



# WATERREUSE

## LOS ANGELES

## Chapter Newsletter

July 2016

### IN THIS ISSUE

**Agency spotlight –  
MNS Engineering**  
Page 1 & 5

**President's Column**  
Page 2

**Ask the Guru**  
Page 3 & 4

**H2O TECHCONNECT**  
Page 5

### NEXT MEETING

Tuesday, August 9th  
11:30am-1:30pm

### LOCATION:

**LADWP, 433 E. Temple St.,  
Building 2, Multi-Purpose  
Room, LA, CA 90012**

**Lunch sponsored by:  
Carollo Engineers**

## Consultant Spotlight MNS Engineers, Inc.

*Top quality solutions for today's changing water resources*

### Overview



MNS Engineers, Inc., is a multi-service infrastructure consulting firm, specializing in civil engineering, construction management, and land surveying services. Since 1962, MNS has served the transportation, water resources, government services, and federal markets. MNS has a proven track record and a profound commitment to bettering our local communities. Our purpose is to make a positive difference in people's lives every day. We focus on our clients to solve their unique project challenges and deliver affordable, top-quality results.

Innovative, sustainable, and economically viable water resources management systems are vital to the future of a healthy society. MNS applies innovative solutions to comply with an increase in regulations, extend limited resources, and rehabilitate aging infrastructure to meet tomorrow's needs. The goal is simple—provide long-term, cost-effective, high quality, and reliable solutions to ensure that communities are well-served and protected by the systems.

Recycled water has become a focus of the firm as a critical renewable resource. MNS' experience with water, wastewater treatment plants, water purification projects and water recycling facilities has provided many opportunities to deliver innovative and sustainable solutions for the future to many agencies across the state as represented by these key projects. MNS is currently assisting Water Replenishment District, West Basin Municipal Water District and the City of Palo Alto in evaluating and expanding the use of recycled water for landscape irrigation and indirect potable reuse.

MNS Engineers serves public agency clients working out of eight offices throughout California, including Santa Barbara (HQ), San Jose, Salinas, San Luis Obispo, Buellton, Westlake Village, Pasadena, and Long Beach. We are a California Certified Small Business Enterprise (SBE) and are signatory to the International Union of Operating Engineers, Local 12.

### For more information contact:

bd@mnsengineers.com | 805.692.6921

mnsengineers.com   



### Meet Our Lead Water Engineer

Julia Aranda, PE, leads the recycled water efforts for MNS with extensive experience assisting many agencies in their development of

this renewable resource. Some of her most notable projects include the City of Oxnard's Recycled Water Master Plan, Castaic Lake Water Agency's Recycled Water Pipeline Extension, and the City of Burbank's Recycled Water Pump Station Upgrades. Julia is actively working on the Groundwater Reliability Improvement Program (GRIP) for the Water Replenishment District of Southern California. This design-build project was established to find alternative sources of water to offset the rising costs and reliability challenges of imported water. Julia has been a member of the Los Angeles WaterReuse chapter for nearly 20 years and has previously served as its President. Contact information: jaranda@mnsengineers.com



### Advanced Water Purification Feasibility Study, City of Palo Alto

The City of Palo Alto's Regional Water Quality Control Plant (RWQCP), which produces approximately 234 million gallons of tertiary-treated recycled water annually, is studying recycled water as a sustainable alternative to potable water for uses such as landscape irrigation, soil compaction, and dust control. An advanced water purification system (AWPS) at the City's RWQCP could produce recycled water with lower total dissolved solids (TDS) concentration that can be blended with the existing tertiary-treated recycled water.

MNS was recently selected to conduct a feasibility study for installing an AWPS at the RWQCP to produce recycled water with a lower TDS.

## President's Column

The heat is back! The Godzilla El Nino and miracle March rain didn't force the drought to retreat as far as we had hoped. California is still experiencing extreme drought in over 40% of the state, which is down from 71% one year ago. Lake Mead, where Southern California gets a third of its water, is at record lows triggering a level 1 water shortage and potential cuts to Arizona and Nevada. Experts hope to preserve Lake Mead levels to avoid further and more serious allocations. Thankfully, the winter rain and runoff was enough to fill a majority of the Northern California reservoirs allowing a 60 percent State Water Project allocation. Many agencies have recently adjusted their local conservation requirements for summer while maintaining a safe conservation level. Controlled demand and additional recycled water supplies should allow replenishment of some of the Southern California reservoirs and groundwater basins. Your efforts and recycled water projects will help California meet our water challenges.



