rainwater events. Reducing I&I allows for lower investment in smaller capacity treatment plants. How does a composite manhole cover help prevent I&I? Specifically, the compression molding composite process reduces the potential for part-to-part dimensional variation compared to iron casting allowing for a closely mated cover-frame fit. Plus, because composites are corrosion resistant, no oxide molecules develop in between the cover and frame allowing for tighter design tolerances.

For example, Fulton County, GA recently reported a 100% spill over elimination by implementing composite manhole cover assemblies as part of a comprehensive solution. This eliminated millions of gallons of sewage that used to enter the Chattahoochee River with each major rainfall for the past 30 plus years. Furthermore, Fulton County and other municipalities have reported 50% lift station pump run-time decreases after installing watertight covers to seal their collection system. Because less stormwater enters the sanitary system, the pumps moving the water do not work as hard. This translates to hundreds of thousands of dollars in electric bill savings per year per municipality.

And as a bonus, wastewater crews report that being so precisely mated and sealed, the composite assembly greatly improves odor retention.

High-tech smart manhole covers have recently been introduced using composite materials. These covers measure important variables with sensors under the covers - such as manhole fluid levels - and transmit this data to a central office or operators' portable devices. This information can be used as an early warning alarm preventing sewer spillovers as well as allow troubleshooting to identify the major points of water inflow. Composites allow this transmission without drilling antennae holes or attaching antennae shields on the covers which are necessary when using iron because iron blocks these signals. And because the composite covers are lighter these smart covers can be moved around the system pinpointing much greater accuracy where public work resources should be spent rather than large collection-system rehabilitation project expenditures. Also, municipalities suffer opening traditional manhole covers stuck to the frames from debris and sometimes iron oxide particles. Sewer gas (H₂S) corrodes iron covers in many collection systems especially around lift stations, air release valves, and water treatment plants. The common solution is striking the cover with a sledgehammer to dislodge the cover. Time consuming and frustrating, the pounding has caused operator injuries from back strains, eye contusions or skin lacerations from bouncing debris. Pounding covers also damages the cover integrity, breaks the frame, or simply results in skipped inspections if the operator cannot open it.

Composite manhole covers are inherently corrosion resistant. Expensive, toxic coatings used to protect iron (and eventually peel off) are unnecessary when using composites. Costly coatings – banned from states-applied to the covers are not necessary.

Composite covers bring many other benefits versus traditional metal options: safer and better ergonomics, faster install, manhole cover theft prevention, cosmetic options, encapsulation of RFIDs and sensors, better sustainability, and environmental impact. Finally, with the new compression molding process, composite assemblies are now becoming affordable and available in weeks not months.

This presentation is highly visual with a fairly basic technical level. It is aimed for management, engineers, and operators who want to improve their system performance in terms of cost, safety, analytical tools, pollution, odor, and many other aspects. The material introduces some academic research but is mostly empirical based on real world experiences and case studies. These will be demonstrated by video and photography.

1. Discuss a better and safer solution for manhole rehabilitation
2. Prevent & eliminate sewer spillovers while cutting electric costs & maintenance to lift stations
3. Use new tools to analyzed and pinpoint collection issues like lift stations inefficiencies, insufficient grease trap cleaning frequencies, collection system I&I
4. Improve sustainability and environmental impact for new capital projects

2024 WWETT Education Program Course Codes, Title, Day, Time

Code: WE36
Course Title: Remote Monitoring and Wastewater Level Controls
Date: Wednesday, 1/24/2024
Time: 4:30pm-5:30pm

This class will identify and discuss alternative liquid level controls for water and wastewater pumping applications. We will cover existing and new level control technology including remote monitoring, and how it applies to various installations and system applications.

1. Demonstrate a general understanding of current water and wastewater liquid level pump controls
2. Identify the advantages and disadvantages of each different level control
3. Discuss how the alternative liquid level control operates specific to pump control
4. Reference and understand basic and advanced levels of remote monitoring

Code: WE37
Course Title: Accounts Receivable and Debt Collection Best Practices
Date: Wednesday, 1/24/2024
Time: 4:30pm-5:30pm

A complete guide on best practices for accounts receivable billing. Learn techniques of timing when to begin the collections process, best practices for collecting from slow and no pay customers and examples of collection techniques and verbiage that WWETT2024 attendees can take home with them. Protect your most valuable asset – your liquid income! Increase the ability to have invoices paid on-time, slow AR aging roll and increase cashflow.

1. Define the accounts receivable process and timeline
2. Discuss the most critical factors of getting invoices paid when they are due
3. Explain the proper use of collection letters, phone calls, emails and text messaging
4. Share examples of the verbiage needed that meets the guidelines of the Consumer Financial Protection Bureau

Code: WE38
Course Title: How to Increase Cohesion in Your Multi-Generational Workforce
Date: Wednesday, 1/24/2024
Time: 4:30pm-5:30pm

Workforce demographics continue to shift where generational diversity has become a major topic of conversation and in some cases a cause of trepidation. Increasing cohesion with your multi-generational workforce does not have to be as complicated as it might seem on the surface. There are practical and simple ways to merge your current management perspective when you have access to better strategies and concepts. Great business owners or managers adapt their leadership style to fit their company's goals and values that incorporate their multi-generational workforce. As a business owner or manager, you've always have to balance personalities and egos to have your staff work toward a common goal. Implementing cohesion into a multi-generational workforce just adds another layer to this here. It's about taking the time to understand your people and identify their strengths and opportunities for healthy collaboration to serve your customers toward better experiences. This session will discuss the process and advantages of increasing cohesion into your multi-generational workforce for higher engagement and better customer experiences.

1. Explain the proper techniques to increase cohesion in your multi-generational workforce
2. Recognize the advantages of implementing different leadership styles to align your multi-generational workforce overall for higher engagement and dedication to your company's core objectives
3. Define how certain strategies will increase cohesion with your multi-generational workforce to increase the customer experience

2024 WWETT Education Program Course Codes, Title, Day, Time

Code: WE39
Course Title: New to the Industry Mixer
Date: Wednesday, 1/24/2024
Time: 4:30pm-5:30pm

Stop by to mingle with others who are also new to the industry. Enjoy an adult beverage while participating in an ice breaking activity. It's time to make some valuable new connections!

Code: WE40
Course Title: Service Plumbing: Grow Your Business and Don't Burn Out
Date: Wednesday, 1/24/2024
Time: 4:30pm-5:30pm

Service Plumbing never stops! With 24Hr/ 7 Day a week emergency service, everybody's problem is a crisis, your team lacks talent, you've lost any sense of a work life balance and yet your company still isn't where it needs to be.... YOU'RE NOT ALONE!

In this session we walk alongside one another as peers. I have met so many owners and managers who used to absolutely love what they do but they've fought the service plumbing never ending grind and are burning out. They're angry, overworked and borderline depressed. Let's talk about how to prevent this and get you back on the right track. What healthy rhythms do you need? What boundaries need to be set up? What should a leader's role in a plumbing company look like? There's hope, I promise.

1. Realize you're not alone: Evaluating where you're at and why
2. Discuss leadership: We must know and understand this role in order to move forward.
3. Practice rhythms: We hear a lot about work life balance, what does that mean and how to we get there in this industry?
4. Discover there's hope and encouragements & receive tips on how to grow your business and prevent future burnout

Code: WE41
Course Title: Women in the Industry Mixer
Date: Wednesday, 1/24/2024
Time: 4:30pm-5:30pm

Stop by to mingle with the women in the industry. Enjoy an adult beverage while participating in an ice breaking event. It's time to make some valuable new connections!

