April/May 2009

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Newsletter of the Trinity River Authority of Texas

TMCRWS Collection System Savvy

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Sluice Gates Replaced on Low Level Release at Lake Livingston Dam

Construction crews remove the main sluice gate from the Lake Livingston Dam Low Level Release where it has been in service for 40 years.

The newly fabricated, 21,000-pound gate was installed on May 22.

The main sluice gate on the Low Level Release Structure at Lake Livingston Dam was removed and replaced with a newly fabricated, 21,000 pound gate on May 22, 2009. Two other, smaller sluice gates were replaced earlier in May. New hoisting equipment to raise and lower the gates was also installed. In addition, the contractor, Archer Western Contractors, Ltd., made minor repairs to the concrete at a number of locations on the Low Level Release Structure.

The Low Level Release Structure, located on the lake side of the dam, is a vertical tower with five sluice gates and a conduit which channels water through the dam to an alternate discharge location that flows into the Trinity River.

The Low Level Release is primarily used when the tainter gates, the dam's main release structures, are in need of repair or rehabilitation. The facility could also be used to release water from Lake Livingston if the level of water in the lake were to fall 32 feet below the lake's normal pool elevation of 131 mean feet above sea level. Until the lake falls below 99 MSL, water can be released through the dam's 35-foot high tainter gates, which can open to a maximum height of 32 feet. For this reason, the Low Level Release is the only method available in the unlikely event that Lake Livingston needs to be completely drained.

Construction on Lake Livingston Dam was completed in 1969 and the Low Level Release Facility is part of that original construction. After 40 years of underwater service, three of the facility's five sluice gates and gate operators were in need of replacement and some of the concrete had eroded. Two of the smaller gates will be taken out of service.

Preliminary testing of the new gates and hoisting equipment is scheduled for June 15. Formal testing is expected to take place the first week in July.

On the cover: Jorge Chaheine, Ten Mile Creek Regional Wastewater System Senior Field Tech, (left) and Jessie Arteaga, TMCRWS Instrument Tech II, use a video-on a stick, or a pole mounted video camera, to assess the condition of a manhole in the Bee Branch Creek line of TMCRWS' collection system. Over the last five years, TMCRWS management and staff have developed a proactive, cost effective collection system maintenance program that protects the environment and saves the system's customers many thousands of dollars. See story on page 2.

Inside:

Ten Mile Creek Regional Wastewater System Advances Collection System Maintenance

Proactive and Enhanced Maintenance Program Saves Over a Million in Capital Improvement Funds

Five years ago, Ed Mach, Ten Mile Creek Regional Wastewater System Project Manager, and Tim Morgan, Chief Electronics Technician, put their heads together to come up with a program to reduce outflows from the project's 53 miles of collection system pipelines. Both agreed they needed a cost-effective, comprehensive maintenance program starting with an assessment of the condition of the entire collection system.

The Trinity River Authority's Ten Mile Creek Regional Wastewater System provides wastewater collection and treatment services for over 240,000 people in portions of Cedar Hill, Duncanville, DeSoto and Lancaster in Dallas County, and all of Ferris in Ellis County. Wastewater from these member cities is transported through 53 miles of pipelines to the 24 MGD treatment plant in southeast Dallas County.

TMCRWS was motivated to reduce outflows or Sanitary Sewer Overflows (SSO) for two reasons; to eliminate the high cost of emergency repairs and to comply with a relatively recent Environmental Protection Agency initiative concerning SSOs. Part of the EPA's SSO initiative is the recommendation that a program of capacity assessment, management, operation and maintenance (CMOM) be established for wastewater collection systems in the U.S.

According to Texas Water Code, an SSO occurs when wastewater escapes any part of a wastewater treatment system such as a pipe or manhole. Aging, deteriorating pipes can develop leaks or even collapse completely resulting in an SSO. More often, wastewater overflows are caused by heavy and/or extended periods of rain.

The goal of the new rule, and the associated CMOM program, is to eliminate the need for reactive maintenance through proactive and preventative maintenance programs.

The first step in TMCRWS proactive program of pipeline maintenance was to establish accurate digital maps of the entire collection system including pipe locations, pipe sizes, depth of pipe and location of manholes and lift stations. Drawings of existing pipeline installations were digitized and these digital maps are used in a computerized maintenance management system to manage assets, work orders and to schedule preventive maintenance.

Once digital maps were established, TMCRWS began a program to clear the easements, or the property, on either side of the pipelines. Generally, the TMCRWS pipelines lie in a forty-foot wide easement which allows access to the lines. Keeping the easements mowed and trees trimmed makes it convenient to assess pipes for inspection, scheduled maintenance and repairs. Each year, TMCRWS establishes a goal to clear a certain number of feet of pipeline easement and to maintain mowing and tree trimming on easements that have been cleared in previous years.

