11201egon Summer 2019 Vol.41, No.3

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A publication of Oregon Association of Water Utilities

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CONTENTS «

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Please mail your photo to our office. If we use your photo on the cover you will receive an official OAWU shirt and hat.

We are also seeking articles, clean jokes, Oregon trivia, letters and interesting stories. Please send submissions (no more than two pages in length) to:

Oregon Association of Water Utilities

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Cover photo by Mike Collier Crooked River at Peter Skene Ogden State Park

Own It by Jason Green, Executive Director	3
Jeff Swanson Memorial Scholarships Awarded by Mike Collier, Deputy Director/	
Sourcewater Specialist	4
Mark Your Calendar—Upcoming Conferences	5
4th Annual OAWU Expo by Scott Berry, Operations Manager	6–7
Customer Service by Heath Cokeley, Programs Manager/Circuit Rider	8–9
Complacency's Silence by Tim Tice, Projects Manager	10–11
Water System Coliform Plan by Bob Waller, Water Circuit Rider	12
Training & Events Schedule	13
Thanks to OAWU's 2019 Sponsors	13
Storm by Jeff Crowther, Wastewater Technician	14
Be Prepared by Hans Schroeder, Circuit Rider	16
Just My Thoughts by Keith Bedell, Wastewater Technician/Circuit Rider	18
Manhole Rehabilitation by Doug Troyer, owner of Underground Tech	20-21
Easements: Allowing a Walk on the Coast and Across Someone's Front Yard	
(to Access Water Pipelines) by Laura Schroeder, Schroeder Law Offices, P.C	22-23
The Changing World of Pretreatment by Rick Allen, BioLynceus, LLC	24
National Rural Water Association's Ford Fleet Program	25
Quiz Corner	27
Membership Application Form	29
Membership Roster	30-32

We Appreciate our Advertisers!

Please take a moment to view their ads.

American Flow Control	17
Bancorp Insurance	27
BioLynceus	25
BMI	15
Branom Instrument Co	19
Cascade Columbia Distribution Co	15
Core & Main	8
Dan's Leak Detection	17
DN Tanks	19
Ferguson Waterworks	21
H.D. Fowler	17
Lakeside Utilities (EZ Street Cold Asphalt)	11
NeptuneInside Ba	ick Cover

Oregon DEQ: Clean Water State Revolving	ng Fund23
Oregon Meter Repair	17
Owen Equipment	19
PACE	25
Pittsburg Tank & Tower	11
Project Delivery Group	22
Puttman Infrastructure, Inc	9
Sherwin-Williams	21
Special Districts Association of Oregon	15
The Automation Group	Inside Front Cover
The Ford Meter Box	
TriPac	22
USA BlueBook	Back Cover

Oregon Association of Water Utilities

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Send your articles with full color photographs, in digital format if possible, to the address listed above.

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2 • H₂Oregon Summer 2019

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OAWU's mission is to provide service, support and solutions for Oregon water & wastewater utilities to meet the challenges of today & tomorrow.

Own It

Jason Green, Executive Director

It is quite easy to spot someone who seems proud, arrogant, or someone who does not like to be corrected or critiqued. They usually show their displeasure of the situation in their attitude and what they say in the moment - often without care to who hears or who they hurt. Likely, we have all been in this camp at some time during our life and in some degree of being ruffled. Maturity, age, experience all seem to help knock the edges off, but like most, I find that a good critiquing when it's not expected can place me on the defense too!

There is a vast difference between actually doing something wrong, not meeting the target or goal or missing the mark and being chastised and critiqued in an honorable and right way as compared to when one does everything right but gets the blame and wrongful charge of someone else's problems. Even though the second takes a great dose of humbleness and maturity, I want to further consider the first - the area of humbly receiving critique and correction when we have failed to meet expectations.

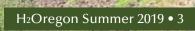
It seems for most of us, myself included, it is obvious when others are not willing to listen or own up to a mistake as compared to when we are the one in the spot light. When it's our turn, do we willingly own our mistakes? As a boss or supervisor, we want employees to simply recognize when the ball has been dropped, say something to us and then learn and move on. This leaves us little to do other than a suggestion possibly on how not to allow this to happen and then wait and watch (if you missed it, when we fess up, it quiets the boss from verbally carrying on). Occasionally, we are faced with someone who is unable to comprehend their error or unwilling to grasp what occurred and unwilling to admit they are wrong (yes, bosses are wrong too, though this example would be in that the task, duty or responsibility being clearly known and was not completed). In this latter case, best guess is this boss will be having more and larger challenges with this employee.

How about listening to someone attempt to justify why and what they did rather than admitting being wrong. There is a time and place to present one's case, but in this matter of knowing what was expected and missing the mark, we make excuses and try to down-play the situation or maybe create a distraction or blame others - there is no excuse for this behavior. I have witnessed distractions and blaming others; some people can be ingenious and creative in their ability to pass the buck and avoid responsibility. One such situation I recall, at the end of what was a planned discussion to point out that my expectations were not met, what I wanted, how and when and what we were going to do so the employee would not get caught in the same situation again... the discussion ended and I walked away scratching my head, wondering how it was now all my fault. A fascinating skill set, not good, but fascinating!

