



Purple Pipe

Volume XIX Spring 2020



VWVRA Takes a Fresh Approach



The VWVRA Board of Commissioners has unanimously approved a new mission statement, a set of core values and an update to the agencies logo. "The mission statement is designed to establish a guide that drives the decision making and goal setting process for our organization", said VWVRA General Manager Darron Poulsen. The new mission statement reads:

"VWVRA is committed to protecting public health and the environment in the Victor Valley by providing effective and fiscally responsible wastewater collection, treatment and recycling."

VWVRA's protects public health and the environment by safely treating nearly 11 million gallons of wastewater per day. The new mission statement reflects VWVRA's renewed commitment to our member agencies and our core business operations. To build on the mission statement, VWVRA has also es-

tablished a set of three core values;

- **Collaboration;** *the act of working together*
- **Dedication;** *devoting to common purpose*
- **Integrity;** *adhering to ethical values*

Under Poulsen's direction, VWVRA is taking a more collaborative and service oriented approach to its mission. "The core values show our renewed commitment to working together for the best interest of our member agencies, our staff and the community. And we are doing that in an open, fair and honest manner", said Poulsen. "Everything we do is filtered through these core values".



GM Darron Poulsen

To communicate the change in approach, the core values have been added along the bottom ring of VWVRA's logo as a subtle, but purposeful message about the agencies mission.



Coronavirus & wastewater



Emily Wilson



Chuck Trammel



Toni Henning



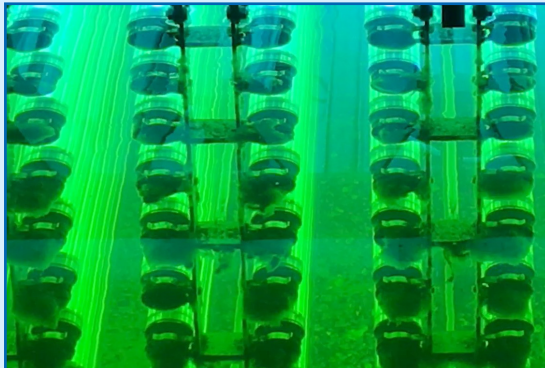
Miguel Mendoza



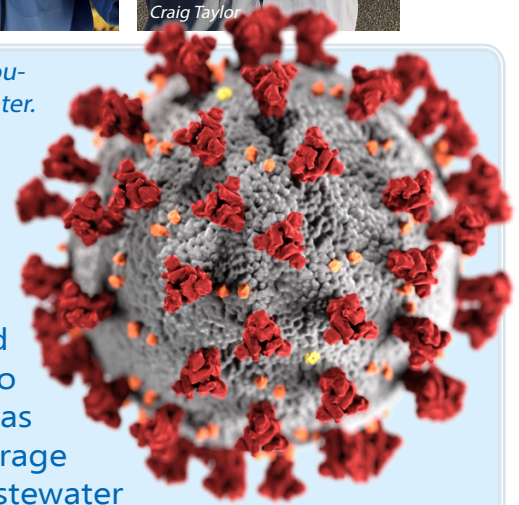
Craig Taylor

The outbreak of the Covid 19 coronavirus has forced all of us to make changes to our daily routines and lifestyle. Below are some answers to questions regarding coronavirus and wastewater.

Can I get COVID-19 from coming in contact with wastewater or sewage?



The World Health Organization (WHO) has indicated that "there is no evidence to date that COVID-19 virus has been transmitted via sewerage systems, with or without wastewater treatment."



Do wastewater treatment plants treat COVID-19?

Yes, wastewater treatment plants treat viruses and other pathogens. COVID-19 is a type of virus that is particularly susceptible to disinfection. Standard treatment and disinfectant processes at wastewater treatment plants are expected to be effective. At VWVRA, we use powerful ultra-violet lights to disinfect treated water.

Will my septic system treat COVID-19?

