

December 2012/January 2013



Newsletter of the Trinity River Authority of Texas

Elm Fork Interceptor replacement wraps up ahead of schedule, under budget





TRA hosts discussion of gender and cultural diversity in water leadership



Northern Region Engineering Services Manager and Chairman of the TAWWA Diversity Committee Ron Tamada; Northern Region Operations Manager Julie Hunt; Northern Region Manager Fiona Allen; Northern Region Technical Services Manager Cynthia Belvin; Chief Financial Officer Alison Mackey; Northern Region Engineering Services Manager Karen Stafford-Brown and Panel Moderator Meg Arnold made the discussion a success.

In early January, the Trinity River Authority hosted a panel discussion titled “Women in Water Leadership,” featuring five female leaders at TRA. The group discussed their respective introductions to the water industry, their mentors and the future of gender and cultural diversity in the water industry.

“Women are historically under-represented in the water industry,” said TRA Northern Region Manager of Engineering Services Ron Tamada, chairman of the Texas Section of the American Water Works Association Diversity

Committee and organizer of the event. “This discussion was a great opportunity to share with our industry how the leadership of TRA has evolved in recent years and also to explore ways to further encourage and incorporate diverse viewpoints and backgrounds within our industry.”

A video recording of the discussion will soon be available via TRA’s website, along with the sites for TAWWA and the Water Environment Association of Texas. The February/March issue of *inTRA* will also include a more detailed transcript of the discussion.

TRA welcomes new board members

Gov. Rick Perry has appointed Henry Borbolla III of Fort Worth and Tom Fordyce of Huntsville to the Trinity River Authority board of directors.

Borbolla is vice president of Community Bank. He is a board member of the Fort Worth Convention and Visitors Bureau, the Downtown Fort Worth Design Review Board, the University of North Texas Health Science Center Foundation, the Tarrant County Housing Partnership Inc., the Bobby Bragan Youth Foundation, and the Fort Worth Day Resource Center for the Homeless. He is also a member of the Fort Worth Rotary Club, a board member and treasurer of the Fort Worth Casa Mañana Theatre, and a volunteer for Catholic Charities Fort Worth. Borbolla holds a bachelor’s degree from Texas Christian University.

Fordyce is a retired director of the Texas Criminal Justice Agribusiness Department. He is chair of the Huntsville Economic Development Council and vice president of the Lone Survivor Foundation. He is also a member of the Texas Assistive and

Rehabilitative Services Council, the Kick Start for Kids program and the Huntsville Veterans’ Affairs Advisory Board. He served in the U.S. Marine Corps and is a Vietnam War veteran. Fordyce earned a bachelor’s degree from Sam Houston State University.



On the cover: TRA’s recent Elm Fork Interceptor replacement project wrapped up under budget and ahead of schedule. Full story, p. 2.

TRA bolsters CRWS collection system team

To best manage operations and provide the highest value for its customers, the Trinity River Authority recently augmented the collection system team at its Central Regional Wastewater System, a subset of the facility’s technical service division.

First, in November TRA welcomed John Durbin as the CRWS collection system manager. Durbin is responsible for the direct oversight of operations and maintenance activities and personnel for the CRWS collection system. He is also charged with providing long-term strategic planning recommendations and managing capital improvement and operation budgets for the system.

Prior to joining TRA, Durbin served the city of Arlington in various capacities, concluding his career as Arlington Water Utilities’ south field operations manager. He holds a bachelor’s degree from the University of Texas at Arlington and both a Class III collection system license and a Class B water license from the Texas Commission on Environmental Quality.

Effective in December, Craig

Crowder, Northern Region manager of engineering services, also joined the CRWS team as technical services engineer. Crowder will direct collection system operation and maintenance associated with repair, rehabilitation, inspection, flow metering and surveying, plus serving as a liaison between TRA and consulting engineers in approving, coordinating and inspecting various projects. Crowder holds a bachelor’s degree from the University of Texas at Arlington. He is also a licensed professional engineer and is certified through the NASSCO Pipeline Assessment and Certification Program.

“John and Craig are both strong additions to the CRWS technical service team,” said Julie Hunt, TRA’s Northern Region manager of operations. “They both bring tremendous experience, technical expertise and enthusiasm to their new positions, and I’m confident that they’ll help lead our outstanding team at CRWS toward continued innovation and unsurpassed operational excellence.”



Craig Crowder, CRWS technical services engineer



John Durbin, CRWS collection system manager

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Elm Fork Interceptor replacement, trip down Memory Lane completed smoothly and ahead of schedule

The recent smooth and timely completion of replacing 1,200 feet of the Trinity River Authority's Central Regional Wastewater System Elm Fork Interceptor exemplifies TRA's philosophy of building long-lasting relationships with property owners touched by TRA infrastructure.

The October/November 2012 issue of *inTRA* took a nostalgic look back at the original 1985 Elm Fork Interceptor installation. The project necessitated working closely with the owners of the Sandy Lake Amusement Park in Carrollton – which lay directly in the path of the pipeline – to develop a schedule and plan that wouldn't disrupt the park's operation. In recent months, replacing this major section of the interceptor required going back to the park to rekindle some of those working relationships.

