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AZ Water Board Nominations 2013-2014

The AZ Water Nomination Committee chaired by Paul Kinshella (5th Past President), presented the following slate of Board officers and directors for the year 2013-2014 for approval by the Board of Directors. The nominees are members in good standing and have agreed to serve if elected. The Board approved the Committee’s recommendation on March 15 during a regularly scheduled Board meeting.

The slate of officers and directors is subject to a vote of the members during AZ Water’s Annual Business Meeting on May 2, 2013 from 1:00-1:30pm at the Renaissance Glendale Hotel, Glendale, AZ. You are encouraged to attend and cast your vote.

AZ Water Officers and Board Members

Officers and Directors

Continuing (not subject to re-election)
- President, Teresa Smith-DeHesus
- President-Elect, Patty Kennedy
- Vice President, Tom Galeziewski
- Past President, Chris Hill
- Treasurer, Asia Philbin
- Secretary, Jacqueline Shaw
- WEF Delegate, Don Manthe

Continuing (subject to re-election, but serve a minimum of a three-year term)
- Director, Lisa Culbert
- Director, Alan Forrest
- Director, Mark Martinez
- Manufacturer’s Rep, Dave Redman (elected by Manufacturer’s)

New Nominees
- Vice President, Tom Galeziewski
- Treasurer, Asia Philbin
- AWWA Director, Brandy Kelso
- Director, Bob Hollander
- Director, Lisa Jackson
- Director, Jeanne Jensen

Arizona Section of AWWA

Board of Trustees

Officers and National Director
- Chair, Teresa Smith-DeHesus
- Chair-elect, Patty Kennedy
- Vice Chair, Tom Galeziewski
- Past Chair, Chris Hill
- Treasurer, Asia Philbin
- Secretary, Jacqueline Shaw
- AWWA Director, Brandy Kelso

Arizona Water Environment Association

Board of Directors

Officers and National Delegates
- President, Teresa Smith-DeHesus
- President-Elect, Patty Kennedy
- Vice President, Tom Galeziewski
- Past President, Chris Hill
- Treasurer, Asia Philbin
- Secretary, Jacqueline Shaw
- WEF Delegate, Don Manthe

Brandy Kelso has a bachelor and master degree in Civil Engineering from Arizona State University. She has over 15 years of water related experience and is the Deputy Planning Director for the City of Phoenix Water Services Department. She and her team are responsible for the water resource and infrastructure master plans, water and sewer hydraulic modeling, research programs, water efficiency and conservation efforts, and development planning and review.

Brandy has served at the AZ Water Association as Treasurer for the past four years and as the Secretary the two years prior. She has been involved in a variety of committees including the founding year of the Young Professionals, Luncheon, Membership, Information Technology and Finance.

Brandy is married to Trent Kelso, has two sons and enjoys running, hiking, and golf … when she is not busy volunteering for the Association.

Asia Philbin has lived in Tucson, Arizona since 1997, and has worked as a hydrologist for Tucson Water since 2001, where she assists in the planning, analysis, and tracking of Tucson Water’s water resources and energy portfolios. She holds a Bachelor of Science degree from the University of Miami (go ‘Canes!) in Marine Science and Geology, with a Biology minor. She enlisted as a volunteer with Water For People as a graduate student in the University of Arizona’s Hydrology program, which led to her involvement in AZ Water (then AWPCA). She co-chaired the AZ Water - Water For People Committee for two years, overseeing committee activities, budget, and an EPA Border 2012 grant awarded to AZ Water. For her service to the committee and Water For People, she received the Kenneth J. Miller award. Impressed with the professionalism and effectiveness of AZ Water, Asia has continued her involvement with the organization through the Water For People Committee; she can be seen regularly at Tucson’s monthly AZ Water luncheons and Water For People fundraisers, and proudly wears her golden shovel as a member of the 5-S Society. She is honored to be the next Treasurer of AZ Water and looks forward to working with Board members and Committee Chairs to continue the excellent service provided by previous Treasurers.

Tom Galeziewski is a Vice President and Senior Professional Associate with HDR Engineering, Inc. He has over 33 years of experience in various aspects of water related civil engineering projects throughout the southwest U.S., including water treatment process design, water supply and water quality studies, and pipeline and pump station analysis and design. Tom earned a Bachelor of Science degree in Civil Engineering from the University of Notre Dame, and is a registered Professional Engineer in Arizona and California.

Tom has been an active member of the AZ Water Association for many years, and was elected to the Board of Directors in 2011. He has served on the Water Treatment, Research, and Scholarship Endowment committees for AZ Water, and was the committee chair for the Water Treatment Committee from 2004 to 2007. He was inducted into the 5S Society in 2008, and in 2009, he received the AZ Water Engineer of the Year Award. Tom also serves on the AWWA Inorganics Committee, and was a Board Member and Past President of the Arizona Section of the American Society of Civil Engineers (ASCE).
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continued on page 34

Robert ("Bob") Hollander has over 35 years of experience in the environmental engineering field. He has worked as a regulator, utility representative, consultant, water industry organization board member and officer.

Bob spent almost ten years with the Arizona Department of Health Services/Environmental Quality (ADEQ) in various roles, including Manager of the Central Regional Office, responsible for the inspection of water and wastewater facilities in the central counties of the state. Mr. Hollander worked for the City of Phoenix Water Services Department for 19 years, most of that as the Compliance and Regulatory Affairs Administrator. In that role he oversaw the compliance and regulatory analysis functions of the Water Services Department and was the liaison to the environmental regulatory agencies (e.g. U.S. Environmental Protection Agency, ADEQ, Maricopa County Environmental Services and Air Quality Departments). Mr. Hollander is a Senior Project Manager with Alan Plummer Associates, Inc., a water/wastewater and environmental engineering firm, where he has been since February 2010.

Bob Hollander has a Bachelor of Science in Biology from the City College of New York and Master of Science in Environmental Science and Technology from Arizona State University. Bob is a registered professional engineer in the State of Arizona.

Mr. Hollander is a Life Member of the AZ Water Association, where he has served on the Technical Program Task Force for over 20 years, as Chair for the 1996 Conference, and on the Water Reuse and Wastewater Treatment committees.

He is also a member of the American Water Works Association, Water Environment Federation, WaterReuse Association and the Western Coalition of Arid States (WESTCAS). With WESTCAS, Mr. Hollander has served on the Board of Directors, including as President from 2009 to 2011. WESTCAS represents the issues and concerns of its members to federal Congressional and Administrative agency representatives.

Lisa A. Jackson has been completing projects in Arizona since 1985. She is an active member in the AZ Water Association including serving on the technical conference committee since 2004 and a member of the Water Treatment Committee since 2011. She was the annual conference committee technical program chairperson for the 2012 AZ Water conference. She is currently 2013-2014 chairperson of the Water Treatment Committee. She has participated in the annual Arizona Water for People 5K Run since its inception.

Lisa is active in AWWA and presented at the Annual ACE conferences in 2010 and 2011. She has also presented at ASCE and APWA national conferences.

She is a Senior Project Manager with Black & Veatch and is their Phoenix Office Leader. Lisa was Project Manager of the award winning City of Phoenix Val Vista WTP GAC Contractors Project that was honored as the 2012 AZ Water Large Water Quality Project of the Year.

Lisa A. Jackson
Director

Lisa A. Jackson
Director

continued on page 34
AZ Water Association News

Water Treatment Plant Project of the Year Award and also the 2012 ENR Southwest Large Civil Project of the Year Award.

Lisa graduated from the University of Kansas in 1983, and after a brief two year stint as a geotechnical engineer for a small firm in Los Angeles County she moved to Arizona and started work for Black & Veatch. She has completed many Arizona water projects including ones for Phoenix, Glendale, Peoria, Tucson, Chandler, Mesa, Prescott and Scottsdale. She has also worked on water projects throughout the west including in northern and southern California, Colorado, and Vancouver BC. She has Arizona and California Professional Engineer’s licenses.

Jeanne Jensen attended Arizona State University where she earned a BSE in Chemical Engineering and a MSE in Civil Environmental Engineering under Dr. Paul Westerhoff. After graduation Jeanne went to work for Damon S. Williams Associates (now Jacobs Engineering Group). Her work as a consultant included DBP Mitigation, plant optimization, GAC and Arsenic studies, and invasive species mitigation for utilities throughout Arizona and the Southwest. Jeanne returned to the public sector in April 2012 to take a position with the City of Tempe. Jeanne now works for the City of Tempe as a Management Assistant in the Water Utilities Division where her responsibilities include: representing the City of Tempe to the Sub-Regional Operating Group (SROG), Emergency Response Planning for the Water Utilities Division and overseeing specialty IT applications within the Environmental Services Section.

A member of AZ Water since 2007, Jeanne has been actively involved with the Young Professionals committee and served as the 2012 YP Committee chair. Additionally, she has served on the Scholarship Endowment and Water Reuse Committees. For the past 4 years, Jeanne has overseen the AZ Water Scholarship Awards which grants over $10,000 annually to students pursuing careers in the water industry. She also served as the Local Host for the Utility Management Conference and YP summit that was hosted in Glendale, AZ in March 2013.

Jeanne and her husband Todd live in Mesa, AZ where they enjoy working on their house and wrangling their 4 dogs. Their son, Connor, is starting middle school in the Fall and keeps them busy with soccer and bike rides. Jeanne is an avid artist – having taught ceramics for almost 11 years with the City of Tempe, she continues to sculpt in her free time.
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Mt. Lemmon Domestic Water Improvement District was awarded the 2012 Drinking Water Project of the Year for their Middle Sabino 6 Project.