Code: TH01
Course Title: It's Up to YOU - Taking Ownership and Finding Common Ground
Date: Thursday, 1/25/2024
Time: 9:30am-10:30am

Are you tired of DRAMA? Amazingly, the average employees spend more than 2.5 hours per week trying to resolve conflict, which translates into \$359 billion in losses for U.S. companies every year. Easy to sense, harder to diagnose and prevent, drama can happen in even the healthiest organizations and can divert time, energy, and money away from team goals, strategic priorities, and critical activities. This engaging and interactive session equips you with skills to transform the energy of conflict into meaningful contribution and effective communication so we can all get back to work!

1. Identify drama behaviors and how they impact strategic efforts
2. Increase self-awareness and personal responsibility for stopping drama
3. Identify how to enforce rules of engagement to ensure drama doesn't sabotage smooth operations
4. Engage in difficult, respectful conversations around the most important issues

2024 WWETT Education Program Course Codes, Title, Day, Time

Code: TH02
Course Title: Challenges and Opportunities when Handling Fats, Oils, and Greases (FOG)
Date: Thursday, 1/25/2024
Time: 9:30am-11:00am

This session will focus on handling fats, oils, and greases (FOG), specifically used cooking oil and grease trap waste. Both of these waste streams are handled often by hauling companies. This training event will be led by a panel from the USFOGA organization. The US FOG Alliance is a non-profit organization for professionals who handle and manage fats, oils, and grease. This session would provide training on the latest technology in the areas of grease trap interceptor inspection, grease removal devices, software for FOG management, and FOG compliance tools.

1. Discuss sources of FOG and potential products
2. Analyze problems associated with FOG handling
3. Learn about new tools to make hauling grease easier and more profitable
4. Discuss regulatory topics that impact grease trap haulers

Code: TH03
Course Title: Advanced Wastewater Treatment Systems – This Is What They Are and This Is What They Do
Date: Thursday, 1/25/2024
Time: 9:30am-10:30am

Advanced treatment systems are shown to meet USEPA secondary wastewater treatment standards through independent third-party testing. The goal of this presentation is to give a way to categorize these systems based on factors that help you to understand how they work. For simplicity, I will call all these systems aerobic treatment units.

A recent review of ANSI/NSF standard 40 approved aerobic treatment unit manufacturers numbers 40 with a total of several hundred certified products. Each of these certified products is an aerobic treatment unit, but the method of air introduction and fluid flow paths varies by model. Aerobic Treatment Units can be categorized as suspended growth, attached growth (also known as unsaturated media filter), a hybrid mix of suspended/attached growth treatment principles, a bacterial generator, or a combined treatment and dispersal system. Each treatment category will be described in detail to explain their common treatment process. Aerobic treatment units are manufactured in either single pass or recirculating configurations. Recirculating aerobic treatment units (from multiple manufacturers and categories) are designed to reduce nitrogen concentration in the effluent.

By the end of the presentation attendees should be able to look at advanced wastewater treatment systems (in the exhibit hall or in their home towns) and be able to place them in one of the five described treatment categories.

- 1 Describe the main difference between single pass and recirculating aerobic treatment units
2. Provide a manufacturer name or model name for each of the five treatment categories given
3. Explain how microbe's metabolism in aerobic conditions differ from those in anaerobic conditions
4. How does the wastewater loading regime effect the process of wastewater treatment

Code: TH04
Course Title: Coffee Talk – How Utility Operators Are Helping Utility Operators in Developing Countries and What it Means to Them
Date: Thursday, 1/25/2024
Time: 9:30am-10:30am

Operators Without Borders is a registered charity with two mandates. The first is to assist water and wastewater utilities in developing countries recover after disasters. The second is to build capacity in the utilities through training and mentoring. Join Founder and Chairperson, Valerie Jenkinson, as she outlines the work OWB has

2024 WWETT Education Program Course Codes, Title, Day, Time

undertaken since last year's conference and how the donation contributed by the WWETT Show was put to use.
Hear :

- What it is like to run a utility in Ukraine during war and the initiatives that OWB has delivered such as technical training and a two day workshop on Nuclear and Chemical contamination to assist water utilities in Ukraine
- How training a Commune in Haiti in District Metered areas reduced their NRW by 40%
- How the very first operators were certified in Africa after OWB provided training
- How OWB is building capacity by developing local trainers

1. Discover what it is like to run a utility in Ukraine during war
2. Explain how training a Commune in Haiti in District Metered areas reduced their NRW by 40%
3. Discuss how the very first operators were certified in Africa after OWB provided training
4. Discover how OWB is building capacity by developing local trainers

Code: TH05
Course Title: Adding Restroom Trailers to Your Portable or Septic Business and How to Grow It
Date: Thursday, 1/25/2024
Time: 9:30am-10:30am

Adam Ghrist will explain how he and his brother built and operated their restroom rental business. He will discuss opportunities in this industry, the benefits of offering restroom trailers, and how to succeed in marketing and growing this business.

1. Explain the benefits of adding restroom trailers to your portable business
2. Define how to align and market your business to generate growth
3. Recognize the advantages of restroom trailers over portables when it comes to employee shortages
4. Discuss the growing trend of restroom trailer rentals over portable and discuss the ROI on restroom trailers

Code: TH06
Course Title: Creative Large Diameter Pipe Cleaning
Date: Thursday, 1/25/2024
Time: 9:30am-10:30am

This presentation explores a case study describing the unusual conditions during a municipal cleaning project that led to a creative solution with implications for future use. A municipality in Texas desired to clean a 42-inch sanitary sewer line, approximately 550 feet in length, which was three-quarters full of very large debris using their own manpower and equipment as opposed to contracting out the project at an estimated cost of several hundred thousand dollars. Conventional cleaning techniques using standard cleaning nozzles were not effective in extracting the material from the pipe. A nozzle that could harness the power of two (2) combination sewer cleaning units simultaneously was used to remove the debris in the pipe. The nozzle moved extremely large amounts of debris including some that were too large to travel through the eight-inch vacuum suction hoses. This case study presentation will highlight aspects of the situation encountered and identify the procedures that used to complete the sewer cleaning project successfully using their own manpower and equipment as an illustration to encourage other municipalities to "think outside the box."

1. Realize an opportunity to increase production rates for large diameter pipe cleaning
2. Recognize the required tools associated with cleaning large diameter pipe
3. Explain the proper tasks associated with cleaning large diameter pipe
4. Explain the physics of nozzle capacities and how it affects large diameter pipe cleaning procedures

Code: TH07
Course Title: El futuro de las Infraestructuras en Centroamérica y Sudamérica, y por qué la Educación Comunitaria es la Clave (The Future of Infrastructure in Central & South America, and Why Community Education is the Key)
Date: Thursday, 1/25/2024

2024 WWETT Education Program Course Codes, Title, Day, Time

Time: 9:30am-10:30am

Case Study: 100km Sewer Rehabilitation Ecuador. This presentation will examine a 2022 ISTT Award-winning rehabilitation project in Guayaquil, the largest city in Ecuador. Nearly 100km of wastewater network was rehabilitated in a heavily populated and trafficked area, directly contributing quality-of-life benefits to more than 325,000 residents who had routinely been subjected to inadequate wastewater treatment and street-level overflows. Since trenchless technology was practically unknown in the region, the project required enormous coordination efforts, including weekly community information sessions and trenchless training for up to 200 local workers. Further, this presentation will outline and walk through the processes of identifying major rehabilitation projects in Central & South America, building organic community support during the proposal RFQ process, and creating the community first-infrastructure of the future.

