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Oregon Association of Water Utilities
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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.

Oregon Association of Water Utilities
I recall being instructed along the lines — for every action, there is a consequence or reaction. My father especially demanded I learn to be responsible in decisions, actions and duties, and to never blame others for my actions. I was expected to think through to the consequences prior to action, not that I would regularly practice such, it required purpose of thought and honesty with one’s self and formation of habit! These thoughts, standards and practices are not regularly seen today and foreign to many, like an unknown language. Shameful, brings to mind a mutiny or rats jumping from a sinking ship — no responsibility and lacking in character and leadership. There is a huge price to be paid in the lack of these character faults (at some point we will pay). These traits can be learned as an adult, but require many disasters and relationships left along the road of instruction and humility.

With three lovely daughters, I am reminded of discussions concerning choices and what occurs if a particular wrong or disobedient decision were to be made. Early on, one of my sweet daughters, fully aware the decision she was making was wrong, measured the consequences and told me matter of fact, doing it was worth the resultant discipline and consequences. At the time, it was amusing, but I saw myself clearly in my daughter. Consequences may be seen immediately or years later and may also include a penalty of sorts. My mother always said, “your sins will find you out!” For many of us, myself included, it often requires years to begin to learn our own mind and the deception of our ways! I regularly share with my staff that one of a leader’s traits is to get to know self, learn your own strengths and weaknesses, habits and your ways and most importantly, learn to be brutally honest with self. Few subordinates can or will ever be completely honest with you about you if you’re placed in a leadership role.

In relationships and regarding other’s property, there is the simplicity of courtesy and respect due to others. I was instructed that a person is to be respectful to others and their property. As a young boy, this was especially expected towards a lady and people older or elderly. Hold a door open, speak with respect and courtesy, let others hold the spotlight or attention, listen first (or be seen and not heard), place others as more important than yourself and respect your mother at all costs. Along with this, if borrowing something, I was responsible for its well-being and/or replacement if lost or broken. Simple expectations. Fair standards. It was an unspoken practice to always return that which was borrowed on or before the promised date and in better condition than when first obtained. Today I seem to see a new adage of borrowing to be similar to “drive it like you stole it.”

I believe the afore mentioned examples remain great traits to contemplate and instill in others, to habitually practice and result in respect, protection of character and relationships. I recently had the opportunity to “borrow” something, a retreat of sorts I have been given permission to enjoy and attempt each year since 1988. It is a remote location with marvelous views, splendid fishing, possible hunting or shooting, hiking, photography and the sound of wildlife and a river deep within magnificent vertical canyon walls. A memory making, one-of-a-kind place; solitude that allows one to search the soul and deep thoughts eat up portions of early morning walks.

continued
Time seems to stand still as considerations that change life’s direction, as I’ve experienced, weigh heavy on the mind. An awe-inspiring, wondrous creation of a place. I have alway treated this as a privilege and taken great care to leave the place and facilities in better condition, or at least in a cleaner condition, than when I arrived. I was shocked and angered on this trip. Somewhere in the recent past, trust and respect of the place, property and kindness of the caretakers had been thrown to the wind. Others were not responsible and proved untrustworthy thus, the caretakers placed limitations and restrictions on access and opportunities. I was saddened.

Seek to make responsible, moral, ethical and legal decisions and actions that will yield positive and fruitful consequences. Whether it is with an audience or behind closed doors where nobody can see us, responsible decisions and actions should always be our standard. I was angered, not because of my personal loss or restriction of privileges, but because someone(s) took advantage of the generosity, kindness and trust of this most kind and generous caretaker. Respect of another and their property was not given due place. Rather, exhibited were taking wrongful advantage, abuse, carelessness, disrespect and scoffing which resulted in serious consequences to everyone. It brings to mind the story of grace — yet while we were enemies… My best to you!

---

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Oregon Association of Water Utilities has prepared a full day class to assist operators in outlining an operations and maintenance manual per the Oregon Administrative Rule 333-061-0065 which requires each water system to develop an operations and maintenance manual.

This class will assist the water and wastewater system operator in outlining the specific points in developing the draft of the O&M manual. Step by step, each attendee will create their draft as it relates to their utility system during class. The e-file may then be completed back at the system office.

Class cost is $155, or if you are unable to attend a class you may purchase a thumb drive with e-files for $155. To sign up for the class, or to have a thumb drive mailed to you, contact your Association for further information.
In Memoriam
Tim Bunnell

Timothy Edward Bunnell, OAWU Treasurer, passed away April 11, 2014. He was 60 years old. A service was held in Harrisburg April 26. Donations may be made to Harrisburg Key Bank for the Tim Bunnell Harrisburg High School Softball Fund.

Tim served on the OAWU board for ten years. He will be missed by OAWU members and staff.
Let me introduce myself, my name is Jeff Crowther and I’m the new Wastewater Circuit Rider here at OAWU. The title of “The New Guy” was handed down to me by Hans and Mike since they came onboard with the association at approximately the same time. According to Hans, Mike was hired twenty-six hours after him. So, technically Mike was The New Guy until April 1st, when I came on.

At first I thought “New Guy? I am way too old to have that title.” But then began the realization that, although I have twenty-five years of public works experience, there is still a lot more for me to learn with this crew and the association. So truly, I am the New Guy.

We have all been the new guy at some time in our career. You may have even had the title more than once. I would like to encourage those of you who are just beginning their careers in the water/wastewater industry to take advantage of the knowledge of your senior staff. Strive to learn the ins and outs of your systems and educate yourselves to become the best in our industry. Take advantage of the learning opportunities given to you. Now for those individuals that are in a senior or supervisory position encourage your newly hired staff and provide them the tools necessary to succeed. These new guys are going to be your legacy.

I am learning a new career with the association, as the Wastewater Circuit Rider, that is quite diverse. I will be learning about lagoon operations, membrane filter plants, and sequencing batch reactors to broaden my knowledge base. Because no two systems are the same or operated in the exact same way, I find myself learning about many different processes and technical equipment (laboratory and mechanical).

All of the operations staffers that I meet along the way are eager to share their experiences with me so that I may guide the next system with the knowledge and experience I have gained on my travels. I believe that training and classroom education are important elements for our learning within this industry. But I feel that networking between systems is just as important.