Mt. Lemmon’s $1.2 million construction loan provided financing to replace a 1-inch water main with a 6-inch water main line to resolve water pressure problems. The community suffered major fire damage in the 2003 Aspen fire and subsequent flood events and lost 75% of its rate base. After putting FEMA funds to use in recovering from these catastrophes, the District persisted in making improvements to the system. Despite the natural disasters and loss of rate base, the District has demonstrated resilience and persistence in successfully completing its capital improvement projects and continuing to maintain a high quality of service to customers and excellent management of the water system. The award will be presented at the annual Home Owners Association dinner on April 16, 2013.

City of Casa Grande was awarded the 2012 Clean Water Project of the Year for their Water Reclamation Facility Expansion.

With funding provided by a $62.5 million loan, the City of Casa Grande was able to expand the capacity of the Water Reclamation Facility from six to 12 million gallons per day. The project included significant improvements to all stages of the treatment process, upgrading the treatment level to A+ quality water suitable for open-access irrigation uses. Completion of the facility expansion is part of the City’s long term planning goal to maximize use of its reclaimed water. The City Council has approved the design of two new recharge facilities to increase use of the reclaimed water by storing it underground and recovering it to offset groundwater use. Remarkably, the City was able to upgrade the existing capacity and add capacity to the system for less than $9 per gallon. The award was presented at the February 19th City Council meeting.
with a professional colleague. We can get so busy and wrapped up in our daily lives that sometimes we can forget about respecting the schedules and lives of others. This can all result in losing trust. There is a saying that “It takes many years (think about the grains of sand used to make a plane of glass) to build trust (or a plane of glass), but a second to break it.” Once lost, trust is difficult to rebuild and restore.

A way of keeping that balance is to write down goals for your personal life, family, career and your community (giving something back in the way of service, volunteerism, etc.). Regrettably, personal and family are the two areas that suffer and it really does require discipline to maintain a healthy balance. It is easier to achieve (or set) a goal if you commit them to writing and visualize what it is that you want to see happen.

Earlier we had talked about the distractions of mobile devices. These things actually can also be a blessing. There are dozens of free apps that can have a positive impact on your day. Here are a couple of recommendations:

“Mindtools” – packed full of information on such topics as stress management, beating procrastination, building self-confidence, etc. It also has an assessment called a “Life Wheel” which you can download to measure the balance in your life.

“John C. Maxwell, The 5 Levels of Leadership” – summary information and tips from the book. Facebook is another great source of information and if you “Like” the following sites, you will receive daily tips and helpful advice.

Brian Tracy
John Maxwell
Ken Blanchard
Simple Truths
Dale Carnegie
Each of these sites will post daily reminders and inspirational thoughts. This is by far the biggest benefit I have seen from social media.

A Few Closing Thoughts

“Sometimes in order to see the future, you have to look back at the past.”

“Have no regrets. Make your decision and move on. Don’t be afraid to admit that you have made a mistake, and be thankful for a lesson that can avoid making the same mistake in the future.”

“Ships without a compass and captain do not have a sense of direction and soon become lost at sea.” Be your own captain, set goals and keep your focus on what you want to achieve.”

To close, make the most of those 1,440 minutes of each day. Take time for yourself and assess how well you are balancing your time. Stop and smell the roses. Or think about walking down a fairway on the golf course and enjoy the moment. Give more than you receive.

Thank you for the opportunity to continue sharing more lessons of life and leadership. Please feel free to contact me at fkriss@stes.com if you have any questions or thoughts. Also I am very interested in feedback and ideas on ways that you have learned to become a better person and leader.

Have a super fantastic day and make it the best one ever!
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The city of Atlantic City is situated upon Absecon island, a strip of sand nine miles long by approximately one mile in width, five miles from the main shore line of the South Jersey coast.

The fixed population is given in 1915 as 56,000, to which may be added from 50,000 to 400,000 pleasure seeking visitors who are attracted in yearly-increasing numbers by the fame of the resort. The population, therefore, may be figured at approximately 100,000 for the fall and winter season and at about half a million for the summer vacation period. The world-famed Easter crowd, the almost as famous Palm Sunday gathering, with the records for attendance on Washington's and Lincoln's birthdays not far behind, all running from 350,000 upwards, furnish an illustration of what must be done in the way of city equipment to cope with these unusual conditions.

The sewerage system has been designed with the very rapid growth of the resort and its increasing patronage in mind, and will be, when completed, adequate for the requirements of the city for many years to come.

Sewer construction in Atlantic City is a particularly difficult and expensive proposition. The highest point in the town being but 15.8 feet above mean low tide, very nearly all of the construction work is prosecuted in shifting sand and water. Sheet piling, trench pumping, pile foundation work, etc., enter into the constructive operation for every foot of pipe laid.

The city's sewage flows by gravity to a main sump well, where, after screening, it is pumped to a point of disposal two miles outside the city limits.

The topography of the locality necessitates flat sewer grades, which make the stoppage problem one for continual attention. In spite of gross misuse of plumbing fixtures by the majority of the fixed population, as well as the holiday visitors, and the fact that very few grease traps are used, although the numerous hotels discharge large quantities of grease from their kitchens, very favorable decreases in stoppages have been recorded for the past few years, due to increased efficiency in sewer scooping operations.

In 1903 there were 533 main stoppages recorded; during the past several years the figures show decreases as follows: 1913, 257; 1914, 230, and in 1915, 203.

Practically all sewer stoppages in Atlantic City are traceable to grease, though rags are responsible for a large percentage of the trouble. Sand in large quantities is removed from the mains during the bathing season, while miscellaneous articles, from false teeth to stockings, are removed in goodly quantities daily.

The accompanying pictures are illustrative of the extent to which grease and junk accumulate in the sewers of Atlantic City and the appliances used in the removal thereof. An idea of the extent to which scooping operations have to be carried on may be gathered from the record of an operation recently concluded wherein 17 barrels of solid grease blocks, measuring 18 to 30 inches in length by 6 to 10 inches in thickness, were removed from 200 feet of 12-inch sewer pipe. The operation required 5 laborers' time for 11 10-hour days.

A word as to the methods employed in the scooping operations.

A scooping crew comprises five men, who relieve each other at regular intervals, so that two men are at work in each of two manholes continually and one man, while relieved from manhole duty, watches traffic and assists in the loading of refuse containers, which are removed by teams as fast as practicable.

Scooping outfits (except for the portable tool boxes, hand-drawn) consist of interlocking poles, various sized metal scoops, picks, shovels, hatchets, chisels, lanterns, tar, cement, etc., for policing, and two windlasses with from 400 to 600 feet of 3/4-inch cable and various metal grease cutters, etc., for use with the same.

Scooping is effected by either a policing process in lesser operations, or the use of cable and windlass in more stubborn ones.

In policing, a scoop of heavy metal, similar to a grocer's sugar scoop and of a size adapted to the pipe line to be cleared, is attached to the end of an interlocking pole 3 feet long. The scoop is pushed into the main, against the flow of the sewage, and other poles attached as the distance scooped increases. When the scoop is full it is drawn back, its contents transferred to a bucket, which is lifted to the refuse container at the top of the manhole. Two men are required for this operation, which is necessarily very slow.

Where policing fails, the cable and windlass have to be employed, and this process is a greater time consumer than the hand policing operation. A light cord or rope is passed through the section to be cleaned from one manhole to another by means of a float or, in bad cases, interlocking poles must be used to carry the rope through the main. By this there is drawn through the section a heavy rope to which is attached a wire cable. When the cable has been passed through the pipe line, a grease cutter (a spiral steel contrivance, cylindrical in shape,
with sharpened edges, that just fit the inside of the pipes) is attached and, by means of windlass, forced back and forth through the main, scraping the grease from the top and sides of the pipes.

Grease adheres so tenaciously to sewer pipes that the scooping operation is a time consumer and, of course, a very expensive one. The scooping costs for the Atlantic City system run well up into the thousands annually.

In addition to grease and quantities of rags and sand, scooping operations bring to light many articles that are diverted from ash heaps through carelessness, ignorance or possibly design.

The accompanying illustration is an actual photograph of a collection of junk removed from 150 feet of an 8-inch sewer, in addition to six barrels of grease, three barrels of sand, numerous rags, etc. A list follows:

One soup ladle, 5 table spoons, 1 tea spoon, 1 mustard ladle, 1 knife, a harmonica, pistol, atomizer bulb, toilet flush chain and bell, clothes pins, bones, a bed caster, hotel key and tag, pencils, pen holders, combs, broken bottles, candy tongs, hair pins, safety pins, tin boxes, a 2-foot rule, cocktail strainer, briar pipe, clam and oyster shells, ashes, coal, broken china, pumice stone, bathing caps, stockings, underwear, dish cloths, floor cloths, towels, etc.

In order to protect the pumps, which are relied upon for the removal of the city's sewage, from such accumulations of rags, hair, etc., bar screens have been installed at the points of inflow in the main sump well. These screens are arranged in pairs and operated by an electric hoist. The screenings removed from these devices during the summer season average about 1,000 gallons in 24 hours, and through the fall and winter season 300 gallons daily.