1. Recap the 2022 ISTT Award-winning Guayaquil, Ecuador wastewater rehabilitation project
2. Discuss how to approach municipalities for major wastewater infrastructure rehabilitation projects in Central and South America and identify the advantages of community engagement in such projects
3. Consider the cost value and benefits of future looking, community-first solutions
4. Outline valuable rehabilitation best practices to create lifetime clients

Code: TH08

Course Title: "Did You Just Click on That!?" - Employee Best Practices for Data Protection

Date: Thursday, 1/25/2024

Time: 9:30am-10:30am

ABC News reports "of all the country's critical infrastructure, water might be the most vulnerable to hackers: the hardest in which to guarantee everyone follows basic cybersecurity steps, and the easiest in which to cause major, real-world harm to large numbers of people." Every organization including those responsible for critical infrastructures needs cyber security awareness training.

Your employee just had some free time and clicked on a Google Ad. You got an email from a client wanting to know why you sent him a bill. You log in to your bank account to find it's empty. You can't get past a pop up screen that is asking for \$250k in crypto currency. Your pump system is no longer responding to remote commands. You are experiencing a multi-billion dollar problem affecting companies of every size and this is particularly troubling for the water and wastewater sector. The bad guys are getting much clever at fooling you and your employees into making that fateful click! And it's affecting all your devices, desktop and mobile. Learn what's new and even old strategies that still lure the unwary and how to instill that culture of 'don't do it!' into your employees, friends and family. So the next time your lead operator wants to know why chemical XXX is now running at 200% of normal.....?

1. Discuss authentication strategies and ransomware prevention
2. Discover the fundamentals of cyber security hygiene
3. Determine your options for cost-effective - no annual contract training
4. Consider in-depth seminars conducted via streaming or in-person

Code: TH09

Course Title: Wastewater: Go With the Flow

Date: Thursday, 1/25/2024

Time: 9:30am-10:30am

Wastewater treatment has a long-standing history of playing a crucial role in keeping the environment clean and safe for communities around the world. Water systems not treated properly, or not attended to at all can have devastating effects on the ground, polluting the natural resources we use every day in drinking, eating, and using the washrooms at home or in public settings. Millions of dollars have been invested in improving the ground water systems over the last year with more dedicated in the coming years. It is our responsibility to maintain best practices every day in the field from protecting pipes from bursting to responsible irrigation. It's fundamental to preserve groundwater for future generations and a healthy planet. Groundwater contamination can create long-lasting, serious problems that impact the local and global ecosystems. From single residential homes to large scale municipal systems and anything in between, there are significant consequences to our

2024 WWETT Education Program Course Codes, Title, Day, Time

environment and economy. With substantial improvements being made over the last year, we are seeing significant improvements in our infrastructure across the US that will provide better treatment and disposal of water for neighborhoods, communities, and wildlife. use enzyme-based treatments to help keep the groundwater clean and adapt to the changes. As valuable changes continue in the years to come, adaptation and preparedness in developments include knowing how your water flows, the requirements for treatment and sticking to these practices.

1. Review best practices in different regions of the US compared to other parts of the world in wastewater treatment and management
2. Describe the main types of water treatment systems and current infrastructure along with the best practices
3. Recognize, anticipate, and adapt to infrastructure trends and changes and how to maintain them
4. Explain different applications for wastewater treatment; to protect one of our natural resources around the globe and how we all play a part in groundwater safety

Code: TH10
Course Title: Creating a Culture of Accountability, Diversity and Inclusion
Date: Thursday, 1/25/2024
Time: 11:00am-12:00pm

Learn how to get everyone working together and taking personal responsibility and accountability for their actions. Create a culture where individuals want to help others succeed, and understand that when the team wins, they win. And during this time of the “great resignation”, learn how to lead with inclusion to inspire, motivate, engage and attract new employees.

1. Get everyone working together and take personal responsibility and accountability for their actions
2. Create a culture where individuals want to help others succeed
3. Lead with inclusion to inspire, motivate, engage and attract new employees during this time of the “great resignation”

Code: TH11
Course Title: Troubleshooting Septic System Issues and Standard Practice on Installing Septic Systems
Date: Thursday, 1/25/2024
Time: 11:00am-12:00pm

We will be discussing the first troubleshooting phone call to the finished installation of a septic system. We will explore how to help customers diagnose the septic issues over the phone and troubleshoot. After that first point of contact if they need more help, we will discuss helping to diagnose issues in the field. Discuss what the next steps are and determine when to fix the issue compared to replacing the septic system. Once we start installing septic tanks and drainfields, we will discuss what the common standard practices are to make sure the system is going to live its maximum life.

1. Help customers troubleshoot issues over the phone, saving the customer time and money
2. Determine if the septic system has an issue
3. Decide if you will be repairing or replacing the septic system
4. Identify standard practices of installing the systems correctly and explain the proper techniques of installation

Code: TH12
Course Title: Choosing a Hydro Jetter for YOUR Jobs: Comparing Jetter Types, GPM/PSI Outputs, & more
Date: Thursday, 1/25/2024
Time: 11:00am-12:00pm

There are more choices of Hydro Jetters in today's market than ever before, so choosing a Jetter for your Service Business can be painstaking! Should I get a tow-behind Trailer Jetter? Or a Mountable Van-Pack for my Service-Van? Can I get away with a Portable Cart-Jetter on wheels? Maybe a smaller Hand-Carry type? Or a combination of those? How much Flow & Pressure do I need from the jetter and why are there so many

2024 WWETT Education Program Course Codes, Title, Day, Time

GPM/PSI (lpm/bar) choices? And why so many Nozzle choices? Can I use an electric-powered Jetter or will it need an engine that requires fuel? In this session Steve "Jonesie" Jones from JETTERS NORTHWEST will unpack these questions and provide practical answers to help you choose the right Jetters for the jobs YOU do today, and for the potential jobs of tomorrow. (NOTE: content will NOT be brand-specific)

1. Discuss the pros & cons of the various Jetter "types" (Tow-behind Trailer, Mountable-Skid, Portable-Cart, & Hand-Carry)
2. Explain how the "size" of a jetter's Flow-rate (GPM/LPM) and Pressure (PSI/bar) dictates the "size" of the pipeline-cleaning tasks that jetter can routinely handle
3. Define best-application for various pipe-cleaning jobs, from jetting out easy "soft clogs", to clearing tough blockages like roots & grease, to de-scaling & prepping pipes for relining
4. Cover the importance of Nozzles & choosing the right "types" for the jobs you'll encounter

Code: TH13
Course Title: The Power of Organizational Development and Health in the Sanitation Industry
Date: Thursday, 1/25/2024
Time: 11:00am-12:00pm

Join Grant and Erin Stahla as they explore the impact of organizational development and health in the sanitation industry. As the young owners and operators of Stahla Services, a nationwide luxury restroom and shower trailer company, they bring a unique perspective on the importance of these concepts in driving success and growth in the industry. In this session, you will learn how to cultivate a positive organizational culture, develop a healthy and productive team, and build systems and processes that drive efficiency and effectiveness. You will discover the impact of a growth mindset, how to overcome challenges, and how to lead your organization to success. With real-world examples and practical tools, this session is designed to give you the confidence and knowledge you need to drive positive change in your organization. Whether you are just starting out or looking to take your business to the next level, this session will provide you with the strategies and insights you need to succeed. Don't miss this opportunity to learn from the experts in the sanitation industry and discover the power of organizational development and health. Take the first step towards a more successful and impactful business.

