

# OPERATOR NEWS FOR WATER AND WASTEWATER PROFESSIONALS

Winter 2023-2024 Edition 4

# Supporting Water and Wastewater Systems in New Hampshire

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Visit our website at GraniteStateWater.org







# Our Members and Mascoma Bank Make Equipment Purchases Possible

Member donations to our Equipment Fund are being used in a big way! Recently, Granite State Rural Water Association purchased a pipe locator/leak detection kit. This piece of equipment is state of the art and has already proven to be a pivotal piece in our equipment arsenal. The overall total cost of this kit was quite staggering; the final sitting just shy of \$19,000. Mascoma Bank generously gifted GSRWA a \$5,000 donation for the purpose of purchasing this crucial piece of equipment. Already, our circuit riders have already used this leak detector to help numerous systems.

In the past year, Equipment Fund donations have also been used to purchase a plastic pipe locator and to pay for several repairs to our older leak detectors and correlators.

All of us at Granite State Rural Water want to extend our sincere gratitude to our Members and to Mascoma Bank for their generous donations!

## **Our Mission**

Supporting public water and wastewater systems by providing training, onsite technical assistance, and legislative representation.

#### **Board of Directors**

Tony Cavaliere, President Jaffrey Public Works

Jason Randall, Vice-President
Plymouth Village Water and Sewer District

April Busfield, Secretary/Treasurer West Stewartstown

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Dick Emberley, Member Monadnock Tenants Cooperative & NHDES

#### **Contact Us**

PO Box 596 47 Main Street Walpole, New Hampshire 03608 Phone (603) 756-3670 Fax (603 756-3675 Email Info@granitestatewater.org www.GraniteStateWater.org

# **Our Staff**

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Phil Maltais, Training Facilitator

Cindy vonRecklinghausen, Member Services Coordinator Cindy@granitestatewater.org

# **Board Director's Message**

Dear Member.

The cold weather is here; which is great if you enjoy winter activities like skiing, snowmobiling, and snowshoeing. However, in the water and sewer industries, we all know too well that the cold



weather brings some difficulties. From gloves freezing together, to frozen pipes under trailers, to broken water meters, to process control issues at the wastewater treatment plants, and shivering in the cold during a watermain repair. We all know how this already difficult job can get even harder in the winter months. Luckily, you don't need to go at it alone! Our expert circuit riders are just a phone call away to assist in locating a troubling leak before it becomes a full blown watermain break during that zero-degree night.

If you prefer staying indoors, we have staff to help you start a source water protection plan. We also have staff to help set your user rates to a level that will allow you to become financially sustainable. Lastly, those annual spring grant due dates are just around the corner. GSRWA is the helping hand to get you over the hurdles and through the process.

At this turn of the year, the board would like to acknowledge our 2023 GSRWA employees. They have been at it every day, rain or shine, to systems far and near; ensuring that our members have the resources they need to become the best water and sewer operators they can be.

Also, as always, if you have any questions, please contact our administrative team. Cindy, Morgan and Heidi are ready and happy to help.

Sincerely, Tony Cavaliere, President Board of Directors

# **From the Executive Director**



Dear Friends,

Lots of times when people ask me what I do, I say "I run a small non-profit that helps communities with their water and wastewater issues." I always think of us as "small" because there are just three of us in the office and just four of us in the

field. But really, we are much bigger. We have five very active board members. We have 280 members (and more are joining). We are a part of National Rural Water which has organizations in all 50 states.

We are also bigger because we make connections. Recently I became chair of the NH Coalition of Water Associations. In 2020 GSRWA worked to form this small group of trade associations (GSRWA, NHWPCA, NHMA, NHWWA) The CWA meets regularly to discuss legislation that is concerning to all of our members. Through collaboration, we are able to represent a larger constituency, offer clearer guidance, and create a stronger voice.

Big or small GSRWA just keeps doing what it does best: helping communities with their water and wastewater issues.