Please give me a call or shoot me an e-mail if you have a unique system that is operating well or if you have solved a problem within your system that may help another agency that is struggling with the same or similar problem. I also would like to hear from folks that may have a process problems or situation that I can assist them with and/or provide some guidance to help solve a problem.

So with the title of “The New Guy”, I look forward to seeing all of you as I travel the state and also at the upcoming Summer Classic Conference in Seaside this August.
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Reflections of a Time Line

by Jack Hills, Source Water Specialist

How often have you been stopped in your tracks and intentionally reflected on the past events in your life? Do we often get so caught up in our day-to-day activities and responsibilities that we forget to consider where we’ve been and where we are going? Yes. I am guilty.

I suppose it is becoming “retirement age” that has stopped me in my tracks and made me reflect on the past and consider the future. Briefly looking back, I’ve experienced a pretty normal life, if one can classify such a thing. Relationships with those who have crossed my path are the most memorable; from childhood buddies, schools, college, employers, and of course my wife and family too, but that’s another chapter.

Those childhood pals, with whom I built earthen dams, go-carts, clubhouses complete with dugout basements and string-line telephones, forts in the forest and rafts on the lake, lifelong friendships were created. Some are now gone. Some gave their ultimate sacrifice for you, for me and our country’s freedom during the ‘60s. Some still kicking up their heels on the square dance circuit.

Employer relationships always seemed to develop into family style; maybe because I worked mainly in smaller organizations or offices. What a privilege to have company parties that included employees with their children and bosses who valued these families.

After college, in the 70’s and the Clean Water Act, design and construction of water and wastewater infrastructure kept me busy for the rest of the century, from public works, engineering firms, to construction contracting. Waterlines, sewer lines, and sub-division housing expanded, eliminating private wells and septic tanks in rural areas. Then at the turn of the century Y-2-K turned out to be a non-event. I guess I should dump out stockpiled bottles of water now.

Next the transportation departments went all out on repairing and building bridges and I was drawn into monitoring and documenting public construction contracts until I had note books filled with papers stretching clear around my cubicle. I decided to get back to the contractor side of things which may not have been a wise choice in retrospect, as the 2008 downturn took out a number of contractors and for the first time in my career I was terminated!

Well it didn’t take long to find another great group to work with in the water and wastewater industry, I came across OAWU’s need for a Source Water Specialist. Again, I’ve been employed by a wonderful organization who greatly values and takes care of, not only its employees and their families, but the members
who support and are served by the company. I cannot say enough for the camaraderie of TEAM OAWU, as the logo on our shirts show. In my tenure, the time line continues and some others have reached their time to look differently toward the future called “retirement”, a decision I have dreaded to consider because I don’t care for change. We cannot stop the clock and time marches on, so inevitably those milestones are reached or pass us by and we have to make the tough decision anyway.

I haven’t made that decision yet but time has a way of making you stop and reflect on where you’ve been, what you’ve done and then turn and look up ahead to consider the remainder of the path. I so appreciate not only our TEAM OAWU, but also those members and associate members with whom I’ve worked over the years. Remember, when you need help, call TEAM OAWU.
Often times I hear misconceptions about what “groundwater” is. I think I will begin with what it is not; it usually is not an underground river that the driller just happened to have found. I say usually because sometimes there are actual underground rivers in volcano tubes or in limestone karst where tubes were created due to the solubility of the rock. One way to think of a typical groundwater supply is to imagine a sponge, if a sponge is placed into a bowl of water the water will soak into the sponge material. In a similar way the pores in the ground can be filled by water.

Another way to think about a groundwater supply is to think of a bucket of dry sand, the dry pore space of the sand is filled with water halfway up the bucket. (A quick side note, if you have heard the term water table, this bucket half filled with water and sand is a good example. You can think of water table as a line where the atmospheric pressure is equal to the pressure head in the soil.) From the top it may still look like a bucket of dry sand, but if a hole was punched into the bottom of the bucket some water would begin to pour out.

There are three main types of groundwater supplies, we have confined, unconfined, and perched aquifers. An unconfined aquifer is typically filled by a more local water supply and is at greater risk for contamination because it is more of an open system. Think of the sand in a bucket example that was stated above – this would be an unconfined aquifer, whatever you pour into the bucket will soak down into the sand and be added to the water that is already in the bucket – there will be a direct connection between the surface and the water that is in the pore space somewhere below the surface.

A confined aquifer is usually a little more protected and the water typically originates from a location farther away. When speaking of a confined aquifer the pressure in the aquifer is typically different from what it would be if the water was just in an unconfined system. The confining layer in a confined aquifer is a layer of low permeability – water, or other fluids, will take a long time to flow through the material. The water in this aquifer usually comes from a recharge location further away and due to the time it has been traveling through the ground, many of the contaminants have sorbed onto soils and no longer pose a risk for human consumption. However, it has had more time to build up the soluble material and may be either harder or softer than the water from the typical unconfined aquifer. Again picture the bucket example, only this time you have filled half the bucket with sand and water, then place a layer of clay in, and finally filled it the rest of the way with sand. Any additional water that is poured into the bucket will fill the top layer of sand, but will not mix with the water that is in the lower layer of sand below the clay.

Finally, we have the perched aquifer. This is typically an unconfined aquifer that is sitting on top of a confining layer. The confining layer is typically not very large and the water supplied can be easily over pumped. Perched aquifers also have a tendency to fill during the winter, when the water table is high, and begin to be reduced once the water table is below the perched aquifer. Again imagine the bucket half filled with dry sand, a small bowl put into the bucket and only the bowl is
filled with water, now the rest of the bucket is filled with sand. If you poked a long straw into the sand bucket and tried to suck water out, a majority of the bucket would yield no water, but if you happened to get the straw into the small bowl that was filled with water you would get a small amount of water, but this water would be exhausted quickly.

Now let us briefly go through another aspect of aquifers, this is the material that the aquifer is made of. Aquifers must be both permeable and porous; we get the water out of the aquifer through interconnected water filled pores within the ground substrate. We have fractured basalt – where the water is in interconnected cracks or joints (these would be cracks, in the parent material, that are typically filled with crushed rocks, sand, and/or sediment), gravel that was previously a stream channel, alluvial deposits, limestone, volcanic rock, sandstone, igneous and metamorphic rocks, and clay.