"When we first approached the Sandy Lake owners about the project, the original owner remembered me from our 1985 project – I wasn't sure if that was a good thing or a bad thing," said Thomas Sanders, TRA construction services manager. "But it just goes to show how important every relationship we build can be for TRA."

The replacement project faced many of the same challenges as the original installation – installing a large-diameter pipe beneath an amusement park within a strict time frame during winter months, plus tackling an unusually high level of groundwater. Not enough room to install a parallel pipe presented a new challenge. Instead, crews diverted wastewater flow around the old section of pipe

using bypass pumps, removed the 48-inch concrete pipe and then replaced it with a new 66-inch fiberglass pipe.

Fortunately, with sunny weather and strong relationships with partners and the property owners, the project moved forward with no major obstacles or delays. In fact, final inspection took place in early December, more than a month ahead of schedule, and the CSS team is also pleased to report that the project finished under budget.

"The project couldn't have gone any more smoothly," said Sanders. "Throughout the process, I never received any communication from the property owner about any kind of conflict, and that's rare for a project of this size and scope."

Weeks before construction work began, crews dewatered the area via hundreds of wells and pumped the water into Sandy Lake; with the low level of rainfall in North Texas over the fall, the additional water was certainly welcome.

TRA's land rights team also played a key role in the project's success, negotiating appropriate easements with the property owner that not only made the job for construction services more navigable, but also built trust and respect with the property owners.

"I can't give our land rights team enough credit for smoothing the way," said Sanders. "You can't undo a first impression, and land rights' working with the owners to cover everything from making sure roads were always accessible to guaranteeing that even the performance stage could be restored to the owners' satisfaction gets a project like this started off on the right foot."



Above: Crews divert wastewater flow around the old section of pipe using bypass pumps.

Below: Crews deliver new 66-inch pipe for the interceptor replacement project.



CRWS' Elm Fork interceptor collects wastewater from Addison, Carrollton, Coppell, Dallas, Farmers Branch and Irving in the northeast portion of the system's service area. TRA began construction on the

original Elm Fork interceptor in the 1950s and extended it in 1985.

For part one of this story, see the October/November 2012 issue of *inTRA*, available at www.trinityra.org/mediaroom.

Study examines best practices for conversion to biologically active filters at TCWSP

Water treated at the Trinity River Authority's Tarrant County Water Supply Project historically has registered high levels of manganese, which, though unpleasant for the end user, does not pose a health threat. A naturally occurring mineral in rocks and soil and a normal constituent of the human diet, manganese may cause the discoloration of drinking water, stain plumbing fixtures or clothes, or contribute to an unpleasant taste or odor.

Traditionally, TCWSP has controlled the amount of manganese by chlorinating settled water before it passes through the system's filters. The water is also treated with ozone in order to improve taste and odor. However, in order to enjoy the full benefits of ozone treatment, the plant would need to use it as its primary disinfectant, eliminating the use of pre-filter chlorine. And no pre-filter chlorine means that manganese could travel through the filter system. In addition to the manganese challenge, the use of ozone

has a side effect: ozonation produces a form of organic carbon that can cause problems in the piping systems downstream of the treatment plant.

"One way we can deal with the twin challenges of controlling both the organic carbon and the manganese is using biologically active filters, a process used at many water treatment facilities with similar manganese issues," said Ron Tamada, Northern Region engineering services manager. "Microorganisms in the filter media consume manganese and other organic materials as water passes through the filter. But, some facilities, when converting from traditional to biological filters, have experienced a release of manganese into the distribution system, and we definitely don't want that."

In May, TRA partnered with the Water Research Foundation and Carollo Engineers on a pilot scale study to evaluate best practices for using biological filters. The study also seeks to determine ways to retain manganese already captured on the

filter media – without it escaping into the distribution system during conversion.

The specially designed pilot simulates a full-sized TCWSP filter. It mimics actual operations in order to evaluate feasible procedures for avoiding the release of manganese into treated water. The study is expected to conclude at the end of February.

"Even the preliminary data indicate some practical steps we can take to keep manganese under control while establishing a biological community in our filters," said Tamada. "Next we'd like to investigate undertaking a second collaboration with the WaterRF that is a full-scale filter conversion. It's the next logical step, and the results could be valuable to our entire industry."

TCWSP provides drinking water to the cities of Bedford, Colleyville and Euless, along with portions of Grapevine and North Richland Hills.

Get ready for camping season!

Wolf Creek Park opens for the spring camping season March 1. The park closed Nov. 30 for the winter and to handle any necessary repairs or renovations. The park office began taking reservations for the spring season Jan. 1 and will currently accept reservations through TRA's website at www.trinityra.org or by phone at 936-653-4312. Reservations can be made up to 60 days in advance.

Wolf Creek Park is one of the few campgrounds in Texas that allow visitors to reserve their favorite campsites – please keep in mind that site-specific reservations can only be made by phone.

Visit Wolf Creek Park on Facebook to find out more about what's been going on during the off-season: www.facebook.com/trawolfcreekpark.