Further screening of the city's sewage is being provided for and a plant of 25,000,000 gallons capacity per 24 hours, which is two and a half times the average daily flow as recorded throughout the summer season of 1915, will be in operation shortly. This screening plant is an enlargement of the experimental screening plant which has been in operation here for the past four years. The New Jersey State Board of Health gave its approval to the system of disposal proposed by the company's engineers for the sewage of Atlantic City only after a period of most careful and exhaustive experimentation under the supervision of the state inspectors.

The photograph of the experimental station indicates what can be done in the way of beautification of plants of this nature. The station is located in the centre of Atlantic City's most exclusive residential district. Francis E. Daniels, in Municipal Journal for July 16, 1914, says, regarding the operation of this station: "In one of our plants the sewage is passed successively through screens of graded sizes from coarse bar screens to woven..."
TRIVIA ANSWERS

From the Office of the AZ Water Association Historian

A. Paris, France; Vienna, Austria and Prague, Czech Republic.

B. The early cultures in Greece and Crete. Many early (2000 BCE – 500 AD) cultures struggled to thrive in often harsh environments and topographies. The societies of early Greece and Crete (Minoans) collected and reused sewage (human wastes included) to irrigate/fertilize crops; the Minoans collected rainwater off their building’s roofs to flush/clean sewer mains and latrines; early Minoans drains often had only earthen bottoms – to encourage the recharge of the water being conveyed … as just a few examples.

C. Philadelphia. Installed in 1822. 6” and 8” ID pipe. Made in England – called “Old English” pipe, brought to US by sailing ships. It replaced the previous wood log pipe. The cast iron pipe was “pit cast”.

D. Introduced by Joseph Gayetty in 1857. Made from paper pulp – to which aloe juice as even added (irritated posteriors, etc. were common in early years – wool clothing, riding horses a lot and less than adequate hygiene in that area). Great idea – came in individual sheets; but people could not afford such niceties … besides, they had other “paper” items (newspapers, early catalogs, etc. plus other readily available natural items, etc.) to use or, reuse!! [Note: Rolled/perforated toilet paper would start its introduction starting in the 1880’s – in the US.]

E. “Cloacina” – goddess of the sewers (feminized version of the Latin word for sewers – cloaca); one of over 130 deities (male and female) to whom the Romans prayed for different reasons/purposes.
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To the “Professionals Dedicated to Arizona’s Water”, please join us for the 86th Annual AZ Water Conference and Exhibition. Once again, we are excited the conference and exhibition will be held at the beautiful Renaissance Glendale Hotel & Spa. This venue provides the facilities and services we require as the event continues to grow in both attendance and exhibits.

The 2013 Annual Conference and Exhibition continues to raise the bar of excellence. An incredibly dedicated group of volunteers have a unifying vision to provide the AZ Water Association with something for everyone in the industry; Vendors, Manufacturers, Consultants, Policy & Decision Makers, Regulators, Owners, Operators, Academia Educators, and Elected Officials. This cadre of volunteers, led by John Masche, have spent a tremendous amount of time and energy putting together the conference program.

Our Committee has been able to select from over 200 abstracts submitted to create a program that meets the needs of all in the water and wastewater community. The enthusiasm and dedication of all who submitted should be applauded by the membership. And, with 175 expected exhibits, this is your best opportunity to see the latest in equipment, technology, and services for the water and wastewater industry. Once again, the conference has something for everyone.

This year’s theme: “Sustainable Water, Sustainable Arizona” is very timely as our state continues to embrace the ever changing dynamics of the water profession. The conference will explore the meaning of sustainability. This exploration will begin with a simple and basic meaning defined as the ability to continue. This exploration will expand from this basic context to true WATER SUSTAINABILITY.

Water sustainability requires a symbiotic balance of economic progress, environmental protection, and the wellbeing of people. The vision that Arizona grows where water flows is still very valid. However, we may want to embrace that “Sustainable Arizona Grows Where Sustainable Water Flows” may be more sustaining.

This year’s conference structure has once again been refreshed based upon the extremely helpful feedback we received from last year’s participants. Our conference starts on Wednesday, May 1 with welcome remarks and a brief presentation of a select number of key awards. This short session is immediately followed by six full tracks of technical presentations and a special track for operator training. The Exhibition Hall will open at 10:30 a.m. in grand style with nothing less than a Mariachi Band Procession, Ribbon Cutting by the Mayor of Glendale (invited) and other surprises. Our Keynote Presentation at the Wednesday Luncheon will feature the best-selling author Robert Glennon, followed immediately by a Sustainability Panel. After the panel session will continue the six full tracks of technical presentations and the special track for operator training. We will conclude the day with our first annual Manufacturer’s Exhibition Social Event with light and liquid refreshments, and end with the barbecue at Margaritaville (our conference party).

The second day, Thursday, May 2, is packed with six full tracks of technical presentations and a special track for operator training in the morning and the afternoon. The national representative from the Water Environment Federation will be our featured speaker at our Luncheon followed by a short, very short business meeting.

The conference concludes on Friday, May 3, with the morning packed with six full tracks of technical presentations and once again, a special track for operator training. The national representative from the American Water Works Association will be our featured speaker at our Luncheon. There is a special event planned for Friday afternoon along with three full tracks of technical presentations and operator training. The special event is a panel discussion on the design, operation, and construction of water and wastewater projects. Industry leaders make up the panel and throughout the conference our conference participants will be asked to provide answers to several questions that our experts will be asked on Friday afternoon. The format is “Family Feud” style where the most popular answer wins, but may not be the “best” answer across the expertise of the panel. This should be a great opportunity to see spirited discussion woven through a format of fun.

Looking forward to seeing our “Professionals Dedicated to Arizona’s Water” in Glendale, Arizona for our 86th Annual AZ Water Conference & Exhibition from May 1, 2013 through May 3, 2013 highlighting “Sustainable Water, Sustainable Arizona”!
GENERAL INFORMATION

HOTEL RESERVATIONS
Renaissance Glendale Hotel & Spa
9495 W. Coyotes Boulevard, Glendale, AZ  85305
Special AZ Water Group Rate: $154 single/double. To receive this rate call 1-800-HOTELS1 (1-800-468-3571) and mention the AZ Water Annual Conference.

Reservations must be made by April 19. The hotel will continue to accept reservations at the group rate after the cut-off date, but only if rooms are still available.

CONFERENCE LOCATION
Renaissance Glendale Hotel & Spa
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http://www.renaissanceglendale.com

Sustainable Water Sustainable Arizona

CANCELLATIONS & REFUNDS
If you must cancel your conference enrollment, please notify AZ Water in writing. Cancellations received before the start of the conference will receive a full refund, minus a $35 handling charge. No refunds will be issued for cancellations received after the conference has begun. Refunds will be issued after the conference. Substitutions are allowed for individuals unable to attend the conference.

PROFESSIONAL DEVELOPMENT HOURS
Professional Development Hours (PDHs) are available for attending the opening session, technical sessions, and exhibition. A maximum of 18 PDHs will be awarded based on your attendance. The licensee is responsible for choosing sessions that meet the PDH requirements for their specific certification. AZ Water will issue a certificate to indicate the number of PDHs awarded during the conference, but cannot guarantee that all PDHs will qualify for every licensee.

EXHIBIT INFORMATION
Exhibits will be in the Media Room at the Renaissance Glendale Hotel (in the same vicinity as the meeting rooms & registration). Prize drawings and raffles will be presented during the dedicated exhibit hours on both days. Interested in exhibiting? Go to www.azwater.org and download the exhibitor package.

WEDNESDAY, MAY 1
Exhibit Hall hours .................................................10:30am – 6:30pm
Exhibition Social Event ............................................ 5:00pm – 6:30pm

THURSDAY, MAY 2
Exhibit Hall hours .....................................................8:00am – 3:30pm
Exhibits Close ................................................................................................................ 3:30pm

Save the date for the 2014 87th Annual Conference & Exhibition
May 7-9, 2014

CONTACT INFORMATION
General Information:      ...........................................928-717-9905
Registration:              .............................................520-575-8100
Exhibits:                 .............................................480-940-6923
Golf Tournament:         ...........................................602-275-4303
Web Site:                ....................................................www.azwater.org

REGISTRATION
Registration is located in the meeting room lobby (see page 9). Pre-Registration is highly encouraged, however on-site registration will be accepted. Registration forms should be mailed, faxed, or you may register online at www.azwater.org.

What Does My Registration Include? Admission to all seminar sessions, admission to the exhibit hall (Wednesday and Thursday only), instruction materials, and the following meals.

Online registration is not available for conference speakers, moderators, and assistant moderators. They must register using the form on page 29.

Full Conference Registration:
Breakfast:     W, TH, F
Breaks:       W, TH, F
Lunch:        W, TH, F
Exhibition Social Event: W
Barbecue:     W

One-day Registration:
Wednesday: Breakfast, Breaks, Lunch, Exhibition Social Event, Barbecue
Thursday:    Breakfast, Breaks, Lunch
Friday:      Breakfast, Breaks, Lunch

PARKING INFORMATION
The parking lots to the north and southeast sides of the Hotel do not belong to the Renaissance Glendale Hotel & Spa and therefore are not liable for any damage or towing that may ensue. Currently these parking lots can be used for conference attendees during the day, but are subject to towing if left overnight (signs are posted). Therefore, if you are staying at the Hotel overnight, please use the Hotel parking options.

The Hotel provides self and valet parking. Self parking is available in their covered garage and is accessed hourly up to $10 per day. Each individual guest will be responsible for their own parking charges.

