

# Purple Pipe

Volume XVI I Summer 2019

## Hesperia Prepares for Recycled Water



The City of Hesperia is completing construction on this 1.5 million gallon recycled water storage tank.

A pond at the Hesperia Golf Course has been plumbed with purple pipe as it awaits delivery of recycled water. Purple pipe is always used to deliver recycled water to any site.

The City of Hesperia is making final preparations for the arrival of recycled water from VVWRA’s Subregional Water Recycling Facility. Hesperia recently finished construction of a 10 mile pipeline that will be able to deliver recycled water to the civic center, parks and the Hesperia golf course. Work on a 1.5 million gallon recycled water storage tank along Live Oak St is nearing completion. The tank will be used to store recycled water made by the VVWRA Subregional in Hesperia. The Subregional WRF is capable of producing one million gallons per day of Title 22 recycled water. Title 22 refers to California’s strict guidelines for treating and discharging recycled water. The facility is a scalping plant that treats and recycles wastewater from an interceptor that runs under Maple Avenue. It does not treat solid waste. The solid waste is treated at VVWRA’s main plant in Victorville. The Hesperia WRF uses aeration basins, state of the art filtering membranes and

ultra violet disinfection to treat the water. The recycled water from the Hesperia Subregional will be pumped a short distance to the large storage tank where it will be fed to various locations throughout the city by gravity.

One of the most visually dramatic uses of the recycled water will be at the Hesperia Golf Course where two large ponds have been constructed. The recycled water will be used to fill the ponds creating new water features for golfers playing the course. It’s also anticipated that recycled water will be used to water the fairways saving our precious drinking water.

The recycled water delivery is expected to begin in early Fall once all the infrastructure work is completed. The Hesperia Subregional is currently operational. The treatment is based on a biological process which takes time to develop. VVWRA staff has been working hard on that process for a number of weeks. The biological process is working well and VVWRA will be ready to supply recycled water when needed.

cont. on pg 2



# Rolling with the changes...

by Robert Coromina  
Director of Administration



Robert Coromina

August marks my 13th year at VWRA. In that time, I have seen many changes occur, some good, some bad, but all provided a unique opportunity to learn. It's these lessons learned that have allowed us to be successful in our endeavors. They have instilled in us the experience we need to deal with any challenge that comes our way, but more importantly, we have come together as a team because of our shared experiences and have become stronger for it.

These changes included meeting, working with, and saying goodbye to individuals we have come to respect and trust as peers and leaders in our industry. These changes in personnel can sometimes be a scary, stressful time or make the future of our great workplace seem uncertain.

What we need to remember is that change, both in the way we operate and in the workforce, is normal for organizations like ours and it is these changes that provide us the opportunity to implement new ideas. I believe it was Tony Robbins that said "We need to stop being afraid of what could go wrong and start being excited about what could go right." In other words, learn from our successes and failures but focus on what is to come. When I look forward I become enthusiastic about VWRA's future as I contemplate what is to come and I hope you are too.

## Hesperia preps cont...



Aerial view of the Hesperia Water Recycling Facility.



Sr. Operator Johnny Bustos makes an adjustment to UV system.

VWRA operators are also in the process of starting up a nearly identical water recycling facility in Apple Valley. The WRF, located at Brewster Park, will also provide about one million gallons of recycled water per day for use at the Apple Valley Golf Course, the civic center and Brewster Park itself. While the piping to the golf course is already in place, the Town of Apple Valley is planning to upgrade the irrigation systems at Brewster Park and the civic center. If all goes as anticipated, recycled water will be in use in those location in March of 2020.

The concept of the subregional water recycling plants was developed more than 20 years ago by the VWRA Board of Commissioners. Faced with declining capacity in our main interceptors, the commissioners decided to move forward with a regional treatment plan that would provide clean recycled water to our communities while reducing the flow in our main sewer lines.

**Fun fact:** The concept of using purple pipes to deliver recycled water was developed by engineers at the Irvine Ranch Water District in Orange County back in the 1980's. Blue pipes are used for potable water, green for sewers, and yellow for natural gas. So they settled on purple (lavender?) Today, the color used for purple pipe is officially known as Irvine purple.