In Oregon we typically have volcanic- and sedimentary-rock aquifers of fractured basalt or unconsolidated deposit or alluvial aquifers that consist of sand and gravel.

Where does the water come from? The water comes from a region called the re-charge zone. It is rain, snowmelt, reservoir or river leakage, or from irrigation water originating at a higher elevation that has seeped into the ground and is now flowing through the cracks or pores found under the ground surface. It will flow through the pores due to gravity and will slow at areas that have low permeability.

Knowing where your groundwater is coming from is important. This information can enlighten us on how easily the water supply may become contaminated, how connected it is to surface water, how long it will take to recover after pumping, and what may be present in the water from the aquifer material itself.

Check your source water assessment to determine where your groundwater comes from. Call OAWU for help.
Are you a blue collar worker or white collar? Were you once blue, but now white? Or are you a little of both?

Speaking with a young couple, who are running a water system that is governed by a board, I sensed that they were the board, as well as the cheerleading squad and maintenance crew. The hurdle for them wasn’t getting their heads around the daily tasks, but the follow up paperwork. Even though it is a relatively small water system there is still the dreaded paperwork that is considered the unit of measure for a completed job.

As I saw while visiting with these two people, and have seen in many other water systems that I work with, a recurring theme seems to be a predominant issue, apathy!

I am not sure if the issue should be called apathy, or a demanding schedule, or nonchalant, but we as a nation really do not give two thoughts towards drinking water. Since so many people rely on a water system to provide good clean drinking water, it is easy to go out on a limb and state, “If it weren’t for a few people to get the task done, many more of us would be caught in a situation without water.”

Intrinsically, the only proof or measurement of a water system properly functioning is the lack of malfunctions. You’re tasked with the paperwork and if it is not completed, it is deemed that system operations are not being correctly managed. If the files on daily residual readings of your disinfectant cannot be found or were not written down, then what proof do we have that the task was completed.

On the other hand, if all the paperwork is correctly completed and the system is falling apart, then what is the perception of the users? A balanced effort falls in the ability to perform both white collar tasks and blue collar tasks. Pending the size of the water system, can someone balance both categories?

Twenty hours each week is reserved for paperwork while an additional twenty hours is field work. Oh, the smiles on your faces if that could be held true! The fact of the matter is we are tasked to perform and our performance is measured. However we complete our tasks, the measure of our success is dependent upon the value of the service we provide.

Balancing an ever changing pendulum is how we deal with system operations. From daily routines to the sporadic report, the back burner cannot become a blazing inferno of procrastinated tasks. We may have to adjust the size of our blue collar to compensate for the additional tasks the white collar is demanding.

Unlike the Lernaean Hydra serpent in Hercules, if we lose our head two more won’t grow back, as the demands on us continue to increase. Continued self-evaluation and tenacity are the key ingredients to staying organized, regardless of the color of our collar.

The best that life has to offer!
1. What is the distance between the two points whose coordinates are: (9, 5) and (6, 1)?
   A. 6
   B. 5
   C. 4
   D. 3

2. What is the slope of the line going through the above points?
   A. 1/9
   B. 5/6
   C. 4/3
   D. 1/5

3. Where would this line intersect the y axis? (when x = 0) (0, y)?
   A. -9
   B. -8
   C. -7
   D. -6

4. Sample sizes for TSS in wastewater should leave at least __________ mg of residual on the filter and no more than __________ mg of residual?
   A. 50 and 200
   B. 20 and 300
   C. 10 and 500
   D. 10 and 200

5. The pH is a measure of the concentration of _______ in a solution.
   A. Hydrogen ions
   B. Hydrogen molecules
   C. Hydroxide ions
   D. Alkalinity equivalents

6. Does sound travel faster through water or air?
   A. Water
   B. Air
   C. It travels at the same speed through both
   D. Sound does not travel through either

7. What is the biggest ocean on Earth?
   A. Atlantic
   B. Arctic
   C. Pacific
   D. Indian

8. What causes water to move through pores in soil and rocks?
   A. Temperature
   B. Viscosity
   C. Barometric pressure
   D. Gravity

9. Which document provides a profile of hazardous substances?
   A. CERCLA
   B. SARA
   C. CFR
   D. MSDS

10. What is North America’s largest aquifer?
    A. Biscayne Aquifer
    B. Edwards Aquifer
    C. Ogallala Aquifer
    D. Texcoco Aquifer

ANSWERS

1-B, 2-C, 3-C, 4-D, 5-A, 6-A, 7-C, 8-D, 9-D, 10-C
Webster’s Dictionary explains exactly what the Oregon Association of Water Utilities strives for.

: an organized group of people who have the same interest, job, etc.
: a connection or relationship between things or people
: a feeling, memory, or thought that is connected to a person, place, or thing

Being a member of OAWU provides a way to network with peers that have the same motive and direction in the water/wastewater industry as you.

The staff of OAWU are in constant contact with one another, we strive to keep each other informed about the systems we are working with and what solutions or problems we have. It is like the old saying goes “two heads are better than one”. Each member of our staff has a unique specialty and we know if we need some answers in a particular area which staff member we can call, text or shoot an email to for help.

We also hope if you, in the industry, are having a problem that you feel free to contact the office and put in a request for us to come out and help. You can request a particular staff member if you feel they are better suited to help with your particular situation. We do not have specific territories assigned to us; each staff member covers all of Oregon.

Do you realize what topics we can cover? In water systems we cover cross connection, distribution systems, disinfection, water treatment facilities, operator certification and much more. In wastewater we help with activated sludge treatment, confined space entry, inflow and filtration, pump maintenance and collection systems. The Groundwater/Source Water Specialist deals specifically with drinking water protection. We work with water systems to develop drinking water protection plans that meet all state and federal requirements including management, contingency and new well elements.