While decentralized wastewater treatment (i.e., septic tanks) do not disinfect, the Environmental Protection Agency (EPA) expects a properly managed septic system to treat COVID-19 the same way it safely manages other viruses often found in wastewater. Additionally, when properly installed, a septic system is located at a distance and location designed to avoid impacting a water supply well.

Source: EPA

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Larry Bird / Hesperia
 Jim Cox / Victorville
 Scott Nassif / Apple Valley
 Robert Lovingood/ SB CSA 42 & 46

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Around the Plant

VWVRA welcomes new staff members!



Derek Evans
E & I Technician



James Pasioka
Septage Receiving



Kalin Westover
Operator



Lucas Wilkens
Operator

Act of Glove



Lead Operator Andrew Henriquez with donated gloves. VWVRA donated surplus nitrile gloves to St. Mary Medical Center in Apple Valley. The Covid 19 crisis has led to supply shortages in many areas and VWVRA was happy to help.

Education



Congratulations to Business Applications Manager Latif Laari who has earned a Bachelors of Science degree in Applied Studies from Cal State, with a minor in Business Administration.



Congratulations to Kalin Westover for earning a Grade I wastewater certificate



Congratulations to Mike Koncur for earning a Grade 3 mechanical certificate



Congratulations to Derek Evans for earning a Grade 1 E & I certificate



Welcome to maintenance intern Brandon Talley



To learn about wastewater certifications, visit the California State Water Resources Control Board www.waterboards.ca.gov/



Piping Project Improves Sludge Drying



Aerial shot of VVWRA drying beds. Blue line represents the new pipeline installed from the gravity belt thickener (GBT) to the drying beds.

The VVWRA Maintenance team has installed a new 50 hp 3 stage progressive cavity pump and more than 2400 feet of 8" pipe to help improve our facilities drying capabilities. During the wastewater treatment process, organic material is removed from the water and sent to our anaerobic digesters. After 15 days of treatment, the remaining biosolids are traditionally dried by the sun in large drying beds. However, a cold and wet winter has slowed the drying process leaving our drying beds fuller than normal for this time of year. To assist the Sun, our operators use a machine called a gravity belt thickener (GBT) to remove water from the sludge and speed up drying.



Thickened sludge pours into drying bed.

The GBT was only capable of sending the thickened sludge to two of our drying beds, but with the new pump and pipeline, the operators can send the sludge to any one of our 9 drying beds. The upgrade gives VVWRA more flexibility to quickly and efficiently dry the sludge. Once the sludge is completely dry, it is tested and then trucked to regional farms for fertilizer and soil amendment.



Mario Leos and Marcos Avila install new pipeline.

ASK Johnny?  What is a GBT? How does it work?

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What is a GBT?



Johnny Wastewater

Ask Johnny: *What is a gravity belt thickener or GBT? How does it work?*

It's probably a question that doesn't come up too often at dinner parties or a family get together. What does VVWRA do with all the sludge they treat? Sludge is essentially the organic material we separate from the wastewater. It is first treated in large, heated tanks called anaerobic digesters. The treatment process takes about 15 days. The digesters kill any dangerous pathogens and break down the organic waste. After treatment is complete, VVWRA normally sends the biosolids to large basins where they dry in the Sun. But

when the weather is too cold or wet, we need help in drying those solids. So, we use some called a gravity belt thickener or GBT. The concept is fairly simple. The wet sludge or biosolids are treated with a special polymer that promotes



Operator Moises Castro working at the GBT.

clumping and coagulation. The sludge is then pumped onto a porous revolving belt that allows water to flow through



Sludge being dewatered on GBT belt.

it while the sludge stays on top. The water that is removed is sent back to the water treatment side of the plant while the thickened sludge is pumped to one of our drying beds. The process manages to remove up to 65% of the water from the sludge which dramatically speeds up the drying process.



Water separated from sludge in the GBT is returned to the plant for treatment.



Upcoming CWEA/DAMS Events

- June 11- DAMS Officers Installation Luncheon
El Pescador Restaurant, Victorville, CA
- Aug. 27 - DAMS Vendor Fair and Training
San Moritz Lodge, Crestline, CA
- Dec. 12 - DAMS Awards Banquet and Holiday Party
El Pescador Restaurant, Victorville, CA

damsorcwea.org

(Dates and times subject to change)



This and that...