With the easements cleared, TMCRWS pinpointed the exact location of the pipes in the easement and posted signs marking the locations. New pipeline location technology helped with this task. The location of TMCRWS collection system lines are now marked with over a hundred, 12-inch square signs on eight-foot galvanized posts.

After the pipelines were located and the easements cleared, TMCRWS staff began to inspect and clean the interior of the pipes and manholes. Television inspection of the pipeline's interior reveals obstructions, such as roots or deposited materials, that can lead to back-ups and outflows in the system. In addition, pipeline deterioration such as corrosion that may weaken the pipe and cause it to collapse is also discovered via television inspection. In deciding which portions of the collection system to inspect first, priority was given to the oldest sections of the system and those that experience the heaviest use. To date, TMCRWS has inspected the interiors of approximately 80% of the collection system's pipelines.

If internal pipeline accumulations are discovered during television inspections, hydraulic cleaning is effective in reducing deposited materials and clearing the pipe to restore maximum capacity. TMCRWS has hydraulically cleaned thirty percent of the system's lines.

Over the last five years, interior inspections of pipelines have revealed four partially collapsed lines. By catching the damage before these pipes failed, TMCRWS was able to carry out repairs with no wastewater outflows to the environment and at a much lower cost than an emergency repair.

During television inspections, pipeline deterioration is rated according to industry standards and this information is entered into a database for use in prioritizing repairs and tracking deterioration over time. Prioritizing needed repairs means TMCRWS makes efficient use of available funds because those portions of the system most in need of repair are addressed

TMCRWS Collection System Maintenance Program

By the Numbers

53 ..... miles of pipelines in collection system

80% .... portion of pipeline interiors inspected by video

>100 .... number of signs marking pipeline locations

30% .... portion of lines hydraulically cleaned

45% ... portion of manholes inspected

2% ..... portion of manholes rehabilitated

12 ..... number of erosion control projects completed

>$1M ... number of capital improvement dollars saved

0 ..... number of outflows due to pipe failure in 4 years

High water flows after heavy rain had eroded supportive soils away from a TMCRWS pipeline located next to Ten Mile Creek. Proactive erosion control projects, like the two seen here, stabilize creek banks before serious erosion problems that can threaten pipeline integrity have a chance to develop. TMCRWS has completed 12 erosion control projects. Note the signs indicating the pipe's location along the creek bank. More than 100 twelve-inch signs marking the location of TMCRWS' pipelines have been installed.

first.

TMCRWS has inspected 45% of the collection system's manholes with a "video-on-a-stick" or a pole-mounted video camera. As a result, two percent of the manholes have been rehabilitated.

An important goal of the TMCRWS collection system maintenance program is to perform television inspection for each segment of the system every six years to track the rate of deterioration and to stay on top of potential problems.

Some pipeline failures are caused by erosion of the supporting soils surrounding the pipe, especially those pipelines located next to creeks. Without support, the pipe can break and spill wastewater into the environment. Creek bank pipeline failures most often occur as the volume of the water and flow velocity in the creek increases during heavy rain storms. Emergency repairs under flooding conditions are difficult and costly. With the easements cleared and pipeline locations visible, staff can detect erosion problems and take preventative and proactive erosion control measures to stabilize creek banks. TMCRWS has completed erosion control projects at 12 sites in the collection system, protecting these sites against erosion damage and potential pipeline failure.

Jessie Arteaga, TMCRWS Instrument Tech II, uses a pipe locator to find the exact location of a pipe in the easement. Keeping the 40-foot easement mowed and trees trimmed makes accessing and working in the easement more efficient. Once the pipe is located, galvanized posts and 12" square signs will mark the site.

TMCRWS finds that outsourcing easement maintenance, TV inspection and erosion control is the most cost effective means for carrying out these tasks. Contractors work for an agreed-upon hourly rate under the supervision of TMCRWS staff. All TMCRWS Collection System staff are certified for Pipeline and Manhole Assessments by the National Association of Sanitary Sewer Companies. In addition, all hold Wastewater Operator licenses.

With costs reduced by proactive management and outsourcing, TMCRWS has saved substantial funds from the capitol improvement budget.

"The erosion control program alone has saved over a million dollars in CIP funds," notes Tim Morgan, TMCRWS Chief Electronics Technician.

TMCRWS' collection system maintenance program has also been good for the environment. There have been no outflows due to pipeline failure in the last four years.

TMCRWS has been recognized for excellent compliance with its National Pollution Discharge Elimination System permit by the National Association of Clean Water Agencies. The System has received three consecutive Platinum Awards for meeting permit requirements for seven consecutive years.

Denton Creek Regional Wastewater System Receives Water Environment Federation Safety Award

The Trinity River Authority's Denton Creek Regional Wastewater System received the George W. Burke, Jr. Award for safety from the Water Environment Federation at the Texas Water 2009 conference held from April 12-17 in Galveston, Texas.