To connect with our members we host a variety of trainings throughout the year. Our biggest conference is our Annual Technical and Management Conference held in Sunriver the first week of March. We have classes covering water, wastewater and management topics that are approved for CEUs. There are a ton of vendors there offering the latest in technology, as well as, a variety of freebies. We also have a mean game of cribbage and a ping pong competition going on during the week. If you have never been to Sunriver you should make it a priority to come in 2015.

The second largest training we host is our Seaside conference in August along with some great training and CEU credits you can join us on the beach for a bonfire or our golf tournament at Gearhart Links on Wednesday.

If you are missing CEUs at the end of the year you can join us for our End of Year Operator’s Conference in Hood River to get some great training and those last minute CEUs. Also we have other miscellaneous trainings throughout the year so check out the training calendar at: oawu.net.

Over the course of my career I have made great friendships and so many special memories. I don’t think that there is an area in Oregon where I haven’t made a special friend, even became so very close to many of the operator’s families. I could call up
just about any of them and we could go out fishing, hunting, to a graduation or just spend the night and have a great home cooked meal.

Sometimes I am on the road for up to three weeks and a good home cooked meal is a treat. I must say my wife had a medical scare a couple of weeks ago and I can’t tell you what a great organization I work for, they let me stay home and make sure she was going to listen to her doctors. Let alone the phone calls from my co-workers and some of the operators, that not only I have grown close to, but also that my family have grown close to.

Another great example of this: it’s my daughter Lexi’s senior year of high school and she is competing in the Oregon High School Rodeo team. She decided after a tragic accident that took a friend’s life that she was going to dedicate her senior year and ride in honor of her. She has her name stitched on every shirt to remind her that Sondi is giving her, and her horse Lilly, the wings they need to make a perfect run each and every time they ride.

Remember association is a great word with true meaning, so dedicate yourself to work, but also through the association build great friendships and trust in one another. This association is my family away from home.

**CONSUMER CONFIDENCE REPORTS**

Don’t forget your CCR! Consumer Confidence Reports (CCRs) must be delivered to customers by July 1st. By rule, a copy of the CCR must also be submitted to Oregon Drinking Water Services (DWS) by July 1st.

**IF YOU NEED HELP DEVELOPING A CCR, CALL OAWU:**
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Tank Maintenance Basics

by Scott Berry, Circuit Rider/Program Manager

Every water tank must be periodically maintained in order to ensure long life of the tank and to protect the quality of the water within the tank. Some tanks, such as the reinforced concrete tanks (often used for ground level or standpipe reservoirs), have lower maintenance costs over the life of the structure when compared with steel tanks. However, every type of tank requires at least some maintenance.

Maintenance can be considered a cost-saving measure. Periodic maintenance is usually much cheaper than the large repairs which will be necessary in un-maintained tanks. The cost of inspection is an insurance policy against premature failure of the tank.

The tank’s paint coating requires the most maintenance since it must be replaced periodically. When the coating is not well maintained, the tank will have to be repaired. Repair will usually cost two and a half times more than the cost of a good original coating.

In addition to the financial cost associated with replacing badly maintained coats of paint, the coatings applied on such surfaces are usually lower in quality due to adverse application conditions. Seventy-five percent of all coating failures are attributable to poor surface preparation or to improper application of the paint. These failures lead to downtimes during which the tank cannot be used and temporary arrangements need to be made.

Formal coating inspections and the associated maintenance will greatly increase the probability of achieving a successful coat application that will protect for the design life of the system.

Tanks must be inspected at regular intervals as the first step of the maintenance procedure. The purpose of the inspection is to determine if repairs are required and, if so, the exact nature and extent of the work required. Inspection of water tanks is expensive, but the cost is insignificant compared to the cost of premature failure of the tank.

A thorough inspection should be performed every two or three years on the entire structure. Some facilities choose to have annual inspections, as will be discussed later in this section. In addition, inspections should be performed during the construction of new water tanks and during any repair, painting, and disinfection.

Inspection should be considered a mandatory part of the maintenance procedure and should be conducted by an independent expert who will receive no benefit from any maintenance performed on the tank.

The inspector should be well trained by a qualified organization. A professional engineer (see the American Water Works Association Standard D 101) will be able to evaluate the structure, the grouting, the welds, the formulations, the structural alignment, the paint conditions (inside and out), the leakage, the rod adjustment, any settling, and successfully complete a corrosion evaluation in accordance with D 101. The AWWA Standard: Painting Steel Water Storage Tanks includes a brief section on inspection which should be followed, but which is not adequate as a basis for the entire inspection.

The inspector should outline specific maintenance needed to restore the structure to the condition it should be in. This inspection should be the basis for all maintenance of the structure – only maintenance required by the inspector should be performed. In addition, a complete record of inspections and maintenance should be kept.

Following the proper guidelines and selecting qualified engineers and contractors to perform regular inspections will help to avoid serious maintenance problems in the future.
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What is the worth of having every meter box opened and inspected each month during routine meter reading? I realize that many systems don’t, necessarily, do this anymore with the rise of Automated Meter Read (AMR) systems. Please don’t misunderstand what I am saying; I am not suggesting staying away from AMR systems. As with any issue there are always two sides to the story, plusses and minuses, and we need to balance those out for our utility to find the best option. At the water system I worked for, when we first started looking into an AMR system it was fairly straightforward for us. Based on the expected cost of the system it was going to take 4.4 years to pay it off, based on time saved by both, field staff collecting and office staff inputting the data, not to mention the huge public relations boost of fewer miss reads. The biggest selling point for me was the safety aspect. In this system there were many busy roads and the thought of having myself, or worse one of my guys, getting hit by traffic was one of the things that kept me up at night.

We have looked at some of the benefits for having an AMR system, so what are some of the downsides? In my mind, the biggest one is no longer getting eyes on each meter every month. I know myself and my crew found many leaks, big and small, while we were reading meters. Many times the leak wasn’t right at the meter; we could just hear it, though it was back from the meter some distance. What about the bottom of the meter blowing out from a freeze. If it is not registering that this flow is going through the meter then you will not know this has happened until someone actually sees it. In a town, where the meters are by the curb in lawns and people walk by them, this will most likely be noticed fairly quickly, but what about meters in rural areas? These meters could be at the edge of fields or even located in the woods and could leak for some time before being noticed. Something else that makes the AMR system prohibitory for a water system is simply the cost of the AMR system itself. While the meters are fairly inexpensive, in the grand scheme of things, the cost for the equipment to read them is fairly high. This makes the cost easier to bear for the larger systems, as they can distribute that cost across all there residents, but makes it more difficult for a smaller system to justify.

