



Purple Pipe

Volume XII Fall 2017



Hesperia Subregional begins operation *Apple Valley Subregional set to start in January*



After 20 years of planning and two years of construction, the Hesperia Subregional Water Recycling Plant (WRP) began operating on September 19th. Large trucks began delivering activated sludge from VVWRA's main plant to "seed" the Hesperia plant. The water recycling at the Hesperia facility is a biological process that requires microbes to help clean the wastewater by "eating" the organic matter. The facility also features FibrePlate hybrid membrane technology, which acts as a state of the art filtering system. The startup process is expected to take several months and, for the time being, the recycled water this plant produces is just being recirculated. When fully functional, the Hesperia facility will be capable of producing up to one million gallons of recycled water per day. Once the city of Hesperia completes a water delivery pipeline, the recycled water will be able to be delivered to the Hesperia Golf Course, the Civic Center and area parks.



Activated sludge being delivered to the Hesperia Subregional for "seeding".

The Hesperia WRP is designed to be a good neighbor facility. Much of the plant is actually below ground to deaden the sound of pumps and blowers. The aeration basins are enclosed and advanced odor control technology will virtually eliminate unwanted odors. The visible portion

of the plant is no taller than a two story home and the surrounding grounds are tastefully landscaped to blend in with the rest of the area.

A second similar facility is being built at Brewster Park in Apple Valley. It's expected to begin start up in January 2018. There are two reasons for construction of the Hesperia and Apple Valley WRP's. With continued growth in the Victor Valley, it would be very likely that VVWRA's main plant in Victorville would require costly upgrades and the main interceptors or pipeline from the community to the plant would have to be replaced. The VVWRA Board of Commissioners felt that construction of the regional water recycling facilities would be less expensive while providing the communities of Hesperia and Apple Valley with a reliable source of recycled water. The second benefit from the WRP's is a water conservation and reuse. Use of the recycled water for irrigation is a responsible use of our natural resources and will drastically reduce the demand on our local drinking water supplies. The same water that comes from your faucet is currently used to irrigate many community sites. Recycled water provides a reliable and safe way to keep our parks and other areas green while saving our most precious resource for use in our homes and businesses.

inside the

Purple Pipe

- Pg 2 Stress Challenge.
- Pg 3 Around the plant.
- Pg 4 Green Power Award
- Pg 5 High Tech Protection
- Pg 6 Inside the Hesperia WRP
- Pg 7 Apple Valley WRP update
- Pg 8 Ask Johnny Dingle's Corner

More photos of the Hesperia WRP on Pg. 6



A Message from our General Manager

Treat stress as a challenge.

Wow what a year! It is hard to believe that 2017 is drawing to a close. At the beginning of the year I wrote about the linkage between hope and perseverance. After working for VVWRA for over eleven years it has required a lot of both! I think the question most frequently asked of me this year has been some variation of; how do you handle the stress? I wish I could say motorcycling, but the last two years have seen very little of that activity.

Let's think about that word, stress. Anxiety is a result of stress and it is what creates all the negative health consequences. Therefore it is important that we retrain our brain to think positively about what causes us anxiety. To that end, I ran across an interesting concept this summer, to treat stress as a challenge and not as a threat. I enjoy a good challenge and frankly there are few places better than VVWRA challenged. A good challenge requires a lot of creative problem communication and hope that a solution can be found. I am to retrain my brain to see the challenge, to learn new ways to municate and problem solve. My hope is that through these experiences I will become a better General Manager and bring more value to the team I work with. Based on my decades in wastewater treatment I can say unequivocally that the staff I work with is exceptional at problem solving, team work and maintaining a positive attitude. For those of you that have asked me how I deal with all the stress, it is because of the great people I am honored to work with that I continue to persevere. I will continue to try to treat stress as a challenge to be overcome rather than a threat to be feared.



Logan Olds

Logan Olds, General Manager

VVWRA GM Shares Success Story in Atlanta

General Manager Logan Olds had the opportunity to share the VVWRA success story at the World Energy Engineering Congress (WEEC) in Atlanta, GA. WEEC is the largest energy conference and technology expo in the US for business, industrial and institutional energy users. Logan spoke to the conference on "Building Resiliency through Renewable Energy". During his presentation, he was able to show the successes VVWRA has had through its waste to energy program. VVWRA is currently producing better than 70 percent of its own electricity by using methane powered generators. The methane is collected from our digesters and cleaned through a scrubbing system before being sent to a pair of 800 KWH generators. The 2G generators are able to produce clean, carbon neutral energy saving the agency and its rate payers money while responsibly reusing our natural resources.