Online registration is available for conference speakers, moderators, and assistant moderators. They must register using the form on page 29.

The Renaissance Glendale Hotel & Spa offers:
- 320 beautifully appointed guest rooms
- Spa Botanica – full-service spa with outdoor treatment rooms
- Center with indoor lap pool and exercise equipment
- Fully-equipped 24-hour business center
- Soleil restaurant serving breakfast, lunch and dinner
- Ray’s lounge with outdoor seating surrounded by water and fire features
- Caffeina’s Marketplace Café – proudly brewing Starbucks® coffee

WEB SITE: .................................................................................................www.azwater.org

CONTACT INFORMATION
General Information:      ...........................................928-717-9905
Registration:              .............................................520-575-8100
Exhibits:                 .............................................480-940-6923
Golf Tournament:         ...........................................602-275-4303
Web Site:                ....................................................www.azwater.org

WEB SITE: .................................................................................................www.azwater.org
# AZ Water 2013 Annual Conference Program — Wednesday, May 1, 2013

**SCHEDULE — WEDNESDAY, May 1, 2013**

<table>
<thead>
<tr>
<th>TIME</th>
<th>MANUFACTURER’S EXHIBITION GRAND OPENING [Media Center]</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00</td>
<td>LUNCHEON / KEYNOTE SPEAKER [Solana A, B, C, D, E]</td>
</tr>
<tr>
<td>1:30 - 2:30</td>
<td>SUSTAINABILITY PANEL [Solana F, G, H &amp; I (combined)]</td>
</tr>
</tbody>
</table>

## MANUFACTURER’S EXHIBIT break [Media Center]

<table>
<thead>
<tr>
<th>TIME</th>
<th>TRACK 1</th>
<th>TRACK 2</th>
<th>TRACK 3</th>
<th>TRACK 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:30 - 3:00</td>
<td>Sustainability - Resource Recovery</td>
<td>Water Resources</td>
<td>Young Professionals</td>
<td>Capital Improvement Programs</td>
</tr>
<tr>
<td>Moderator: Rob Buss</td>
<td>Moderator: Warren Tenney</td>
<td>Moderator: Mike Ambroziak</td>
<td>Moderator: Mike Worlton</td>
<td></td>
</tr>
<tr>
<td>3:00 - 3:30</td>
<td>City of Phoenix Water Services</td>
<td>Tucson Water Booster Pump Energy Efficiency Program</td>
<td>Designing For Your Client from a Municipal Client’s Perspective</td>
<td>The City of Prescott, AZ — Wastewater Treatment Movement into the 21st Century</td>
</tr>
<tr>
<td>Department Energy Efficiency Study</td>
<td>Implementation and Results</td>
<td>What’s the Plan? Examining the Impact the Fourth Management Plan will have on Arizona’s Water Resources</td>
<td>How Will the Operators Like the Design?</td>
<td>Goodyear’s Bullard Water Campus: A Look Back at the Journey</td>
</tr>
<tr>
<td>3:30 - 4:00</td>
<td>Tucson Water Booster Pump Energy Efficiency Program — Implementation and Results</td>
<td>What’s the Plan? Examining the Impact the Fourth Management Plan will have on Arizona’s Water Resources</td>
<td>How Will the Operators Like the Design?</td>
<td>Goodyear’s Bullard Water Campus: A Look Back at the Journey</td>
</tr>
<tr>
<td>4:00 - 4:30</td>
<td>Energy Optimization – Case Study with The Town of Oro Valley, AZ</td>
<td>Designing For Your Client from a Municipal Client’s Perspective</td>
<td>What a Junior Engineer Needs to Know About Specifications</td>
<td>Tucson Water Reclaimed Reservoir Cleanings</td>
</tr>
<tr>
<td>4:30 - 5:00</td>
<td>Energy Efficient UV Upgrade at the Arrowhead Ranch Water Reclamation Facility Phase II</td>
<td>What’s the Plan? Examining the Impact the Fourth Management Plan will have on Arizona’s Water Resources</td>
<td>How Will the Operators Like the Design?</td>
<td>Goodyear’s Bullard Water Campus: A Look Back at the Journey</td>
</tr>
<tr>
<td>5:00 - 6:00</td>
<td>MANUFACTURER’S SOCIAL EVENT [Media Center]</td>
<td></td>
<td></td>
<td>Peoria Remote Site Condition Assessment Program: Seamlessly Serving and Engaging Your Operations Staff with a Long-Term Engineering Program</td>
</tr>
<tr>
<td>6:00 - 8:00</td>
<td>BBQ @ MARGARITAVILLE</td>
<td></td>
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</tr>
</tbody>
</table>
### AZ WATER 2013 ANNUAL CONFERENCE PROGRAM — WEDNESDAY, MAY 1, 2013

**MANUFACTURER’S EXHIBITION ...** Media Center/Renaissance Glendale Hotel  
**TECHNICAL PROGRAM .......... Convention Center/Renaissance Glendale Hotel**

### BREAKFAST [Solana A, B, C, D, E]

### TRACK 5
- **Solana H**  
  - **Water Distribution - Storage**  
    - Moderator: Darlene Helm  
    - The Valley’s First AWWA D110 Type III Concrete Potable Water Storage Tank
  - Welded Steel Water Storage Tanks, Inspection, Assessment, Rehabilitation, and Lessons Learned
  - Evolution of Steel Tank Assessment and Design
  - Strategic Replacement of Aging Water Storage Reservoir Infrastructure

### TRACK 6
- **Solana I**  
  - **Desalination**  
    - Moderator: Doug Berschauer  
    - Evaluating Treatment and Operations Alternatives for the Yuma Desalting Plant
  - Post-Mortem Analyses of Yuma Desalting Plant Membranes
  - Can Lime Sludge from Desalting Operations be used in Alternative Cement Mixtures?
  - Overcoming Inland Concentrate Management Challenges using Pretreatment and Electrodialysis Reversal

### TRACK 7
- **Aurora A - B**  
  - **Operator Training**
  - Wastewater Treatment Operations
  - Wastewater Collection Operations
  - Safety for Operator Certification
  - Plant Management & Administration
  - Information Technology

### TRACK 8
- **Asteria Boardroom**
  - **Committee Meetings**

### MANUFACTURER’S EXHIBITION GRAND OPENING [Media Center]

### LUNCHEON / KEYNOTE SPEAKER [Solana A, B, C, D, E]

### SUSTAINABILITY PANEL [Solana F, G, H & I (combined)]

### MANUFACTURER’S EXHIBITION BREAK [Media Center]

### TRACK 5
- **Water Treatment - Source**  
  - Moderator: Steve Wedwick  
  - Successfully Dealing with Changes in Source Water Quality
  - Tombstone Blending Plan – Water Supply Solution for a Historic City
  - Advanced Oxidation Plant at the Tucson International Airport Area Groundwater Remediation Project (TARP)

### TRACK 6
- **Wastewater Treatment - Operations**  
  - Moderator: Robert Hollander  
  - Anthem WNTIP’s 1000 Year Rain Event
  - Recycle Rate: Too Much of a Good Thing?
  - Does Increasing Solids Retention Time in the Wastewater Treatment Process Affect the Persistence of Antibiotic Resistance Genes?

### TRACK 7
- **Operator Training**  
  - Operator Math
  - Operator Math
  - Disinfection
  - Phoenix Luncheon Program

### TRACK 8
- **Committee Meetings**  
  - Water Distribution
  - Construction
  - Phoenix Luncheon Program
  - Lab – Sampling & Analysis