Once again, I am not in the least suggesting that a system not utilize AMR systems as they have many benefits for water utilities. I am simply suggesting having a plan of attack built specifically for your system. This could be looking at all the meters once a year, twice a year, or just after a freeze. This is going to be different from system to system based on the geography and location of your system. No, one size fits all, rule will fit all systems. If all your meters are located in yards near sidewalks this may not be an issue for your system. But if you have some zero use meters or meters located in remote locations it may be a good thing to check them more often. With all that said I hope you can find something helpful to take away from this article.

Remember Consumer Confidence Reports are due July 1, and I hope all your summer projects are going well. If you have any questions or would like a system visit remember one of us circuit riders are just a phone call away and with that, I’ll see you down the road.
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Jeff Swanson passed away on July 4, 2009, from esophageal cancer. Mr. Swanson was an accomplished and passionate Circuit Rider and Programs Manager for ten years at OAWU. He was a great water operator, manager, troubleshooter, treatment plant operator, instructor and a great friend. Jeff had a warm and memorable personality, exceptional integrity, personal character and work ethic. It is to Jeff Swanson’s memory that this scholarship is named; he believed that obtaining education was paramount to a person’s success and encouraged people to obtain it. As Jeff would often say regarding one’s attitude and actions, “Choose to make it a great day!”

An application with further details is available on the OAWU home page at www.oawu.net. The scholarship is awarded at the Annual Management and Technical Conference in Sunriver. Please submit application by December 4, 2014 to: OAWU Scholarship Committee, 935 N. Main St., Independence, OR 97351, Attn: Scholarship 2015.

OREGON ASSOCIATION OF WATER UTILITIES
2014 TRAINING & EVENTS SCHEDULE

<table>
<thead>
<tr>
<th>Date</th>
<th>Class Title</th>
<th>Location</th>
<th>CEU Information</th>
<th>ESAC#</th>
<th>Fee/Free</th>
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<tr>
<td>June 5</td>
<td>SDWA Update</td>
<td>Newport</td>
<td>0.4 Water</td>
<td>2287</td>
<td>FREE</td>
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<tr>
<td>June 10</td>
<td>Control Valves</td>
<td>Island City</td>
<td>0.7 Water/Wastewater</td>
<td>2286</td>
<td>FREE</td>
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<tr>
<td>August 5</td>
<td>Pumps &amp; Pumping</td>
<td>Salem</td>
<td>0.6 Water/Wastewater</td>
<td>TBA</td>
<td>Fee</td>
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<td>August 6</td>
<td>SDWA Update</td>
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<td>FREE</td>
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<tr>
<td>August 7</td>
<td>Pumps &amp; Pumping</td>
<td>Florence</td>
<td>0.6 Water/Wastewater</td>
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<td>August 18-21</td>
<td>Summer Classic XX Conference</td>
<td>Seaside</td>
<td>2.3 Water/Wastewater</td>
<td>TBA</td>
<td>Fee</td>
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<tr>
<td>August 26-27</td>
<td>Water (WT/WD) Certification Review</td>
<td>Bend</td>
<td>1.4 Water/1.1 Wastewater</td>
<td>TBA</td>
<td>Fee</td>
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<td>September 9</td>
<td>Control Valves</td>
<td>Grants Pass</td>
<td>0.7 Water/Wastewater</td>
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<td>September 16-17</td>
<td>Water (WT/WD) Certification Review</td>
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<td>1.4 Water/1.1 Wastewater</td>
<td>TBA</td>
<td>Fee</td>
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<td>September 24</td>
<td>Water Operations &amp; Maintenance</td>
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<td>TBA</td>
<td>Fee</td>
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<td>September 25</td>
<td>Developing Your O&amp;M Manual</td>
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<td>TBA</td>
<td>Fee</td>
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<tr>
<td>October 22-23</td>
<td>Wastewater (WWT/WWC) Certification Review</td>
<td>Salem</td>
<td>1.4 Wastewater/0.6 Water</td>
<td>2295</td>
<td>Fee</td>
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<td>November 3-5</td>
<td>Small System Operator’s Conference</td>
<td>Cornelius</td>
<td>2.0 Water/Wastewater</td>
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<td>Math for Operators</td>
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<td>November 19</td>
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<td>FREE</td>
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<td>December 9-12</td>
<td>16th Annual End of Year Operator’s Conference</td>
<td>Hood River</td>
<td>2.0 Water/Wastewater</td>
<td>TBA</td>
<td>Fee</td>
</tr>
</tbody>
</table>

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

Oregon Association of Water Utilities
Optimizing your sludge judging results

Are you holding too many solids in your system?

Industry experts are often recommending that you perform a sludge judging of your system. This is something that professionals recommend you complete at least once per year in lagoon systems. It is a common daily practice in activated sludge plants so they can determine the amount of solids wasting that needs to be completed to keep the plant at optimal operations.

In lagoon operations, it is imperative that you know how much sludge has accumulated in your lagoon(s) and the volume of increase over the last year, two years or more. If you do not know the sludge levels in your system, how do you know if your lagoons are working optimally or at all. One indication that your lagoons are not working is if you can see solids/sludge above the water line. Hopefully, you are not seeing this, but if you are, action is required immediately.

Other than visible solids above the water line, there are several other things that can indicate you are holding too many solids. One of these is odor complaints. Recently a midsize town in Wyoming was instructed by the state department of environmental quality that they were getting too many odor complaints and the city needed to dredge their lagoon.

Another indication you may be holding too many solids is your BOD and TSS levels are bumping against your discharge limit every month. Or your TSS to BOD levels are outside of the recommended norm of one and a half (1.5) to one (1).

In some cases, you may be required by your state regulators to dredge your lagoon. If you do not know the levels or the consistency of your sludge, this may happen sooner than you think. Some states are starting to legislate the amount of solids you can hold in your lagoon. We have seen maximums of 15% of holding capacity and in other cases the maximum you can hold is 18 inches.