This year could be a turning point for recycled water use in California. A new general permit was just adopted for non-potable uses to standardize monitoring and reporting requirements across the state. Several important potable reuse regulations milestones are also expected during 2016 including: new surface water augmentation regulations; the Direct Potable Reuse feasibility report and final report to the legislature; the feasibility of using disinfected tertiary recycled water for watering animals; and the development of mandatory recycled water infrastructure building standards for new developments. We also expect funding from Proposition 1 and USBR WaterSMART and Title XVI grants. By the end of the year we will have a better understanding of the potential for expansion of potable reuse in Los Angeles and the rest of California.

As WateReuse advocates, I encourage each of you, to pick 5 actions from list below to help WateReuse.

#### Top 10 things that you can do to help WateReuse:

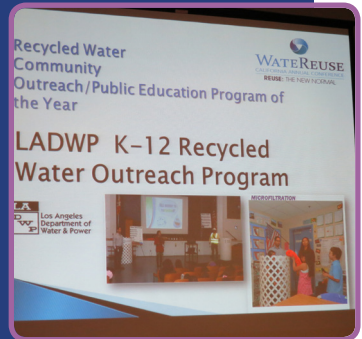
1. Educate your family and social group about the benefits of recycled water;
2. Participate in the upcoming SWRCB's Statewide Water Reuse Survey;
3. Participate in development of operator certification requirement for potable reuse;
4. Look for multiple sources of funding for you communities recycled water projects;
5. Look at your agency's distribution system and identify new recycled water customers;
6. Familiarize your team with new General Permit for RW and how to add new sites or projects;
7. Evaluate local Urban Water Management Plans recycled water production and demands;
8. Join or form an Los Angeles Chapter workgroup (e.g., DPR feasibility, 2017 legislation proposals, 2017 research needs, etc.) and provide local technical comments;
9. Volunteer to host a meeting, write an article, take meeting notes, or other local contribution to the Los Angeles Chapter; and
10. Make 2 new friends at next meeting and share your projects success and/or lessons learned.

Thank you for your continued support. The Los Angeles Chapter would not be as enjoyable and productive without your involvement. I would especially like to thank, the Chapter Officers and other volunteers. I also want to recognize our Chapter 2016 WateReuse Award recipients: Mr. John Robinson, for receiving the staff person of the year award and the Los Angeles Department of Water and Power for receiving the Recycled Water Community Outreach of the Year award. I look forward to working with all of you to expand the safe use of recycled water throughout Los Angeles.

Cheers,

**Raymond Jay, President**

WateReuse California, Los Angeles Chapter



Known by his colleagues (affectionately or otherwise) as the “Guru”,



Earle Hartling, Water Recycling Coordinator for the Sanitation Districts of Los Angeles County, answers your burning questions on all issues regarding recycled water. He has been involved with water reuse for exactly 35 years, so ask your questions sooner than later, because he ain't getting any younger! Seriously, he really isn't. C'mon, people, the clock's ticking on this guy.

## Ask the Guru

**Question:** I see where your LinkedIn profile shows that you're having your 35 year anniversary working with recycled water. From all that time in the industry, do you have any general advice on promoting recycled water?

— How the heck did you last so long?

Dear How the Heck,

If there's anything the Guru isn't short of, it's advice! And now is the perfect time to reflect back as May 26, 2016 was my actual 35-year anniversary working for the Sanitation Districts of Los Angeles County.

- Recycled water is a RESOURCE, not a WASTE (emphasis intentional). Regulating it as a “waste,” as so many regulators tend to do, diminishes its perceived value by potential users, adds unnecessary regulatory burden with associated costs and inhibits public acceptance by attaching an unwarranted stigma that can cause the public to fear and mistrust it. High quality tertiary treated recycled water can readily meet nearly all State and Federal drinking water standards and it can be used for literally anything short of direct drinking water (so far). Recycled water has intrinsic value, especially in areas where traditional water supplies are extremely limited (thank you, law of supply and demand).
- Recycled water systems are not built to address the current drought, but in anticipation of the next. The popularity of recycled water increases significantly during the throes of a drought-induced water shortage, but this interest can drop off just as quickly during periods of adequate precipitation and surface water supplies. Water purveyors need to take a longer view of their water supply situation, since recycled water distribution pipelines can't be built fast enough to address an immediate shortage. Rather, those times when water supplies are plentiful, or even just adequate, should be seen as grace periods in which recycled water pipelines can be planned for, constructed and placed into service before the next drought and resulting water supply crisis inevitably hits.
- The economics of recycled water use will improve when compared to future potable water costs. As competition for water increases and traditional supplies become more restricted and less reliable, as well as more expensive, recycled water supplies will become even more economically attractive for both water purveyors and end users. It's a local supply which generally can't be taken by competing water demands, such as other states, agriculture, fish, etc.
- Regulators need to be partners in the process, not obstacles. Droughts and chronic water shortages, Bay-Delta issues (okay, one California reference), energy requirements, greenhouse gas generation and the economy in general should be part of the bigger picture regulators look at when evaluating recycled water permitting, rather than focusing on by-the-book regulatory procedures that don't necessarily provide significant additional protection for public health or water quality. Decades of tertiary treated recycled water use have not resulted in discernible, much less significant, degradation of groundwater or adverse impacts to surface water.
- The development of water recycling projects requires cooperative partnerships. The full participation of all involved parties is absolutely essential in order to make water recycling projects successful. A wastewater agency produces the recycled water, a water wholesaler transports it, a water retailer sells it and an end user buys and uses it. Local, state and federal entities provide funding, while state and local regulators permit the use to ensure the protection of public health and water quality. If any one of these partners does not participate fully or cooperatively, the project most likely will not proceed to completion. All parties involved have a vested interest in making water recycling successful, particularly during the water supply crises that regularly impact the state.
- Mandates to meet arbitrary amounts of water recycling work against cooperation