With hope for the future, Heidi Lauricella Executive director



This handmade gavel was presented to Heidi upon accepting the chair position for CWA. It was made using Concord oak and Bow birch. — Thank you Tom

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# **Your Letters!**



Granite State Rural Water Association

47 Main Street

PO Box 596

Walpole, NH 03608

Attn: Heidi Lauricella

Granite State Rural Water Association

November 1, 2023

Dear Heidi,

In the fall of 2022 we contacted Granite State Rural Water Association to see how they could help us, as we are a small water system managed by volunteers. An initial goal of developing an asset management program has mushroomed into digital mapping of our system, flushing of our water mains and development of a Source Water Protection Plan. The time and effort given by Luis Adorno, Alexandria Herlihy and Josh Worthen has been incredible. Their knowledge, persistence and professionalism has been very impressive. In addition to getting several goals accomplished they have renewed our commitment to our water system. We look forward to continue working with GSRWA in the future. Thank you for all that your program provides.

Sincerely,

Carolyn Noah

President Eastfield Crossing Association Board of Directors

3 Bellview Drive

Swanzey New Hampshire 03446

Carolyn B. Moah

Your letters help secure funding for training and on-site technical assistance programs.

Please send your letters to: GSRWA P.O. Box 596 Walpole, NH 03608



# **The Importance of Water Loss In Your System**

Submitted by Patrick Hickey - GSRWA Drinking Water Circuit Rider

Did you know, that in the United States, 6 billion gallons of treated water are lost every day? This is mainly due to aging infrastructure, which can cause leaks. Sometimes however, the missing water could be caused by a leaky toilet. Seriously. With that being said, treated water is a substantial cost to the utilities of both large public and small private water systems. So lost, missing, unaccounted for, or non-revenue water is water that can create a financial burden for many, regardless of the fact that it is missing.

As a circuit rider, we take pride in assisting systems in leak detection. Water loss can affect public health, the environment, and general infrastructure. Its important to take preventative measures for water loss. Simple things like reading the master meter every day and trending it is a great example of a preventative measure. Why wait for an astronomically high water or electrical bill that signifies a potential leak? If you think or know you have the smallest leak, it is very important to attempt to solve the issue in a timely manner. Using a simple pressure gauge on the outdoor spigot and isolating distribution areas can help narrow it down. Getting into the homes in the system or emailing customers to see if there is a funny hissing noise down by the service entrance or meter is another way to isolate the leak. Heck, ask them what kind of pipe do they see and check off some lead line inventory! A small leak can turn into a major problem, which will cost more money and cause more damage. One of the biggest costs in treating and pumping water is electricity. Pumps operating more than normal cost more to run, and that cost is not being recovered by metered usage. Leaks are literally pumping water right back into the dirt.

Many of the rural systems that we as circuit riders assist in leak detection can have major obstacles to overcome. For example: a lack of maps or as-builds to show us where to listen, curb stops and gate valves to put our magnetic leak correlators on, and no water metering on the household side to measure leakage versus consumption. However, we can overcome these obstacles by using special tricks we have learned over the years to get though these situations. If you happen to have a system with inline systems valves, good news! Granite State Rural Water Association now has a very up to date correlator leak detection device. This device has and will assist in more efficient leak detections.

Good practice at the household level would include installing new water shutoff valves on water lines under sinks and toilets, and water lines leading to the outdoor faucets. If you are lucky enough to have water meters in your system or homes, do not ignore the low flow indicator. Now this keeps changing with regards to meter manufacturers and types, but typically it is a small dial or triangle that moves very slowly when water is moving. Usually, it is off to one side of the meter face (photo for example).

You ask yourself, "how can that be? I'm not using any water, why is it moving?" Well, in my experience, I have found toilets can be the silent killer. Check those fill tube levels in the back of toilet. Make sure the level of water is set correctly. Is the flapper worn out? Put a few drops of food coloring in the back of the tank and wait 5 minutes. If the bowl changes color, bam! You found a leak. A multiple gallon a minute leak can be as simple as that. It is a major help for you the homeowner to aid your water system operator and manage the water in your own home.