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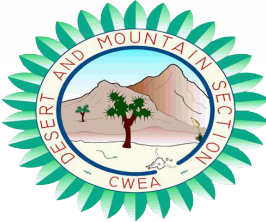
- Russ Blewett / Hesperia
- Jim Kennedy / Victorville
- Scott Nassif / Apple Valley
- Jeff Rigney / SB CSA 42 & 46

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Contact: info@vwwra.com
20111 Shay Rd,
Victorville, CA 92394

CWEA/DAMS Event Calendar

- Oct. 20--TCP Study Session, San Bernardino Valley College
- Nov. 8 --Collection System Training Day, Rick Novack Center, Hesperia
- Dec. 1--Annual Awards Banquet, Holiday Inn, Victorville

for more info:
www.damsforcwea.org





Around the Plant

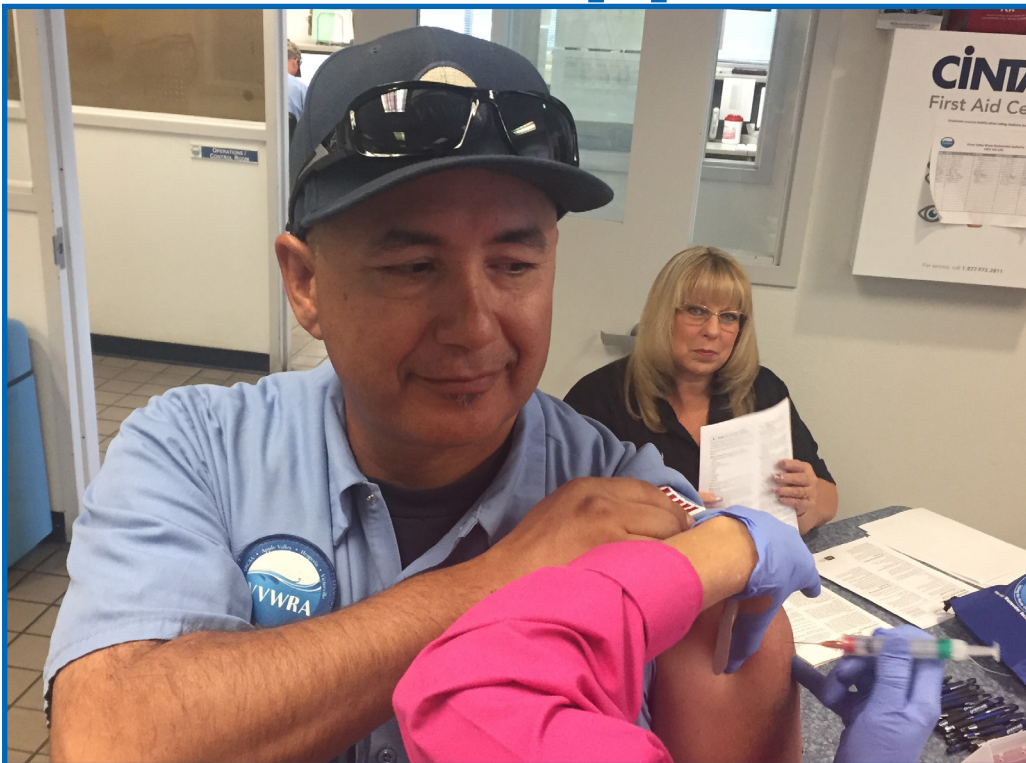
Big Bear hosts DAMS Vendor Fair



VWRA employees Miguel Mendoza, Brad Doneff, Mike Koncur and Richard Swatzell look over equipment on display at the DAMS vendor fair.

More than 120 wastewater professionals from throughout the High Desert and local mountain communities attended the CWEA/DAMS Air Pack Derby and Vendor Fair in Big Bear in late August. The annual event gives the regions wastewater workers a chance to see the latest in equipment in the field and earn learning credits to maintain their certifications. DAMS (Desert and Mountain Section of the CWEA) is dedicated to helping its members stay up-to-date with wastewater collection, treatment and disposal services.