Phase I study sets stage for further understanding of watershed effects on Lake Livingston

The Trinity River Authority’s planning and environmental management division recently wrapped up Phase I of a comprehensive, multi-year study designed to characterize the water quality of Lake Livingston and to understand how the watershed affects the lake – concentrating specifically on the area between the Dallas-Fort Worth Metroplex and Lake Livingston.

Led internally by Planning and Environmental Management Assistant Dr. Hong Wu, the study teamed TRA with the Texas Institute for Applied Environmental Research at Tarleton State University. Once all phases of the study are complete, TRA will have a better understanding of the Trinity River basin and the dynamic interplay of the “water triumvirate” – wastewater discharges, water supply and ecology – as they impact Lake Livingston.

Embarking on this ambitious project allows TRA and its partners the opportunity to monitor, model and predict trends in water quality for the overall health of the Trinity River and Lake Livingston. Tremendous changes in landscape and rainfall patterns between DFW and Lake Livingston allow for wide variations in the factors that influence overall water quality. The primarily urbanized landscape of the DFW area rapidly gives way to a rural landscape dominated by pastureland, forest and wetlands, and rainfall patterns increase north to south from approximately 36 inches of annual average rainfall in the DFW area to 57 in the southeastern corner of the basin. This diversity, combined with the sheer size of the watershed, has led to the need for a more holistic understanding of how various sources of pollution could affect the reservoir.

As the largest single-purpose

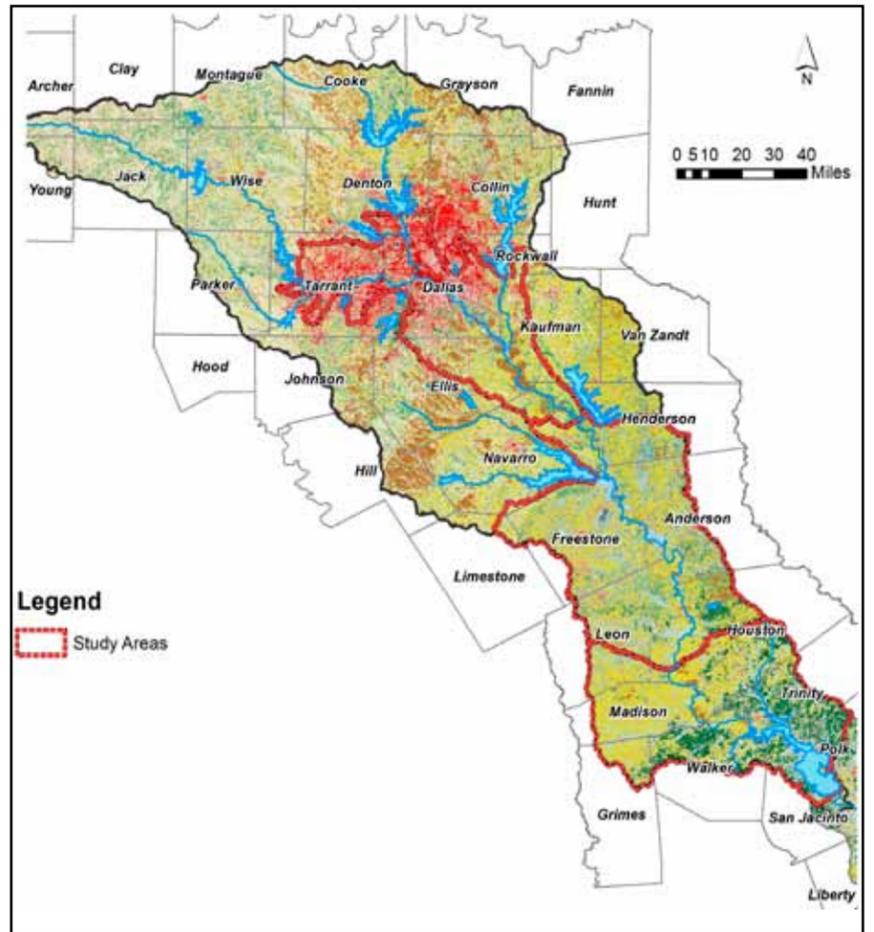
reservoir in Texas, TRA’s Lake Livingston is critical to the water supply for the city of Houston – the fourth largest municipality in the nation – along with other communities in the southern Trinity River basin.

Roughly 87 percent of the flow into Lake Livingston comes from the watershed above the Trinity River near Crockett, and discharges from the large regional wastewater treatment facilities in the DFW area dominate Trinity River flow under low-flow conditions. A key question is how those discharges affect the reservoir, along with what role non-point, or diffuse, sources like agricultural and municipal stormwater runoff might play.

Phase I of the study was designed to set the stage for further research: create a watershed data inventory; select appropriate watershed and lake models; analyze and assess existing data; evaluate future monitoring needs; and develop an appropriate scope for Phase II of the exploration.

“We wanted to start by looking at what makes sense and what is practical to accomplish,” said Wu. “We didn’t want to dive into developing a model that would ultimately be very expensive and so complex that it wasn’t usable and over-quantifies results, which would give us a large amount of uncertainty.”