How can you optimize your sludge judging results? Be consistent whenever possible. Try to sludge judge your system annually if not more often. I prefer to see this task completed semi-annually. I recommend that you use a disinterested third party when they are available. Some options may be the wastewater circuit riders from your local Rural Water associations. I highly recommend that you hire the services of your local state chapter of the Rural Water Association. I have used the services of these organizations in many states for several years and have found them to be professional and reliable. Some of these associations charge for sludge judging and some do not. I also recommend that whenever possible you use the same person every time. We know of a few independent people who perform sludge judging as a business. If needed, please contact us for names and contact information. Some companies may offer to perform sludge judging for free, they hope to get your business when it shows you need to dredge.

If you decide to do your own sludge judging, then here are a few things to consider. When you get ready to sludge judge, be sure to turn off your aeration at least 24 hours before you perform the judging. Lay out a grid to work from during the process. I recommend that you take at least 20 samples per surface acre to determine where there may be peaks and valleys in the sludge layer. By taking at least 20 samples, you may see areas that are short circuiting in your system. These areas will need to be rectified as soon as possible.

Keep accurate notes. Make sure to log the total sludge layer, the clear water, the amount of black, gray, brown and tan sludge in the tube at each location. Each of these layers will help you determine how well your system is working. In some cases, I have seen clear water between each of the sludge layers. Take lots of photographs, this will help you if you ever have to prove the amount of build-up in your system.

You will need to have the material tested for percent solids. This information will help you determine the estimated cost of mechanical dredging. If your Rural Water Association does not have a calculator, Wyoming Rural Water has one. It is a nice calculator for determining the average cost for sludge removal.
If you find that you are holding too many solids in your system, then you should take action immediately to improve solids reduction. There are many options available that can help you with this very important issue. I recommend that you work closely with your circuit riders to decide which option or options will be best for your system. You may need to change how you are operating and managing your system. Managing the solids in your system needs to begin where your system starts, not just at the lagoon.

If immediate removal is needed, then your only option may be to mechanically dredge. If you have time, Bio-Augmentation may be a solution you could use. Although, most circuit riders are not allowed to recommend specific products, they do have knowledge about what they have seen working in your area.

If you need more information or have any questions contact me, Rick Allen, via phone at (303) 888-2008 or via email at rick@environmentaltrainer.com.
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Name preferred for name badge ____________________________________________________________________________
System / Company ___________________________________________________________________________________________
System Address ________________________________________________________________________________________________
City __________________________ State ________________ Zip __________________________
System Phone __________________________ System Email __________________________

Pre-Conference (Monday)

<table>
<thead>
<tr>
<th>Course</th>
<th>Fee</th>
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<tr>
<td>Small Water System Training Course (0.6 Water CEUs)</td>
<td>System ID #41- __________ FREE</td>
<td>________</td>
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<tr>
<td>Effective Utility Management (0.6 W/WW CEUs)</td>
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<tr>
<td>Backflow Assembly Tester Certification (0.6 Water CEUs)</td>
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<td><strong>PRE-CONFERENCE TOTAL</strong></td>
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Full Conference (Tuesday–Thursday)

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<tr>
<th>Conference Registration</th>
<th>Early Bird (postmarked by July 22)</th>
<th>Standard (postmarked after July 22)</th>
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<tr>
<td>OAWU Member</td>
<td>$260</td>
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<td>Non-Member <em>(non-members receive a one-year individual membership with conference registration)</em></td>
<td>$335</td>
<td>$345</td>
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<td><strong>TOTAL REGISTRATION FEES</strong></td>
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<table>
<thead>
<tr>
<th>Additional Meals for spouses or guests</th>
<th>Quantity</th>
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<td>Tuesday Evening BBQ</td>
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<tr>
<td>Tuesday Lunch</td>
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<td>$20</td>
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<td><strong>TOTAL ADDITIONAL MEALS</strong></td>
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<table>
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<tr>
<th>Wednesday Golf Scramble Registration</th>
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<tr>
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<td></td>
<td>$75 per player (includes lunch)</td>
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<tr>
<td><strong>TOTAL GOLF REGISTRATION FEES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

☐ Please Invoice
☐ Payment Enclosed: Check # __________________________
☒ Purchase Order: PO # __________________________
☐ Please Charge ___ ☐ VISA ☐ MasterCard ☐ AMEX Card # __________________________
   Name as shown on card __________________________ Expiration Date __________________________
   Signature __________________________ Card Security Code __________________________
   Card billing address with zip code __________________________

**TOTAL CONFERENCE FEES**

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Oregon Association of Water Utilities
An Old Familiar Tune

It is now. An old familiar tune, I mean. For the longest time, I couldn’t hear it ‘cause I didn’t know it was there or where to look. Like that old Don Williams song, I suppose - wasted a lot of time looking in all the wrong places. Now, it seems I hear it everywhere I go. It’s all in the listening and watching, you know – knowing what to listen for. Been looking for it so long. Haunts me – “What makes us rise? What helps us? How do you reach the kid? How do you reach the horse?” And so many times, I’ve wondered about my obsession with that. What was it in me that made me look so hard? Now I know...cause when I started finding it – knowing what to listen for – the music was just so sweet. So sweet sometimes it made your teeth hurt.

I saw the young fellow the other day – standing in the parking lot of the local Feed and Seed surrounded by kids, all of whom were waiting to sign up for the dummy roping. The store was having one of those customer appreciation days with burgers and games. I waited for a time, then approached him during a break. “Do you go to school here?” I asked.

“No sir,” he said, offering his hand and a smile. “I graduated from Oklahoma State a few years ago. I’m a salesman. I have the Mid-South Region, and I mostly make these shows.”

“How did you get in this business?” I asked. I always ask that of every salesman I meet. I’m fascinated with salesmen. You can learn so much from them...even the young ones.

“Certainly because of my degree in Ag from OSU,” he said, “but mainly because of one class. I took this class called Ag Sales, and it changed my life.” (I heard a few notes.)

“And what did you do in Ag Sales that was so helpful?” I asked.