### MANUFACTURER’S SOCIAL EVENT [Media Center]

### BBQ @ MARGARITAVILLE

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Sessions and speakers are tentative and subject to change. Refer to the final conference program guide when you pick up your registration package.
<table>
<thead>
<tr>
<th>TIME</th>
<th>TRACK 1</th>
<th>TRACK 2</th>
<th>TRACK 3</th>
<th>TRACK 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Constructability Challenges</strong></td>
<td><strong>Water Distribution - Pipelines</strong></td>
<td><strong>Utility Management - Infrastructure</strong></td>
<td><strong>Wastewater Treatment - Process</strong></td>
</tr>
<tr>
<td>8:00 - 8:30</td>
<td>Moderator: Keith Greenberg</td>
<td>Moderator: Jason Fort</td>
<td>Moderator: Fred Kriess</td>
<td>Moderator: Vanessa Chavez</td>
</tr>
<tr>
<td>8:00 - 8:30</td>
<td>Deep in the Hole: Construction Challenges of a Lift Station</td>
<td>Predicting &amp; Preventing Pipeline Failure</td>
<td>Aging Infrastructure – Rehab or Replace?</td>
<td>An Anaerobic Solution to the Aerobic Problems</td>
</tr>
<tr>
<td>8:30 - 9:00</td>
<td>Challenges of Coatings Application in an Operating Chlorine Contact Basin</td>
<td>Air Valves and Hydraulic Transients</td>
<td>Meeting the Challenge of Aging Infrastructure through Effective Condition Assessment</td>
<td>Finalizing Design while Digging to Meet Aggressive Schedule</td>
</tr>
<tr>
<td>9:00 - 9:30</td>
<td>Casa Grande WRF – Construction Phase Lessons Learned</td>
<td>Aging Infrastructure Replacement and Zone Spills within the City of Phoenix</td>
<td>City of Phoenix Water Production August 2012 Turbidity Event</td>
<td>Making the Best of a Sticky Situation</td>
</tr>
<tr>
<td>9:30 - 10:00</td>
<td>Oasis Water Campus Expansion – Fitting 10 Pounds of Stuff on a 5 Pound Site</td>
<td>Effective Microbial Control Strategies for Main Breaks and Depressurization – Final Updates</td>
<td>Managing ADOT’s Remote Water and Wastewater Facilities</td>
<td>MBR Section Process: To Purchase or not to Purchase, that is the Question!</td>
</tr>
<tr>
<td>10:00 - 10:30</td>
<td>Overcoming Project Constraints: Constructability Driven Design Solutions</td>
<td>Planning, Preparation, and Executive of Water Transmission Main Shutdowns and Startups</td>
<td>Water and Wastewater Planning Promotes Advanced Utility Management for the City of Prescott</td>
<td>City of Kingman Arizona Downtown Wastewater Treatment Facility Achieves Effluent Compliance with New Flat Panel MBR Process</td>
</tr>
<tr>
<td>10:30 - 11:00</td>
<td>MANUFACTURER’S EXHIBITION BREAK [Media Center]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:30 - 1:00</td>
<td><strong>LUNCHEON, BUSINESS MEETING, WEF SPEAKER</strong></td>
<td><strong>Construction Projects</strong></td>
<td><strong>Water Resources: Statewide Efforts</strong></td>
<td><strong>Wastewater - Advanced Treatment</strong></td>
</tr>
<tr>
<td>10:00 - 1:30</td>
<td>City of Tempe Johnny G Martinez WTP Quality Upgrades</td>
<td>Securing our Future – Peoria’s Reclaimed Water Recharge Optimization Study</td>
<td>Wetlands and Injection Provide Potential Solutions to Effluent Management Challenges for the City of Sedona WWRP</td>
<td>Validation of Innovative PVC Ultrafiltration Membrane on Secondary Effluent Filtration Through a Cooperative R&amp;D Agreement</td>
</tr>
<tr>
<td>12:30 - 2:00</td>
<td>Construction of a NEW Wastewater Treatment Plant on OLD Route 66</td>
<td>C. C. Cragin Reservoir Water Supply – The History thru Today</td>
<td>Fountain Hills Sanitary District: 40 Years of Zero-Discharge Through Innovation and Persistence</td>
<td>Aeration as Post-treatment to Remove Trihalomethanes – Pilot Demonstration at Ina Road Wastewater Reclamation Facility in Pima County, AZ</td>
</tr>
<tr>
<td>2:00 - 2:30</td>
<td>Plan to Fail if you Fail to Plan – An Insight into MOPOs</td>
<td>City of Flagstaff’s Pipeline of the Past &amp; Pipeline of the Future</td>
<td>Saving 6,500,000 Gallons Per Year – City of Peoria Effluent Process Water Program at the Beardsley WRF</td>
<td>Potable Reuse: West Coast versus East Coast Treatment Approaches and the Implications to Arizona</td>
</tr>
<tr>
<td>2:30 - 3:00</td>
<td>Construction of an Ozone Generation System at an Existing Wastewater Facility</td>
<td>How to Buy a Recharge Project on Credits Instead of Cash and What the CARPA Revealed</td>
<td>GREENER! EASIER! FASTER! Using Life Cycle Inventory and Life Cycle Impact Assessment Database</td>
<td>Modeling Advanced Treatment Trains for Potable Reuse Applications</td>
</tr>
<tr>
<td>3:00 - 3:30</td>
<td>MANUFACTURER’S EXHIBITION BREAK [Media Center]</td>
<td></td>
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</tr>
<tr>
<td>3:30 - 4:00</td>
<td><strong>General Construction</strong></td>
<td><strong>Water for People</strong></td>
<td><strong>Distillation</strong></td>
<td><strong>Wastewater - Pretreatment</strong></td>
</tr>
<tr>
<td></td>
<td>Moderator: Dana Biscan</td>
<td>Moderator: Laura McCasland</td>
<td>Moderator: Robin Bain</td>
<td>Moderator: Jeanne Jensen</td>
</tr>
<tr>
<td>3:30 - 4:00</td>
<td>Pima County RWRD Cured-In-Place Pipe Sewer Rehabilitation</td>
<td>Water For People – Everyone Forever</td>
<td>Solar Membrane Distillation: Desalination for the Navajo Nation</td>
<td>Slug Loads Into WWTPs: Lessons Learned (Part 1 of 2)</td>
</tr>
<tr>
<td>4:00 - 4:30</td>
<td>Teamwork Matters When Delivering a Design-Build-Operate (DBO) Project – The Partnership Story Behind the Pima County Water Campus Design Build Project</td>
<td>Water For People – Arizona Committee</td>
<td>Vacuum Membrane Distillation</td>
<td>Slug Loads Into WWTPs: Lessons Learned (Part 2 of 2)</td>
</tr>
<tr>
<td>4:30 - 5:00</td>
<td>Surface Water Treatment for the Future</td>
<td>International Outreach – EWB Helping the Carlos Pinto Community Improve Their Drinking Water Supply</td>
<td>Optimization of Solar Membrane Distillation</td>
<td>Stormwater Screening for Commercial Wastewater Inspectors</td>
</tr>
</tbody>
</table>

Sessions and speakers are tentative and subject to change. Refer to the final conference program guide when you pick up your registration package.
## AZ WATER 2013 ANNUAL CONFERENCE PROGRAM — THURSDAY, MAY 2, 2013

### MANUFACTURER’S EXHIBITION

<table>
<thead>
<tr>
<th>Track</th>
<th>Session</th>
<th>Speaker</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Water Treatment - Startup &amp; Optimization</td>
<td>Richard Sacks</td>
<td>Media Center</td>
</tr>
<tr>
<td>6</td>
<td>Collection Systems</td>
<td>Eric French</td>
<td>Media Center</td>
</tr>
<tr>
<td>7</td>
<td>Operator Training</td>
<td></td>
<td>Media Center</td>
</tr>
<tr>
<td>8</td>
<td>Committee Meetings</td>
<td></td>
<td>Media Center</td>
</tr>
</tbody>
</table>

### TECHNICAL PROGRAM

<table>
<thead>
<tr>
<th>Track</th>
<th>Session</th>
<th>Speaker</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Water Treatment - Aeration</td>
<td>Richard Sacks</td>
<td>Media Center</td>
</tr>
<tr>
<td>6</td>
<td>Collection Systems - Condition &amp; Rehab</td>
<td>Eric French</td>
<td>Media Center</td>
</tr>
<tr>
<td>7</td>
<td>Operator Training</td>
<td></td>
<td>Media Center</td>
</tr>
<tr>
<td>8</td>
<td>Committee Meetings</td>
<td></td>
<td>Media Center</td>
</tr>
</tbody>
</table>

### MANUFACTURER’S EXHIBITION BREAK

- **Breakfast**
  - Hotel Ballroom
  - Media Center

### LUNCHEON, BUSINESS MEETING, WEF SPEAKER

- **Lunch**
  - Hotel Ballroom
  - Media Center

### MANUFACTURER’S EXHIBITION BREAK

- **Breakfast**
  - Hotel Ballroom
  - Media Center

### SCHEDULE — THURSDAY, May 2, 2013

**SESSIONS AND SPEAKERS ARE TENTATIVE AND SUBJECT TO CHANGE. REFER TO THE FINAL CONFERENCE PROGRAM GUIDE WHEN YOU PICK UP YOUR REGISTRATION PACKAGE.**
## AZ WATER 2013 ANNUAL CONFERENCE PROGRAM — FRIDAY, MAY 3, 2013

### TECHNICAL PROGRAM

**Convention Center/Renaissance Glendale Hotel**

<table>
<thead>
<tr>
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<th>TRACK 3</th>
<th>TRACK 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 - 8:30</td>
<td>BREAK [Solana A, B, C, D, E]</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>8:00 - 8:30</td>
<td>Research</td>
<td>Groundwater</td>
<td>Capital Improvement Programs</td>
<td>Water Resources Efficiency &amp; Planning</td>
</tr>
<tr>
<td></td>
<td>Moderator: Kevin Rose</td>
<td>Moderator: Asha Pai</td>
<td>Moderator: Mike Worlton</td>
<td>Moderator: Wolly Wilson</td>
</tr>
<tr>
<td>8:30 - 9:00</td>
<td>Use of Wastewater Treatment Process Flows to Predict Environmental Occurrence and Fate of Manmade Chemicals</td>
<td>Out with the Oil, in with the New... Water-Flush Line-Shaft Turbine Pumps and Their Applications</td>
<td>Main Replacement Program for the Aging Bisbee Water System</td>
<td>Incorporating Industrial, Commercial and Institutional Water Efficiency in Municipal Water Resources Planning</td>
</tr>
<tr>
<td>9:00 - 9:30</td>
<td>Presence and Survival of Legionella in Drinking Water Distribution Systems</td>
<td>Capitalizing on Capacity Analyses</td>
<td>Project Delivery &amp; CMOM Compliance</td>
<td>Uncertainty Within Water Demand</td>
</tr>
<tr>
<td>9:30 - 10:30</td>
<td>Simultaneous Removal of Hexavalent Chromium and Arsenic by Commercially Available Sorbents</td>
<td>A Workshop Forum; Dry Cell Hammering &amp; Other Exceptions (and Resolutions) for the SRV Groundwater Flow Model</td>
<td>Keeping Track of 1.94 Billion Gallons Per Day – Flowmeter Replacement at the Central Arizona Project</td>
<td>Projecting The Future – Forming a Sound Basis for Water Demand Estimates</td>
</tr>
<tr>
<td>10:00 - 11:00</td>
<td>BREAK [Lobby]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00 - 10:30</td>
<td>Research</td>
<td>Water Quality</td>
<td>AZWARN / Security - Planning</td>
<td>Water Resources Workshop</td>
</tr>
<tr>
<td></td>
<td>Moderator: Kevin Rose</td>
<td>Moderator: Asha Pai</td>
<td>Moderator: Tom Parker</td>
<td>Moderator: Tim Thomure</td>
</tr>
<tr>
<td>10:30 - 11:00</td>
<td>Nanocomposite Membranes for Water Purification</td>
<td>Technology Transfer of a Cryptosporidium Slide Genotyping Method to a Water Utility</td>
<td>Security Scorecard</td>
<td>Arizona’s Water Resources 101: Our Supplies, Demands, and Management Tools</td>
</tr>
<tr>
<td>11:30 - 12:00</td>
<td>Rapid Evaluation of Physical Water Treatment Efficacy Using an Ion Selective Electrode</td>
<td>Are You Ready for a cVOC Group Regulation?</td>
<td>RAMCAP J100 Standard</td>
<td>Scenario Planning: The Colorado River Basin Water Supply and Demand Study</td>
</tr>
<tr>
<td>12:00 - 1:30</td>
<td>LUNCHEON, GAVEL PASSING, AND AWWA SPEAKER [Solana A, B, C, D, E]</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**REGISTRATION 7:00 - 5:00**