In addition to monitoring, mathematical modeling can provide predictive capabilities to help scientists evaluate future scenarios and conditions. In this case, the research group has recommended using two models: one to understand pollutant loadings into the river, and a second to understand the impacts of those loadings on the reservoir. The combination of the two models



The map above illustrates the area of the Trinity River basin highlighted in PEMD’s Lake Livingston watershed study.

represents a management tool that could be used to evaluate relevant water quality conditions, especially regarding nutrients, dissolved oxygen and total suspended solids in the watershed. Such an understanding empowers TRA to make better decisions about the operation of its projects while providing the highest value for customer cities.

Moving forward, Phase II will concentrate on the modeling process, based on the water quality parameters developed in Phase I.

“Once the models are developed and calibrated, we will have an unprecedented understanding of how changes

in the watershed, including wastewater discharges, impact the water quality of Lake Livingston,” said Wu. “I am excited about what we achieved during the Phase I study; it’s been a great experience to work with scientists from a well-respected academic institution, plus being able to make a direct contribution to the effective operation of TRA’s projects. I’m looking forward to Phase II.”

Wu, along with Dr. Larry Hauck of Tarleton State University, will present full results of the Phase I study April 12 in Galveston as part of Texas Water 2013, the nation’s largest regional water conference.

PEMD launches brown bag presentation series

The Trinity River Authority’s planning and environmental management division kicked off 2013 with “An Overview of the Trinity River Basin and the Role of PEMD,” the first in its scheduled series of brown bag lunch presentations. TRA employees throughout its Northern Region enjoyed sandwiches and a brief presentation about the history of the Trinity River and how the PEMD team studies, monitors and models ways to effectively steward the watershed’s resources.

“We were very happy with the turnout for this first presentation, and I’d like to thank everyone who attended,” said Glenn Clingenpeel, PEMD

senior manager. “This idea originally came from casual conversations about what PEMD does and how we help TRA achieve its overall mission and goals. What we want this series to do is get people together to share technical knowledge and help all of us within TRA understand our roles more holistically.”

Approximately 25 people attended the lunch. The next presentation in the series is scheduled for March. Please contact Glenn Clingenpeel at clingenpeelg@trinityra.org for more information or to recommend topics for future presentations.



PEMD Senior Manager Glenn Clingenpeel fields questions from the group at PEMD’s first brown bag lunch presentation.

General Manager's Message

Texas Legislature begins to tackle water issues this session

We all know that Texas needs water – water to mitigate the effects of drought today and water to meet the needs of burgeoning populations tomorrow. Now our state leaders are moving toward solutions.

Early January marked the beginning of the 83rd session of the Texas Legislature, amid great anticipation of and speculation about the group's major objectives. We've seen much in the media about drought effects and water supply over the past two years, and, secondary only to education, the issue of supporting the state water plan and our state's future water supply has emerged as a major consideration for the session.

Since founding the Texas Water Development Board in 1957, the state has maintained a key role in financing water projects that would provide water supply during periods of severe drought, and this is a responsibility that our state leadership continues to take very seriously.

At TRA, we have been encouraged to see that the issue of protecting our state's water supply is garnering the significant attention it merits – the House of Representatives, under the leadership of Speaker Joe Straus, thus far has shown tremendous fortitude and progressive thinking in pushing the issue to the forefront and seeking clear and meaningful strategies. Lt. Gov. David Dewhurst has the Senate focused on water issues as well.

Our leaders are aware of the importance of available water supply to business, agriculture and our state's overall health and well-being, and they seem committed to bold, substantial action. To be sure, finding viable solutions may not be easy, but the fact that our state

leadership is committed to the cause is encouraging.

As of press time, Rep. Allan Ritter (R-Nederland), chairman of the House Natural Resources Committee, had filed two bills designed to help ensure that Texas will meet its future water needs. House bills 4 and 11 call for a one-time allocation of \$2 billion from the state's Economic Stabilization Fund – in other words, our Rainy Day Fund – to capitalize a new State Water Implementation Fund. The details of the bill also lay the groundwork for the fund's management and operation. State Sen. Troy Fraser (R-Horseshoe Bay) had also filed three similar bills – Senate bills 4, 22 and 235. All bills are available in their entirety at www.capitol.state.tx.us.

According to legislators, this one-time capital investment – also publicly championed by Gov. Rick Perry and Lt. Gov. Dewhurst – would fully implement the existing water plan, achieving the state's goal of supporting local entities as they seek to implement water projects. While details and modifications will be worked out in coming months, I think it's safe to say that those of us who bear responsibility for effective stewardship of Texas' water resources breathed a sigh of relief that two of the first bills filed during the session dealt with supporting our efforts.

An additional hopeful sign is that our state's leaders can look to water industry experts for insight into how to support water projects in a meaningful way. In late 2012, I served as chairman of a state water plan implementation committee through the Texas Water Conservation Association that submitted a set of recommendations to the House Natural Resources

Committee. Our major conclusion was that the amount of appropriations for state water plan projects must be significant, consistent and reliable in order to mobilize local entities to seek the funds.

The unpredictability of state assistance has been a major hurdle in recent years. The ebb and flow of authorized state financial assistance has prevented project sponsors from putting together long-term financial plans for many much-needed projects.