Each year, the Water Environment Federation gives the Burke Safety Award to a municipal or industrial wastewater facility with an active and effective safety program resulting in an excellent safety record for the preceding calendar year.

DCRWS is a five million gallon per day plant currently under construction to expand to 11.5 MGD.

The system has 27.5 miles of collection system pipelines that receive flow from 11 customer cities. Another 12.5 miles of collection system pipe are under construction along with 6.5 miles of distribution pipe for an alternate discharge location.

DCRWS has not had a single lost-time accident from 2006 to 2008 due to the System's strong safety program and heightened safety awareness.

Safety awareness and education permeates every aspect of daily work life at the DCRWS. The purpose of the multifaceted Safety Education Program, beginning with the first day of employment at DCRWS and continuing for the duration of an employee's tenure, is to ensure the safest possible work environment for all employees.

Safety education for new employees includes training and certification to make confined space entries and perform lock-out/tag-out procedures, as well as biohazard and blood-borne pathogen training. Employees receive ongoing training and annual certification on confined space, lock-out/tag-out, right-to-know, forklift safety, emergency response, pathogenic bacteria/blood borne pathogens, trench safety, plant evacuation, and risk management training.

DCRWS tracks each employee's training in a database designed to make sure everyone receives accurate, up-to-date information that is compliant with mandated training requirements. Actual test results are placed in the employee's personnel file.

In addition to DCRWS' extensive training program, an Employee Safety Committee checks for possible safety issues at the plant on a regular basis. The committee is comprised of members of the DCRWS staff with representatives from Administration, Operations and Maintenance, and Electronics. The committee meets to discuss safety issues and conduct safety inspections. Any safety issues that have been noted by the inspections are then brought to the attention of the Chief Operator and Project Manager. Additionally, the committee reviews safety suggestions for implementation and performs accident investigations. The DCRWS Project Manager, John Bennett, serves as a liaison between the Safety Committee and the TRA Executive Safety Committee. Bennett provides technical information for topics the committee is discussing based on his involvement with the Risk Management Program and WEAT Safety Committee.

DCRWS manager and staff accept George W. Burke, Jr. Award for Safety presented by the Water Environment Federation at Texas Water 2009. Seen here from left to right is Brad Castleberry, WEAT President; John Bennett, DCRWS Project Manager; Michael Roser, Chief Operator; Andrew Esquibel, Maintenance Mechanic II; Steven Hodges, Electronic Technician II; and Paul Freedman, the 2008-2009 President-Elect of the Water Environment Federation.

To ensure the surrounding community's safety, DCRWS Management is involved in the Denton County Local Emergency Planning Committee. Participation in the LEPC disseminates risk management planning information to the local fire and police departments as well as the DCRWS Safety Committee.

DCRWS' commitment to safety has resulted in numerous safety awards. Most notable are the Awards of Merit from the Texas Safety Association from 1995 - 2005 and the Award of Honor for a Perfect Safety Record from 2006 - 2008. DCRWS received the 2007 WEAT Municipal Plant of the Year, Category 2, in part because of the system's outstanding safety record.

Safety is a way of life at DCRWS. With only five operators and three maintenance technicians on staff, employees must rely on each other to make safe decisions. Because plant operators work independently in an industry with so many hazards, each individual takes responsibility for their own safety and maintains safety awareness at all times.

DCRWS has not had a single lost-time accident from 2006 to 2008 due to the System's strong safety program and heightened safety awareness.

General Manager's Message

Eminent Domain: An Emotional Topic for the Public and Legislative Bodies

General Manager Danny Vance

The "taking" or condemnation of private property for a public use, also referred to as a "public purpose," has become a highly controversial topic.

A number of states, including Texas, have recently addressed eminent domain through legislative action. During the recently-ended session in Austin, the Legislature addressed the issue through proposed Senate Bill 18. That bill failed in the House with many other bills at the end of the session. House Joint Resolution 14, which proposes amendments to the Texas Constitution concerning eminent domain, did survive.

House Joint Resolution 14 proposes a constitutional amendment that will be placed before the Texas voters in November 2009. It proposes to prohibit constitutionally the taking of property for transfer to a private party for primarily economic development purposes. This will make activities like the development of the new Cowboy Stadium in Arlington impossible to pursue.

Much of the recent attention to eminent domain activity can be traced to the U.S. Supreme Court's decision in the summer of 2005 in Kelo v. New London, Connecticut. In a five to four decision, the U.S. Supreme Court affirmed a divided Connecticut Supreme Court decision that upheld the right of a local government to use its eminent domain powers to acquire private property for economic development purposes and to transfer property taken for that purpose to private developers.

TRA has never purchased or condemned property for the purpose of economic development.