**AZ WARN / Security - Planning**

**Moderator: John Cummings**

**AZWARN / Security - Planning Panel Discussion**

**What? Water Harvesting Assessment Tool**

**Moderator: John Cummings**

**Enhancing the Steps of Sustainable Project Delivery**

**Moderator: Larry Ayers**

### Sessions and Speakers are Tentative and Subject to Change

Refer to the final conference program guide when you pick up your registration package.
## Technical Program

### Convention Center/Renaissance Glendale Hotel

**Breakfast [Solana A, B, C, D, E]**

<table>
<thead>
<tr>
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<th>Track 7</th>
<th>Track 8</th>
</tr>
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<tbody>
<tr>
<td>Solana H</td>
<td>Solana I</td>
<td>Aurora A - B</td>
<td>Asteria Boardroom</td>
</tr>
</tbody>
</table>

**Track 5: Electric / I&C**
- Moderator: Tom Braatelien
  - Advanced Facility Automation Enables Innovative Treatment Solutions For Pima County
  - Process Optimization – One Instrument and Process at a Time for Giant Gains in Treatment Efficiency
  - Turning Data Into Action to Drive System Optimization and Performance
  - Get the I&C You need from Design Engineers

**Track 6: Water Treatment**
- Moderator: Lisa A. Jackson
  - Full-Scale Demonstrations of Engineered Biofiltration
  - Characterizing Biofiltration at Peoria’s Greenway Water Treatment Plant
  - Conception and Realization of a State-of-the-Art Activated Carbon Reactivation Facility in Gila Bend, AZ

**Track 7: Operator Training**
- Basic Electricity
- Instrumentation
- Plant Maintenance
- Pumps & Hydraulics
- AZWARN

**Track 8: Committee Meetings**
- Leadership
- Budget & Finance
- Scholarships

### Break [Lobby]

<table>
<thead>
<tr>
<th>Special Topics</th>
<th>Utility Management - Leadership</th>
<th>Operator Training</th>
<th>Committee Meetings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderator: Kathy Mills</td>
<td>Moderator: Jeanne Jensen</td>
<td>Operator Safety</td>
<td>Wastewater Treatment</td>
</tr>
<tr>
<td>Cost-Effective Solutions for Environmental Infrastructure Projects</td>
<td>How to Achieve Peak Performance and Become a More Effective Leader</td>
<td>Operator Math</td>
<td>Awards</td>
</tr>
<tr>
<td>Backflow Regulations and Golf Course Partnering</td>
<td>Effective Utility Management: Challenges, Priorities and Objectives</td>
<td>How Do We Measure Success?</td>
<td>Water Treatment Committee</td>
</tr>
<tr>
<td>CFD Modeling – A Cost Effective Tool for Solving Flow Problems in Water and Wastewater Engineering</td>
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</tr>
</tbody>
</table>

### Luncheon, Gavel Passing, and AWWA Speaker [Solana A, B, C, D, E]

**Pipeline Answers**

**Water Treatment Grades 1 & 2**
- 1. C
- 2. D
- 3. C
- 4. A
- 5. B

**Water Treatment Grades 3 & 4**
- 1. A
- 2. A
- 3. D
- 4. A
- 5. C

**Water Distribution Grades 1 & 2**
- 1. C
- 2. B
- 3. A
- 4. C
- 5. A

**Water Distribution Grades 3 & 4**
- 1. C
- 2. C
- 3. D
- 4. C
- 5. B

**Wastewater Collection Grades 1 & 2**
- 1. B
- 2. D
- 3. B
- 4. D
- 5. C

**Wastewater Collection Grades 3 & 4**
- 1. B
- 2. C
- 3. C
- 4. B
- 5. E

**Wastewater Treatment Grades 1 & 2**
- 1. C
- 2. B
- 3. C
- 4. A
- 5. C

**Wastewater Treatment Grades 3 & 4**
- 1. B
- 2. C
- 3. B
- 4. A
- 5. A

See questions on page 24
REGISTRATION FORM

86TH ANNUAL CONFERENCE & EXHIBITION — MAY 1-3, 2013

One Registrant Per Form

NAME ________________________________________________________ BADGE NAME ________________________________________________________
EMPLOYER ________________________________________________________ TITLE __________________________________________________________
ADDRESS ________________________________________________________ CITY/STATE/ZIP _____________________________________________
PHONE/FAX ________________________________________________________ E-MAIL _________________________________________________________

ONLINE REGISTRATION IS NOT AVAILABLE IF YOU ARE A SPEAKER, MODERATOR, OR ASSISTANT MODERATOR. PLEASE SUBMIT THIS FORM.

PLEASE CHECK HERE IF YOU ARE A SPEAKER ☐ DAY(S) SPEAKING __________________________
PLEASE CHECK HERE IF YOU ARE A MODERATOR ☐ DAY(S) MODERATING ___________________
PLEASE CHECK HERE IF YOU ARE AN ASSISTANT MODERATOR ☐ DAY(S) ASSISTING ___________________
PLEASE CHECK HERE IF YOU REQUIRE A VEGETARIAN MEAL ☐
DO YOU REQUIRE ANY SPECIAL ACCOMMODATIONS TO FULLY PARTICIPATE? ______________________________________________________________________________

REGISTRATION CATEGORY

MEMBER

<table>
<thead>
<tr>
<th>FULL ANNUAL CONFERENCE</th>
<th>May 1 - May 3, 2013</th>
<th>Member Non-Member</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Bird</td>
<td>$340</td>
<td>$390</td>
<td>$430</td>
</tr>
<tr>
<td>After 4/12/13</td>
<td>$380</td>
<td></td>
<td></td>
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</tbody>
</table>

EXHIBITION SOCIAL EVENT Wednesday

Barbecue Wednesday

Are You Attending the Barbecue? Yes ☐ No ☐

ONE DAY REGISTRATION Wednesday, May 1

Includes Sessions/Exhibits

<table>
<thead>
<tr>
<th>Breakfast</th>
<th>Lunch</th>
<th>Breaks</th>
<th>W</th>
<th>TH</th>
<th>F</th>
</tr>
</thead>
</table>

Exhibition Social Event Wednesday

Barbecue Wednesday

Are You Attending the Barbecue? Yes ☐ No ☐

Thursday, May 2

Includes Sessions/Exhibits

<table>
<thead>
<tr>
<th>Breakfast</th>
<th>Breaks</th>
<th>Lunch</th>
</tr>
</thead>
</table>

Friday, May 3

Includes Sessions

<table>
<thead>
<tr>
<th>Breakfast</th>
<th>Break</th>
<th>Lunch</th>
</tr>
</thead>
</table>

STUDENTS

Sessions & Exhibits Free (meals extra)

OPTIONAL EVENTS

Golf Tournament Tuesday, April 30 Use enclosed registration form

EXTRA MEAL TICKETS

Keynote Luncheon Program Wednesday, May 1

<table>
<thead>
<tr>
<th>Lunch</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>$35.00</td>
<td></td>
</tr>
</tbody>
</table>

Barbecue (children 5 and under free) Wednesday, May 1

<table>
<thead>
<tr>
<th>Lunch</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>$35.00</td>
<td></td>
</tr>
</tbody>
</table>

Barbecue (children 6 to 12) Wednesday, May 1

<table>
<thead>
<tr>
<th>Lunch</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>$10.00</td>
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</tbody>
</table>

Luncheon Program Thursday, May 2

<table>
<thead>
<tr>
<th>Lunch</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>$35.00</td>
<td></td>
</tr>
</tbody>
</table>

Luncheon Program Friday, May 3

<table>
<thead>
<tr>
<th>Lunch</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>$35.00</td>
<td></td>
</tr>
</tbody>
</table>

AZ WATER MEMBERSHIP RENEWAL (if not current)

<table>
<thead>
<tr>
<th>Lunch</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>$45.00</td>
<td></td>
</tr>
</tbody>
</table>

AZ WATER NEW MEMBERSHIP

<table>
<thead>
<tr>
<th>Lunch</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>$45.00</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL ENCLOSED

Make checks payable to "AZ Water" & mail to:

Conference Registrar c/o Metro Water
P.O. Box 36870
Tucson, AZ 85740
Fax to: 520-877-1189

<table>
<thead>
<tr>
<th>Mastercard</th>
<th>VISA</th>
<th>American Express</th>
<th>Check Enclosed</th>
<th>Municipal PO #</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Credit Card Number ______________________________________
Expiration Date _________________________________________
Cardholder Name _________________________________________
Cardholder Signature ___________________________________
Email Address for Receipt _________________________________
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Litchfield Park, AZ 85340
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Fax: 623-399-4208
info@ReacoAssociates.com
www.ReacoAssociates.com
GENERAL CONFERENCE INFORMATION

Location

On site: All conference sessions will be held at Little America Hotel in Flagstaff

Off site: The General Session and Session A on Monday and Session A and Planning for the Future on Tuesday will be Webcast at the following off-site locations:

- Tucson: Water & Energy Sustainability Center (WESC) Pima County Wastewater Reclamation - 3035 W. El Camino del Cerro, Tucson, AZ
- Phoenix: Phoenix Water Services Department (9th floor Training room) City Hall - 200 West Washington Street, Phoenix, AZ

Off-site registration is limited to the first 30 registrants per location.