To summarize, whether a person is a manager or subordinate, it is wonderful to practice and witness owning one's mistakes. There is great value in being honest, keeping and guarding one's integrity and honor in owning up to our own mistakes. If we miss out on recognizing an error or fault and are corrected, the mature person will own it, even if it rubs a little wrong. Own it and build on it. It keeps others from further criticizing you and the boss. And finally, it's just the right way to behave as both a boss and employee - when you doing something wrong and have it coming, take it and simply just own it.

Best wishes to you. ♦





Jeff Swanson Memorial Scholarships Awarded

Report by Mike Collier, Deputy Director / Sourcewater Specialist

Oregon Association of Water Utilities is pleased to announce the two recipients of the annual Jeff Swanson Memorial Scholarship.



Cori Biamont is a recent graduate of Seaside High School and will be attending Clatsop Community College, pursuing a career in Nursing. She plans to continue to Oregon Health Science University program to obtain her bachelor's degree after obtaining her Associate's Degree. She was on honor roll each year in high school and was Valedictorian. Outside of school, she has spent most of her time involved in 4-H, volunteering in countless activities, both local and statewide, plus volunteer activities associated with her local church.

Additionally, she operates a year-round swine breeding program with her younger brother, taking great pride in raising quality swine for local kids to show at the county and state fair. This program keeps her very busy during breeding and birthing times caring for her animals. She has also worked for many years at a restaurant and is looking forward to waiting tables this summer and starting college classes next month. Her father is Tony Biamont with the City of Seaside, the Wastewater Plant Supervisor.

Madison Schneider is a senior in high school. She has been drawing and doing artwork most of her life and intends to go to school to create art for video game development, focusing her efforts on concept art for video games.

She's an avid volunteer in the community through her high school Interact club, participating in several local and international volunteer projects. She has also participated in a dance program in Newberg and worked as the art marketing lead for Newberg High School's production of Julius Caesar, where she designed the main poster and the T-shirts.

Her father is Kriss Schneider with Schneider Water Services.



MARK YOUR CALENDAR



UPCOMING CONFERENCES









4th Annual OAWU Expo

by Scott Berry, Operations Manager

The 4th Annual OAWU Expo has come and gone and by all accounts was a successful event. First and foremost, I'd like to once again express my appreciation to Heath for missing most of a night of sleep so he could get the prime rib smoked and the potatoes done. Also, to Hans for all his hard work with the final food prep and to the rest of the staff for making the meal and the day come off without a hitch.

The exhibitors at this year's show did a great job of presenting their wares and providing a fun atmosphere for the attendees to learn about some options to make their daily routine more efficient. For next year's Expo, we're going to try to developing more hands-on demonstrations for attendees to participate in.

The Expo is an event that has almost doubled in attendance every year. Our intention for the Expo has always been to have a fun and educational way to show our appreciation to our members by allowing them a venue where they can have more hands-on demonstration time. We would like to see a few industry related competitions for next year. Some of the ideas being floated around the office are drone races, either tearing down or putting together a fire hydrant, and an equipment rodeo. If you have ideas for additional competitions, please email them to me and we'll see if we can get them going.

Keep an eye on your training calendar for next year and join us on May 13, 2020 for a day of learning, networking, camaraderie, spirited competition, excellent food, and fun. ♦



Oregon Association of Water Utilities







Customer Service

Heath Cokeley, Programs Manager/Circuit Rider

What does customer service look like to you? I am sure we can all think of times we have experienced bad customer service, but what does it mean to give or receive good customer service? I will use an example from several months ago that happened to me. I had reserved a beach house through a property management company. My wife and I loaded up the SUV with the dog, our two sons (an 8-monthold and a 5-year-old) and all the other massive amounts of stuff you must take when traveling with small children. Now those of you who have or have had small children, especially a baby, realize how much fun an hour and a half car ride can be, so when you get to the destination, typically, you are ready to get them out of the car and relax. Which was our plan that unfortunately wouldn't happen.

When we got to the house with our, already, over tired baby, we found that the house had not been cleaned after the last tenant. Me, just wanting to fix the issue and move on, started to pick up and start laundry, but as we had no cleaning supplies and the house was very dirty my wife quickly talked me into calling the property management company. As it was after hours, on a holiday, no less, it understandably took a little while to get a hold of them. When I did get in contact the property management company was very apologetic and said they will have someone over to clean the house shortly and we would need to leave for two hours so they could get the job done. Leaving with the dog and kids to go find something to do to keep them occupied, as this was already after their bedtimes, didn't sound like a great deal of fun, but we figured we would make the best of it. When the very nice lady who was to clean the house showed up with her young daughter, who I can only assume she had to bring along as she didn't have childcare at that late hour, we left.

We were gone for two hours almost exactly as it was getting hard keeping the kids occupied, we were tired and were not quite ready for what we would come back to. An extremely clean house, that I am not sure how that lady was able to almost make it feel like a different house, in just two hours. Not only had she been nice and professional after getting called out on a holiday for a mistake that I do not believe was hers, but she had done an amazing job of cleaning our home for the next few days. She even



put sea animal bed sheets on the bed in my older son's room as she had met him briefly and I believe wanted to make him feel more comfortable.