No Such Thing as Flushable Wipes

Single-use wet wipes have gained popularity in recent years. Even more so during the toilet paper shortages experienced during the Covid 19 crisis. Many of these products are marketed as “flushable”, but they are not compatible with sewer systems and our infrastructure. Flushing these products presents an increasing problem for property owners, sewer systems, and ratepayers, since wipes often don’t break down after being flushed. Wipes can catch on tree roots and accumulate with fats, oils and grease and become large obstructions in the pipes. Further down the line, they weave together and create giant rags which get stuck in pumps, collection systems, and motors, causing backups and equipment failures. This problem is experienced across the state, country, and worldwide as disposable wet wipe products become more widely available. VWVRA is urging anyone using wipes to throw them away. Do not put them in the toilet. Remember, there is no such thing as “flushable” wipes.



FLUSHED WIPES

Flushing wet wipes down the toilet can clog plumbing systems, leading to expensive repairs. Many people don't know that wipes shouldn't go in the toilet and pose a risk for sewer infrastructure.



CLOGGED SEWER LINES

Wipes make their way into private sewer laterals, septic systems, and sewer lines and can cause extensive harm and result in overflows and property damage.



SEWER OVERFLOWS

Once wipes make it to the sewer collection system, they can catch on roots that infiltrate pipes, weave together to form large rags and attract fats, oils and grease. This can result in blockages and sewer spills.



ENVIRONMENTAL HARM

Even when wipes filter out of the wastewater stream, small microfibers and microplastics can shed off wipes. These fibers can't be captured and can make their way into the environment.



DISRUPTED TREATMENT PLANTS

Oftentimes, masses of wipes manage to make it through the collection system and end up at wastewater treatment plants, which can result in significant damage to treatment infrastructure and recurrent disruption of the treatment process.



DAMAGED COLLECTION SYSTEMS

Most collection systems rely on pumps to move wastewater to treatment facilities. Wipes can clog these pumps, resulting in spills, system failures, increased maintenance requirements and damage to expensive equipment.

Source: California Association of Sanitation Agencies

wipes clog pipes

PLEASE DON'T FLUSH "FLUSHABLE" AND SANITIZING WIPES!



PLC Replacement Project Begins

VWVRA has begun work on its 3 phase PLC replacement project, which will improve our Regional facility operations. PLC stands for a programmable logic controller, which is a digital computer that has been ruggedized and adapted for the control and automation of wastewater processes. The operators at



PLC at perc pond 8.



Recycled water flowing into perc pond 8.

two PLCs in Phase 1 of the project were installed at the Regional Plant's south percolation ponds. They replace obsolete PLC's. Three additional PLC's will be installed as part of Phase 1. Phase 2 and 3 of the replacement project are scheduled for the next two years.



Mojave River History

A River Runs Through It

The Mojave River is the primary water source for much of the Victor Valley. It is fed from snowmelt from the nearby San Bernardino mountain. Stretching 110 miles from Silverwood Lake to the western edge of the Mojave National Preserve near Baker, the Mojave River flows mostly underground with a few exceptions. Water reaches the surface year-round at both Mojave Narrows and Afton Canyon. But it's not unusual for the river to flow during the wet winter months. Water pumped from the river is used to supply the cities of Hesperia, Victorville, Apple Valley, Adelanto and Barstow as well as many other communities. VWVRA is key to helping maintain the health of the river by returning millions of gallons of clean recycled water to the river every day. The river has a long history and was called Rio de las Animas or the river of (lost) souls by early Spanish explorers. In 1844, American explorer John C. Fremont dubbed it the Mohahve River after the native Mohave Indians. In the early 1990s water pumping rights were challenged, and this led to a court action setting water rights in the Victor Valley and Barstow areas. The Mojave Water Agency is charged with managing the river's resources, and augments local supplies with imported water from the State Water Project to keep local basins healthy.