## Purple Pipe

newsletter

### VWRA Board of Commissioners

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

The **Purple Pipe** is a quarterly newsletter published by the Victor Valley Wastewater Reclamation Authority. All rights reserved. © 2019  
Contact: info@vwra.com  
20111 Shay Rd,  
Victorville, CA 92394



# Around the Plant

## Orange you curious?

One of the most common questions we get at VWRA is "How long does it take for the poop to get from my toilet to your plant?" Over the years, we have been able to estimate the time based on the speed of the water in the pipes. However, the water travels at different speeds in different locations, so our staff recently did a test using oranges. 41 small oranges were dropped in a manhole near Mojave and Maple Ave in Hesperia. Just to make it fun, we numbered the oranges and gave each member of our staff a number. The first orange to our main plant in Victorville would be the winner. In this case, orange #11 was the first to arrive. So what did we learn? Well, it took right about six hours for the oranges to travel the 18 miles from the manhole where they were dropped to our plant on Shay Rd. That tells us that waste, which the oranges simulated, travels on average 4.4 feet per second. Since all of the waste we treat is transported via water and gravity, it is important that we know whether there is enough "push" to get the material to our plant and keep odors down. The test showed the flow is more than adequate to do its job.



Andrew Henriquez drops oranges in a manhole.



Senior Operator Andrew Henriquez finds orange #11.



### Congratulations!



Congratulations to Lead Operator Brad Adams for earning his Grade 5 operators certificate.

### Smoking



Lead Operator Brad Adams watches smoke come through the bio-filter at the Hesperia Subregional. VWRA staff occasionally conduct smoke tests to check for leaks or blockages in pipes. The bio-filters use microbes to help eliminate odors at the facility.

### Welcome!



Welcome to new Maintenance Mechanic Mario Leos

## Events

# We Are The <sup>air pack</sup> Champions



VWRA's Daniel Enriquez (l) and Kyle Parker were the winners of the 2019 Air Pack Derby in Crestline.

**(Crestline)** VWRA has dominated the prestigious DAMS Air Pack Derby in recent years and 2019 proved to be no different. The VWRA team of Daniel Enriquez and Kyle Parker captured the title at this year's event with a narrow 4/10ths of a second victory. VWRA has won the DAMS Air Pack Derby four out of the last five years. As for Parker, this was his second win having captured the title in 2016 when teamed with Xiwei Wang. The Air Pack Derby is designed as a competition that simulates a chlorine leak. The two person

teams must don a self contained breathing apparatus (SCBA) and gloves, then walk through a short obstacle course before having to close the "leaking" valve. This years competition had the closest finish in history with a team from the City of Victorville finishing less than a half of a second behind Enriquez and Parker. In addition, the VWRA team of Johnny Bustos and Lucas Wilkens took third place. This is the first year the event was held at the beautiful San Moritz Lodge in Crestline next to Lake Gregory.

## DAMS Vendor Fair Offers Educational Opportunities



Proper disposal of fats, oils and grease was the topic of this class.

It what was a record turnout, more than 120 wastewater and public works professionals attended this years CWEA/DAMS Air Pack Derby and Vendor Fair in Crestline. The annual event provides continuing education in a relaxed mountain environment. In addition, it gives a chance to network with professionals from other agencies and to learn about the latest offerings from a variety of vendors. The event, put on by the Desert and Mountain Section of the California Water Environment Association, attracted staff from VWRA, Barstow, Helendale, Victorville, Hesperia, Crestline, Big Bear and San Bernardino County.



# Digester renovation!



The original three anaerobic digesters at VWVRA were built in the late 1970's and went on-line in 1981. While they served VWVRA well, they have gone largely unused since the construction of two much larger digesters ten years ago, but that is about to change. Thanks to a lease agreement with Anaergia Inc., the three original digesters are being renovated and will soon be working again. California has instituted ambitious recycling guidelines that call for diversion of 75% of organic waste by 2020. That has created an increased demand for renewable disposal sites. Anaergia will operate the digesters much

like VWVRA operates its current digesters. Organic waste will be treated in the digesters and the methane or bio-gas put off by the waste will be collected and cleaned. It will then be used to generate electricity or sold on the natural gas market. The renovations are expected to take several months with the first waste being accepted in 2020.



Scaffolding inside digester #3.



Workers remove debris from the inner wall of digester #2.

**Did you know?** Anaerobic digestion is the process by which organic matter such as food waste is broken down to produce biogas and bio-solids used as fertilizer. This process happens in the absence of oxygen in a sealed, oxygen-free tank called an anaerobic digester. Now you know!

## Dental Offices Facing New EPA Rules



The Environmental Protection Agency has placed new disposal regulations on dental offices in regards to dental amalgam. Dental amalgam is a common dental filling material that contains mercury. While considered safe for dentistry, there are concerns about mercury waste when the fillings are removed. The EPA has instituted new rules requiring pretreatment at dental offices to reduce the discharge of mercury into the public sewer system. Dental offices are required to operate and maintain an amalgam separator when removing or replacing amalgam fill-

ings. Under the new regulations, VWVRA is responsible to notify local dental offices and ensure they are complying. As part of that, VWVRA will be requiring all dental offices to submit a one-time compliance form which is available at [VWVRA.com](http://VWVRA.com). If you have any questions, you can contact our Environmental Compliance Department at (760) 246-8638 or email them at [EC@vwvra.com](mailto:EC@vwvra.com).