The following day the property management company called not just to check in and apologize for the inconvenience again, but also to inform me they had scheduled us for a late check out our last day and refunded us \$50 dollars for the inconvenience all without my asking for anything. Yes, I could still be frustrated with the fact the house wasn't clean in the first place. Here's the thing, they messed up by not having the house clean, and am sure that all of us can think of a time or two we have made a mistake at work, I can forgive that. What I saw was the fact that they immediately took ownership of that mistake, took measures to quickly correct the situation and then took steps above and beyond to make sure I felt like I had been heard and my concerns addressed quickly and efficiently. They turned a situation that could have ended with me not utilizing their company to book a house again, into one that I would not hesitate to use them again because of their dedication to good customer service.

So, do we give good customer service just to get repeat business? Well, in many industries that could be the case, but in water and wastewater it isn't likely the customer can choose to switch to another system when they don't like our service. Then do we give good customer service because we know bad customer service could have that member running for the board or council the following election? I hope that is not the reason utility staff give good customer service though it is a legitimate concern. My hope is utility staff give good customer service because we are in a service industry and that is the right thing to do. So don't be afraid to let the customer know you are working to address their issue, and if we screw up, (which I find I do far more than I want to admit), own it, apologize and correct it because that is the right thing to do. My hope and belief is that most of us are already acutely aware at how vital good customer service is and with that I will see you down the road.



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Complacency's Silence

by Tim Tice, Projects Manager

Many of the members of Oregon Association of Water Utilities are quite aware of the time traveled on the road by some of the staff. The road time allows for much reflection of a project, on conversations had and time spent with people. During my twenty plus years of employment, there have been too many times when days and weeks fly by without a thought of the challenges and accomplishments that have occurred. My perception was that life and work were in a groove, flowing by without any worries of being catapulted out of the comfort zone.

Often, we don't realize that instead of being in a *groove*, we are in a *rut*. The difference between the two, in my humble opinion, is: A groove is ever changing, reviewed, and improved upon, like a river. A groove doesn't simply happen but is directed towards a goal of gaining better results. "Get into the groove, man!" But a rut is static—a place to become stuck.

A major contributor to a rut is complacency. The dictionary defines complacency as: "being self-satisfied, calm sense of well-being and security, self-satisfaction accompanied by unawareness of actual dangers or deficiencies." How does a complacent state of mind come about? The short answer is, "life's lack of examination."

Many of us have grandiose ideas that relate to salary, family ideals, and success. If achieved we become satisfied, if delayed melancholy can settle in. Melancholy shows up without an announcement. Ideals are developed in the subconscious and certainly need regular reevaluation to become concrete to our conscious mind.

Winston Churchill said, "Success is not final, failure is not fatal: it is the courage to continue that counts." Continue in a way to look positively towards people, places, and things. Churchill was someone who realized that any level of success was temporary. The effort is continuing to strive towards an improved or corrected direction or to keep success from fading away.

I am not someone who makes New Year resolutions, but I find it a joy to ask people thoughtful questions looking for something that may teach me something new. There are many ways to communicate with others but approaching conversations with kindness usually encourages more depth in the communication. Here I challenge you to perform a deliberate act of kindness, one that is subtle as to not bring attention on yourself, see where it takes your relationship with the recipient and if complacency in that relationship diminishes.

The silence of complacency is deafening. When realized that it is upon us, it can have a profound impact. Complacency; euphorically hypnotizing unaware people to rest on their already accomplished goals, should be considered the polar opposite of new success.

A shift from the personal aspect of complacency toward business, work's complacency is eliminated by understanding the personnel, consumer, member, or supplier. Building those relationships is a continuing process; thus, showing growth and understanding when conducted with the right intention. Being

unaware of the frustrations and concerns of others will result in disconnect and hinder the betterment of both parties. Complacency in the safety arena will no doubt lead to accidents. It is our everyday activities which create complacency, yet those tasks we need to have the most focus on are the same that lull us to sleep, the last form of complacency. Surely, a catch-22 scenario!

In every form of life from family, business, government and even recreation, complacency has its consequences that can lead to disappointments. Assuming the minor details will be taken care of will assure the path you're on is not the best option. Is our path being cluttered with too many distractions? Too many focal points! Waking up to discover you're lost! How do we continue to concentrate on so much and do it all so satisfactorily? Do we simply focus on a few areas? What area would you like to focus and change?

For those readers who have children or happen to be over the age of thirty, we can all agree that time is flying past us. It seems we still converse about winter conditions and here it is, the last week of May 2019, and the higher temperatures are breaking records. Lack of time and complacency are both in the room and can be a hindrance to accomplishing the goals.

By adjusting the bar on our goals, complacency may stay away, but not forever. It is as prevalent as the air we breathe or the time that flies past us. Revisit the goals, make adjustment, and accept the challenges that come with change. Directed change is easier to swallow than coerced change.

Keep complacency at bay with a daily dose of reworking our groove via good thoughts, words, and actions.

The best that life has to offer!