1. Define the importance of organizational development and health in driving success in the sanitation industry
2. Developing a growth mindset and learning how to overcome challenges in the industry
3. Learning practical tools and strategies for building a positive organizational culture, developing a healthy and productive team, and driving efficiency and effectiveness
4. Gaining insights and knowledge from experts in the industry on how to lead your organization to success

Code: TH14
Course Title: Sewer Camera Inspections for Real Estate Transactions
Date: Thursday, 1/25/2024
Time: 11:00am-12:00pm

Many new home owners are requiring a sewer inspection before they purchase a home. Some States are requiring it. Do you know the best practices for this area of using your sewer camera? We will show some tips for the use of the push sewer cameras. Also we will go over the report side of the sewer camera inspection, and discuss what works best for all in the transaction.

1. Discuss the best use of the sewer camera for home sales
2. Explore whether all home sewers can be inspected
3. Identify how best to charge for the inspection
4. Describe the best way to make a report

Code: TH15
Course Title: Training Your Employees Improves Productivity, Morale and Safety
Date: Thursday, 1/25/2024
Time: 11:00am-12:00pm

2024 WWETT Education Program Course Codes, Title, Day, Time

In the corporate sector, continuous training and development of employees can help in constant improvement. Like drills at schools that help students to learn a lesson by heart, recurrent training courses can help improve their knowledge and bridge their skill gaps efficiently. Recurrent training is considered beneficial as illustrated by wastewater license holders being required to take a specific number of training hours every 1-3 years to extend the validity of their wastewater license as issued by state licensing boards across the United States. Many states are working towards having such requirements as federal, state, and local environmental mandates increase. This training also exposes workers to new technologies, best practices, and possibly newer best practices to make employees' jobs safer and more productive. The workplace, across multiple industries, is experiencing above normal attrition rates in recent times and most employers will admit to staffing shortages. This situation also exists in most wastewater collection personnel departments as well. New hires especially benefit from specialized training to become more proficient in their new position and reduce the learning curve especially in the case of using highly specialized equipment that can cost hundreds of thousands of dollars such as combination sewer cleaning equipment. We will provide information that illustrate the following benefits of initial, recurrent and ongoing training programs:

1. Benefits for new hires – reducing the learning curve
2. Reduced maintenance costs
3. Reduction of equipment downtime
4. Improved production rates
5. Improved morale among employees
6. Greater safety awareness

1. Discuss the benefits of evaluating equipment maintenance records
2. Identify areas of improvement in the organization
3. Analyze problem areas for possible solutions
4. Recognize the value of effective training programs

Code: TH16
Course Title: Septage Screening Made Easy - A Summary of Automated Screening Types
Date: Thursday, 1/25/2024
Time: 11:00am-12:00pm

The manual bar screen has been used for over 100 years to screen trash from hauled waste. Simplicity is the main advantage of the manual bar screen, but there are many options for equipment that automate the screen clearing process. Each type of equipment on the market has strengths and weaknesses that should be understood during the buying process. The purpose of this presentation is to provide a review of the different types of screening equipment available on the market for septage and provides some evaluation criteria to aid the buying process. This presentation is not designed for commercial purposes and is an objective review of various equipment without mention of equipment manufacturer or where manufactured.

1. Describe challenges with septage screening
2. Describe major elements of screening equipment
3. Describe major types of screening equipment
4. Describe a method to evaluate differing types of screening equipment

Code: TH17
Course Title: Emergency Backup Pumps for Lift Stations
Date: Thursday, 1/25/2024
Time: 11:30am-12:30pm

Planning for emergency events is a critical function for all infrastructure supervisors, especially at wastewater lift stations. Since most collection systems utilize the local electrical grid to power their conveyance system, power outages have traditionally been the primary concern for municipal managers and consulting engineers. Permanently mounted, stand-by generators have been the most widely accepted method for emergency backup compliance at lift stations; however, the effectiveness of a permanently installed generator is limited to providing electric power only.

2024 WWETT Education Program Course Codes, Title, Day, Time

Emergency backup pumps for lift stations are high efficiency, dry-priming, stationary bypass pumps that provide full redundancy to the intended function of the lift station. The stationary bypass pumps operate intermittently when the water level triggers the engine to start, meaning they only consume a fraction of the diesel fuel of generators. Most high-efficiency, stationary bypass pumps require a priming system to prime from a dry state, and re-prime, automatically. Learn the advantages of a stationary bypass pump for emergency preparedness at any wastewater lift station.

1. Define and explain the need for emergency backup pumps for lift stations
2. Discuss the advantages and disadvantages of generators for emergency backup at lift stations
3. Discuss the advantages and disadvantages of stationary bypass pumps for emergency backup at lift stations
4. Explain the key criteria for selecting the correct emergency backup pumping system for each application

Code: TH18
Course Title: Driving Fleet Safety and Efficiency through Telematics and Dashcams
Date: Thursday, 1/25/2024
Time: 11:30am-12:30pm

This session will offer real world examples of how to utilize your Telematics and Dash Cam solutions to create safer, more efficient drivers. We will walk through ways to utilize the data, gain driver buy-in and even create a rewards program.

1. Effectively collect and manage vehicle and driver data to allow for useful and timely action
2. Discover how best to utilize a safety and rewards driven telematics program to help gain driver buy-in
3. Discuss how to best utilize Video AI to coach and prevent accidents
4. Explain best practices for fleet owners to lower fleet cost, increase efficiency and lower liability

Code: TH19
Course Title: General Session - Trade Associations in the Wastewater Industry
Date: Thursday, 1/25/2024
Time: 12:30pm-1:30pm

NASSCO - National Association of Sewer Service Companies, NAWT - National Association of Wastewater Technicians, NOWRA - National Onsite Wastewater Recycling Association and PSAI - Portable Sanitation Association International will participate in this 60-minute moderated session. Take advantage of this opportunity to learn how the associations that represent the industry are helping the environment, the community and your business. The moderator's questions will focus on:

- Advocacy
- Raising Standards
- Education
- Workforce issues

There will be a Q&A session at the end of the session.

Code: TH20
Course Title: Root Cutting
Date: Thursday, 1/25/2024
Time: 2:00pm-3:00pm

This program will look at the tools used for cutting roots. We will look at several different root cutting techniques such as rotating nozzles, hydraulic motor driven root saws and chain cutters. We will learn the does and don'ts and the proper setups of each type of root cutter.

1. Explore tools used for root cutting
2. Explain different root cutting techniques
3. Describe proper set ups of different root cutters

2024 WWETT Education Program Course Codes, Title, Day, Time

Code: TH21
Course Title: Verifying a Faulty Pump
Date: Thursday, 1/25/2024
Time: 2:00pm-3:00pm

It's not uncommon for a pump to be deemed faulty, when it was actually something else within the system. To prevent unnecessary costs and downtime, we'd like to share some tips that will ensure the right system component is troubleshot. This will save the homeowner/business owner money, as well as ensure the least amount of downtime.

1. Discuss basic tools needed for troubleshooting
2. Define how to perform a proper "half split" troubleshooting step
3. Define how to eliminate portions of the system as being faulty with a volt meter/multimeter, and test jumpers
4. Discuss how to verify your findings and present the information to the system owner

Code: TH22
Course Title: How NOT to Break Your Stuff!
Date: Thursday, 1/25/2024
Time: 2:00pm-3:00pm

Something that we've learned in our nearly 100 year history as a machine manufacturer is that you can neatly place customers on a Bell Curve in regard to how often they break their stuff - a few people on one end of a spectrum, a few people on the other end of that spectrum, and a lot of people in the middle. A lot of it comes down to how people maintain and quite often, operate their equipment. This session will discuss methods of treatment and operation of machines to keep them running for a really long time, ultimately saving you time and money.