— Shots happen! —



A number of VWRA employees, including Julio Espinoza, received flu shots courtesy of Heritage Victor Valley Medical Group

*Fun fact: The amount of biogas produced daily at VWRA is the equivalent of 19.7 million persons farts every day.

VWRA GM Honored by DAMS



VWRA General Manager Logan Olds (r) was presented with a plaque at the annual luncheon by outgoing DAMS President Latif Laari for his contributions to the local chapter over the years.

Welcome!



VWRA welcomes Eric Schweizer as a new Senior Operator.



VWVRA Receives EPA Green Power Leadership Award

Authority One of Only Eight Organizations Nationwide to Receive Honor



VWVRA is proud to announce that it has received a 2017 Green Power Leadership Award from the U.S. Environmental Protection Agency. The EPA's annual Green Power Leadership Awards recognize America's leading green power users for their commitment and contribution to helping advance the development of the nation's voluntary green power market. The EPA announced that VWVRA had received the award for Direct Project Engagement at the 2017 Renewable Energy Markets Conference in New York, New York on October 23, 2017.

VWVRA was one of only eight organizations nationwide to receive a Leadership Award for direct project engagement. The program recognizes EPA Green Power Partners that distinguish themselves through direct project engagement with on- and off-site projects using a variety of financing structures to access renewable energy certificate (REC)-based green power. VWVRA is currently generating nearly 7.5 million kilowatt-hours (kWh) of green power annually from biogas energy systems, which is enough green power to meet 74 percent of its electricity use. It is VWVRA's goal to produce 100 percent of its power needs in the future and be a power exporter in the coming years.

"We are proud to receive this prestigious award from the U.S. Environmental Protection Agency," said Logan Olds, VWVRA General Manager. "Installing green power on-site is a highly-visible demonstration of our commitment to help reduce air pollution and other emissions."

Green power is electricity that is generated from environmentally preferable renewable resources, such as wind, solar, geothermal, biogas, biomass, and low-impact hydro. Using green power helps accelerate the development of those sources in the United States and advance the American green power market.

According to the EPA, VWVRA's current green power use of nearly 7.5 million kWh is equivalent to the electricity use of nearly 700 average American homes annually.

In addition to generating green energy, VWVRA is a leading producer of recycled water.



VWVRA uses two 800 kwh generators to convert biogas or methane into electricity.

New DAMS Board Sworn In



DAMS Board (l to r) Wesley Garrison, Barstow Wastewater; Matthew Franklin, Barstow Wastewater; David Wylie, VWVRA; Denis Pollak, retired CWEA president; Sam Arvizu, City of Victorville; Robert Coromina, VWVRA; Kristi Casteel, VWVRA; Latif Laari, VWVRA; Josh Peters, Ponton Industries, Alex Aviles, Helendale Wastewater. (not pictured Kim Booth, BBARWA; Nikki Flores, BBARWA; Nick Josenhans, BBARWA)

The CWEA/DAMS Board was sworn in during the annual installation luncheon in Victorville. VWVRA Director of Administration Robert Coromina was installed as the new DAMS President taking over for outgoing president Latif Laari, also from VWVRA. CWEA/DAMS is the California Water Environment association, Desert and Mountain Section. The DAMS board is in charge of putting on numerous training events for local wastewater professionals throughout the year. All of the members of the board are volunteers who dedicate time to continue the mission of CWEA by offering educational opportunities so wastewater workers throughout the region can achieve required certifications and advance their careers. The DAMS region includes workers from wastewater agencies and public works departments in Victorville, Barstow, Helendale, Hesperia, Big Bear, Crestline and San Bernardino County.



Tech & Tours

High tech protection in the field



It's not uncommon for VVWRA employees to work alone around the plant or out in the field. Often times these employees are working alone while inspecting a man hole or interceptor line. Some of these locations can be in remote locations that are secluded. The question arose...what would happen if one of our workers were injured or suffered a medical emergency in the field and couldn't use their cell phone? After extensive study and research, VVWRA has begun providing employees with Blackline Safety's Loner M6 device. The device is about the size of a cell phone and is worn by the worker in the field. The Loner M6 is able to detect sudden falls or impacts and automatically sounds an alarm and contacts a monitoring service. If the employee is conscious, but unable to move, there is an alarm that can be pulled to request help. Through 3G wireless communications, the monitoring personnel can contact the worker verbally via a small speaker in the device. Plus the Loner M6 includes a powerful combination of technologies that can pinpoint the precise location of an employee so they can be found quickly.