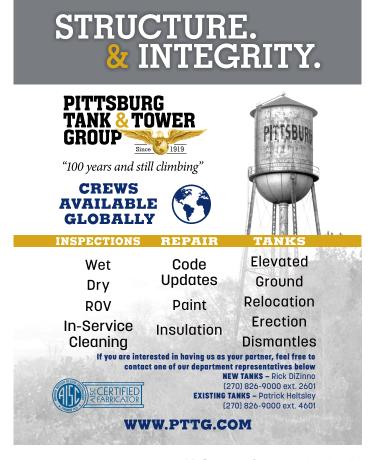
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Water System Coliform Plan

by Bob Waller, Water Circuit Rider

Safe drinking water is our highest priority as water system operators. Having to issue a boil water notice to our city can be very stressful and, at times, overwhelming. The best way to deal with an emergency is to have a plan in place. An alert is generated every time a sample is reported with total coliform or E. coli present. For every alert personnel in the data management unit (DMCE) will review the last 12 months of sampling results reported for the water system and determine if there are any coliform investigation triggers exceeded. A contract lab will notify a system if there has been a positive coliform or E. coli immediately.

Even though the health department will contact the operator it is always better for the operators to be proactive and make that call as soon as the positive sample has been identified.

The good news is Oregon Health Authority (OHA) has done most of the work for us. I called the Linn County Environmental Health Program and they were more than happy to provide me with all the information. This information can also be obtained on the Drinking Water Program website at: www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/PARTNERS/Pages/gwr.aspx

When you visit the site, look for these topics:

1. Coliform Alert Response Procedure

This page will walk us through each step from the first sample through repeat samples and beyond. Each situation is unique and the Drinking Water Services (DWS) staff assigned to that water system will work with us.

2. Coliform Response Chart for Groundwater Systems Serving up to 1,000 Persons

This is a flowchart that will visually break down the step by step procedures.

I am a visual person and I would find this sheet very helpful.

3. Coliform Investigations

This page covers the investigation portion where having two or more total coliform-positive samples in the same month at a water system. This section is also the guideline for Level 1 Coliform Investigation Form and Level 2 Coliform Investigation Form which are the other two sheets we will get.

Customers in our water system have trust that the water is clean and safe to drink this trust is not easily earned, so be honest and transparent. I would urge you to call and request this information, read through and determine what is relevant to your system. Just going over the information and having it on file will make the process much less daunting and remember OAWU is always there to help. •

2019 TRAINING & EVENTS

Date	Class Title	Location	CEU Information	ESAC#, F	ee/Free
August 19-22	25th Annual Summer Classic Conference	Seaside	2.3 Water/Wastewater	3947	Fee
August 27-28	Wastewater Treatment/Collections Certification Review	Salem	1.4 Wastewater/0.7 Water/0.1 Onsite	3559	Fee
September 5	Developing your Operations and Maintenance Manual	Springfield	0.4 Water/Wastewater	3395	Fee
September 5	Leak Detection	Springfield	0.2 Water/Wastewater	3709	Fee
October 7-10	2019 Fall Operator's Conference	Florence	2.0 Water/Wastewater	ТВА	Fee
November 4	Effective Utility Management	Grand Ronde	0.6 Water/Wastewater	ТВА	FREE
November 4-7	Spirit Mountain Casino Conference	Grand Ronde	2.6 Water/Wastewater	TBA	Fee
November 13	Confined Space	Springfield	0.3 Water/Wastewater/Onsite	3841	Fee
November 13	Hazardous Communication Standard (Global Harmonization)	Springfield	0.3 Water/Wastewater	3459	Fee
November 14	Water & Wastewater Field Operations & Safety	Salem	0.4 Water/Wastewater	3568	Fee
November 14	Leak Detection	Salem	0.2 Water/Wastewater	3709	Fee
December 2	Effective Utility Management	Hood River	0.6 Water/Wastewater	ТВА	FREE
December 2-5	21st Annual End of Year Operators Conference	Hood River	2.6 Water/Wastewater	TBA	Fee

Levels 1-4 Water Operator Exams

Trained and certified operators are necessary to ensure that the systems are managed in a manner that fully protects public health and the environment. The OARs for certification stipulate that the qualifying experience for applicants for certification as a water treatment plant operator must attain at least half the required operating experience at a public water purification plant that uses complex filtration technology and is not more than one classification lower than the level of certification they are seeking. In other words, if you have only worked for a Class 2 treatment plant, we allow you to apply for a Level 3 certification but not a Level 4 certification. If you move on to a Class 3 plant, then you must have ½ the qualifying experience (at the Level 3 plant) before allowing to apply for a Level 4 certification. Reciprocity from state-to-state ensures that the operator have the operating experience for which they are certified.

For additional information, please visit http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/OperatorCertification/Levels1-4/Pages/exams.aspx

More Resources

Drinking Water Data Online Drinking Water Services https://yourwater.oregon.gov

https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/Pages/index.aspx

Training class dates, class topic and/or locations may be subject to change as needed.

For more information on any class by OAWU, please contact the office at 503-837-1212, office@oawu.net or visit www.oawu.net.

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Storm

by Jeff Crowther, Wastewater Technician

Rain is something we all take for granted. We have a rain shower, the water flows down our gutters, pipes, streams, rivers, and eventually ends up in the ocean. This has been taken for granted since we started building cities, and in the past all we have focused on is making sure that water got out of the city without damaging the homes or other infrastructure.

In the world today, stormwater is not that simple. There are multiple state and federal agencies such as: DEQ, DSL, the Army Corp of Engineers, and the EPA that are involved in making sure that not only does that water flow to where it is supposed to be, it is not polluted when it gets there. These agencies release both broad permits that affect an entire jurisdiction, and project specific permits.