Meals

On site: Included in the conference registration fee are daily meals including continental breakfast, snacks and refreshments at breaks, and lunch and dinner on Thursday.

Off site: Lunch and refreshments will be provided.

Cancellation and Refunds

If you must cancel your conference enrollment, please notify Debbie Muse at musegroup@aol.com. No refunds will be issued for cancellations received after the conference begins. Substitutions are allowed for individuals unable to attend the conference.

Professional Development Hours

Professional Development Hours (PDHs) are available for attending the conference technical sessions. A maximum of 8.5 PDHs may be awarded based upon your attendance. Participants will be issued a certificate to indicate the number of PDHs attended during the conference.

CONFERENCE SPONSORS

If your company or organization is interested in sponsoring the conference at any level, please contact Guy Carpenter at 602-689-2678 or gcarpenter@carollo.com for a sponsorship prospectus.
# Arizona Water Reuse 2013 Conference Agenda

## Monday, July 15th

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 - 9:00 am</td>
<td>Registration &amp; Continental Breakfast</td>
</tr>
<tr>
<td>9:00 - 10:00 am</td>
<td><strong>General Session</strong></td>
</tr>
<tr>
<td></td>
<td>Welcome &amp; Introduction—Tim Thomure (HDR Engineering) &amp; Teresa Smith-Dehesus (Black &amp; Veatch)</td>
</tr>
<tr>
<td></td>
<td>Keynote Address—Brian Good, (Denver Water, WaterReuse Association President)</td>
</tr>
<tr>
<td>10:00 - 10:30 am</td>
<td><strong>Break</strong></td>
</tr>
<tr>
<td>10:30 am - 12:00 pm</td>
<td><strong>Putting Our Finger on the Pulse</strong></td>
</tr>
<tr>
<td></td>
<td>EPA Water Reuse Guidelines—Joel Rife (CDM Smith)</td>
</tr>
<tr>
<td></td>
<td>Update on DPR Planning in Texas &amp; California—Alan Plummer (Alan Plummer &amp; Associates) and Andy Salveson (Carollo Engineers) - invited</td>
</tr>
<tr>
<td>12:15 - 1:30 pm</td>
<td><strong>Lunch &amp; WaterReuse Arizona Update &amp; Engagement</strong></td>
</tr>
<tr>
<td>1:30 - 3:00 pm</td>
<td><strong>Session A1</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Utility Perspectives</strong></td>
</tr>
<tr>
<td></td>
<td>Aquifer Storage &amp; Recovery—Doug Toy (City of Chandler)</td>
</tr>
<tr>
<td></td>
<td>Maximizing Efficiency in Provision of Wastewater and Reuse Services—Chris Hassert (City of Scottsdale) &amp; Ben Lee (Water Works Engineers)</td>
</tr>
<tr>
<td></td>
<td>Reclaimed Water Rate Setting—TBD</td>
</tr>
<tr>
<td>3:00 - 3:30 pm</td>
<td><strong>Break</strong></td>
</tr>
<tr>
<td>3:30 - 5:00 pm</td>
<td><strong>Session A2</strong></td>
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<tr>
<td></td>
<td><strong>Technology Solutions</strong></td>
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<td></td>
<td>Basin Recharge &amp; Soil Aquifer Treatment—Peter Fox (ASU)</td>
</tr>
<tr>
<td></td>
<td>Managing Brine—Erich Lais (City of Phoenix)</td>
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<tr>
<td></td>
<td>Injection Well Design—Gary Gin (City of Phoenix)</td>
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<tr>
<td>6:00 - 9:00 pm</td>
<td><strong>Dinner &amp; Awards at Little America</strong></td>
</tr>
</tbody>
</table>

## Tuesday, July 16th

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 - 8:30 am</td>
<td>Registration &amp; Continental Breakfast</td>
</tr>
<tr>
<td>8:30 - 10:00 am</td>
<td><strong>Session A3</strong></td>
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<tr>
<td></td>
<td><strong>Arizona Case Studies</strong></td>
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<td></td>
<td>Role of Reclaimed Water in the CAGRD Plan of Operation—Dennis Rule (CAGRD)</td>
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<td></td>
<td>Tucson’s SHARP Step Toward Total Reuse—Wally Wilson (Tucson Water)</td>
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<td></td>
<td>Outcomes of the ASU “Frontiers in Water Reuse Workshop”—John Sabo (ASU) - invited</td>
</tr>
<tr>
<td>10:00 - 10:30 am</td>
<td><strong>Break</strong></td>
</tr>
<tr>
<td>10:30 am - 12:00 pm</td>
<td><strong>Planning for the Future</strong></td>
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<td></td>
<td>Watering the Sun Corridor—Grady Gammage (Gammage &amp; Burnham)</td>
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<td>Update on Advisory Panel on Emerging Contaminants (APEC)—Mike Fulton (ADEQ)</td>
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<tr>
<td></td>
<td>Steering Committee on Arizona Potable Reuse (SCAPR)—Tim Thomure (HDR Engineering)</td>
</tr>
</tbody>
</table>

Seminar topics and speakers are subject to change without prior notice. See Web site (www.azwater.org) for updates. For more information please visit the AZ Water Association Web site at www.azwater.org. You may also contact Deborah Muse by e-mail at musegroup@aol.com, by phone at 928-717-9905, or by FAX at 928-717-9910.
providers. As Deputy Manager, I have worked closely with Mark on many water-related issues. We also have been dedicated members of AZ Water. If I have learned anything from Mark, it is his sense of logic, planning and focus when he develops a plan. Mark has led Metro Water District well over the years by utilizing these special tools. Additionally, Mark is a dedicated volunteer; his years of leading the Water Buffalos and other Water For People fund raising efforts have generated large sums of money that otherwise would have been zero, had it not been for Mark’s efforts. To me, this effort translates into saving lives and making a precious resource available to the neediest of our fellow humans.

There are others I need to mention that have made my profession thoroughly enjoyable. Dave Petty of Scottsdale – I met Dave a long time ago and will never forget Dave telling me of the City’s proactive approach to replacing over 50,000 existing polybutylene services with copper. I was impressed with the foresight and am certain Dave had much to do with influencing the decision to be proactive. I met Jeff Biggs about 10 years ago and also was impressed with his role as operating the Hayden / Udahl treatment plant in Tucson. Jeff recently received the AWWA Life Member Award for 30 years of service. I met John Warner in my interview day with Metro Water back in 1994. I believe John was mostly responsible for mentioning to the interview panel that I might be a good choice for Superintendent. I hope I did not let John down, or any one I have worked for in this perspective.

These three gentlemen and I have one thing in common, we respect our professions and have dedicated decades of our lives to something we truly love. Now, I can take my experience and share with others including sons-in-laws Jason Tanwater and Geoff Caron who are also “Professionals Dedicated to Arizona’s Water”. It has been truly an honor to service as your President this year!

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Presidents Report

continued from page 4

WEF Delegate Report

continued from page 10

We need your voice. Help educate the public and decision makers that Water Puts America to Work – Investment in Water Infrastructure Creates Jobs, Drives Innovation, and Safeguards Public Health. Ask elected officials what they intend to do to address our nation’s water infrastructure crisis; ask them to put America to work by making water a top priority. Use social media to deliver the campaign message and visit WaterForJobs.org for more information on how you can support this effort.

Let People Know: Water Puts America to Work!

WEF, AWWA, NACWA and other water partners will be hosting the Water for Jobs Summit the morning of Tuesday, April 16 at the Ronald Reagan Building in Washington, DC. For more information, including a complete list of sponsoring organizations and event details, see www.waterforjobs.org. Following this separate event, WEF and AWWA will hold their third joint Water Matters Congressional Fly-In on April 17-18 in Washington, DC. The Fly-In provides an opportunity for water professionals to carry a united message about the value of water and benefits of water investment directly to their elected officials. I will be attending this event and would like to hear from you. Please contact me if I can help you or your organization.

Together we are AZ Water!
Pima County Water Reclamation Facilities Tour

A tour of Pima County Regional and the Ina Road Water Reclamation Facilities (WRFs) was hosted by CH2M Hill and the Pima County Regional Wastewater Reclamation Department on February 13, 2013. Thanks to the organizers of this tour!