In addition, the group recommended a prioritization system to provide more predictability for project planning and financing. Not having a system that lets potential applicants know where they stand against other projects can be a tremendous deterrent – it adds a higher degree of risk to executing the type of regional contracts that create the right kind of credit structure for borrowing state funds.

An additional concern the group noted is the lack of focus on the real threat of drought impacts right now. Although there clearly is a threat to life and property if water supply projects aren't completed, the public misperception persists that these projects are needed only to fuel future growth, which lessens support for them. We have to shift focus and analysis to current impacts of drought and projects that can address those impacts rather than focusing only on future demands.

We also need more numbers – we have insufficient analyses of state programs that focus on the actual annual investment rather than total expenditure by the state. Focus instead has been on gross capital costs – this makes it look as though the state is funding projects in total, even though in reality it may only



General Manager J. Kevin Ward

finance a project and be repaid in full.

In reality, there are a manageable, finite number of strategies listed in the state water plan and an even smaller number of strategies that seek state financial assistance. We need more specificity on the timing, order, amounts and targeted sources for any project that plans to seek assistance in order to help appropriators better plan for how much is actually needed.

Having effective, reliable funding in place will help TRA and its partners be more proactive when it comes to meeting our region's water needs. For TRA, this means that we continue to provide effective water supply solutions for our North Texas customers through our Tarrant County Water Supply Project, and for our southern basin customers and the city of Houston, who benefit from Lake Livingston.

I'm sure we all have an interesting time ahead of us as we watch to see how our state leaders deal with the challenges before them. Will the legislature implement every recommendation from our TWCA committee? Only time will tell, but the language and timing of legislation thus far leads me to believe we have been heard. I'm thankful to have had a voice in the process, and I wish our state leaders courage and fortitude as they seek to balance the needs of our entire state.

TRA employees share holiday joy, honor employee dedication

Trinity River Authority employees across both regions and all facilities enjoyed holiday festivities in December that celebrated the tenure and dedication of all TRA employees. General Manager Kevin Ward was on hand for every event to shake hands with, thank, and get to know better TRA's valued employees.

"Employee recognition is one of the most important things we can do at TRA," said Ward. "We are so fortunate to have a team of talented, hard-working individuals who keep our facilities running smoothly for our customers."



Employees in both TRA regions enjoyed holiday festivities that afforded them the opportunity to relax and enjoy great food – and each other's company. As these photos show, both events were full of laughs and smiling faces.



Employee Milestones

New Hires

LLP welcomes **Gary Miksch** as field inspector. CRWS is excited to have **Jonathan Townsend** as electronic technician I.

Promotions

Jacob Young was promoted to area administrator at LLP. **Jennifer Ege** was promoted to senior chemist at CRWS. **Debra Davis** was promoted to operator II at TCWSP.



The holiday season was full of milestones for Susan Davis, GO senior secretary, and her family. Son Brian graduated cum laude Dec. 14 from the University of Texas at Arlington with a bachelor's degree in mathematics, specializing in actuary. He began full-time employment Dec. 17 as an analyst with TransAmerica. The same day, daughter Michelle also made a career change and joined Preferred Imaging as an MRI technologist. Also, Michelle married David Boykin Jan. 3.



David Tomlinson, CSS inspector II, and Stephanie Schultz, CSS inspector II, plus their spouses, took part in several toy runs in December ranging from Fort Worth to Sherman, Texas, as part of the 27th Annual Big Texas Toy Run. This combined effort of the biker community is dedicated to DFW Metroplex children with intellectual and physical disabilities. Donations benefit Mental Health-Mental Retardation of Fort Worth and other children's charities, and they help meet recreational and educational needs of thousands of underprivileged and challenged children every year. This year's rides included anywhere from a few hundred to nearly 1,000 participants and temperatures ranged from a balmy 78 to a crisp 47 degrees.

Good luck, CRWSers!

Don't miss the Operations Challenge Competition at Texas Water 2013 as the TRA CRWSers attempt their 16th consecutive state championship. If you attend Texas Water, drop by to see the laboratory event on Wednesday, April 10, from 1-4 p.m. in the Exhibit Hall. Watch the collections repair, safety and pump maintenance events on Thursday, April 11, from 9 a.m. to 1:45 p.m., also in the Exhibit Hall.



Several fleet-footed TRA employees took part in December in the MetroPCS Dallas Marathon – formerly the Dallas White Rock Marathon – Dallas' oldest and largest marathon, benefitting Texas Scottish Rite Hospital. Whether part of the marathon, half-marathon or five-person relay, the TRA team came to compete. Shown here, the five-person relay team of PEMD Special Studies and Assessments Manager Webster Mangham; PEMD Senior Manager Glenn Clingenpeel; Chief Financial Officer Alison Mackey; Northern Region Manager Fiona Allen and General Manager Kevin Ward placed 48 out of 273 competitors in their group with a time of 4:2:52. Mangham also competed individually in the half-marathon with a time of 1:40:27.



Calvin Waller, CRWS electronics chief, welcomed his first granddaughter Dec. 26. Kingslee Serenity Janes was born at 8:52 a.m., weighing 6 lbs. and measuring 19 inches. Congratulations, Calvin and family!