As a public agency, we want to make sure that we are adhering to all these permits. We should have a dedicated person or department that tracks the permits that have been issued, as well as, verifying that we are meeting all the requirements within those permits. By having one central location knowledgeable on all the requirements, it reduces the chance something slips through the cracks.

For project level requirements, our project managers or leadership need to be aware of the permit requirements. Some items that could trigger additional restrictions are working within a drainage channel such as a stream or river or impacting wetlands within our project. If these situations exist, it is recommended we bring on an expert to help us navigate the complicated permitting framework. Outside of these unique situations, our permit administrator should make sure all our jurisdictional permit requirements such as water quality and erosion control requirements are met.

It is always good to remember meeting these requirements is much easier up front while constructing a project than after the fact. We should also keep in mind stormwater requirements when budgeting projects, since it isn't something that can be cut out to bring the project into budget!

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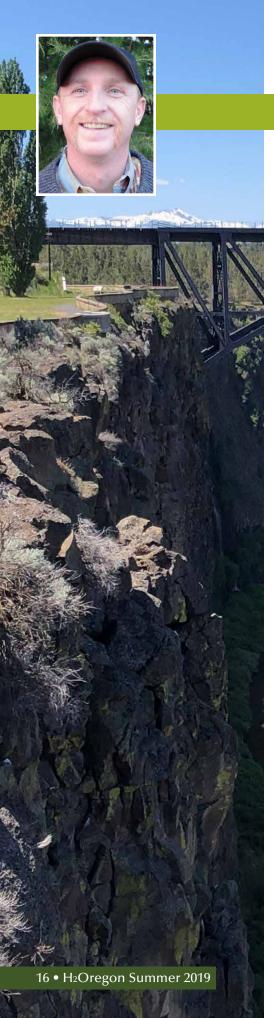
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Be Prepared

by Hans Schroeder, Circuit Rider

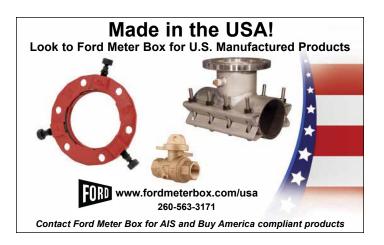
This is an older article that I had written. I've worked with some systems, recently, that have encountered this very topic. So, I thought I'd share it again to express the importance of preparedness. Since this was originally published there have been some new funding/grant monies available for installation of generators to operate a well pump for when a water system is without power.

I am regularly reminded of how important it is to be prepared for any obstacle we encounter. On the daily news there are reports of disasters in many cities within our nation, let alone the whole world. Many are beyond our control and beyond my imagination. I want to touch on a much smaller scale that needs addressed, but just as important as what the news broadcasts daily.

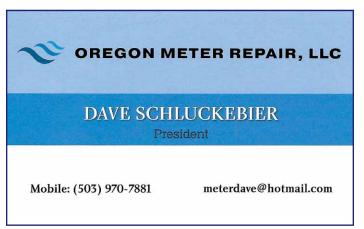
It is truly a frustrating time when an event occurs that leaves us in the dark and our water/wastewater systems are unable to operate properly. All of us have been there, waiting on the local electric company to restore even just the basic service so we can resume the task of providing for our customers. In many events service is interrupted for just a few hours if you are lucky, or in the worst-case power can be out for days. Oregon has a variety of weather conditions and every month of the year brings the potential for a damaging storm. Whether it is a spring thunderstorm or a winter ice storm, electrical power outages are a constant threat to every water system in the state. This problem is not unique to Oregon, all states face their own potential hazards that can unexpectedly bring pumps, motors, and lift stations to a halt. Many treatment plants have stationary generators capable of filling the power outage gap, but this unit will only supply power for the plant where it's located. Many systems have electrical power requirements for wells, booster stations, intake pumps, lift stations, etc. As you may well know, in a widespread event, portable generators can be very hard, if not impossible to find. Not to mention it can also be difficult to get a large trailer mounted unit into an area that has been damaged by the storm. There are generator units that can be hauled in a pickup allowing operators to be mobile, they can get to the wells to pump water for awhile and then take it to a lift station to prevent an unpermitted discharge due to it overflowing. In many cases, it can keep a system going until power can be restored and you can get back to full operation.

You will want to contact your local equipment rental yard so that they too are prepared in the event that such a situation arises. The rental supplier should have a generator that is properly rated, specifically on hold for your system or municipality. You will want to make sure that all fittings and connections are on the shelf of each site and ready for operation. Being prepared is the first line of defense.

There are units that can be wired directly to the motor, or through the motor controls. How you will approach it is going to depend on each situation. The most important thing to remember is safety comes first. You will want to set this system up before you actually need it, this is not something you will want to set up and figure out in the heat of the moment. Start by gathering information from motor tags such as voltage, amperage, and horsepower then determines the size of generator that will be needed. Some systems have pre-wired a plug in with disconnects on all stations where the unit will be used so all they need to do in the event of an outage is pull onto the site, disconnect from the power company line, plug in and start the generator and they are back in business. By all means, stay safe. lack





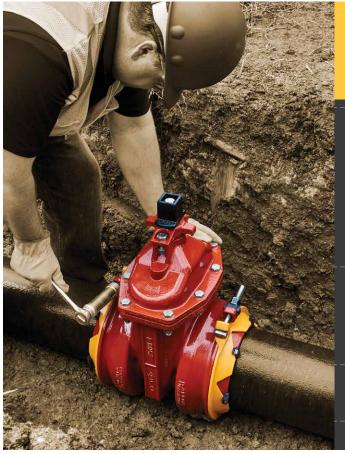




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Just My Thoughts

by Keith Bedell, Wastewater Technician/Circuit Rider

Since beginning my work with the Oregon Association of Water Utilities I have met some very nice and intelligent people. Helpful and willing to go the extra mile to fix problems, find solutions and with the resources they have, thinking outside the box is a big asset.

