WEST HARRIS COUNTY REGIONAL WATER AUTHORITY

PARTNERS IN PROGRESS FALL 2019



WHCRWA's WORKHORSE...



The Authority's Pump Station #1, completed in June 2008, pumps 28 million gallons of water a day... which provides water for about 200,000 households.

Visit the www.whcrwa.com/ videos to see how this amazing facility works.





LEARN ABOUT PATTY POTTY AND **IOIN HER CRUSADE**

Today, pre-moistened "wipes" are available for virtually every household and personal hygiene purpose. Unfortunately, when it comes to supposedly "flushable" wipes, many of these manmade fiber products are nearly indestructible, so they 'flush down, but they don't flush out!"

According to Patty Potty, spokesperson for the "No Wipes in the Pipes" campaign, "People are flushing all kinds of things down the toilet! It's not a trash can, you know! Wipes don't decompose. They get tangled up in waste-water treatment plant screens and filters, creating giant WIPES-BERGS that cost hundreds of thousands of dollars each year to clear and remove!"

Toilet paper is supposed to come apart in water. It is fragile by

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ANNUAL TOWN HALL

the Fall Forum that will be held at the Fry Road MUD Administration Building, 6 to 8 pm.

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design. A pre-moistened wipe, on the other hand, is intended to be tough enough to hold up while soaking in its own liquid, and to still be sturdy when used. The wipes are made of very strong fibers, and like a spiderweb...they look deceptively delicate.

"There is nothing wrong with these products," Patty continued. "I use them myself! The problem is how people dispose of them, so we're asking folks to trash 'em, don't flush 'em!" For more information on this important topics visit www.pattypotty.com



BOARD OF DIRECTORS Eric Hansen, President Director, Precinct 3

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Introducing PARTNERS...

In the fall of 2018, the WHCRWA introduced a major video documentary, **Partners in Progress**, that features interviews with representatives of regional water entities and the City of Houston partnering to construct massive new infrastructure projects to bring more surface water into the Authority's system to keep pace with future demand.

Over the past year, thousands of people have taken the time to watch this 17 minute video, which confirms the old addage, "a picture is worth a thousand words." Today, the huge projects are progressing steadily and, as anticipated, the cost of water continues to rise to fund them.

It is a challenge for a diverse group of stakeholders to keep up with the construction progress, so we are expanding current channels of communications, and opening new ones directly with the Districts. **PART-NERS** -- an e-newsletter -- will be "published" periodically and will be accessible through a special online link. It can be read online or printed. We want to make this pubilcation as interactive as possible, and we will welcome your questions, suggestions for topics to address, and comments.

When was the last time you reached out to your Precinct Director on the Board? Is this something you do regularly? Did you have a question? Or just want to express your opinion on something? Do you attend the monthly board meetings? Are you aware that there are FREE publications that you can order for distribution to your customers?

Welcome to **PARTNERS!** We hope you will become a regular reader and participant! Let us hear from you!

Barbara Payne, Editor



SAVE THE DATE....Mark your calendars for the WHCRWA Annual Fall Forum/Town Hall event!

Each year, the Authority invites MUD directors and residents within its boundaries to participate in an important forum to share up to date information on progress in securing a long-range supply of drinking water -- where it will come from, how much it will cost, and how we're going to pay for it.

This year, presenters will be key experts who will discuss the plant expansion considered to be the largest design-build project of its kind anywhere in the world today; financial information; and details about the Texas Water Development Board's SWIFT program that will help save millions of dollars in funding future water resources. There will also be ample time reserved for questions and for attendees to visit with the WHCRWA board members.



MEET ERIC HANSEN...WHCRWA's NEW PRESIDENT

Eric, a Houston area native, graduated from Texas A&M University with a Bachelor of Environmental Design and graduate degrees in Land and Real Estate Development and Construction Management. Eric is a licensed Texas Real Estate Broker. He is President of HealthLink Development, a construction and real estate consulting company that operates across the United States. His experience includes the development, planning, design, and construction of senior housing projects including skilled nursing, assisted living and Alzheimer's/memory care facilities; and evaluating, planning, and implementing commercial and residential projects in the local Katy, Texas area. Eric served on the Board of Directors of Harris County MUD #81 for 7 years before he joined the WHCRWA Board of Directors in November 2009.

PARTNERS -- What made you decide to become a MUD director?

A: Being in the wrong place at the right time or being in the right place at the wrong time. I was representing a client with a project in the MUD that I happened to live in (MUD 81) and attended a board meeting due to an issue I was having. I was successful for my client, and noticed an agenda item about filling an unexpired seat on the Board. I mentioned that I lived in the District and was qualified to serve on the Board. I was later appointed to fill the unexpired term of Art Garden who had left the HCMUD 81 Board to become the representative of Precinct #3 for the WHCRWA when it was created.