between parties. Recycled water producers often only have responsibility and authority over the wastewater side of the equation and not the water purveying side. Regulatory and/or legislative mandates to increase recycled water use that are placed on only one partner in the water recycling effort will not guarantee the success of the overall effort, but rather place an undue burden on the wastewater agencies and, perhaps, bestow an unfair advantage on the recycled water purchasers.

- Local ordinances are needed to encourage potential users to begin using recycled water in lieu of domestic water supplies. Surprisingly, end users do not always choose to accept and use recycled water at their facilities when it is made available to them, despite lower water rates for recycled versus potable water and the promise of uninterrupted deliveries during drought. At least in California (alright, another California reference, so sue me), State law already mandates that recycled water be used instead of potable water if it is available in sufficient quantity, with an adequate quality and at a reasonable price; however, there is currently no effectual enforcement mechanism. Local ordinances are needed that offer both “carrot and stick” incentives, such as reduced recycled water rates, drought-proofing and/or on-site retrofit assistance on the incentive side, combined with increased potable water rates or reduced deliveries for refusal to use recycled water on the disincentive side.
- State and Federal funding should be made available to supplement local funding of reuse projects. Despite the economic, environmental and societal benefits derived from the use of recycled water, many water purveyors cannot adequately fund the large, initial capital investments by themselves, thus preventing the maximization of recycled water use. Funding for state bonds for low interest loans or grants, U.S. Bureau of Reclamation (USBR) Title XVI grants, state or local water conservation rebates or subsidies, etc. need to be increased. Without adequate funding, the

recycled water distribution systems envisioned in the local master facilities plans will not get beyond the paper on which they are written. Science is the process of learning “more”, not “everything”. A lot of people want all the answers and they want them right now, but there is no endpoint in the amount of knowledge and information necessary to ensure the safety of recycled water and its use. Additional research and studies into newly discovered constituents, such as Contaminants of Emerging Concern, must be and, as a practical matter, will always be on-going. There will always be another “pollutant du jour” that will raise concern both in the regulatory community and with the general public; however, if the past is any indication, these new constituents will most likely be found to be below levels of actual health impacts as a result of the robust nature of the tertiary treatment process.

- Keep the general public involved. While purple pipe systems and direct, nonpotable use of recycled water is generally accepted by the general public because of their long-term use and ubiquitous nature, at least in southern California (I’m sorry, I just can’t help myself), it is somewhat less the case with indirect, potable reuse projects. It is no longer possible to present the public with recycled water “solutions” without their input beforehand. The public wants to have “ownership” of the solutions; not merely be presented with a fait accompli by the engineers and politicians. Furthermore, involved members of the public, as a rule, consider themselves to be well-educated, so we need to avoid the appearance of condescension by going with “public information” campaigns, not “public education”. It may only be a single word, but it’s an important one.



## Metropolitan's H2O TECHCONNECT



Metropolitan's H2O TECHCONNECT Program collaborated with Metropolitan Engineering and Operations Groups, our Member Agencies, Water Agencies, Utilities, and Isle Inc. to form a Technology Approval Group (TAG) to identify emerging water and wastewater technologies and accelerate their market uptake

through a global innovation. TAG brings together industry know-how with the financial backing of institutional investors to facilitate technology development in line with the Water Industry needs. On June 7, the H2O TECHCONNECT Team was invited to participate in the "US Wastewater TAG I7" at the Orange County Sanitation District in

Fountain Valley. Technologies evaluated were Sludge Minimization, Electro Magnetic Flowmeters, Non-Contact Ultraviolet Disinfection, and Wastewater Meters using Microwave Technology. TAG Members vote on which vetted technologies will be presented to the group. Technologies in Pilot Programs developed from the TAG Group include: Reduced biofouling from quagga mussels; UV Technology; Earthquake resistant pipes; and Leak and Burst Detection and Reduction. Metropolitan's Innovation and Technology Program also includes Technology Clearinghouses, Third Party independent reviews; Business Plan Accelerators; and MWD Engineering Staff to discover new innovations and technologies for the TAG Group to evaluate. Successful technologies have been adopted and integrated by Water Agencies.