I have previously worked in the public and private sector, giving me some interesting insight (which could just be my opinion) in people and practices. Working in the timber industry in the coast range during the 1980's you worked hard and put up with a lot of things that there wasn't any control over, the biggest thing was weather. Other times it was the equipment, maintain it the best we could, but eventually something would break, hopefully it wasn't a choker with a big log hanging above from a skyline. There were great people there that were willing to help a person learn how things were done without getting killed. There were also the ones that said you needed to get the job done no matter what and didn't care about the employees, that's where the employees looking out for each other really came in.

In the public sector, when I began, there also were people that were willing to teach the new person how things needed to be done. Luckily, most of the people I worked with wanted things done well, efficient and for everyone to go home uninjured every day. With the smaller utilities that have the least resources, having to do without the latest technology and equipment makes for some interesting challenges and opportunities for innovation. These are the people that do their job for the love of it because we all know it's not for the money.

It seems to me that a lot of people are only out for themselves and the money they can get. Maybe that is just what shows up on the news and what we hear. Most of the time it is about me, me, me, until something bad happens and then people will pull together for a while. I believe that I am a positive person and that people need to try to help each other all the time. The people I meet almost all seem to be in this category, I applaud them for the good work they do and the positive attitudes that they maintain during the diverse problems that are faced not only at work, but with their personal lives as well. •

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Manhole Rehabilitation

by Doug Troyer, Owner of Underground Tech

Rehabilitation: to restore something to a condition of former capacity or operation.

A lot of people have never heard of manhole rehabilitation. When someone asks me what I do for a living and they find out I spend a lot of time underground inside of manholes they are often surprised. "You actually go down inside a manhole with sewer in it?" Yes, sure do!! No, it's not the coolest job I can think of and definitely not the cleanest. But when they look into a manhole after it is lined or see a before and after picture, there response is worth the work.

Being employed by a local excavation and asphalt paving company and working with cities in the area gave me a glimpse of all the work it took to make even a small-town function. During the next few years and in working with city officials, I became aware that there was a need for manhole rehab and the lack of contractors in the area who where providing that service.

After researching a number of different rehab products and equipment, I attended the WWETT show in Indianapolis to see in person a few of the companies and see what they had to offer. The WWETT show offered a variety of different methods and products. Madewell Products Inc. was one company that stood out. They combined two of their products to form what they call the Mainstay Composite Liner. This composite liner combines a high strength restoration mortar with a 100% solids epoxy. The two products applied together have excellent adhesion to the existing substrate. They cure simultaneously to repair and protect concrete or brick structures in many corrosive industrial and sanitary sewer environments. I think this method goes one step further, unlike some other products where the corrosive barrier is sprayed directly onto the structure.

Problems that are unseen or hard to see do not get addressed like they should, especially ones that are beneath the ground. I&I and H2S are two enemies of a problem free manhole.

Here in the Willamette Valley of Oregon the winters are not so much snow and ice, but rain, lots of rain. This makes for saturated ground and high-water tables, which makes I&I a big concern. A lot of inflow and infiltration can happen just in manholes. The bad thing about leaks is that they never stop; whether it's a slow seeping leak or a fountain of water squirting in, they are always on. All that



extra water in the collection system makes the price of wastewater treatment jump.

Eliminating I&I is not complicated, it does take thought and planning though. Most active leaks can be stopped with injectable chemical grout and hydraulic cement.

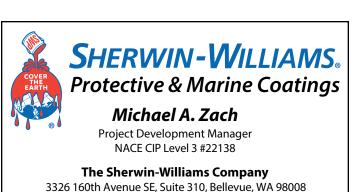
Unfortunately, after the leaks have been sealed, that is where some people end the process. This approach has one major downfall. Without encasing the entire exterior of the structure with injectable chemical grout, who is to say you found and stopped every leak? The next important step is to install a liner once the active I&I have been eliminated. I think this is where a product like the Mainstay Composite Liner comes in. The high strength restoration mortar bonds with existing substrate and seals all the leaks, whether they were active at the time or not!

The liner can also take care of another manhole monster, H2S. This sulfuric acid attacks concrete and brick, compromising the integrity of the structure. Discharge manholes and lift station are particularly at risk for this. The high strength restoration mortar gives back structure and the epoxy corrosion barrier is applied directly to the soft, uncured mortar. The combination results in a corrosion-resistant, monolithic surface that is free of pinholes and voids.

Dig and replace is time consuming, disrupting, and not to mention expensive. Thankfully there are other options out there that have tried and true results. Look at all the options before deciding to do a complete replacement.