“The class had a good deal of information,” he said, “but it was the teacher, Dr. Kim Anderson, who made such a difference.” (Now all the band was warming up.)

“Tell me about that teacher,” I said.

“Just so many things,” he began. “I was a shy kid, nervous and all that when I began, but this teacher – he made the class enjoyable. He looked at us, called us by our names, and seemed to have some kind of faith that we could do well. He wasn’t what you would call “easy,” but he could make you want to do your homework. You just knew if you did what he said, it would help you in life. As the year went on, I felt myself ‘coming out of my shell’ so to speak. I became more comfortable giving presentations. I guess you might say he helped me ‘open up,’ and believe in myself. I began to see what sales was really all about – it’s not so much about ‘selling’ people things as it is helping others get what they want and need. My confidence grew and next thing you know, here I am traveling all over the southern U. S. earning my daily bread doing what I love.”

As I sat there in that sunny parking lot, I could hardly hear that young man sharing his story...because the band was in full swing now - playing that same old tune I’ve heard so many times. That same tune special teachers in my life played for me.

Here are some of the notes...

“Here’s what we are going do now,” they say. Next thing you know – because they believe in you - you’re doing it. They are always glad to see you. Teachers who don’t know the tune never see you at all.

They are not easy – but they can create a desire in you to do the work, because you know the work will help you.

Some play for humans, some for horses, and some for working dogs. But they are all playing the same song. Their music convinces us that we can.

Maybe I was a little harsh when I said earlier I was looking for it in all the wrong places.

Maybe I should have read Freud and Jung and all those others when searching for what really helps us, but how I wish I had listened for the music earlier in life. That song I hear when someone starts to tell me what changed their life. It’s always the same story about...

Someone who included them.

Someone who liked them.

Someone who believed in them.

Someone who took the time to work with them.

Someone who caused them to feel differently about themselves.

Someone who made them more.

At least after all these years, I hear it now. Every time I ask some person, “How did you get here? How did you get all this?” the band starts to play. And such sweet music it is...

Now I hear it everywhere I go. ♫
# MEMBERSHIP APPLICATION

Name: _________________________________________  
Address: _______________________________________
City/State: ______________________________________ 
County: ______________  ZIP: ____________________  
System Email: __________________________________ 
Phone: _______________ Fax: ____________________  
Operator: _____________________________________  
Contact Person: ________________________________  
Number of Hook-ups: __________________________  
Were you referred? By whom____________________  

**Type of System:**  
- Water  
- Wastewater  
- Both

**Membership Category**  
- Regular Member  
- Associate Member  
- Individual Member

**Amount of Dues**  
- Regular Member: $_____________  
- Associate Member: $400.00  
- Individual Member: $75.00

**Regular Member Dues Schedule**  
<table>
<thead>
<tr>
<th>Range</th>
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<tr>
<td>1 to 100</td>
<td>$75 + 29 cents per hookup</td>
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<td>101 to 500</td>
<td>$80 + 29 cents per hookup</td>
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<td>501 to 1,000</td>
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<td>Maximum dues is</td>
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**Mail payment to:** OAWU  
935 N. Main Street  
Independence, OR 97351

**or Submit:**  
- VISA  
- MasterCard  
- AMEX

Card #: ________________________________________  
Expiration Date: ________________________________  
Card Security Code: ____________________________  
Name on Card: _________________________________  
Signature _____________________________________

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## Membership Types

**Regular Member**  
A Regular Member shall be any water or wastewater utility, public or private, engaged in the production, distribution or reclamation of water. A Regular Member shall have one vote.

**Annual Dues:** See Dues Schedule

**Associate Member**  
An Associate Member shall be any organization individual or corporation, supplying services or equipment to wastewater utilities. An Associate Member shall have one vote. For Associate Member Benefits, please contact OAWU.

**Annual Dues:** $400.00 per year

**Individual Member**  
An Individual Member shall be an individual involved in the water/wastewater industry or a user of such utilities. The membership is informational in nature and shall be non-voting.

**Annual Dues:** $75.00 per year

## Benefits of Membership

- On-site technical assistance  
- Various free training programs  
- Discounts on training courses  
- Discounts on Annual Conference registration  
- Access to on-site training program  
- Subscription to quarterly H2Oregon magazine  
- Direct mailings in your area about upcoming training courses  
- Summaries of legislative issues  
- Legislative representation at state and federal level  
- Associate Member Services and Products Guide  
- Access to technical assistance library  
- Access to technical and testing equipment for loan  
- Voting rights in Association affairs (Regular & Associate Members)  
- Positive contacts with other organizations  
- Camaraderie with water and wastewater professionals  
- Operator Of Record services  
- Job referrals, announcements and searches  
- Well testing  
- Plan review  
- System performance evaluation and options  
- Additional programs and services  
- Disaster response assistance and planning
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<td>South Fork Ranch Homeowners, Inc.</td>
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<td>Wi-Ne-Ma Christian Camp, Inc.</td>
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<td>Zig Zag Water Cooperative, Inc.</td>
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WELCOME, NEW MEMBERS!