1. Review how to operate your equipment
2. Discuss how to properly maintain your equipment
3. Discuss methods to keep them running for a really long time, saving you time and money

Code: TH23
Course Title: Thinking Outside the Box: An Innovation in Trench Safety
Date: Thursday, 1/25/2024
Time: 2:00pm-3:00pm

Rehabilitation of sewer systems under existing roadways and near existing buildings is a challenge. When open excavation access is required, just the process of getting to the underground workspace becomes a major problem. As sewer systems are typically the deepest utility, the question of how to maneuver around other electrical, mechanical and telecom systems becomes a concern. Driving sheeting can be an option, but the damage caused by vibrating sheeting into place creates its own set of problems. The risk of severing mislabeled lines comes into play, and those damages can be more than just an inconvenience to a homeowner. When a city in southern California needed sewer work done 23' deep, in the middle of a residential street, the contractor was tasked with doing the work without creating other problems discussed before. The specifications called for extreme minimal deflection in the shoring system. The 12' x 12' x 23' excavation had to allow for crossing utilities. The owner would not allow conventional shoring systems to be used. This session will be centered on how the contractor used a relatively new shoring concept to access the site, meeting the strict max deflection requirements, while allowing the contractor to avoid disruption of crossing utilities. The shoring system used allowed the owner and contractor to work with less disruption, all while meeting the engineering criteria and the requirements of OSHA.

1. Identify best practices when working in an urban environment
2. Match a protective system to a project
3. Recognize what a protective system can do, and what it can't
4. Analyze a contract's specifications as they may apply to protective systems

2024 WWETT Education Program Course Codes, Title, Day, Time

Code: TH24
Course Title: Know Your High Pressure Sewer Cleaning Hose
Date: Thursday, 1/25/2024
Time: 2:00pm-3:00pm

An in-depth presentation on the history of sewer cleaning and the introduction of high pressure water being used to clean. We will look at the makeup of a high-pressure sewer cleaning hose and learn the visual markings of the outer jacket, and how color displays the pressure rating, and how the inner-core color indicates who the manufacture of the hose is. Further we will learn how to protect your asset and how to identify when it is time to repair or replace.

1. Discuss how to extend the life of your high-pressure sewer cleaning hose
2. Identify from a distance the pressure rating of the hose and compare it to the pump rating
3. Ensure by knowing the inner core color, that you are using the correct tooling and equipment
4. Experience hands on learning of how to properly repair a damaged hose

Code: TH25
Course Title: Considerations when Purchasing Hydrovac
Date: Thursday, 1/25/2024
Time: 2:00pm-3:00pm

During this session we will walk you through what to consider when purchasing new or used hydrovac. We will provide key insights on both used and new equipment, current market conditions, factors to consider, key questions to ask and other information to assist in the buying process.

1. Gain key knowledge needed when purchasing hydrovac and compare benefits of new vs used options
2. Discuss what key information is helpful when deciding which brand of truck to purchase
3. Discover what to ask related to service & support of the equipment
4. Learn what to look for in the chassis and body specs

Code: TH26
Course Title: Never Saw THAT Coming! How to Recognize and Respond to Violence at the Job Site
Date: Thursday, 1/25/2024
Time: 2:00pm-3:00pm

In any routine day most of us in this industry visit new sites and areas with little or no knowledge of who we're meeting or what we're walking into. In any routine day, you have to work, operate the equipment, shake hands and come home safe to your family. But what about when things go sideways? What about when you're met at the end of the driveway by a guy with a shotgun? What about when you walk in on a domestic assault in progress? What about when someone storms into your office and pounds on your desk? What about when you start to get silent phone calls and hang ups? What about when you start to get fake call outs? What about when you walk in on a meth lab in progress? We live in angry times where a situation can escalate at the drop of a hat. How you respond can make or break the rest of your day or, God forbid, your life. In this session we will hear from first hand real life situations and how they handled it - and lived to tell the story. Learn the warning signs and how to back off.

1. Recognize the warning signals of being in danger and minimize opportunities for things to go sideways
2. Realize when to back away
3. Share your experiences and hear from others
4. Discuss when to call law enforcement or other authorities

Code: TH27
Course Title: From Waste to Resource; Optimizing an Integrated Septage Receiving & Treatment Operations
Date: Thursday, 1/25/2024

2024 WWETT Education Program Course Codes, Title, Day, Time

Time: 2:00pm-3:00pm

Attendees of this training session can expect to gain knowledge and understanding of the fundamentals of transforming septage waste into a valuable resource while minimizing operational costs. Specific topics will include understanding the different stages of the process train, streamlining the various equipment into an integrated design, and reducing manpower and consumables. The session is designed to be valuable for septage treatment entrepreneurs, managers, operators, and those interested in learning technical details of septage treatment processes. The session will be presented in several segments. The presenters are knowledgeable and experienced in the topic being presented and are part of a wide network of wastewater professionals involved in various aspects of biosolids dewatering. As a result, references, contacts, and information sources will be shared throughout the session.

1. Recognize the main pollutants present in septage and identify the appropriate objectives for reducing them
2. Define the critical components of a septage treatment process train and the costs associated with their operation
3. Discuss the advantages and disadvantages of dewatering raw septage before it reaches the wastewater treatment stage
4. Analyze how the process design of a septage receiving and treatment facility impacts its operational costs

Code: FR01

Course Title: Resilience in the Collection System: A Review of Strategies to Minimize System-Wide Risk and Restore Resilience from Flushable Wipes

Date: Friday, 1/26/2024

Time: 9:00am-10:00am

With many wastewater collection systems dating back 100 years, our aging infrastructure is being barraged by our modern conveniences. Lift stations and sewer systems are being fouled by “flushable” wipes and other rags for which our last-century infrastructure was simply not designed. The covid-19 pandemic has further exacerbated this issue with the use of household wipes and cleaners on the rise. Clogged sewer pipes and pumps due to “flushable” wipes have grown to be a \$1billion industry problem that result in sewer backflows, emergency maintenance and significant costs to municipalities. Collection systems are vital networks that convey suspended solids and dissolved materials found in wastewater to treatment plants. To operate effectively, it is critical they remain free of blockages that disrupt flow and surcharge sewers. This session will focus on four strategies for managing flushable wipes and other problematic debris in the collection system: grinders; vertical screw screens; and source-point.

1. Identify the four strategies for managing flushable wipes and other problematic debris in the collection system
2. Describe each strategy in detail
3. Discuss the advantages and disadvantages of each strategy
4. Explain how best to determine which strategy will be most effective for your site based on cost and effectiveness

Code: FR02

Course Title: Top 8 Wastewater Treatment Myths

Date: Friday, 1/26/2024

Time: 9:00am-10:00am

There are common industry misconceptions in the life cycle of an active wastewater treatment system. This presentation will address these misconceptions through design examples in an audience-interactive format. Addressing these myths can help industry professionals properly design, install, and maintain active treatment systems for optimal system performance and longevity. Some of the myths that will be addressed include misconceptions about septic system odors, the NSF certification (residential vs. commercial applications) and NSF testing specifications, advanced treatment unit performance, septic system sizing (hydraulic loading vs. organic loading), advanced treatment system startup best practices, and seasonal use facilities.

2024 WWETT Education Program Course Codes, Title, Day, Time

1. Recognize the benefits of non-mechanical treatment systems as an alternative to common mechanical treatment systems
2. Explain how NSF-certified treatment systems are tested
3. Describe causes and remediations for common treatment system odors
4. Define the parameters of NSF/ANSI Standard 40 testing

Code: FR03
Course Title: Sorting Out the Best Personal Protective Equipment for Your Sewer and Plumbing Operation
Date: Friday, 1/26/2024
Time: 9:00am-10:00am

General overview of personal protective equipment for the sewer and plumbing sectors. We will review various types of respiratory protection options and selections, hand protection, eye protection and body protection. Session will provide equipment samples and allow for audience questions.