Every time we go out to rehab a structure, whether that is a manhole, lift station or just a chunk of concrete missing from a wall. We get to take something that was damaged or failing and with the help of some great products, not only turn that into something usable again, but also give that structure a much longer life. •



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Easements: Allowing a Walk on the Coast... and Across Someone's Front Yard (to Access

by Laura Schroeder

Have you walked on the beach at the Oregon Coast, walked across private property to check a water meter, or dug in someone's front yard to determine why there is water bubbling up from underground causing flooding on their property? Doing any of these tasks is legal due to easements. Easements are particularly necessary for the efficient and continuous operation of public utilities, particularly water suppliers. However, all too frequently the details of easements and actual documentation of the existence of an easement is incomplete or inadequate.

What is an Easement?

For legal purposes, an easement is a nonpossessory interest in the land of another that provides the holder of the easement with some interest in another's land.1 Water suppliers often have easements across private property to access water lines, water meters, or water sources. Of primary importance for a water supplier is a right to access all of its infrastructure that is necessary for monitoring and operating its system.

A right of access to water infrastructure is typically in the form of an easement or plat map; however, it could be written as a right-of-way or a license, but above all else, it should be in writing!

An unwritten agreement to allow access to water supply infrastructure almost inevitably will lead to a dispute. To avoid conflict and facilitate a quick resolution to any

potential legal dispute, an easement should be clearly written and recorded with the county.

When determining what rights of access a water supplier has in place, and when obtaining new rights of access, it is important to ensure any easement provides a water supplier with all the protections it needs to operate its water system.

Types of Access to Consider in Easements

Specific items a public entity should consider when revising an easement or obtaining a new easement include whether:

the easement is large enough to allow for the size of machinery and equipment that may be necessary to conduct any repair or installation,

the easement specifically allows for repair, construction, and installation of the necessary infrastructure, and

the easement explicitly states the public entity may remove vegetation from the easement area, and/or that the landowner is to keep the easement clear of vegetation/structures.

A water supplier in Oregon may assert it has the rights in the above list if the infrastructure has been in place over ten years even if not written in an easement or designated on a plat map; however, it facilitates quicker resolution of any dispute when such rights are explicitly written.

Or. Rev. Stat. § 105.170(1).





a Water Pipeline)

Well Source Protection Requires an Easement or Property Ownership

An additional consideration if obtaining water from groundwater wells is whether a water supplier that obtains water from a well on private property has an easement to the well that satisfies the Oregon Administrative Rules. Specifically, the water supplier must either own or have a perpetual restrictive easement on the area of land within 100 feet of the well.2 Therefore, when considering what types of access a water supplier requires to operate its system, it is also important to know what legal requirements must be included in any such right of access.

Knowing Oregonians enjoy walking on the coast or using public easements to access wilderness, and water system employees appreciate reading water meters or making water line repairs without conflict, we all surely understand the value of easements. Therefore, it is important that we ensure appropriate and sufficient easements or other rights of access are in place to allow for continued operation of water systems.

ABOUT THE AUTHOR

Schroeder Law Offices, P.C., was founded by Laura Schroeder and represents water-rights clients in six western states and consults internationally. You can read more about this topic and other water rights issues at Schroeder Law Offices' Water Law Blog, http://water-law.com/home/blog/.

Or. Admin. R. 333-061-0050(2)(a)(B).



The Changing World of Pretreatment

Road Warrior observations from around the country, by Rick Allen

We all know that the world of wastewater is ever-changing. In my travels around the country teaching, meeting with clients or attending learning sessions, I am always inspired and sometimes amazed by the resilience of our Wastewater Professionals. Whether I am in the Southwest, Northwest, Central or East Coast areas of the country the Wastewater Professionals are masters at managing our wastewater systems.

One of the newest trends I am seeing in the industry is the absolute necessity for Pretreatment Programs in every Town or City, no matter how big or small. I am a firm believer in every community making sure they have some type of Pretreatment and Fats, Oils and Grease (FOG) ordinance written and enacted by the town or City Council. Ultimately, once you have the ordinances in place, you must enforce them.

Even if you are told by the regulators that you are not big enough to require a state approved pretreatment ordinance, that does not mean that you should not have one. In the changing world of pretreatment, ordinances are no longer optional.

Suppose you are a small town in rural America that one day has a meat packing plant come to town. Do you think the discharge from that plant will have a significant effect on your wastewater plant? This happened in two cities in the west and each ended up with excessively high BOD, TSS and FOG loading. Without a pretreatment ordinance they could not surcharge the processing plant. Or another scenario could be that one of your residence decides to open a distillery. The discharge from a distillery can easily kill your plant. Or, possibly a Micro-brewery in town, how will that affect your system? Again excessive, BOD, TSS and if they have a grill or restaurant attached to the brewery FOG.

Ironically, we have seen many incidents of all the above happening across the country. The challenge could be that without a pretreatment ordinance in place you may be hard pressed to get the meat packing plant to invest in a \$250,000 pretreatment system or program. And they may want to fight you over being surcharged for excessive loading to your system. After all, they are grandfathered in.

The above are just a few of the known pretreatment issues that can appear, but there is a new challenge coming your way. With the legalization of Cannabis in many states, there will be everything from growers to processors to food manufacturers wanting to connect to your system. Without a pretreatment ordinance how do you control the contaminates they may discharge. How do you establish the authority to surcharge them for higher than normal BOD, TSS and nutrient loading? Anything from fertilizer to pesticides may come from growers. Processors may have chemical or oil waste that may enter your system. Food (edibles) processors may discharge toxic cleaning solutions along with FOG, polysaccharides (sugar, molasses, sweeteners), just to mention a few. THC products may contain heavy metals, nitrates and nitrites.