The city of New London, Connecticut ran into economic difficulties after some military bases closed and its population declined. The city formed the New London Development Corporation, a nonprofit organization, to help the city implement a plan to redevelop a ninety-acre site near a proposed Pfizer Corporation pharmaceuticals plant. The development corporation acquired most of the property through negotiation, but Susette Kelo and other property owners filed suit, challenging the city's right to condemn their properties for redevelopment.

The issue presented to the U.S. Supreme Court was whether economic development is a "public use," which is necessary for a governmental entity to condemn property. Both the U.S. and Texas Constitutions impose the "public use" requirement on the taking of private property. Justice Stephens, who wrote the Court's opinion, found that the case turned on whether the city's development plan served a public purpose.

The Court concluded that New London's purpose of eliminating a land monopoly in which effective control of a market was held by a limited number of sellers qualified as a valid public use of eminent domain. Further, the Court refused to find that the New London's act of transferring the properties to private individuals after condemnation diminished the public character of the taking.

The media played an important role in publicizing the Kelo decision and making Texans aware of its potential impacts. In a 2004 issue of the Dallas Business Press, popular sentiment was summed up very solidly against condemnation, "When tax-hungry public officials in Texas team up with land hungry developers, innocent home and business owners standing in the way are likely to get mugged city hall style. Once the city declares them public outcasts, their land is forcibly purchased at a price the government deems 'fair' and then passed to a developer whose plans for the property will boost tax revenue."

TRA must acquire private property for a public use: the development of public infrastructure associated with the Authority's operating projects. TRA has never purchased or condemned property for the purpose of economic development. TRA's projects, however, have a positive economic impact on the customers and areas we serve.

One of the largest examples of this can be seen in the development of Lake Livingston during the late 1960's. During this period, TRA acquired sufficient land for the 83,000 surface acre impoundment; easements on thousands of acres of additional land around the lake for flowage easements; and an additional 2,500 plus acres for park sites. The increase in the tax base of the four counties that surround the lake was substantial and permanent. Moreover, Lake Livingston represents 72 percent of all of the water that is available for Houston's use and is of enormous strategic value in maintaining the city's economic health and propelling its future growth.

TRA acquires land pursuant to a Board-approved land rights policy, which protects the property rights of affected landowners.

Since its creation, the Authority has acquired land for five regional wastewater treatment plants, four water treatment plants and hundreds of miles of pipeline rights-of-way connecting the treatment facilities to the wholesale customers we serve. TRA acquires land pursuant to a Board-approved land rights policy, which protects the property rights of affected landowners. Pursuant to that policy, TRA already adheres to many of the reforms suggested by Senate Bill 18, which failed in the recent Legislature.

The Authority's Denton Creek Regional Wastewater System (DCRWS) is one of the best and most recent examples of the economic impact of essential infrastructure. This wastewater treatment facility was initially developed as a prerequisite for the development of the Alliance Airport in southern Denton County in the early 1990's. The evolution for this industrial airport, which has proven to be an extraordinary growth engine for the entire region, would not have been possible without the treatment plant in place.

The treatment facility was originally sized at .75 MGD to provide service to northern Fort Worth in which the airport is located, and all of Roanoke and Haslet. Since 1990, the Denton Creek plant has been expanded four times and is currently being expanded to 11.5 MGD. The customer base has been expanded to 11 communities and the Texas Motor Speedway. The service area of TRA's DCRWS is arguably the most dynamic growth area in north central Texas. Thousands of acres have been converted into tax producing industries, business parks and residential subdivisions.

While economic development is not a primary objective of TRA's business activities, it is unquestionably a direct result and benefit. Public opposition to the use of eminent domain that results in economic development could create a "slippery slope." If legislation fails to account for the difference between projects that are primarily intended for economic development versus those that foster economic development, TRA could be unintentionally prevented from carrying out a necessary public service.

Since September 2004, the Authority has acquired over 130 easements and tracts in fee (for the DCRWS expansion.) TRA has only been required to condemn four percent of those parcels.

Since September 2004, the Authority has acquired over 130 easements and tracts in fee. TRA has only been required to condemn four percent of those parcels. In acquiring private property, TRA's land rights policy mandates the fair and honest treatment of property owners. As soon as a need for property is determined, TRA informs potentially-affected property owners. TRA obtains independent appraisals of property values, and never offers less than that value to property owners. Finally, TRA's land rights policy mandates that a good faith effort be made to negotiate the purchase of needed property and condemnation be pursued only as a last resort.

While TRA is infrequently required to condemn private property in pursuit of its service obligations, new requirements that could make the process of property acquisition more expensive and time consuming present a risk to its cost-effective operation. While some of the affected property owners would prefer to be left out of the process, TRA's success can be measured in the small percentage of condemnations that it must initiate to carry out its public mission.