The H2O TECHCONNECT Team would like to invite California WaterReuse Groups to participate in our TAG Programs. The H2O TECHCONNECT will help you start making connections that matter!

- DISCOVER alternative sources of funding
- BUILD a prototype
- COMMERCIALIZE your idea
- DEVELOP RELATIONSHIPS with public agencies
- FIND pilot programs and resource partners
- NETWORK with successful innovators, investors, universities, water agencies, etc.

If you would like to participate, please call us at 213.217.7620 or email [mvogt@mwdh2o.com](mailto:mvogt@mwdh2o.com)

### MNS Engineers, Inc. Projects

► continued from pg. 1



#### **GRIP Program, Water Replenishment District of Southern California**

GRIP is vital in providing much-needed water to Southern California, increasing the sustainability of the local water supply by increasing the use of recycled water by nearly 20,000 acre-feet per year, enough to supply the water needs for 160,000 residents a year. As part of GRIP, an advanced water treatment facility (AWTF) is being designed and constructed to treat 10,000 acre-feet per year of tertiary recycled water.



#### **Recycled Water Master Plan and Implementation Plan, City of Oxnard**

The City of Oxnard needed a master plan and implementation plan for the recently completed advanced water treatment facility to serve municipal, industrial and agricultural customers. The plans were a programmatic "road map" for the City to implement a Recycled Water Program.

Julia Aranda prepared the Master Plan and Implementation Plan for the recycled water program.

## OUR MEMBERS

AECOM  
Black and Veatch  
Burbank Water and Power  
California Department of Public Health  
California Department of Water Resources  
California Regional Water Quality Control Board  
California State Water Resources Control Board  
Calleguas Municipal Water District  
Cannon  
Carollo Engineers  
Castaic Lake Water Agency  
CDM Smith  
Central Basin Municipal Water District  
City of Cerritos  
CH2M  
Dudek  
Environmental Now  
Eurofins Eaton Analytical  
Forest Lawn  
Glendale Water and Power  
Irvine Ranch Water District  
Kennedy/Jenks Consultants  
John Robinson Consulting, Inc.  
City of Lancaster  
Las Virgenes Municipal Water District  
LEE & RO, Inc.  
Long Beach Health Department  
Long Beach Water Department  
Los Angeles Bureau of Sanitation  
Los Angeles Department of Public Health  
Los Angeles Department of Public Works  
Los Angeles Department of Water and Power  
Los Angeles Regional Water Quality Control Board  
Metropolitan Water District of Southern California  
MNS Engineers  
MWH Americas, Inc.  
NALCO  
Newhall Land and Farming Company  
Pacifica Services, Inc.  
City of Palmdale - Public Works Program Management  
City of Pasadena

Phoenix Civil Engineering, Inc.  
City of Pomona  
Precise Landscape Water Conservation, Inc.  
Psomas  
RBF Consulting, a Baker Company  
Red Wolf Studio  
RMC Water and Environment  
Rowland Water District  
SA Associates  
Sanitation Districts of Los Angeles County  
City of Santa Monica  
Sequia Technologies  
Separation Processes, Inc. (SPI)  
Surfrider Foundation  
Test America  
Tetra Tech, Inc.  
Three Valleys Municipal Water District  
United Water  
Upper San Gabriel Valley Municipal Water District  
Valencia Water Company  
City of Vernon  
Walnut Valley Water District  
Water Replenishment District of Southern California  
WaterReuse California  
West Basin Municipal Water District



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### **Monica Gasca, Trustee to WaterReuse**

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## GOT NEWS?

We're always looking for interesting stories and informational articles to keep our members up to speed on all that's happening in water reuse and reclamation. Email articles or ideas to Matthew Elsner ([melsner@ci.burbank.ca.us](mailto:melsner@ci.burbank.ca.us)) or Shelah Riggs ([sriggs@dudek.com](mailto:sriggs@dudek.com))

**WaterReuse Association:** [www.watereuse.org/sections/california/losangeles](http://www.watereuse.org/sections/california/losangeles)

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