1. Possess a working knowledge of different PPE
2. Explain how best to choose the proper equipment for the project

Code: FR04
Course Title: Manhole Inspection and Rehabilitation, ASCE Manuals and Reports on Engineering Practice No. 92 (MOP 92), 3rd Edition
Date: Friday, 1/26/2024
Time: 9:00am-10:00am

The American Society of Civil Engineers (ASCE) published its first manual of practice in 1992 to help the utility industry improve their manhole inventory. Since then, MOP 92 and been updated twice. The most current update is particularly helpful to anyone engaged or involved in manhole inspection, assessment, management, rehabilitation, renewal, or asset management. This particular edition was recently released in its final published format on December 21, 2022. It can be purchased through the ASCE On-Line Library website or by using the word search that includes "Manhole Inspection and Rehabilitation MOPO-92 Third Edition". This current edition is much more robust and detailed (and practical) than the prior two editions. This presentation will also be a helpful one to anyone engaged or involved day-to-day operations, maintenance, and management of manhole structures in the following areas: Non-entry Manhole Inspection; Condition Assessment; Management; Rehabilitation and Renewal; Asset Management. The two prior editions of MOP-92 addressed manhole of the issues associated with inspection, scoring and prioritizing manhole structures. Under this newest edition, there is more emphasis and expansion of the Chapter 5 "Manhole Rehabilitation". This presentation will go further to discuss specific technologies under Chapter 5 and will include nearly all of those technologies and products that are currently available for both private and public utilities to consider. These include (a) manhole covers and frames, (b) chimney seals, (c) wall joint seals, (d) injection grouting, and (e) coatings and liners. The presentation will wrap up with a presentation of some asset management strategies (and particularly a condition assessment matrix that is featured in MOP-92) along with the impact that these new approaches will be added to the NASSCO codes for both PACP and MACP.

1. Explain of the most recent advances in trenchless methods for the rehabilitation of aging manholes
2. Discuss the four major categories of partial and complete renewal and rehabilitation of manholes and other wastewater structure
3. Present cost-estimating guidelines
4. Provide references for further information and resources

Code: FR05
Course Title: How to Use ChatGPT for Your Business
Date: Friday, 1/26/2024
Time: 9:00am-10:00am

With all of the hype surrounding ChatGPT, how can it be used to help make your business more efficient as well as save on cost? ChatGPT is an artificial intelligence language model that has been trained to understand and

2024 WWETT Education Program Course Codes, Title, Day, Time

respond to natural language input. This means that plumbing contractors and manufacturers can use ChatGPT to automate customer service, create marketing collateral, improve SEO, analyze data for supply chain management, and even provide technical support. This session will provide information on how to use ChatGPT effectively.

1. Discuss how you can use AI platforms like ChatGPT
2. Discover how to optimize processes that are being done manually now
3. Explore the ChatGPT prompt guide provided

Code: FR06
Course Title: How SWOT (Strength/Weakness/Opportunity/ Threats) Analysis Helps With Strategic Planning
Date: Friday, 1/26/2024
Time: 10:30am-11:30am

During this session we will discuss SWOT (Strength/Weakness/Opportunity/Threats). The instructor will explain how he used this information in the market he competed in, and how important this information is to build a game plan. You will develop a SWOT for your company, leaving with the knowledge to assist you in finding a new niche in your marketplace!

1. Discover what's working and what's not working within your company
2. Gain a better understanding from yourself and your employees with some of the traps and pitfalls your company is currently going through
3. Solve and concur what you discover from doing the "SWOT" for your company

Code: FR07
Course Title: Using Excavation to Determine Water Service Line Material for Lead and Copper Rule Compliance Requirements
Date: Friday, 1/26/2024
Time: 10:30am-11:30am

The EPA Revised Lead and Copper Rule (LCRR) was finalized in January 2021 with a utility compliance deadline of October 16, 2024. There are various requirements in the LCRR but the primary focus for utilities is the service line inventory that is due on October 16, 2024. The service line inventory requires water systems to identify both the customer and utility service line material. Many utilities start their inventory process by evaluating historical records, surveys, and other low cost methodologies to help determine the service line material. However, most systems still have "unknown" service line materials after their initial evaluation. One popular method to determine "unknown" service line materials is to excavate the soil around the service line so a visual inspection can be performed to determine the material. There are various excavation techniques including hydro/vacuum excavation, hand digging, and mechanical excavation. This presentation will provide a background of the service line inventory requirements and methods used to determine the service line material. A specific focus will be on the various challenges, opportunities, costs, and other considerations for using different excavation techniques to determine service line materials. Case studies of systems utilizing excavation as part of their service line material identification strategy will be discussed.

1. Review the Revised Lead and Copper Rule service line inventory requirements
2. Explain current utility best practices to develop service line inventories
3. Describe the various excavation techniques that can help determine service line materials
4. Discuss how several water systems are using excavation practices as a tool to reduce service line inventory unknown materials

Code: FR08
Course Title: Evolution of Onsite System Safety Equipment & Practices
Date: Friday, 1/26/2024
Time: 10:30am-11:30am

2024 WWETT Education Program Course Codes, Title, Day, Time

The onsite wastewater industry has adapted to many improved treatment and process technologies. Can the same be said for safety equipment and practices? What solutions, standards and practices are needed today and in the future to help protect property owners and our staff, and the public? This presentation will discuss the current state of industry regulations, standards of practice, and current solutions, while appreciating where the industry has evolved from.

1. Identify current safety practices and solutions
2. Explain the benefit of updated safety measures and practices
3. Explain how to implement effective safety measures in onsite system deployments
4. Understand and recognize safety hazards.

Code: FR09

Course Title: Field Study on Health Risk Assessment Form Main Line CIPP as it Relates to Fugitive Styrene Emissions in Laterals

Date: Friday, 1/26/2024

Time: 10:30am-11:30am

The aim of this presentation is to improve the understanding of styrene emissions in sewer laterals resulting from the installation of main line curing of styrenated resins in CIPP. Includes description of study and assessment of field testing, measured styrene emissions in laterals and how to prevent potential emissions from entering buildings.

1. Gain a better understanding of the potential movement of styrene vapor during the CIPP process in laterals
2. Discover ways to prevent vapor movements

Code: FR10

Course Title: Digging Data: How Digitally Mapping and Documenting Jobs Can Help Contractors Comply with New Requirements

Date: Friday, 1/26/2024

Time: 10:30am-11:30am

There are already lots of good reasons why contractors should digitally document underground construction jobs from pre-drill planning to post-drill reporting. It can help them better understand congested easements to avoid costly and dangerous cross bores. It can reveal how well – or poorly – operators are using equipment. It can even improve how you bid for jobs by making sure bids reflect each job's unique risks and challenges. And now, one more reason can be added to the list of why contractors should document jobs – it will soon be required as states and municipalities begin to consider enacting laws that require the creation and preservation of maps for subsurface installations. Collecting bore and equipment data may seem like added work. But the truth is, many contractors likely already have much of what they need to record the data. And that data can do more than help them comply with new requirements – it can help you be more efficient and profitable. While a small group of contractors have gone all in on collecting and using data, many are still at the beginning stages of the process. The first step to begin this crucial process is understanding what key data sets need to be collected, then identifying what technology they can use to do so. Once data collection sets are identified and the correct technology is implemented to begin collecting data, contractors can then streamline data access and sharing to meet new requirements and improve operations.