Employee Milestones

New Hires

Eric Blackmon joined DCRWS as Operator I. CRWS welcomes **Michelle Critz** as Laboratory Technician/ Bookkeeper. **Susan Davis** joined NR as Senior Secretary. TCWSP welcomes **Adam Estfan** as Operator I. **Willard Fluary** joined CRWS as Maintenance Mechanic I. CRWS welcomes **Brandon Harris** as Maintenance Mechanic II. **Meredith Moser** joined CRWS as Chemist. DCRWS welcomes **Jeffrey Ramsey-El** as Maintenance Mechanic II.

Promotions

Yesha Rai was promoted to Senior Secretary at NR.

Carion Taylor was promoted and transferred to Southern Region Support Services Coordinator.

Current Events

Marion Tims, TCWSP Senior Operator, received his Class A Surface Water Treatment Water Operator License.

Michael Lee, TCWSP Operator I, received his Class C Surface Water Treatment Operator License.

Jarrod Vickrey, TCWSP Operator I, received his Class C Surface Water Treatment Operator License.

Malcolm (Evart) Cowdin, CRWS Maintenance Mechanic II, received the Water Environment Association of Texas' Presidential Service Award at Texas Water 2009 in Galveston, Texas.

John Bennett, DCRWS Project Manager, received the Water Environment Association of Texas' Presidential Service Award.

Congratulations to **Danny Vance**, TRA General Manager, and his wife, Janet, who celebrated their 42nd wedding anniversary on May 27, 2009.

Jimmy Chadwick, CRWS Maintenance Operations Chief, and his wife, Pam, celebrated their 26th wedding anniversary on May 7.

Mark Stephens, Operator II TCRWSS, celebrated the birth of his first grand baby. Nevaeh Fayth Monk was born on April 13, 2009 to parents Bree & Michael Monk. Nevaeh weighed 6 pounds, 2 ounces at birth.

Brandt Taylor, son of **Dustin Taylor**, Construction Inspector II, won the Destination Imagination Global competition in the Junior High Division on May 22. Brandt first won the Regional Competition in Mansfield, followed by the State competition in Houston before competing in the Global competition in Knoxville, Tennessee. Brandt competed against 66 teams from each state and other countries to bring home the First Place trophy.

Stephanie Michelle Mikus, daughter of Greg Mikus, CRWS Maintenance Mechanic, graduated in the top ten percent of her class at Aledo High School. Stephanie will be attending Texas Women's University in Denton, majoring in Music Therapy. Stephanie plays the flute and piccolo.

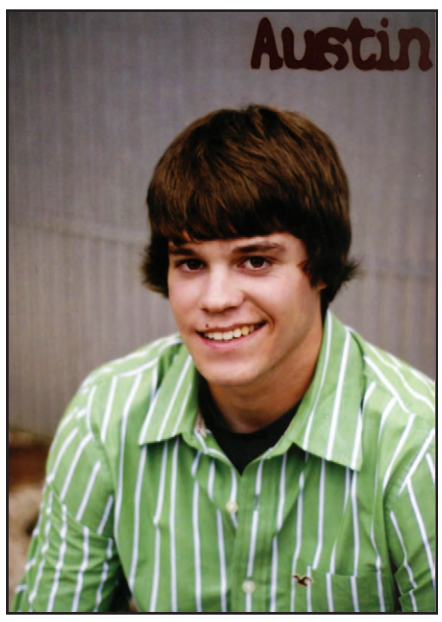
Ginger Bronson, daughter of Debbie Bronson, Public Information Assistant, graduated from West Academy High School. Ginger will attend Randolph College in Virginia on academic scholarship. She plans to major in biology.

Ernestine Towns, LLP Custodian, retired on May 1, 2009 after 28 years of pleasant and cheerful service to TRA. Ernestine joined LLP on May 3, 1982.

Jimmy Chadwick, CRWS Maintenance Operations Chief, recently completed extensive repairs on an M-5-210C Maule. The plane was involved in an accident where it "landed long on a short field." Jimmy acquired the plane in December of 2007. He recovered the fuselage, repainted the wings and made mechanical repairs.

Michael DuPuy graduated from KD Studio Actors Conservatory with an Associate's Degree of Applied Arts on May 22, 2009. Michael's proud parents are David DuPuy, CRWS Electronics Technician Chief/ Metering, and his wife, Barbara.

Adam Sanders, son of Thomas Sanders, Construction Services Manager, graduated from Harris County Sheriff's Department Academy on May 13. Adam recently graduated from Sam Houston State University in December with a Major in Criminal Justice and a Minor in Business Administration. His goal is to work for the K-9 Unit.



Warren Brewer, Northern Region Manager, is the proud grandfather of two graduating High School Seniors this spring.