Richard Postma, TRA construction services assistant manager, completed the half-marathon with a time of 2:34:21. He has asked that public notice be given that his calf cramped up for the last three miles.



Adam Sanders, son of Construction Services Manager Thomas Sanders, was promoted in late 2012 to investigator for the Harris County Sheriff's Office – the largest sheriff's office in Texas and the third largest in the United States. Sanders' new duties will expand his jurisdiction to cover all of Harris County.



Emma Sheard, TCWSP office coordinator, and her husband Bob celebrated their 15th wedding anniversary at Big Cedar Lodge in Branson, Mo. They are shown here in the Truman Coffee and Café onsite at Big Cedar Lodge; President Truman stayed here several times while on fishing trips to what is now Table Rock Lake. Congratulations, Emma and Bob!



Malcolm Cowdin, maintenance mechanic II at CRWS, has received official "North Texas Section WEAT Photographer" designation in appreciation of his many years of commitment and dedication as event photographer for the Water Environment Association of Texas' North Texas Section. Cowdin has spent many personal hours covering events, and he generously shares his photographs with the North Texas Section and others. Cowdin, center, is shown here with WEAT-NTS officers Eva Gorgi, secretary; Dawn Anderson, president; Buster Fichera, president-elect; Jeff Sober, vice president; and Erin Flanagan, past president. Congratulations, Malcolm!

Northern Region Engineering Services Manager **David Terrill** will participate in the Water Environment Federation's Technical Practice Committee publication on managing wet weather events at wastewater treatment facilities. In conjunction with Dr. Joe Reichenberger of Loyola Marymount University, Terrill will develop the section on "Wet Weather Design and Operations." Final publication is set for 2014. Terrill and Reichenberger previously collaborated to author a section of the *WEF Manual of Practice 8: Design of Municipal Wastewater Treatment Plants*, Fifth Edition, published in 2009. As project manager of the CRWS On-site Stormwater Storage Basin, Terrill brings to the project tremendous expertise in planning for and managing wet weather events.



Winter rains may push watering restrictions to spring

With drought conditions firmly established across North Texas, the Trinity River Authority and its water supply customers prepared to implement Stage 1 watering restrictions in late December, only to be reprieved by some much-needed winter rain.

TRA purchases raw water from the Tarrant Regional Water District for treatment at TRA's Tarrant County Water Supply Project, which supplies water to Bedford, Colleyville, Euless, Grapevine and North Richland Hills. TRWD requires all customers to initiate Stage 1 of its drought contingency plan when combined storage capacity in its water supply reservoirs declines to 75 percent.

In late December, TRWD reported reservoir storage capacity at 77 percent. Combined storage capacity is based on water levels in four reservoirs: Bridgeport, Eagle Mountain, Cedar Creek and Richland-Chambers. These reservoirs supply approximately 98 percent of all Tarrant County residents and businesses, and serve more than 1.8 million people in all.

North Texas received between two and four inches of rain in early January, reducing demand and bringing combined TRWD reservoir storage back up to

81 percent.

"The drought certainly isn't over, but we did buy some time before we dip back into the range of Stage 1 restrictions," said Mark Olson, TRWD conservation and creative manager. "Now we're probably looking at early spring before we see levels back around the 75-percent mark, especially if people keep landscape watering to a minimum over the winter months."

Landscape and water industry experts are quick to point out that residents should water their lawns only twice monthly during the winter – if it hasn't rained. As winter sets in, lawns go dormant and landscapes need much less water. Watering once every two weeks, adding no more than a half-inch, is sufficient to keep lawns healthy and represents about a tenth of the water lawns need during the summer.

For more information on drought, visit the U.S. Drought Monitor at droughtmonitor.unl.edu.

See trwd.com and SaveTarrantWater.com for updated lake level information and tips on conserving water outdoors.

The Lawn Whisperer says...
"Lawns tell me they need less water in the winter."

Water Your Lawn Just Once Every 2 Weeks.

WATER LESS IN THE WINTER
 With cooler winter weather and shorter days upon us, most grass has stopped growing and requires much less water. Now is a good time to put your irrigation system in manual mode (or turn it off) and only run it once every couple of weeks - if it hasn't rained.

ADD A RAIN/FREEZE SENSOR
 Rain and freeze sensors add some smarts to your sprinkler system. They save water by putting your watering on hold when it's raining or freezing.

DON'T FORGET THE MULCH
 It's never too late to add mulch to your plant beds and under trees. A nice three to four-inch layer of mulch helps retain moisture and protect plant roots.

Save Water. Nothing Can Replace It.

Tarrant Regional Water District, DFW cities launch Reverse Litter campaign

The Tarrant Regional Water District and several North Texas cities including Arlington, Dallas, Denton, Fort Worth and Mansfield, recently launched an anti-litter campaign aimed at improving water quality in the region. The Trinity River Authority purchases raw water from TRWD for treatment at its Tarrant County Water Supply Project and subsequent distribution to Bedford, Colleyville, Euless, Grapevine and North Richland Hills.

The "Reverse Litter" campaign seeks to raise public awareness about how roadside litter can pollute the area's water supplies. TRWD and its partner cities hope the campaign encourages communities to identify and implement solutions, along with

empowering citizens to change their attitudes and behaviors about littering.