Eric being interviewed for the "Partners in Progress" video.

PARTNERS -- Once on the board, were you surprised about any issues you had to deal with?

A: I can't say that I was surprised by any of the

issues that we had to deal with. I was already familiar with MUDs and how they operated when I joined the board as I had just worked on a project that created a new MUD. I was very surprised when I joined the WHCRWA, however, due to the scope and magnitude of what is required to meet the surface water conversion mandate.

PARTNERS -- What do you think most people don't know about MUDs?

A: I once had a law professor in an urban planning class characterize MUDs "as the best and most basic form of representative local government". Most mature MUDs are governed by Boards whose Directors live in the MUD and are therefore affected the same as everyone else by consequences of their decisions. It has been interesting to see changes in the law over the years that have has allowed MUDs to get involved in parks and recreation as well as being able to contract for fire and police services.

PARTNERS -- What do you think is the most difficult job/tasks that MUDs have to address?

A: One of the most difficult jobs that a current MUD Director has to address is balancing finances and capital expense projects with the Harris-Galveston Subsidence District (HGSD) mandated conversion to surface water. Several MUDs have been entirely converted from ground water to surface water, and many others have been partially converted. As the new Northeast Water Purification Plant (NEWPP) is constructed and is able to begin delivering water in the next 4 - 5 years, there will be an internal balancing act that MUDs must deal with. Should they drill a new well to deal with growth when they will have surface water in just a few years? Should they invest in major rehabilitation projects? The need for, and timing of, new infrastructure and maintenance projects coupled with the timing of

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ERIC HANSEN --

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surface water conversion is probably the most difficult job for MUDs today.

PARTNERS -- How does your "day job/career" contribute to your service on the board? A: I have an undergraduate degree in Environmental Design (Architecture) and graduate degrees in Land Development and Construction Management. My day job is working as a 3rd Party Owner's Representative to national REITs (Real Estate Investment Trust) where I am involved in the design, construction, and licensure of health care facilities, including skilled nursing, Alzheimer's, and assisted living facilities. My role was once described as being the mediator before there is a need for an Arbitrator. I monitor budgets, schedule, changes, disputes, and work to make sure that problems that come up in the normal course of a project are addressed responsibly so that the project is completed without any problems. All of this directly contributes to the work that the WHCRWA is doing with the various design and construction projects to be able to meet the surface water conversion mandate.



Eric in one of his most familiar places...in an airplane traveling on client business.

PARTNERS -- What does your representative assignment with the water treatment plant involve?

A: My role as the WHCRWA representative to the NEWPP Expansion Project involves participating in high level planning meetings, making sure the WHCRWA financial team is aware of upcoming financial requirements, and asking "why" a lot. I have learned over the years that "why?" is the question that seems to save the most money in any project. Why are we doing this at all? Why is this the solution? All of the participating regional Water

Authorities that are participating in the NEWPP are integrated into an executive project management team (PMT). We have been involved in the programming, design, and decision making process from the beginning. Major decisions are made through a consensus process and my role as the WHCRWA project representative also involves casting the WHCRWA vote when specific items are required to be voted on.



Eric is dwarfed by the massive waterline pipe.

PARTNERS -- Is there any concern about having enough water for the years ahead? Any issues still up in the air?

A: The NEWPP Expansion Project is being delivered under a design-build delivery method. The design started in January 2016 and has been evaluated at the 10%, 30%, 60%, and 90% milestones. The final Guaranteed Maximum Price contract was approved by the City of Houston on July 10. With that final GMP price, we are moving into the construction phase. The plant has a very resilient design that was influenced by the way that the other water plants have historically operated as well as the water quality that was encountered during the Memorial Day and Tax Day floods. Those were historic floods that produced water quality in Lake Houston that is challenging to treat. The final design will allow the NEWPP to reliably produce the water that is needed under the widest range of possible conditions well into the future.

PARTNERS -- Are we (the Partners) going to meet all the deadlines?

A: Yes. The current construction of the NEWPP and the WHCRWA Surface Water Supply Project

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are scheduled to be complete so that we can deliver more surface water before our next conversion requirement in 2025.

PARTNERS -- Given an opportunity to talk one-on-one with a MUD director or area resident, what would you most like them to understand about the role of the WHCRWA and the challenge to provide secure future water supplies? A: The WHCRWA implements the surface water conversion mandate from the Harris-Galveston Subsidence District, which was mandated by the State of Texas to reduce ground water withdrawal from aquifers in the region. This mandate exists because of ground subsidence and the problems that subsidence brings with it such as enhanced flooding and broken infrastructure. By undertaking and spending money on the projects that the WHCRWA is involved in, we are participating in a regional approach to solving problems that affect everyone and securing a reliable long-term water supply.