Leaks can be created and found in many ways. Sometimes its as easy as listening or observing to things we do not normally look at. Please feel free to call or email us at Granite State Rural Water Association if you need some help figuring out where your water is going. We are here to assist in any way that we can.



photo courtesy tisales.com

# **Thank You to our Renewing Members**

# **GSRWA 2024 Membership is Going Strong!**

#### **Welcome First-Time Members**

Gilford Sewer Department

GZA GeoEnvironmental

Jewel Estates Cooperative

Master Leak Technologies, LLC

McWane Ductile

Northeast GIS, LLC

Town of Newbury

Xylem

# **Welcome Joining-Again Members**

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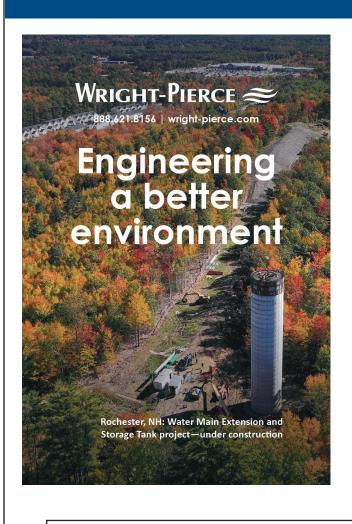
Blake Equipment, LLC

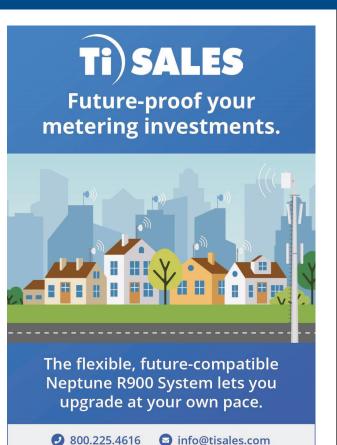
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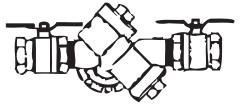
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# **No Hibernation for Winter Purveyors!**

Submitted by Luis Adorno, GSRWA Small Systems Specialist

Winters in New England are very unpredictable but as the snow and the temperatures continue to fall, many water purveyors turn their focus on creating more sustainable water systems. Planning, designing, and budgeting are a few of the tasks that are conducted during the non-construction season while keeping a close eye on any potential damage created by the cold temperatures.



The significant decrease in attention to physical construction provides an opportunity for communities, associations, and water purveyors to concentrate on less glamorous tasks such as record keeping, updating their standard operating procedure and emergency response manuals. There is no doubt that all these tasks are important, but many would argue that record keeping is by far the most neglected task of a water purveyor.

What is Record Keeping? Record Keeping, also known more recently as Information Management, is defined as the process of appropriately capturing, storing, organizing, retrieving, using, sharing, and proper disposal of information. It encompasses strategies, technologies, and policies to ensure data is accessible, secure, and used effectively to support decision-making and business processes.

The Environmental Protection Agency (EPA) has a list of records that water purveyors should keep on file and update. Please note that this list is EPA's recommendation of information for safekeeping, but they strongly recommend adding any additional information that may be necessary to meet day-to-day operations. I would urge you to contact the New Hampshire Department of Environmental Services (NHDES) for additional information on other records your system should keep on file. NHDES has also published Fact Sheet DWGB-7-1 Water System Records Retention which provides more examples of the type of information that is helpful or required to keep on files.

#### EPA's recommended list of records:

- Information on system infrastructure (e.g., up-to-date as-built engineering drawings, maps of valve and hydrant locations, pipe sizes and locations, permits, etc.).
- Equipment purchase and repair records.
- Operations and routine maintenance log sheets.
- Locations and dates of leak repairs.
- Records related to water treatment, including filter backwash logs, turbidity readings that are taken in addition to those required by regulation, coagulation records, and corrosivity control records.
- Records of chemical purchases.
- Records on source production, including static and pumping water levels, flow, and water use.
- · Records of customer complaints, reason for the complaints, findings, and resolution.
- · Public meeting and board meeting minutes.
- Records of operator certifications.
- Correspondence with regulators.
- Meter reading reports.
- Financial information, including budgets and customer billing records.