The "Ten on Tuesday" initiative is one of the first campaign-related launches. The program encourages North Texas businesses, schools, community groups and individuals to pick up at least 10 pieces of litter every Tuesday. Estimates show that if 5,000 people in the area pick up 10 pieces of trash every Tuesday for a year, more than 2.6 million pieces of trash would disappear. If that number increased to 10,000 people, the number jumps to 5.2 million pieces of litter picked up and prevented from entering the region's water supply.

For more information, visit www.reverselitter.com or www.facebook.com/reverselitter.

Learn about **TEN:TUES** and help keep our North Texas water clean

reverselitter.com

CHUNK LITTER HERE

OR IT ENDS UP HERE

Anniversaries

30 Years

David Holquin, electrical/electronics division chief, CRWS

20 Years

David C. Brown, senior maintenance mechanic, CRWS
 Robert M. Chambers, operator II, CRWS

5 Years

Wayne Chen, information technology supervisor, GO
 Michael G. Wilson, park ranger, LRF
 John T. Ackerman, operator II, HRWSS
 Rusty D. Thompson, inspector II, CSS
 Karen E. Stafford-Brown, engineering services manager, GO
 Clem N. Mensch, lab tech I, LLP
 Robert E. Britton, inspector II, CSS
 Johnny E. Hooks, maintenance mechanic II, LLP
 Steven M. Hodges, electronics technician supervisor, DCRWS
 Craig T. Crowder, technical services engineer, CRWS

3 Years

Belen Campos, clerk/typist, CSS
 Jonathan M. O'Bryant, operator II, DCRWS
 Eric A. Jones, field technician II, CRWS
 Jeff R. Blankenship, maintenance mechanic II, LLP

Land rights team builds relationships, opens doors for infrastructure projects



TRA's land rights team, from L-R: Brenda Porter, land records research specialist; Pam Thomas, senior secretary; Don Rowe, senior real estate specialist; Mark Thigpen, land rights manager; Michelle Harlan, real estate specialist.

Most people wouldn't associate penning livestock and rebuilding fences as part of the water and wastewater industry, but such projects are often all in a day's work for the Trinity River Authority's land rights team.

Every TRA operating system throughout the Trinity River basin is composed of a myriad of pipelines, meter stations and lift stations that all ultimately support a treatment facility. To effectively establish, maintain and expand this web of infrastructure, TRA must acquire from property owners the necessary easements – the right to cross or otherwise use someone's land.

The land rights team approaches the task in several ways. In some cases, TRA purchases a piece of property outright, while purchasing easements allows TRA to acquire only a portion of a property owner's rights – just enough to allow the

installation of a pipeline or facility.

If an easement is permanent, it affords TRA the right to access an owner's property at any time for construction or repair, while a temporary easement exists only as long as a construction project is active, and then all easement rights revert to the property owner. Temporary easements are often required during construction projects and/or pipeline repairs. TRA may also include in an easement the right to cross adjacent lands in order to access TRA facilities.

Though TRA is fully empowered by the State of Texas to condemn property and has full powers of eminent domain, it is a great point of pride for the land rights division that TRA rarely invokes this right. In fact, TRA acquires more than 95 percent of all land rights without condemnation.

Instead, the land rights team employs independent appraisers to determine the value of each property in question in order to begin negotiations with a fair market value. In fact, TRA policy prohibits offering a landowner less than the independently appraised amount.

"Our goal in land rights is to make sure that property owners are fairly compensated," said Mark Thigpen, land rights manager. "We want them to have everything they're legally entitled to."

Appraisers typically assign land value according to the type of easement TRA needs – temporary vs. permanent – the type of property – residential, agricultural, retail, etc. – the highest and best use the land is suited for, and the level of use. Ultimately, owners are compensated on the value of what is taken to make way for the easement, plus the value of how much less an easement makes the property worth as a whole.

For example, building a meter station removes virtually any use of that property for an owner; thus, TRA typically acquires these parcels outright. But a permanent sewer easement is valued at some percentage of the land's fee value since the owner is losing only part of the land's use. In most cases, the owner still could use the surface above TRA's facilities for most things – paving, landscaping, etc.

In addition to independent appraisers, the land rights team also receives guidance from TRA's board of directors. A right-of-way committee exists for each TRA operating system; that committee comprises board members who oversee the associated land rights and appraisals.

Any negotiation above \$10,000

must be approved by the appropriate right-of-way committee – the committee then empowers the land rights group to negotiate the price of the easement with the landowner. Many times, TRA construction projects require negotiation with different owners with whom agreements must be reached before a construction project can begin. In fact, the land rights team is an essential gateway for project success; TRA's development and construction teams cannot advertise projects until all associated easements are secured.

Often, the costs of acquiring these easements aren't confined to the monetary; sometimes more creative solutions are in order. TRA has worked with construction services and designers, for example, to avoid removing a particular tree with sentimental value for a property owner. In another instance, TRA constructed temporary fencing to contain goats and other livestock while a construction project was in process. TRA also has completed in-kind services and improvements for landowners – for instance, if TRA has to remove a small section of fence, crews might replace a larger section so that the repair is aesthetically consistent.