INDIVIDUAL MEMBERS

Albiston, Garrett
Anderson, Brian
Anderson, James
Anderson, Ken
Anderson, Kevin
Anthony, Joe
Ashenbener, Jacob
Baker, Scott
Barnett, Brion
Barton, Brent
Bauer, Kyle
Beauchem, James
Bell, Ron
Bevard, Cody
Bionmont, Tony
Blake, Mike
Blezinski, Robert
Bradley, Eric
Brashaw, Dave
Brault, Craig
Brawand, Thomas
Brown, Jeff
Buckley, John
Burton, Howard
Buskirk, Larry
Buskirk, Kyle
Cass, Bradley
Clark, Jamie
Clark, Kenneth W.
Clement, Tony
Coleman, Chuck
Costantino, Gregory
Dahmke, Mike
Dammeyer, Scott
Daniel, Morgan
Davis, David
Davis, Guy P.
Davis, milieu Jr.
dero, Geo
Descroche, Ron
Dillard, Bob
Dolby, Kevin
Dolbow, Elizabeth
Donaldson, Michael
Downing, Keith
Durfee, Kenneth C.
Ehredt, Tyler
Elder, Dave
Estrada, David
Evans, Peter M.
Farris, Randy
Flande, Mark
Forseth, Steve
Foster, Rob
Frahm, Dave
Garrett, Mathew
Gaschler, Steve
Geiman, Dave
Gill, Robert J.
Ginter, Brian
Golden, Kirk
Gonzalez, Jorge
Gonzalez, Roy
Goodpasture, Joe
Gosling, Jason
Grabner, Robert
Gre, Robert
Griffin, Beverly “Bev”
Halveron, Bruce
Hammond, Daniel
Hammond, Tim
Hanes, Cameron R.
Hannen, Scott
Harrod, Ron
Harry, Jim
Hecox, Thomas
Heide, Tracey
Hemmors, Petre
Hemphill, Brian
Hesse, Todd
Higgins, Chuck
Hodge, Patrick R.
Hodge, Steve D.
Hook, Ryan
Houston, Colin
Huff, Zach
Human, Steve
Hune, John
Hunt, Kevin
Jacob, David
Jaron, Scott
Jay, Jerry
Johansen, Joe
Johnson, Brent
Johnson, Bron
Jones, Vince
Keenan, Peter
Kirt, Jeremiah
Klinger, Martin
Kuenzer, Jason
Kuhne, Joel
Kundrs, Aaron
Lake, Ronald
Lamar, Dany
Laymon, Mark
Lewelling, Keith
Liebelt, Levi J.
Lund, Darrell
Lund, David
Mahoney, Mike
Maine, Mike
Malley, Susan
Manioni, Jered
Marshall, John
Martin, Tim
McCauley, Larry
McClanathan, Mike
McFadden, Tim
McTeague, Kyle
Meigs, Gilbert
Merry, Mark
Metcal, Michael
Miller, Paul
Mitchell, Joe
Moniz, Garrett
Montgomery, Martin L.
Mooney, Ronald
Morris, Brady S.
Naught, Lester
Noah, Jim
Nussbaumer, Mitch
O’Reilly, Mike
Owens, Rebekah
Parent, Kenny
Patch, David
Pendell, Keith
Penhollow, Todd
Peters, Kyle
Piccolotillo, Jim
Pinson, James
Porter, James
Powers, Ron D.
Radford, Bill
Robertson, Donald
Rojales, Benjamin
Sander, Faye
Sanner, Todd
Savvy, Brian
Schamp, Frank
Schmidt, Lonny
Schmittle, William L.
Schnell, Kent T.
Schroeder, Michael
Scowden, Mark
Seely, Shawn
Sellers, Ricky
Selshanko, Alexei
Sheppeard, Neal F.
Sherlock, Christopher
Simenson, Donald J.
Smith, Edward
Smith, Craig
Smith, Larry
Smith, Randall
Smith, Tim
Snegirev, Pavil
Sollice, James
Steak, Chris
Steele, Mike
Steidler, Mathew B.
Stevens, Bret
Stevens, Pamela
Stinnett, William
Stone, Brian
Stone, Vincent T.
Strassner, Bob
Tabrum, Walter
Thayer, Bradley
Thompson, Jake
Thompson, Kamen
Thorpe, John
Tilander, Tim
Tupper, Sean
Turner, Keith
Vatland, Mel
Verley, Christopher
Violette, Jeff
Waldron, Timothy
Wallace, Neal
Wanner, Ron
Warwick, Gordon Jay
Weaver, Dixie
Weaver, Rick
Webb, Ryan
Wenzl, James T.
Wheatley, James
Whitlock, George
Wilson, Daniel
Wilson, David A., Jr.
Wilson, Rodney T.
Wishart, Jim
Wolf, Chad
Wolford, Paul
Wood, Ryan
Woodall, Ken
Woods, John
Woodward, Steve
Woody, Max
Younger, Lewis S.

ASSOCIATE MEMBERS

4B Engineering & Consulting
Abbey Systems, Inc.
Advanced Control Systems
Advantage Precast Inc.
American Flow Control
American Leak Detection
Anderson Perry & Associates
Backflow Management, Inc. (BML)
Bancorp Insurance
BergerABAM
Biolyneus, LLC
Branom Instruments Co.
Cascade Columbia Distribution Co.
Ch2M Hill - Dallas
Ch2M Hill - Lebanon
CIMCO Sales and Marketing
CoBank
Consolidated Supply Co.
Coiris Water Products
Correct Equipment, Inc.
CUES
Ditch Witch Northwest
DN Tanks
Edge Analytical Laboratories
Engineering America
Enviro-Clean Environment, Inc.
Ferguson Enterprises
Frank J. Martin Company
Furrow Pump, Inc.
GC Systems, Inc.
General Pacific, Inc.
HACH Company
HD Fowler Company, Inc.
HD Supply Waterworks
Hydra-Stop
Instrumentation Northwest, Inc.
Itron, Inc.
Jordan Ramis PC
Kennedy/ Jenks Consultants
Lakeside Industries/EZ Street
League of Oregon Cities
LiquiVision Technology, Inc.
M & H / Kennedy Valve
Master Meter, Inc.
Mueller Company
Nelson Environmental Inc.
Neptune Technology Group
Olson Engineering
Oregon Business Development Dept.
Oregon Meter Repair
Oregon Public Utility
Owen Equipment Company
OXARC Inc.
PACE Engineers, Inc.
Pittsburgh Tank & Tower Co.
Pollardwater.com
Public Works Supply
PumpTech Inc
RH2 Engineering Inc.
Romac Industries, Inc.
Schneider Water Services
Schoen’s Motors
Schroeder Law Offices, PC
Sensus USA
Special Districts Assn of Oregon
Taylor Made Pump Stations
The Automation Group
The Ford Meter Box Co., Inc.
The Sherwin-Williams Company
Titus Industrial Group, Inc.
TMG Services
Tripac
Umpqua Research Co.
USAblokebook
Utility Service Company, Inc.
Waterlab Corp
Wedbush Securities
Wonderware PacWest
Xylem Dewatering Solutions
Xylem, Flygt Products

Oregon Association of Water Utilities
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Phone (503) 837-1212
Fax (503) 837-1213 www.oawu.net

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