The benefits that come with record keeping vary from simply being able to aid you with resolving customer complaints to ensuring that system operation and maintenance of facilities and equipment are performed in a more efficient manner. But more importantly, record keeping can facilitate communication with customers, regulators, and decision-makers.

While records can be maintained manually, computerized on a spreadsheet, or kept online, it is strongly advised for individuals to select a method that is easy to operate and complements their organization. That said, technology has been instrumental in how easy and effective it has become to do record keeping. While it is not required to use any type of technology, creating digital copies makes it much easier for searching, editing, and sharing.

Keeping records can be daunting at first. The key is to break things down into a series of straightforward, manageable tasks. Then you can access and update them on a



regular basis, rather than letting the paperwork pile up. It is strongly recommended that this task is performed on a regular basis as it will be much more helpful, powerful, and easier for everyone who is either involved or depends on information to conduct their daily activities.

As the famous quote by Mr. Walt Disney "The way to get started is to quit talking and begin doing," perhaps this is the time to get going with your information management. If you and your organization need assistance with more details on how to get started, GSRWA is always here to provide you with guidance on how to achieve this task.



# What's In My Tank?

Submitted by Josh Worthen, GSRWA Drinking Water Circuit Rider

When I got the call in April for technical assistance from Cogswell Springs Water in Henniker, my first thought was, "What? The Jetson's are here in New Hampshire?" If you do not understand that reference, you are too young and need to find a time machine... Turns out the water system was renamed that way back in 1920, with the original name being Henniker Spring Water Company. The roaring 20's brought extended water mains, a covered tank, beautiful Cogswell Spring well water, and major growth for Henniker. Henniker is home to New England College as well as many landmark small businesses.



The second part of a Granite State Rural Water technical assistance request, is to contact the re-

questee and dive in to what is needed. Most of the time we utilize the New Hampshire DES One Stop database system. Here anyone can look up the owner/operator, department address, previous samples, or violations etc. to go that extra step of preparedness and provide higher customer service. With this system, a very familiar name popped up, James Donison.

James (Jim) had taken over Cogswell in May of 2022 and Jim and I go way back. It is actually all his fault I am a licensed NH Water Operator (TIII and DIII not to brag) as he was the Operator of Record for the Village District in Eastman and hired me in 2007.

We met again in 2018 in Lebanon as he was Public Works Director, and I a surface water treatment operator. Now knowing that Jim started his engineering career in 1981, and his public water/wastewater career in 1999 with the City of Portsmouth, getting this request meant Jim had a concern and solution already in mind, and just needed the appropriate resources.

Cogswell Springs had a few troublesome coliform bacteria hits at a sample located downstream of the "new" Natgun 500,000-gallon prestressed concrete tank. The tank which was built in 2001 and is conveniently located behind the main office, seemed to have gone stale or something. Cogswell is a groundwater system and has sodium hypochlorite as a back-up disinfectant, which Donison implemented to clear this hurdle. However, as all us operators know, chlorine is great but what is it hiding. During the initial assessment, Donison and I checked the overflow and its screening, the venting, checked the operation of the intank mixer, and all appearing in good working order. We decided the best thing was to drain the tank, and get right in there. The previous commissioners of Cogswell were intelligent in keeping the hydraulic gradient equal between the two tanks, in case one needed maintenance. Most systems are not that lucky, and require alternative methods to investigate the tank integrity and contents.

First step, besides making sure the ditching could handle the water, and make sure the other tank is full, was to check safety equipment, commonly referred to as Personal Protection Equipment or PPE. Jim had access to a calibrated gas detector, confined space harness and blower, lights, ladder, ropes, electric pressure washer with outdoor cords and a GFCI outlet. We also needed clean suits, rubber boots, a backpack sprayer, eye



protection and gloves, as a disinfectant was to be applied after inspection. We also assessed the roadway, fencing, manway and shape of the tank. Henniker Fire Department was asked to come on site for thoughts on emergency rescue and recovery, and the final plan was to have a ladder truck on standby as a secure anchor point for a winchline. A typical tri-pod just did not seem right, and there was no fixed Miller davit arm mount that is more common these days. I had seen this technique with the City of Lebanon Fire Department and it is slick. Jim also reached out to DN Tanks to see if someone could come onsite during the process. Joe Pappo, Regional Manager of DN Concrete Tank Services agreed to come on site to Henniker.