Ina Road WRF - Secondary Clarifiers under construction.

About 30 persons participated in the tour of the two WRFs.

Pima County Regional WRF – Filters under construction.

Ina Road WRF - Digester.

Pima County Regional WRF – Outfall Structure.

Please visit the Wastewater Treatment Committee’s website for information about future tour, webinar and conference events, committee meetings and continuing education, design, operations and maintenance, operator and regulatory resources.

AZ Water Association – Wastewater Treatment Committee
Doug Kobrick, Committee Chair
Telephone: (480) 538-1513
E-Mail: doug.kobrick@atkinsglobal.com
Website: www.azwater.org/Committees/WastewaterTreatment/Pages/Home.aspx
CITY OF CASA GRANDE WORKSHOP
ENVIRONMENTAL WORKSHOP – TRAINING with 5 FREE PDHS

* FREE OF CHARGE    * CONTINENTAL BREAKFAST   * DOOR PRIZE

Monday – April 22, 2013    8:45AM – 2:50PM

FRANCISCO GRANDE SPORTS WORLD
at the Francisco Grande Hotel & Golf Resort
N. E. Quadrant of GSW Building – Classrooms 165, 166, 167.
12684 West Gila Bend Highway, Casa Grande, Arizona 85193    (800-237-4238)

Thank You & APPRECIATION to the City of Casa Grande

---

8:45-9:00 Welcome Presentation – Dianne Frydrych & Brian Merritt, LEGEND
9:00-9:50 Hands on Sampling Techniques – Brian Merritt & Dianne Frydrych, LEGEND
10:00-10:50 Operator Certification – Bill Reed, ADEQ
11:00-11:50 Disinfection By-Products Rule: Transitioning from Stage 1 to Stage 2, Part One
                        Donna Calderon, ADEQ
12:00-1:00 LUNCH
1:00-1:50 Disinfection By-Products Rule: Transitioning from Stage 1 to Stage 2, Part Two
                        Donna Calderon, ADEQ
2:00-2:50 How to fill out the NEW Stage 2 DBP Forms and OEL Forms
                        Donna Calderon - ADEQ

---

LEGEND would also like to thank ADEQ for their dedicated concern to ensure Operators are updated and have the capability to obtain their needed PDHs Free of Charge.

LEGEND has been giving Workshops since 2002 throughout Arizona.

RSVP to dfrydrych@legend-group.com as seating is limited and filling up fast.

Legend Technical Services of Arizona, Inc. (LEGEND), a full-service environmental laboratory, is providing assistance to water and wastewater operators and the environmental community in obtaining training and professional development hours (PDHs) through free workshops held throughout Arizona. Workshops will be held in outreach areas as well as in the Phoenix and Tucson metropolitan regions.

Check the AZ Water Association website (www.azwater.org) for upcoming workshops.
AZ Water Association Membership Form

This information will be added to our database and used to inform you of opportunities specific to your needs. Your contact information will also be used in our annual membership directory. If you do not want this information published in our annual directory, please check here ☐.

Please Print

Full Name _______________________________________________________________________________________________________________
Title ____________________________________________________________________________________________________________________
Business (if applicable) ____________________________________________________________________________________________________
Address _________________________________________________________________________________________________________________
City/State/Zip ____________________________________________________________________________________________________________
Phone ____________________________________________________ Fax _____________________________________________________
Email ___________________________________________________ Web Site ________________________________________________
Sponsor _________________________________________________________________________________________________________________

Check here if you are a current member of: ☐ AWWA  ☐ WEF

Please help us serve you better by indicating the categories that best describe your business/industry, environmental focus, job title, and field services (if one is more prominent than another, please indicate so).

BUSINESS INDUSTRY

Government
☐ public owned municipal or special district, water, wastewater treatment system or plant processing > 1mgd
☐ public owned municipal or special district, water, wastewater treatment system or plant process < 1mgd
☐ administration and/or enforcement of government environment programs
☐ administration of public health programs

Private Entity
☐ private or investor owned facility
☐ private industrial systems
☐ consultant
☐ contractor
☐ manufacturer (equipment or representative)
☐ distributor (equipment or representative)

Other Entities
☐ educational institutions
☐ research laboratory
☐ other _________________________

FIELD SERVED
☐ water supply only
☐ wastewater only
☐ both industries
☐ other _________________________

ENVIRONMENTAL FOCUS
☐ wastewater
☐ water
☐ process water
☐ ground water
☐ solid waste
☐ storm water
☐ pollution prevention
☐ residual/biosolids management
☐ coastal, river, lake ecology/ surface water
☐ toxic & hazardous materials
☐ public education / information
☐ instrumentation/automation controls
☐ other _________________________

JOB TITLE
☐ EXECUTIVE: commissioner, board member, city manager, mayor, president, vice president, owner, partner, director
☐ MANAGEMENT: division head, section head, manager, chief engineer, comptroller, etc.
☐ ENGINEERING/NON MANAGERIAL: civil engineer, mechanical engineer, environmental engineer, planning manager, field engineer, system designer
☐ SCIENTIFIC/NON MANAGERIAL: chemist, biologist, biophysicist, researcher, analyst, etc.
☐ PURCHASING: purchasing agent, procurement specialist, buyer
☐ OPERATIONS: foremen, operator, maintenance, crewman, service representative, etc.
☐ MARKETING & SALES-NON MANAGERIAL: market analyst, marketing representative, sales representative, etc.
☐ STUDENT
☐ RETIRED INDUSTRY REPRESENTATIVE
☐ OTHER _________________________

Member Dues are Subject to Change

☐ Individual Annual Membership — $45  ☐ Student Annual Membership — $15

RETURN YOUR MEMBERSHIP APPLICATION ALONG WITH ANNUAL DUES TO:
AZ Water Association
1042 Willow Creek Rd., A101-510 • Prescott, AZ 86301

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C: 623.521.5265
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- Treatment

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- Civil, Environmental, Sanitary, and Geological Engineering
- Landscape Architecture

AZ Water Association  Spring 2013
Innovative Valve and Control Products

**RED VALVE PRODUCTS**

**AIR OPERATED PINCH VALVES**
First introduced by Red Valve, the Type A Pinch Valve is the most economical automatic valve on the market today. Large Diameter Megaflex Pinch Valves are ideal for influent control, with a full port opening, no moving parts and no external actuator. Sizes 1/8” to 96”.

**CONTROL VALVES**
Red Valve’s Control Valves offer maximum durability with precise control. The self-cleaning elastomer sleeve trim offers a 20:1 turn-down ratio and 0.89 recovery factor, while eliminating cavitation and scaling and bridging of slurries. Available with custom sleeve trims. Sizes 1/2” to 60”.

**MANUAL PINCH VALVES**
Manual Pinch Valves from Red Valve are designed for use on abrasive and corrosive slurries. The elastomer sleeve provides excellent wear resistance and ensures the operating torque remains constant. Sizes 1/2” to 96”.

**KNIFEGATE VALVES**
Red Valve’s Knife Gate Valve is a heavy duty, rugged engineered product for operator dependability, low maintenance, and excellent abrasion resistance. Available with metal or resilient seats. Sizes 3” to 72”.

**PRESSURE SENSORS**
Providing a full 360° pressure reading, Red Valve Pressure Sensors are the industry standard for protecting instrumentation and ensuring accurate, dependable pressure measurement. Ideal for progressive cavity pump protection.

**REDFLEX® EXPANSION JOINTS**
Redflex® Expansion Joints, reducers, rubber pipe, vibration pipe, and rubber fittings are the industry standard. Sizes 1” to 120”.

**TIDEFLEX PRODUCTS**

**TIDEFLEX® CHECK VALVES**
The revolutionary Tideflex® check valve stands alone as the product of choice for backflow prevention, replacing high maintenance flap gates. Sizes 1” to 96”.

**TIDEFLEX® INLINE CHECK VALVES**
Designed with the revolutionary Tideflex® Check Valve technology, the Series 39 Inline Check Valve provides maintenance-free backflow prevention on slurries and other hard-to-handle flow media.

**AERATION SYSTEMS**
Our Coarse Bubble Aeration improves mixing by increasing jet velocity, while preventing backflow and plugging of the diffuser manifold. We provide complete engineer design services.

**TIDEFLEX CHECKMATE**
CheckMate™ Inline Check Valve is ideal for backflow prevention and odor mitigation. In outfalls, stormwater, CSO and SSO applications, the CheckMate’s™ custom-engineered, all-rubber unibody design eliminates costly backflow.

**WATERFLEX® CHECK VALVES**
The unique wafer thin elastomer Waterflex® Check Valve provides reliable backflow prevention for potable water applications. With no moving parts that require maintenance or repairs, operational costs are low and service life is long.

West Tech Equipment
623-476-5600 office
623-249-4482 fax
sales@westtechequipment.com
Vertical Bar Screen
Screentec by Aqualitec

- Protects pumps from rags and debris
- Fits into narrow and deep structures
- Requires minimal and easy maintenance

The mechanical vertical bar screen Screentec can be installed in many applications including Headworks, Lift/Pump Stations, Deep Wells and Manholes. Due to its vertical design, Screentec can retrofit any kind of structure with minimal or no changes. Aqualitec: Keep it simple.

For more information, please contact Aqualitec at 1-877-278-2214 or by email at info@aqualitec.com