Austin Brewer, son of Jeannie and Brian Brewer, graduated from Sulphur Springs High School on May 23. He played football and baseball at SSHS and was a kicker on the Wildcats 4A Division 2 State Football 2008 Championship team. Austin will attend Howard Payne University in Brownwood. He will play football with the Howard Payne Yellow Jackets in the fall and study sports medicine and coaching.

Colton Brewer, son of Lauri and Dr. Shawn Brewer, graduated from Eastland High School as Valedictorian on May 29. He played football, basketball, track and baseball at EHS and was an All-District, All State Academic, and MVP Quarterback and Running back. Colton will attend Hardin Simmons University in Abilene in the fall. He will play football with the Hardin Simmons Cowboys and major in Education. He plans to teach math and coach athletics.

Ashley (left) and Avery Mackey, daughters of Alison Mackey, Executive Assistant to the General Manager.

Ashley graduated from the University of Texas at Austin with a Masters in Professional Accounting and an undergraduate degree in Business Honors with a Minor in Spanish.

Avery graduated from Martin High School with plans to attend Texas A&M University.

Terry Booth, TCWSP Senior Maintenance Mechanic, retired on April 17, 2009 after 23 years of service at TRA. Terry joined the Authority on December 29, 1986 as Maintenance Mechanic II and was promoted to Senior Maintenance Mechanic in October 1988.

CRWS Biosolids Program Receives Management Award

The Trinity River Authority's Central Regional Wastewater System received the Ronald B. Sieger Biosolids Management Award from the Water Environment Association of Texas at the Texas Water 2009 conference held in Galveston, Texas from April 12-17.

The Sieger Biosolids Award recognizes significant accomplishments in the field of biosolids technology and management practices in the State of Texas.

CRWS began operations in December 1959, serving the Texas cities of Irving, Grand Prairie, Farmers Branch, and a portion of western Dallas. The system has since expanded to serve all or part of 21 contracting parties and approximately 1.2 million people in the Dallas/Fort Worth geographical area.

As of 2009, the CRWS Plant, now the third largest in the state of Texas, has a rated treatment capacity of 162 million gallons per day and the ability to treat a 2-hour peak of 405 MGD. The System is currently undergoing a series of construction projects that will result in an increase in rated capacity to 189 MGD.

The CRWS Biosolids Program has evolved into a sterling, cost-effective model of top quality biosolids production through the use of cutting-edge biosolids technology and excellent management practices. The CRWS biosolids facility produces Class biosolids in the largest EnVessel pasteurization unit process in the United States. In 2007, CRWS beneficially reused 100% of the biosolids in a land application program.

The CRWS Biosolids Program has developed, in large part, as the result of design and technical advice by the late Ronald B. Sieger. The program serves as a monument to his professional dedication and vast technical knowledge of wastewater biosolids. CRWS land applies 100% of the biosolids produced at the plant in direct reflection of Sieger's passionate beliefs in the environmental benefits of biosolids when applied as a soil amendment to agricultural lands.

Prior to 1996, CRWS disposed of biosolids in an on-site mono-fill, a convenient and low-cost method of disposing biosolids. However, CRWS implemented a partial biosolids reuse program in March 1996, land applying 20% of CRWS biosolids. The benefits and cost effectiveness of beneficial biosolids reuse for land application quickly outweighed other biosolids disposal options. By November 1996, CRWS was land applying 100% of its biosolids in a beneficial reuse program.

Land application of biosolids is not only a cost-effective option of sludge disposal, it is tremendously beneficial for agricultural business and the environment as well. Biosolids cost 86% less than commercial inorganic fertilizers. Land applying biosolids results in bigger, lusher crops that grow 50% faster than those grown with commercial fertilizers. Cows and calves have been shown to prefer crops grown with biosolids, and calves fed with biosolids supplemented crops have demonstrated approximately 30% more weight gain. Additionally, land applying biosolids improves the soil and results in less soil erosion and runoff, a direct benefit for the environment.

CRWS management and staff accept the Ronald B. Sieger Biosolids Management Award from the Water Environment Association of Texas. Seen here from left to right are Brad Castleberry, WEAT President; Bill Tatum, CRWS Project Manager; Cathy Henderson-Sieger, CRWS Quality Assurance Coordinator; Mike Young, CRWS Manager of Operations; and Paul Freedman, the 2008-2009 President-Elect of the Water Environment Federation.

By mid 2001, all Biosolids generated at CRWS were certified Class A and met the criteria for Exceptional Quality Biosolids. Recent changes to the biosolids treatment process, designed by Ron Sieger, will allow for the continued treatment of CRWS biosolids to a Class A standard for the foreseeable future at one of the lowest costs of any facility in the United States. Careful attention to contract negotiations in partnering with a private firm for land application of CRWS biosolids, also facilitated and overseen by Ron Sieger, will allow for the continued beneficial reuse of CRWS biosolids for at least another seven years.