The Mojave River flows 110 miles from Silverwood Lake to Soda Lake near Baker. More than 500,000 High Desert residents depend on the river for water.

Investing in Water Infrastructure

Majority of Americans support in new poll

A new poll by the Value of Water Campaign shows that 84 percent of American voters want state and federal leaders to invest in water infrastructure. The near-unanimous support amid the COVID-19 pandemic reveals that voters value water and want elected officials to prioritize investing in infrastructure - specifically, drinking water and wastewater infrastructure.

For the fifth year in a row, the Value of Water Campaign poll surveyed over 1,000 American voters for the annual Value of Water Index. The poll asked voters how the nation should solve infrastructural issues and which priorities it should meet. Support for water infrastructure investment cuts across demographic, political, and geographic divisions. Key poll findings include:

- Eighty-four percent of Americans support (with 47 percent strongly supporting) increasing federal investment to rebuild the nation's water infrastructure.
- Eighty percent say rebuilding America's infrastructure is extremely or very important. Americans support rebuilding the nation's infrastructure more than most other issues today, including reforming the healthcare system, expanding early childhood education, and ending the opioid crisis. It ranked similarly to strengthening the economy.
- Seventy-three percent of Americans support investing in water infrastructure to increase resilience to climate change, even when told it could cost \$1.27 trillion.
- Seventy percent of Americans want the president and congress to develop a plan to rebuild water infrastructure.



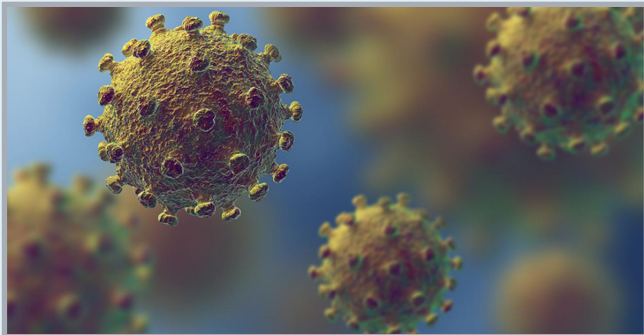
The Back Side

Wastewater could help track Covid 19

ASU researchers say wastewater could lead to real time monitoring of community health

Within weeks of arriving on the world stage, SARS-CoV-2 has managed to encircle the globe, leaving illness, mortality and economic devastation in its vast wake. One of the central challenges facing health authorities and the medical community has been testing for the elusive virus on a sufficiently comprehensive scale.

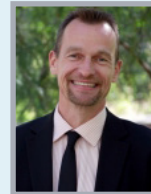
A new approach to monitoring the novel coronavirus, (as well as other dangerous pathogens and chemical agents), is being developed and refined. Known as wastewater-based epidemiology (WBE), the method mines sewage samples for vital clues about human health. It can potentially identify levels of coronavirus infection at both a local and global scale.



Halden's technique claims the potential to detect the signature of a single infected individual among 100 to 2 million persons.

Ultimately, WBE holds the promise of near real-time monitoring of disease outbreaks, resistant microbes, levels of drug use or health indicators of diabetes, obesity and other maladies.

In a new study, ASU researchers Rolf Halden and Olga Hart analyze what can and cannot be measured when tracking SARS-CoV-2 in wastewater, and they highlight the economic advantages of the new approach over conventional disease testing and epidemiological surveillance.



Rolf Halden



Olga Hart

"Our results show that exclusive reliance on testing of individuals is too slow, cost-prohibitive and in most places, impractical, given our current testing capacity," Halden says. "However, when preceded by population-wide screening of wastewater, the task becomes less daunting and more manageable."

Hart is the lead author of the new study and a researcher in the Bio-design Center for Health Engineering. Halden, who directs the center, also is a professor of engineering in the Fulton School of Sustainable Engineering and the Built Environment and author of the 2020 book Environment.

Their research appears in the current issue of the journal Science of the Total Environment.

Source: asunow.asu.edu

And...



Instagram: Seth (@dudewithsign)