It is estimated that at least 50% of the products used for THC and CBD consumption in Colorado are edibles.

These are some of the issues you could have with facilities making THC products, but then there is also a strong movement towards hemp growing and the processing of CBD oils, salves and oral medications.

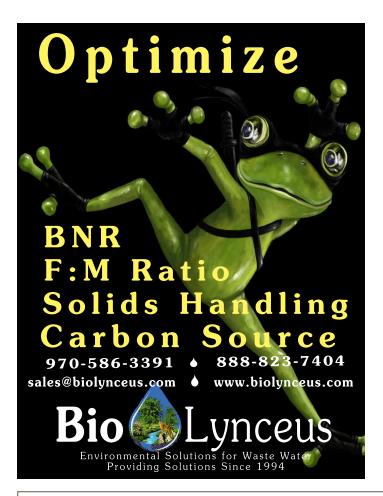
The other challenge is cities not requiring a license from every one of these types of businesses along with a pretreatment program. They should be, but I am sure there may be some slipping through the cracks.

Recently, after teaching a class on Pretreatment Ordinances in the North West, the instructor that presented before me was a state regulator who stopped to say, "thank you". I asked why, she responded that in her class she had to tell them who was required to have a state approved ordinance but could not tell them that they all needed one. This is just one regulator, but most I have talked to would repeat that message. No matter how small you are, it is in your best interest to have a pretreatment ordinance and a FOG ordinance in place.

We have seen many businesses come to town and create many challenges for a wastewater plant and their operators. Truck stops, truck washes, car washes, dog food manufacturing, commercial kitchens, distillers, micro breweries and even food trucks are on the short list.

My best advice to all communities is to have a strong pretreatment ordinance, preferably approved by the state, then make sure you enforce it for everyone.

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- 1. Calculate the length of one side of a rectangle, in feet that has a perimeter of 280 ft and a width of 20 ft.
 - A. 120 ft

C. 240 ft

B. 360 ft

D. 300 ft

- 2. The purpose of ribs on the outside of a Wayne Sewer Ball is to:
 - A. Allow the ball's weight to be closer to the ball's center
 - B. Avoid patent infringement that would apply if a non-ribbed ball were used
 - C. Cause jet action to aid in the hydraulic flushing of the sewer line
 - D. Reinforce (strengthen) the ball
- 3. A tank with a capacity of 90 cubic feet can hold how many pounds of water?
 - A. 5,616 pounds

C. 3,780 pounds

B. 4,368 pounds

D. 4,992 pounds

- 4. Why should solids-contact units be drained periodically?
 - A. To inspect the slurry volume
 - B. To inspect the belt drive
 - C. To inspect the chemical storage facilities
 - D. To inspect the sludge collectors for wear and corrosion

- 5. Who dominates the global market for smartphones?
 - A. Blackberry

C. Commodore Vic 64

B. Android

D. Apple (ios)

- 6. What is a PRV?
 - A. Positive Resistant Vessel
- C. Precise Riding Vacuum
- B. Pre Retirement Vacation
- D. Pressure Relief Valve
- 7. What State is the world's tallest known Douglas Fir (also called a Doerner Fir) located?
 - A. California

C. Oregon

B. Utah

D. Washington

- 8. What is the downfall to ozone disinfection?
 - A. Does not destroy pathogens.
 - B. Is not recognized by OHA as an approved treatment process.
 - C. Does not work with surface water.
 - D. Does not carry a disinfection residual into the distribution system.
- 9. 300 feet of 12 inch mainline will hold roughly how many gallons?
 - A. 1761 lbs

C. 1761 gallons

B. 2176 gallons

D. 1500 lbs

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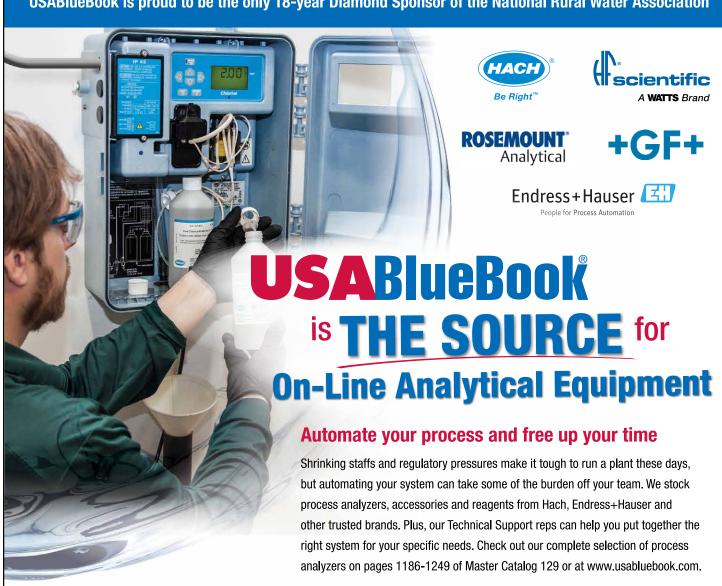
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