EC Inspector Robert Townsend

University Prep Science Students Tour VVWRA



30 science students from University Prep in Victorville recently toured VVWRA's main plant. The tour, led by Sr. Operator Johnny Bustos, included a stop at our large biogas storage bubble. The biogas (methane) collected in the bubble is cleaned and then used to power a pair of 800 kwh generators that produce electricity to power our plant. For tour info, email David at dwyllie@vwwra.com.



Water Recycling

Hesperia WRP at a glance



The Hesperia Subregional Water Recycling Plant features an attractive brick and rod iron fence and extensive landscaping. We have planted 30 trees, more than 300 shrubs and over 1000 spreading ground cover plants on the grounds surrounding the facility.



The plant includes a biofilter system to eliminate odors. The filter is made up of a 3 foot layer of lava rock which is topped by 3 feet of wood chips. Together, they create a biological atmosphere that controls odors.



These stainless steel tubes contain the ultra violet disinfection system. Powerful UV lights inside the tubes disinfect the treated water.



Before the wastewater is treated, it is screened to get rid of solid materials. The solids are put back into the interceptor and send to VWRA's main plant in Victorville where they are used to produce electricity.



Membrane blowers use air to clean the membrane filters used to clean the wastewater.

Fun fact: The Hesperia water recycling facility is capable producing one million gallons of recycled water per day. That's equivalent to a football field surrounded by a wall 3 feet, 8 inches high and filled to the top with water.



Subregional Update

Apple Valley Subregional nearly complete!



Town of
Apple Valley

The Apple Valley Subregional Water Recycling Plant is nearly complete with startup expected in January 2018. Construction crews have been putting finishing touches on the facility adjacent to Brewster Park, including finishing the internal wiring, paving and cement work and exterior landscaping. Toward the end of the year, we will begin running fresh water through the plant for a six week testing period. After that is completed, we will begin seeding the plant with return activated sludge or RAS. This is the material that contains the bugs or microbes needed to create biological process used in treating wastewater. Once the seeding is completed the plant will be ready to treat wastewater. When fully operational, the Apple Valley Water Recycling facility will be capable of making one million gallons per day of recycled water. The water will be piped to the Apple Valley Golf Course and used to water the grounds. The recycled water could be used to irrigate the Civic Center and local parks in the future. In addition, the Apple Valley Water Recycling facility is expandable. When there is future growth in Apple Valley, the plant could be expanded to treat up to 4 million gallons per day.

Benefits of Recycled Water

- *relieves pressure on drinking water supplies*
- *use in irrigation keeps golf courses, parks and other landscaped areas green*
- *replenishes underground aquifers*
- *good stewardship of our natural resources*
- *the Hesperia & Apple Valley water recycling facilities will reduce flow to main plant delaying the need for costly upgrades.*



Apple Valley Water Recycling facility looking east to west.



The back side

Ask Johnny!



Q. Hi Johnny,
A friend of mine told me that we aren't supposed to flush baby wipes. I told her I only flush the flushable wipes, but she says we're not supposed to flush those either. Really? Who is right?
Judy, Hesperia

A. Hi Judy! I'm glad to hear that you and your friend are talking about this. It's true that wipes, even the flushable kind, can cause problems in our interceptors or pipes. The wipes don't break break down like toilet paper does. The wipes combine with other debris, fat and grease to



Mr. Dingle asks that you "don't flush those wipes"!

cause clogs that reduce the efficiency of the pipes. The pipes then have to be cleaned which can be dangerous and expensive.

Q. Hi Johnny,
I've heard that the water recycling plants in Hesperia and Apple Valley are nearly done. Is this recycled water going to be used as drinking water?
Mark, Apple Valley

A. Great question Mark! The simple answer is no. The recycled water produced at the Hesperia and Apple Valley plants is intended for irrigation purposes. It will be used to keep the local golf courses in those communities nice and green. It will also be used to water the landscaping at the Civic Center's and some local parks. This will save precious drinking water that is currently used for irrigation at these locations.

Know Your Microbe



Stalked Ciliate

Stalked Ciliates can look like little trees with bell shaped bodies and tiny hairs at the end. They are usually found in our aeration basins and they love to eat bacteria and algae. Stalked Ciliates don't move much in order to save energy. They attach themselves in one place and use tiny hairs called cilia to bring food into their mounths.

Dingle's Corner