OK so it's go time. Henniker Fire was called and a confined space form was filled out. I was the attendant for this project, making sure everyone was safe inside, and prepared to notify emergency services if needed. The tank was emptied the day before, chlorinated ladder was inserted and tied off. The blower was installed and air was evacuated for a calculated time. Initial visual? Just mild iron deposits on the bottom... Hmm where is the bacteria? Jim, and Cogswell new hire Steve, carefully and thoroughly pressure washed all walls, floor, and directed the iron deposits to the drain till clean. Joe from DN Tanks entered safely with harness, hard hat, and gas detector, and gave us the opinion that the tank looked great. He showed and described how each section of the tank was made, which was amazing to learn, and recommended how to properly disinfect and put the tank back online. We all agreed AWWA C652-19 4.3.2 would be the most efficient as we already had a backpack sprayer. For reference, the AWWA standard states "A solution of at least 200 mg/L free chlorine shall be applied directly to the surfaces of parts of the storage facility that would be in contact with water when the storage facility is full to the overflow elevation." The appropriate contact time, free chlorine residual, and follow up coliform samples were utilized to ensure the tank was clean, and ready for service.

To date, Cogswell Springs has had clean samples from this tank and sampling area. So, what was in Cogswell Springs Water tank? Biofilm? Iron bacteria? Who knows really. The good news is that it was not a sizeable living or previously living thing located at the bottom, and there was no nest of any-type at the overflow port. Lesson learned, NH Department of Environmental Services requires tank inspections every 5 years for over 20,000 gallons, (Env-Dw 504.09) and its nothing to put off. You never know what you are getting in to, and in this case, quite literately.

# Training Class Schedule: Your Whole Year at a Glance

## To Register:

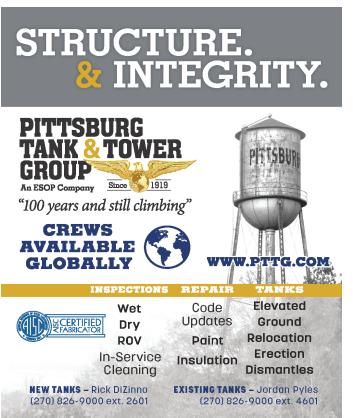
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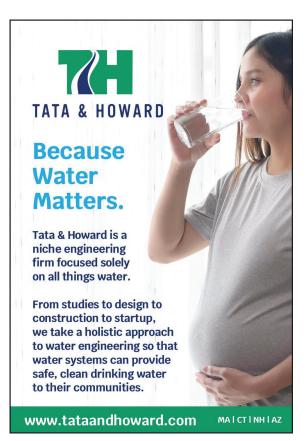
Options are available to pay online, request an invoice, or mail in a payment. Please contact us if you have any questions or need help with registering. Phone 603-756-3670, Email info@granitestatewater.org