Over the last twelve years, more than 600,000 tons of dry CRWS' biosolids have been land applied by contractors to more than 50 individual application sites in over a dozen counties surrounding the DFW area.

Before his death in 2008, Ron Sieger, was highly complimentary of the CRWS' Biosolids Management Program and the operational team that runs the program.

"No matter how good the engineer's design, without a good operator running the process, it's just a bunch of concrete and expensive equipment," Sieger said.

TRA Employees Recognized for Heroism

From left to right: Brad Castleberry, WEAT President; Steven Hodges, Electronic Technician II; Andrew Esquibel, Maintenance Mechanic II; and Paul Freedman, the 2008-2009 President-Elect of the Water Environment Federation.

Water Environment Association of Texas honored two employees from the Trinity River Authority's Denton Creek Regional Wastewater System with the Medal of Honor for Heroism at Texas Water 2009 in Galveston, Texas.

The WEAT reserves this honor for those who have demonstrated exceptional courage and bravery in the performance of heroic behavior towards their fellow man.

Steven Hodges, Electronic Technician II, and Andrew Esquibel, Maintenance Mechanic II, were recognized for their efforts in assisting the city of Bayou Vista restore water and wastewater services to resident's homes after the community suffered extensive damage during Hurricane Ike in September of 2008.

Hodges and Esquibel traveled to Bayou Vista in the days immediately following the storm. The two worked 12 and 15 hour days in hot, humid conditions to restore water service to 250 homes.

Coburn Wins AWWA Life Membership Award

Dwayne Coburn, Manager Southern Region Support Services, received the American Water Works Association's Life Membership Award for 30 years of service to the water community and American Water Works Association.

CReWSers Squeak By With 12th State Championship Win

The Trinity River Authority's Operations Challenge team from Central Regional Wastewater System, the CReWSers, won their 12th consecutive state competition at Texas Water 2009 held in Galveston, Texas on April 16. The CReWSers took first place in two of the five competition events: Pump Maintenance and Safety. The team's consistent and steady performance on all five events resulted in the highest overall score, and, another state championship win.

Occasionally an operations challenge team wins just two of the five competition events and still manages to win the overall competition. Much less likely is a scenario in which a team wins three of the competition events but does not win the championship trophy. But that is exactly what happened to the Dallas Aqua Techs at this year's state competition. The Aqua Techs won the Laboratory, Process Control and Collection System Repair events but finished in second place overall with 27.02 points less than the CReWSers. This outcome seems puzzling and the Aqua Techs were not the only ones who thought so.

A close look at how the competition is scored shows how this can happen. The teams are timed on each of the events except Process Control, which is a pencil and paper test. In addition, teams can suffer penalties which serve to increase time if errors or accidents occur during the competition. A common error, for example, would be failure to visually check the oil dipstick during the maintenance event. Such an error would result in a 10 or 15 second addition to the raw time. The final time for each team in an event is the total of the raw time plus penalty time, if any. The final time scores are then converted to a point score. The team with the lowest final time is given 100 points. The team with the highest final time is scored 25 points. Each of the remaining teams is given a score between 25 and 99 depending on how close they finish to the first place team. Overall team ranking is determined by totaling the points across all five events with the highest possible score of 500 points and the lowest possible score of 100 points.

The TRA CReWSers, from left to right: Raudel Juarez, CRWS Senior Operator and team coach; David Brown, CRWS Senior Maintenance Mechanic; Dale Burrow, CRWS Senior Field Technician and team captain; Steve Price, CRWS Chief Operator; Jake Burwell, CSS Construction Inspector II.

As the attached chart indicates, the CReWSers won both the Safety and Pump Maintenance events earning the team 100 points for each. In contrast, the Dallas Aqua Techs came in third on the Safety event and fourth on the Maintenance event earning 38.71 and 25.00 points respectively. This put the Aqua Techs substantially behind the CReWSers on those two events. Meanwhile, the Dallas team won first place in Process, Laboratory and Collections with the corresponding 100 points for each event. The CReWSers took second place in Process Control and Laboratory with 90.72 and 73.41 points respectively. For those two events, the CReWSers came in second but finished close to Dallas Aqua Techs in points. The CReWSers took third place in Collections due to a devastating penalty resulting in just 26.60 points for the event.

In the end, it was the CReWSers' consistently high scores across all of the events except Collections that earned the team the right to take home the state championship trophy for the 12th time in twelve years. This same strategy has helped the CReWSers win the National Operations Challenge three times in the last four years.

Penalties can make a significant difference in operations challenge competitions. After 14 years of competing, the TRA CReWSers are highly knowledgeable of the wastewater industry and operations challenge competition rules. They know how to avoid penalties when possible. If the team does suffer a penalty, they have the confidence and experience to appeal the judge's decision.