1. Outline key data sets needed to begin collecting bore and equipment data
2. Explain key technology features that can help contractors collect this data
3. Discuss how collecting data can help contractors be prepared to meet new requirements
4. Discuss how collecting data can help contractors improve operations

Code: FR11

Course Title: Trending Ways to Increase Brand Awareness & Elevate Your Brand!

Date: Friday, 1/26/2024

Time: 12:00pm-1:00pm

2024 WWETT Education Program Course Codes, Title, Day, Time

Let Dynamic educate you on how to effortlessly impact your existing and soon to be customers using all things promo during this session! Our goal is to help you increase brand awareness and brand loyalty with the most attractive product, while not breaking the bank! We will provide multiple real time case studies, an array of categories, current promotional product statistics, all the way to what's on trend & why! Let's brand together and make sure that any promo product you purchase, is the right walking billboard for your company!

Promotional products are the most high-impact, cost-effective advertising medium around for companies to use for marketing their brand. We will supply everyone attending a 32 page study based on thousands of in-person and online surveys taken by consumers in the U.S., Canada, Mexico and parts of Europe. The survey answers questions about promotional products' reach, consumer's preceptions of them and how branded products influence buying decisions and product's impact on consumer opinions of the advertiser. This study shows the power of promotional products among consumers on a global scale and their affordable cost-per-impression as compared to other forms of advertising.

1. Define the multiple factors as to the "why" behind promo products/brand awareness
2. Demonstrate a strategic plan - efficiency, more bang for your buck, reaching all demographics, relevance & longevity
3. Elevate your business by investing in promo products shows the consumer that you take your company serious and secures instant credibility, it also provides an incentive for new or returning business
4. Discuss Trends - today's forecast of the hottest promo in the industry based on age, gender and region of the country

Code: FR12
Course Title: Investment Economic Impact Model to Predict Ripple Effects of Water Service Sectors
Date: Friday, 1/26/2024
Time: 12:00pm-1:00pm

Water bills, which are rising faster than inflation, are increasing across the U.S., and communities are grappling with aging water systems, fewer water resources, and extreme weather. The federal government's share of capital investment for water infrastructure has fallen from 31 percent in 1977 to 4 percent in 2017. Regional and state expenditure has accounted for a much larger share as federal aid for water infrastructure capital needs has declined. This led that water rates are rising to cover the costs of replacing and upgrading water infrastructure in many communities across the country. They are struggling to meet them through local rates and fees. The major objectives of this presentation are to predict the economic benefits of additional federal support in water infrastructure among interdependent sectors within an economic system for facilitating the federal government's share of capital investment. This study conducts ripple effects analysis that is the process of predicting the effectiveness of water infrastructure capital investment using historical economic data. This presentation attempts to explore how federal capital investment in water infrastructure spreads economic benefits within an interdependent system. It will be conducted at the federal level using the interindustry-macro model that analyzes macro-economic data, including over 400 sectors. Investments that will be coordinated at the federal, state, and local level will help control and stabilize rising water rates across the United States.

1. Discuss the novel methodology for predicting ripple effects from assessing economic impact due to the economic benefits of water asset investment
2. Explore using the interindustry-macro (IM) model that analyzes macroeconomic data, including the water service sector and over 400 sectors
3. Discuss ripple effects on account of the economic benefits of Investment in water and wastewater infrastructure
4. Develop an investment economic impact model for the water service sector

Code: FR13
Course Title: Preparation, Response, and Prevention of Injuries in the Field
Date: Friday, 1/26/2024
Time: 12:00pm-1:00pm

2024 WWETT Education Program Course Codes, Title, Day, Time

On average 2.3 million people get hurt on the job each year. These injuries range from minor cuts, exposures, to death. With the proper knowledge of your environment, scene safety protocols, and response to accident, we can help cut the numbers down and help prevent future issues. Lecture Includes information on Preparation, Response and Prevention.

1. Demonstrate safety scene knowledge and OSHA regulations
2. Respond to common injuries know importance of first aid and CPR
3. Become a leader by being a first responder
4. Analyze and isolate accidents

Code: FR14

Course Title: Managing Risks & Unexpected Sewer Bypass Costs in the Design of Sewer Rehabilitation Projects

Date: Friday, 1/26/2024

Time: 12:00pm-1:00pm

With the growth of the sewer rehabilitation industry, more municipalities are choosing the trenchless process to fix their aging infrastructure, allowing them to stay compliant and avoid unpermitted discharges. Due to the nature of these projects, the sewer flow cannot simply be shut down without causing major environmental issues. Therefore, the most critical component of these projects has become the flow diversion, or temporary sewer bypass, allowing for the uninterrupted sewer flow to be routed around the work environment. With the scale of sewer rehab projects increasing in complexity and level of difficulty, bypass pumping is becoming the key factor contributing to a job's ultimate success or failure. Not only is there substantial risk in a bypass failure; the financial burden of unanticipated change orders also poses a significant threat to a project's completion. With so much riding on a well-executed bypass, how much front-end work is required in the design of these projects? This webinar will go into greater detail on a few critical planning pieces and design components intended to mitigate the owner's risk and reduce bypass change orders.

1. Discuss the advantages of how the project design can reduce the Owners, and Contractors risk with Sanitary Sewer Overflows during Sewer Bypass Pumping
2. Explain how to reduce unexpected Sewer Bypass Pumping cost during the execution of the project
3. Provide examples of ways to reduce the impact of the Sewer Bypass on the community
4. Recognize how the project design can influence extreme price disparity of contract bidders on projects containing Bypass.

Code: FR15

Course Title: Open Source 3D Materials in 2024

Date: Friday, 1/26/2024

Time: 12:00pm-1:00pm

The session will provide an in-depth overview of the latest developments in open source materials and how 3D printing technology is revolutionizing the way we think about materials and manufacturing in the water and wastewater treatment industry. Attendees will learn about the benefits and challenges of using open source materials in 3D printing, including cost savings and increased accessibility, as well as gain insight into how this technology is being applied in the field. This session is of particular interest to professionals working in 3D printing and additive manufacturing, as well as those in the water and wastewater treatment industry who are interested in exploring new technologies and materials to manufacture and innovate. In summary, open source materials play a key role in the growing field of 3D printing and additive manufacturing. These materials offer cost savings, accessibility, and the potential for innovation and collaboration, making them an important resource for those working in this field. Material science is a fundamental aspect of the world around us, and our understanding of materials is constantly evolving and improving through scientific study.

1. Review the latest developments in open source materials for 3D printing and additive manufacturing
2. Analyze the benefits and challenges of using open source materials in the water and wastewater treatment industry
3. Discuss the potential of 3D printing to revolutionize the way we think about materials and manufacturing

2024 WWETT Education Program Course Codes, Title, Day, Time

4. Explain how to apply open source materials and 3D printing technology in the manufacturing process to increase cost savings and accessibility

Code: FR16
Course Title: Pros and Cons of Doing Your Own Flow Monitoring (Micro-Monitoring) - A Springfield Story
Date: Friday, 1/26/2024
Time: 1:30pm-2:30pm

We are currently doing a micromonitoring project to get some insight on a basin we are focusing our private sewer repair program on. We want to find out if certain streets are experiencing inflow and infiltration. We also want to find out if places we already did work on are experiencing less inflow and infiltration than what we already saw when we monitored there before. We installed 46 i-trackers, 6 preview cameras, and 10 area velocity sensors that will be in for 60 days. I will share the results and what we were able to use the data for during this session.

1. Explore how to use micro-monitoring to direct certain areas to focus on for the private sewer repair program
2. Determine what defect is the most effective to repair to get the most "bang for your buck" as part of the private sewer repair program
3. Assess whether it is worth the money to pay for a micromonitoring project
4. Discuss the disadvantages of doing such a high volume meter project - obviously cost but what else?