**What is dental amalgam?**

*Dental amalgam is a dental material used to fill cavities. Dental amalgam is a mixture of metals, consisting of liquid (elemental) mercury and a powdered alloy composed of silver, tin, and copper. Approximately 50% of dental amalgam is elemental mercury by weight. The chemical properties of elemental mercury allow it to react with and bind the silver/copper/tin alloy particles together to form an amalgam.*

Source: FDA



# Rain, rain go away!

## Winter Rain Brings Challenges to VWRA



The banks of drying beds #10 & #11 were raised by two feet.

VWRA depends on the sun for a key part of the treatment process. We use large solar drying beds to let the sun dry out the treated sludge called bio-solids. Once dried, the bio-solids are used as fertilizer in agriculture, primarily alfalfa and hay crops. The weather in the Victor Valley is normally dry, warm and windy. In fact, we average only 6 inches of rain and 289 days of sunshine per year which is perfect for the drying process. However, this year the Victor Valley received record rains that flooded our drying beds. This severely delayed our drying process. As a result, we used tons of dirt to raise the outer height of two of our drying beds by 2 feet. It managed to give us more capacity for the treated sludge. With the Summer heat, we are catching up. It's important to get the sludge dried as much as possible before the cooler and wetter Winter months.



### Upcoming CWEA/DAMS Events

- **Oct. 18- Cert Preparation Sessions Grades 1-4**  
*San Bernadino Valley College*
- **Nov. 6 - Collections System Training Day**  
*Rick Novack Center, Hesperia, CA*
- **Dec. 14 - DAMS Awards Banquet and Holiday Party**  
*El Pescador Restaurant, Victorville, CA*

damsorcwea.org



# *This and that...*

## Chinese Exchange Students Tour VVWRA



VVWRA hosted ten Summer tours of our main plant in Victorville for Chinese college exchange students. In total, 211 students toured our facility while learning about wastewater treatment and how it is important for public health and the environment. The students were impressed with the wastewater treatment process, and many commented that the overall water quality is much better in the United States than where they live in China.

The students were part of the ERDT Envision exchange program which promoted cross-cultural learning and living. ERDT was established in 1974 and has been successfully involved in working with international students—both individually and in groups—for short-term and long-term educational and homestay programs. All of the students that toured VVWRA were staying with host families in the Victor Valley for approximately two weeks. While most of the students spoke English, VVWRA Accountant Xiwei Wang, who grew up in China, assisted with translating wastewater terms into Chinese. No easy task!



*Everyone can be Mr. Dingle for a day!*

**Fun fact:** In California, there are 40 million residents and more than 900 wastewater treatment plants that process 4 billion gallons of wastewater each day. VVWRA treats about 10.7 million gallons of wastewater everyday.

*\*Source: American Society of Civil Engineering*



# The Back Side

## CWEA/DAMS Installs New Officers



From left to right: CWEA President Kevin Calderwood, Alex Aviles, Helendale CSD; Bill Kuhlmann, Helendale CSD; Ron Scriven, Crestline Sanitation; David Wylie, VWVRA; Kristi Casteel, VWVRA; Kody Tompkins, City of Barstow; Barbara Soper, City of Victorville; Matthew Franklin, City of Barstow; Daniel Peralta, Woodard and Curran; Sparky Kale, City of Victorville; Wesley Garrison, City of Barstow.



The new officers for the Desert and Mountain Section of the California Water Environment Association were sworn in by CWEA President Kevin Calderwood at a recent luncheon in Victorville. CWEA/DAMS is dedicated to keeping its membership current on wastewater collection, treatment, and disposal practices. DAMS provides training opportunities throughout the year for wastewater and public works employees in the High Desert and San Bernardino Mountains. Sam Arvizu from the City of Victorville will serve as the new DAMS president.



**Johnny Wastewater**  
reminds you  
to only flush  
the 3 P's\*

- Pee
- Poop  
toilet
- Paper

\*Items that start with P that are NOT part of the 3 P's include prophylatics (condoms), plastics (such as tampon applicators), packaged "flushable" wipes, pharmaceuticals, paper towels, ping pong balls, pet litter, paint, pennies and phish (No Nemo no!)



**Dingle's Corner**

**SORRY, I PUGGED**

**THE TOILET**