"There is no doubt the level of competition has increased significantly in the State of Texas," remarked Bill Tatum, CRWS Project Manager. "The CReWSers have to work harder to stay on top," he added.

While the CReWSers held onto the state championship in April, facing the Dallas Aqua Techs in the national competition next fall will be daunting given the Aqua Techs' excellent performance on the Laboratory, Process Control and Collection System events. Both teams are more determined than ever to win, if only to best the other. Look for the sparks to fly during a high-energy, highly spirited competition in October at WEFTEC.09 in Orlando, Florida.

About Operations Challenge

Operations Challenge, supported statewide by Water Environment Association of Texas and internationally by the Water Environment Federation, is designed to showcase the skills and education of wastewater operators. Four and five-member teams compete in five events: Laboratory, Collection System, Pump and Motor Maintenance, Safety and Process Control. Each event requires technical knowledge and physical skill. Teams are judged for accuracy and speed.

2009 TEXAS STATE OPERATIONS CHALLENGE SCORE RESULTS

Event Time (in seconds) / Point Conversion / Ranking

	LABORATORY			SAFETY			PROCESS			MAINTENANCE			COLLECTIONS			Final Results	
	Best Time		522.13	Best Time		204.00	Most Points		2174.00	Best Time		257.50	Best Time		78.06		
	Slowest Time		998.02	Slowest Time		401.00	Least points		755.00	Slowest Time		381.40	Slowest Time		111.88		
	Time	Points	Ranking	Time	Points	Ranking	Points	Points	Ranking	Time	Points	Ranking	Time	Points	Ranking	Points	Ranking
TRA CReWSers	581.04	90.72	2	204.00	100.00	1	1671.00	73.41	2	257.50	100.00	1	111.16	26.60	3	390.73	1
Aqua Techs	522.13	100.00	1	365.00	38.71	3	2174.00	100.00	1	381.40	25.00	4	78.06	100.00	1	363.71	2
Dillo Xxpress	998.02	25.00	4	401.00	25.00	4	988.00	37.32	3	334.72	53.26	3	111.88	25.00	4	165.57	4
Power SAWS	780.88	59.22	3	230.00	90.10	2	755.00	25.00	4	260.60	98.12	2	104.57	41.21	2	313.66	3

Trinity River Basin CRP Steering Committee Meets at Trinity River Audubon Center

The Trinity River Basin Clean Rivers Program held its annual Steering Committee meeting at the newly opened Trinity River Audubon Center in Dallas, Texas on April 30.

The annual meeting serves to disseminate information concerning CRP activities for the previous year and discuss plans for the coming year. Angela Kilpatrick, TRA's CRP Coordinator, provided the committee with an overview of the program with special emphasis on program updates. Kilpatrick also presented the 2009 TRA Basin Highlights Report which summarizes water quality in the Trinity River basin.

Three guest speakers associated with the Trinity River basin spoke to the committee. Amy Turner with the Waterborne Education Center in the lower Trinity River basin addressed the committee about the WEC's remarkable recovery after losing a boat to Hurricane Ike in 2008. Tim Wentrcek, DFW Land Use Mapping, presented stream assessments for the Bear Creek watershed. Robert Bergeron, P.E. with R. W. Beck, Inc., offered a process for obtaining stakeholder support and funding for water quality programs.

The Trinity River Audubon Center, located at 6500 South Loop 12 in Dallas, encompasses 120 acres of the Great Trinity Forest, the largest urban hardwood forest in the United States. This beautiful forest supports a diverse community of plant and animal species and contains a unique mixture of bottomland hardwoods, wetlands and grasslands.

The land on which the Trinity River Audubon Center is located was formerly an illegal dump site. The area has been reclaimed by the City of Dallas transforming a municipal liability into a major asset. The Audubon Center is the first completed project in the City of Dallas' Trinity River Corridor Project.

Visitors can explore hands-on exhibits, four miles of nature viewing trails, the Children's Discovery Garden and programs to educate and entertain children, families and adults.

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Anniversaries

30 Years
Thomas Sanders, Executive Manager, Construction Services
Jay Bowen Jr., Chief Operator, CRWS

15 Years
Greg Mikus, Chief Maint. Mech., CRWS
Terry Burks, Senior Maint. Mech., LLP

10 Years
Eugenia Jones, Senior Biologist, CRWS

5 Years
Avelardo De Los Santos, Operator II, MCRWS

3 Years
Ken Moore, CSS Construction Insp. II
Dustin Taylor, CSS Construction Insp. II
Michael Lee, Operator I, TCWSP

Houston Water Works Festival

Mark Waters, Assistant Manager at Lake Livingston Project, and Deputy Drip join forces at the 2009 Houston Water Works Festival to protect our water resources. The Trinity River Authority has participated in the Festival for the last two years. Water Works is presented annually by the City of Houston, Drinking Water Operations. The Festival's motto is Protecting our Water Resources.