WHCRWA MUD SPONSORS COMMUNITY EVENT

On August 8th, Harris County MUD No. 71 sponsored their annual SUMMER SPLASH EVENT at their Administration Building/Park on Clay Road in Katy. Good weather and plenty of fun to be had brought out a great crowd. In addition to enjoying hot dogs, families had the opportunity to visit the new WHCRWA *Water Quality Mobile Teaching Lab.* One of the highlights was Patty Potty's TOILET TOSS game with plenty of prizes. The game helps reinforce Patty's important message, "**NO WIPES IN THE PIPES.**"

The Water Quality Mobile Teaching Lab is available to MUDs and schools and can be scheduled through the Authority's website www.whcrwa.com/education.













About the Surface Water Supply Project

To meet water demands for 2025 and beyond, and to meet the Harris-Galveston Subsidence District and Fort Bend Subsidence District's groundwater reduction requirements, the West Harris County Regional Water Authority (WHCRWA) has partnered with the North Fort Bend Water Authority (NFBWA) to deliver the Surface Water Supply Project (SWSP).

The project starts at the City of Houston's Northeast Water Purification Plant and extends west through north Houston to west Harris County. This project will supply west Harris County and north Fort Bend County residents the same water supply received by City of Houston residents, and the additional demand will be offset by the Luce Bayou Interbasin Transfer Project and other City of Houston-led improvements. Surface water will be supplied from Lake Houston by way of the City of Houston's Northeast Water Purification Plant, through approximately 39 miles of 8-foot-diameter cathodically protected welded steel pipeline and two large pump stations.

Project Timeline Update

Since the start of detailed design on the SWSP in 2016, the Project has experienced unforeseen delays, including adjustments to the water line alignment. As a result, this has caused the timeline for the SWSP to change. Now that the Project is nearing completion of the Design Phase, contractors may be seen in your area conducting survey work, requesting access to your property. Prior to conducting surveys, contractors will attempt to contact you before accessing your property by placing door hanger notices. For your convenience, a contractor phone number for coordination is provided as part of the information on the door hanger.

The Construction Phase is now expected to take place from 2020 to 2023. The tentative timelines for each segment are still under development and construction schedules have not yet been defined. The construction planning of each segment will aim to minimize impacts to any given area for extensive amounts of time. Although no segment will be affected for the entire three-year construction phase, further details regarding impacts to individual properties during construction will be provided closer to construction. We will also coordinate with schools and emergency services regarding road closures. Your safety, ease of access, and well-marked detour information will be our priority throughout the life of the Project.

Following construction of the SWSP, delivery of surface water to WHCRWA and NFBWA residents through the new water line is scheduled to begin in 2023.



PROJECT TIMELINE Design

Design of the proposed project, including the 39-mile water line and two large pump stations

Construction

2023

Construction of the pump stations and water line begins

Expected Delivery

Surface water delivered to WHCRWA and NFBWA residents NOTE: Residents often have questions about water -- service, cost, quality and how to use it more efficiently. Some of these questions come through the WHCRWA website, and others are called in to the operators.

This begins a regular feature -- in consumer language -- to help with responses! Have questions on which you'd like additional information? Send us an email...



Did you know that your garden hose can be deadly?

Well, maybe not by itself, but if used incorrectly, a hose can create a potentially dangerous – even life-threatening – situation. In fact, the garden hose is the number-one cause of 'crosscontamination' — where water flows opposite to its intended direction, either from a loss of pressure in the supply lines or an increase in pressure on the customer's side. The water backflow can carry contaminants with it into the waterlines.

So, how can this happen...and how can it be prevented?

Backflow may occur in the event of either backsiphonage or backpressure. Backsiphonage can happen when the pressure in the distribution system drops, drawing water from the consumer's plumbing back into it. Pressure drops might occur in the event of a line break, or high water demand such as fighting a fire nearby. Backpressure can cause backflow when a potable water system is connected to another system that operates at a higher pressure...such as an irrigation system.

Water distribution systems are designed to have the water flow from the water treatment plant to the consumer, but whenever a cross-connection in a plumbing system takes place (when the potable water supply is connected to a non-potable source) contamination can occur if not protected. If a plumbing system is modified, potential crossconnections can occur.

So, what's the danger? First of all, your yard and landscaped areas are full of potentially nasty things that you don't want in your drinking water....like pesticides, fertilizers and animal waste. If your pool or irrigation systems are not properly installed and protected with these devices, your system is vulnerable to backflow. Most of the time, the pressure in the system will keep the water from flowing backwards, but as mentioned earlier, a sudden pressure drop caused by a firetruck, or if the lines are shut down to repair a broken pipe, can trigger a backflow situation in surrounding neighborhoods.