Code: FR17
Course Title: The Proper Order of Operations for CIPP Rehabilitation of a Collection System
Date: Friday, 1/26/2024
Time: 1:30pm-2:30pm

This technical presentation discusses deficiencies in current installation practices for CIPP rehabilitation of a wastewater collection system. These practices give rise to health concerns involving migration of CIPP emissions potentially contaminating residents' dwelling. Current industry practices are not practiced in the proper order; the out of order operations can unnecessarily lead to reduced CIPP quality and potential risk of polluting a home or business. This presentation explains the correct "Order Of Operations" and how Utilities can improve quality, reduce disruption, and ensure homeowners are protected from potential CIPP emissions.

1. Explore the liner issues and public health concerns that are arising due to the current sequencing of CIPP installation practices during trenchless rehabilitation of a wastewater collection system
2. Explain the critical role that clean-outs should be playing to improve installation practices and consequences
3. Discuss the full scope of changes to the order of operations for CIPP installation that the presenter proposes
4. Share the details of a new and fully-developed opportunity to capture and filter, for the benefit of workers and residents, all CIPP curing emissions enabled by this new order of operations

Code: FR18
Course Title: No Pollution, No Noise – Just Vacuum. Why Use Liquid Ring Pumps for Vacuum Trucks?
Date: Friday, 1/26/2024
Time: 1:30pm-2:30pm

This session will focus on the use of liquid ring vacuum pumps in vacuum truck applications. We will explore the specific requirements of vacuum truck operations, including the removal of liquids, sludge, and debris from a range of environments. We will discuss the advantages of liquid ring vacuum pumps. We will then delve into the design and operation of liquid ring vacuum pumps used in vacuum trucks. We will discuss the different types of pumps available and their relative strengths and weaknesses. We will also cover the key components that make up these pumps, such as the rotor, flow plates, bearings, and shaft seals. Proper sizing and configuration to ensure optimal pump efficiency will also be covered. We will examine the various applications of liquid ring vacuum pumps in vacuum trucks. We will use real-world examples and case studies to demonstrate the effectiveness of these pumps in these applications and highlight their benefits over other types of vacuum pumps. By the end of this session, attendees will have a thorough understanding of the design, operation, and

2024 WWETT Education Program Course Codes, Title, Day, Time

applications of liquid ring vacuum pumps in vacuum truck operations. They will be equipped with the knowledge and tools to effectively use and maintain these pumps, leading to improved efficiency, productivity, and safety in their vacuum truck operations.

1. Explore the specific requirements of vacuum truck operations
2. Discuss the advantages of liquid ring vacuum pump
3. Delve into the design and operation of liquid ring vacuum pumps
4. Examine the various applications of liquid ring vacuum pumps

Code: CONSP
Course Title: Confined Space Entry Training
Date: Wednesday, 1/24/2024
Time: 9:00am-1:00pm

This comprehensive course will follow 29 CFR 1910.146 training requirements. Topics covered include air monitoring alarm points; effects and exposure to low and high oxygen; toxic gases; sampling with air monitoring equipment; hazards to be aware of; ventilation; PPE for entry; responsibilities of the entrant attendant and entrant supervisor; review of confined space permit, reclassification of a permit space to non-permit; equipment review, and more.

Code: WKSH
Course Title: The DIY Digital Marketing Playbook for Wastewater Pros - A How-To Workshop for Wastewater Industry Contractors and Equipment Manufacturers/Providers
Date: Thursday, 1/25/2024
Time: 1:45pm-5:00pm

If you want to...

- MAKE MORE MONEY by knowing how to use content and social media effectively to generate sales and increase profits
 - SAVE TIME by having a way to manage content consistency and frequency
 - BE COMFORTABLE with using digital, content and social media marketing
 - FUTURE PROOF YOUR BUSINESS by using digital and content marketing
- ...then this workshop is for you!

Code: NOWRA
Course Title: Subsurface Drip for Decentralized Wastewater Dispersal: Installation, Operation and Maintenance; Best Practices Workshop
Date: Friday, 1/26/2024
Time: 9:00am-3:00pm

Topics to be covered include: Unique elements of soil and site assessment and wastewater characterization for drip systems; Considerations and importance of integrated system components; Recommended installation techniques for varying terrains and soil conditions; Start-up/On-boarding procedures; Filter options, idiosyncrasies, and their life-cycle maintenance needs; Field dosing and flushing considerations and options; Dripfield hydraulic performance monitoring, operation and maintenance; and Overall system O&M.

Code: SC102
Course Title: Sewer Cleaning 102
Date: Friday, 1/26/2024
Time: 9:00am-5:00pm

This program will provide instruction in basic collection system maintenance procedures and related tasks. Students will explore various tools, techniques, and safety issues related to sewer cleaning. At the end of the

2024 WWETT Education Program Course Codes, Title, Day, Time

program, students will be able to identify the importance of proper use of equipment, techniques, and safety procedures as well as recognize best practices of sewer cleaning maintenance.

Segments include: Background of Sewer Cleaning 102, Production and Cost Issues, Pneumatic Plugs, Use and Maintenance of High-Pressure Sewer Hose, Nozzles, High Pressure Water Systems, Capacity Cleaning, Dynamic Filling, Blockage Removal of Roots and Grease, Vacuum Systems and Decanting.

Code: TT01
Course Title: Tri Co Water Resource Recovery Facility
Date: Friday, 1/26/2024
Time: 9:00am-11:00am

TriCo Regional Sewer Utility currently operates a Class IV, 5.72 MGD Water Resource Recovery Facility (WRRF) consisting of three (3) Influent mechanical screens, a new grit removal system, eight (8) vertical loop reactors and a three (3) ring Orbal oxidation ditch providing biological nutrient and phosphorus removal, six (6) secondary 70' diameter clarifiers, ultraviolet (UV) light disinfection and post aeration with fine bubble diffusers. Sludge management includes five (5) aerobic digesters and a belt filter press. Biosolids are hauled off-site, and land applied by a private contractor. TriCo was the first WRRF to have a Stjernholm Grit Washer operational in the United States.

Code: TT02
Course Title: Belmont Advanced Wastewater Treatment Plant
Date: Friday, 1/26/2024
Time: 11:15am-1:15pm

You will tour the Secondary Treatment System and Control Room at the Belmont Advanced Wastewater Treatment Plant. The Advanced Wastewater Treatment Plant was expanded in 2012 to increase the secondary treatment system to a capacity of 300 million gallons per day (MGD) and accepts flows from a combined sewer system. The secondary treatment system includes an air nitrification system installed in 2012. Operators have been consolidated into the newer combined control room that operates the Southport Plant Liquids, Deep Rock Pump Station, Belmont Liquids, Incinerations and monitors the Eagle Creek Dam for DPW.

Code: TT03
Course Title: Tri Co Water Resource Recovery Facility
Date: Friday, 1/26/2024
Time: 1:30pm-3:30pm

TriCo Regional Sewer Utility currently operates a Class IV, 5.72 MGD Water Resource Recovery Facility (WRRF) consisting of three (3) Influent mechanical screens, a new grit removal system, eight (8) vertical loop reactors and a three (3) ring Orbal oxidation ditch providing biological nutrient and phosphorus removal, six (6) secondary 70' diameter clarifiers, ultraviolet (UV) light disinfection and post aeration with fine bubble diffusers. Sludge management includes five (5) aerobic digesters and a belt filter press. Biosolids are hauled off-site, and land applied by a private contractor. TriCo was the first WRRF to have a Stjernholm Grit Washer operational in the United States.