Date	Course	TCH's	DES Approved	Mem/Non- Mem	Location
2-15-2024	Distribution Best Practices	6/dw 3/ww	DW & WW	\$113/\$147	Enfield, NH
3-5-2024	Opening & Closing Your Seasonal System	3/dw 1.5/ww	DW & WW	\$39/\$56	Virtual
3-12-2024	Getting The Most Out of Your Water Storage Tank	2/dw 1/ww	DW & WW	\$33/\$42	Virtual
3-19-2024	Understanding Your Motor Control Panel	5	DW & WW	\$97/\$123	Plymouth, NH
3-21-2024	Handling Distribution Components with New Technology	6/dw 4.5/ww	DW & WW	\$113/\$147	Concord, NH
3-26-2024	Selecting Underground Materials	6	DW & WW	\$113/\$147	Madbury, NH
4-2-2024	Field Experience: Hydrant Building, Main Tapping, Electrical Troubleshooting	4	DW & WW	\$78/\$103	Jaffrey, NH
TBD	Emerging Contaminants	TBD	DW & WW (approval pending)	TBD	Manchester, NH
4-9-2024	Septic Designers & Installers Refresher	6	WW & Designer/installer	\$113/\$147	West Chesterfield, NH
4-11-2024	Using Submersible Mixers & Driprime Pumps	2	DW & WW	\$33/\$42	Virtual
4-18-2024	Protecting Our Watersheds Through Stormwater Management and Erosion Control Methods	6	DW & WW (approval pending)	\$113/\$147	Milford, NH
4-23-2024	Cybersecurity in Rural Water Systems	3	DW & WW (approval pending)	Free	Hinsdale, NH w/ virtual opt-in
4-24-2024	Cybersecurity in Rural Water Systems	3	DW & WW (approval pending)	Free	Twin Mountain, NH w/ virtual opt-in
4-30-2024	Basic Math for Water & Wastewater Operators	6	DW & WW (approval pending)	\$113/\$147	North Conway, NH
5-9-2024	Collection System Maintenance	6	DW & WW (approval pending)	\$113/\$147	Lincoln, NH
5-14-2024	Emergency Response Tabletop Exercise: Flooding	6	DW & WW (approval pending)	Free	Meredith, NH
5/21 to 5/23	Wastewater 1 & 2 Certification Prep (a 3-day course)	6	WW (approval pending)	\$540/\$640 (one-time fee for course)	Franklin, NH
6-11-2024	Polymer Master Class & Corrosion Control	5	DW & WW (approval pending)	\$97/\$123	Lebanon, NH
6-13-2024	Pipe Location Repair & Maintenance	6	DW & WW (approval pending)	\$113/\$147	Bristol, NH
6-25-2024	Lab Skills for Operators	4	DW & WW (approval pending)	\$78/\$103	Franklin, NH

6-27-2024	Dealing With High Strength Discharges: Brewery, Food & Industry	6	DW & WW (approval pending)	\$113/\$147	Woodstock, NH
9-19-2024	Operator Field Day & Trade Show	4	DW & WW (approval pending)		Henniker, NH
10-1-2024	Water Meter & Chemical Feed Pumps	5	DW & WW (approval pending)	\$97/\$123	Laconia, NH
10-10-2024	Understanding Your Motor Control Panel	5	DW & WW	\$97/\$123	Sunapee, NH
10-17-2024	Lab Skills for Operators	4	DW & WW (approval pending)	\$78/\$103	Franklin, NH
10-22-2024	FOG & What's Flushable	5	DW & WW (approval pending)	\$97/\$123	Eastman, NH
10/16 to 10/17 and 10/23 to 10/24	T1 & D1 Certification Prep (a 4-day course, split over 2 weeks)	24	DW (approval pending)	\$680/\$780 (one-time fee for course)	Franklin, NH
11-7-2024	Septic Designers & Installers Refresher	6	WW & Designer/installer	\$113/\$147	Concord, NH
11/18 to 11/20	Wastewater 1 & 2 Certification Prep (a 3-day course)	18	WW (approval pending)	\$540/\$640 (one-time fee for course)	Franklin, NH
11-21-2024	Handling Distribution Components with New Technology	6/dw 3/ww	DW & WW	\$113/\$147	West Chesterfield, NH



















Contact Your Local Water System Consultant

Rob Rochette 855-526-4413 | usgwater.com



#### **Asset Management**

steel & concrete tanks | treatment plants pipes | meters

## **Water Quality in Distribution Systems**

in-tank water mixers trihalomethane removal systems disinfectant residual control systems

#### **Smart Metering Services**

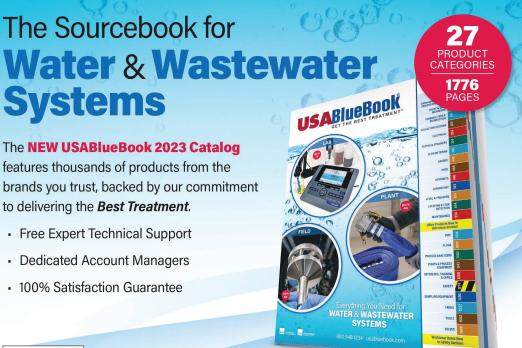
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