Each of these of these hose use situations can set up a cross-connection; AVOID THEM: • Forcing it into a clogged gutter, downspout, or

• Forcing it into a clogged gutter, downspout, or sewer pipe to flush out a clog;

• Connecting it directly to a hose-end sprayer to apply pesticide or fertilizer to the yard;

• Connecting it to a soap-and-brush attachment to wash the car, boat or siding; and

• Letting the end of the hose lie in a puddle or pool of water on the ground.

Garden hoses are not the only culprits when it comes to cross-contamination. Backflow can also occur from an untreated water supply, such as a private well if the well plumbing is connected to the potable-water-supply plumbing. TCEQ requires that Irrigation systems be connected through a backflow prevention assembly because stagnant water and anything in it, from the sprinkler system could be drawn into the home's potable water supply.

Still not convinced there's a problem? Read this actual case history (provided by the Texas Commission on Environmental Quality (TCEQ) that happened in Texas...

While mixing a batch of pesticide, a worker pushed a garden hose into the tank until it touched the bottom. Nearby, city utility workers opened a flush valve, releasing a large flow of water from a water main. Where the worker was mixing the pesticide, the water pressure dropped, and the flow in the hose reversed. Water and pesticides flowed from the pesticide tank back through the hose and into the water lines of the residence. Luckily, that is where it stopped: the worker mixing the pesticide realized the danger and alerted the utility workers, who closed the flush valves before the contamination reached the city's distribution line. To remove the pesticide from the water lines of the customer, the utility workers had to flush those lines. In case the water main had been contaminated, the utility workers had to flush the city's distribution line, too. Until testing showed authorities that the city's water was safe, they warned customers in the area not to drink it.

The TCEQ requires all public water systems to maintain a cross-connection control program that protects the distribution systems delivering drinking water to homes or businesses. Such a program should include:

• An inspection of customers' private plumbing to identify and prevent cross-connections and potential contamination, including contamination from high lead levels in the plumbing.

• Installation and testing of backflow-prevention assemblies, where required.

• Rules to prevent cross-connections and unacceptable plumbing practices – ordinances, regulations, service agreements, and a plumbing code.

Some public water systems may have more stringent requirements than the TCEQ, but several key requirements are in place:

• Licensed professionals as well as the public water system are responsible for determining the type of back-flow prevention assembly required, based on the degree of hazard.

• Because backflow-prevention assemblies are mechanical assemblies that can fail, the TCEQ requires annual testing of all backflow-prevention assemblies at installation by a TCEQ-licensed tester.

For more information about backflow and cross-connection, visit <u>www.tceq.texas.gov/goto/</u> <u>cc</u>>





The United States has an abundance of water, and is home to the largest freshwater lake system in the world – the Great Lakes, which hold 6 quadrillion gallons of water (that is a 6 followed by 15 zeros!). Texas, on the other hand, has significant water resources but they are not neessarily where they are needed!

With 4.5 percent of the world's population, the U.S. has 8 percent of the water on the planet.

At its mouth in New Orleans, the mighty Mississippi River flows at 4.5 million gallons per second and supplies drinking water to about 15 million people.

Here are some more astonishing facts about this amazing liquid...

■ More than 25 percent of bottled water comes from a municipal water supply – the same place that tap water comes from.

■ Approximately 400 billion gallons of water are used in the U. S. every day.

■ If all the water vapor in the Earth's atmosphere fell at once, and were evenly distributed, it would only cover the Earth with about an inch of water.

■ America uses nearly half of its water for thermoelectric power generation.

■ It takes more than seven years for the average U.S. residence to use the same amount of water that flows over Niagara Falls in just ONE SECOND (750,000 gallons).

■ Water can dissolve more substances than any other liquid.

■ A gallon of water weighs 8.34 pounds.

■ At one drip per second, a faucet can leak 3,000 gallons per year!





What is the latest on infrastructure projects?

LUCE BAYOU INTERBASIN	NE WATER PURIFICATION
TRANSFER PROJECT:	PLANT EXPANSION:
Est. Total Cost ~\$350 M	Est. Total Cost ~\$1.973B
WHCRWA Cost ~\$70 M	WHCRWA COST ~ \$493 M
SURFACE WATER SUPPLY	WHCRWA 2025
PROJECT:	INTERNAL DISTRIBUTION
Est. Cost ~\$1.2 B	LINES : Est. Cost ~\$361 M



SEPTEMBER 2019 -- CONSTRUCTION PROGRESS LUCE BAYOU TRANSFER PROJECT, NEWPP













PHOTOS COURTESY OF STEVE BERCKENHOFF, AECOM AECOM



Did you know that WHCRWA offers FREE water conservation brochures and billing inserts for distribution to District customers...and that they can be ordered online? https://www.whcrwa.com/order-form/