"Money is part of the solution, but it isn't the entire solution," said Thigpen. "We try to be respectful and mindful of other ways to help people come away from the experience with a positive impression of TRA."

Many times, the land rights team is a property owner's introduction to TRA. Their high success rate in easement negotiations is a testament to TRA's overall commitment to building strong, mutually beneficial relationships throughout the life of a project.

CRWS begins 2013 with a breath of fresh air

The Trinity River Authority's Central Regional Wastewater System updated its Odor Control and Corrosion Management Master Plan in 2012 and is currently moving forward with a related project approved by the TRA board of directors during its regularly scheduled December meeting.

The project has two components: first, the facility will evaluate the effectiveness of the high-purity oxygen system currently used in the Phase III portion of the plant. High-purity oxygen and iron are fed into raw wastewater in order to control the formation and release of hydrogen sulfide from the headworks and preliminary treatment areas.

In addition, CRWS relies on biofilters for much of its odor control. Naturally occurring

microorganisms within the filter media – usually a combination of wood chips, root mulch, bark and compost – consume odorous compounds for energy and, in the process, clean the air.

The filter media is contained in large earthen- or concrete-sided structures with gravel underdrains and irrigation piping for air distribution. Currently CRWS houses eight biofilters – as part of this project, all biofilters will receive new media, while biofilters 5-8 will be upgraded to current industry standards by removing the gravel bottoms and air distribution piping system. Current technology utilizes open plenum underdrains constructed of materials that allow for easier equipment access when it is time to remove spent media. TRA expects that replacing the

current biofilter media will provide effective odor control through the summer of 2013 and beyond.

TRA's board of directors approved an engineering services agreement for \$200,800 for evaluation of the high purity oxygen system expansion, design of modifications to biofilters 5-8 and specifications for media replacement for all biofilters.

The purpose of moving forward with these projects is twofold: not only will it help TRA reduce detectable odors in the vicinity of the plant and thus be a good neighbor, but it also helps TRA protect the integrity of its valuable infrastructure. Since hydrogen sulfide is a primary source of wastewater odor and can dramatically degrade and corrode infrastructure, controlling its

presence at TRA's facilities is of the utmost importance.

TRA's first and largest treatment facility, CRWS has continuously since the 1970s researched, planned and implemented odor control measures that identify priority odor-generating sources and practical, cost-effective reduction measures.



High-purity oxygen and iron help control odors in the Phase III portion of the CRWS treatment facility.



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Wireless telemetry leads to greater efficiency, accuracy in data collection



For many years, wireless telemetry has served as a key data collection and communications strategy in industries ranging from meteorology and medicine to law enforcement – and now it makes its debut as part of the Trinity River Authority's flow-metering system. Taking its name from Greek roots – *tele* meaning “remote” and *metron* meaning “measure” – the technology allows data measurements to be made at a distance, then conveyed to a central site where they can be managed.

Throughout much of 2012, members of the CRWS technical services metering team worked to install wireless telemetry recorders in more than 120 meter stations in the CRWS system. This is the largest such in-house installation in TRA history, with a budget of approximately \$450,000.

Prior to the installation, CRWS

metering teams drove from site to site, manually downloading flow data every week. Installation of the recorders means less human intervention, reducing manpower costs and the opportunity for human error.

“We are seeing enormous savings in data review time,” said Cathy Sieger, CRWS quality assurance coordinator. “Before, we had to download and average a week’s worth of data to determine flow contributions for each of CRWS’ 21 customers through a particular meter station.”

Now, each unit collects information and integrates it with a common database in real time. TRA staff can not only view data, but also archive it, run reports and analyze flow trends faster and more efficiently than ever before. Real-time data are available every 15 minutes rather than only once each week.

Each device provides 24-hour monitoring of flow levels at a meter station. If a level reaches a pre-determined criterion that could represent a problem within the pipeline, the device can send an alarm to the appropriate TRA staff via email or text message. This instant notification allows TRA to correct potential issues before they affect operations.

Because the units provide constant monitoring, manual checks ultimately will decrease dramatically, though the TRA team continues them now for quality control purposes and to ensure proper calibration of the new recording units.

Crews completed the installation in December 2012 and concluded Phase I of the project. Though TRA staff have already enjoyed tremendous benefits from the units, Phase II deals with effectively organizing, displaying and reporting the collected information in the most effective and useful ways possible. Not only does TRA benefit from the real-time data capture when it comes to operational issues, the instantaneous nature of the data allows for more accurate and effective billing practices, including everything from infiltration and inflow proration to flow history and projections.

“We’re very happy with the progress of the system thus far,” said Cynthia Belvin, Northern Region technical services manager. “We can get advance notice of potential issues within the collection system, and we’ve greatly increased our ability to quickly and accurately communicate to our contracting parties the flow trends and projections at each meter station. It’s a win-win.”

TRA’s Denton Creek Regional Wastewater System is currently in the process of installing recording units throughout its collection system. All other TRA wastewater treatment facilities will begin installation later this year. TRA leadership is also evaluating the benefits of installing similar wireless technology for the Tarrant County Water Supply Project.