

# WATERWORKS

Water is a valuable natural resource...please use it wisely.

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## **Water Authority Begins Construction of New Delivery System for Surface Water**

Residents in west Harris County have traditionally relied on groundwater pumped from individual wells by municipal utility districts or other water suppliers to supply all our water needs. This system has served us well over the years, but the water we have "taken" has caused the depletion of the aquifers beneath us. Several years ago, the Harris Galveston Coastal Subsidence District (HGCSA) mandated the phased reduction of our dependence on groundwater to preserve these important aquifers; to give them a "rest" and time to recharge. The first of these mandated reductions is scheduled for January 1, 2010.

Some of the MUDs within the Authority, however, need water now...today. Some have problems with water quality and others just don't have enough in their current wells to serve their growing neighborhoods. They have wrestled with the difficult choice of whether or not to drill new wells (sometimes at a cost approaching a million dollars) in areas that would be converted to surface water in 2010 -- which might make an expensive, new groundwater well obsolete.

By constructing segments of the 2010 delivery lines that are needed now, the Authority -- and therefore local home-owners, as well -- will realize savings in the overall cost of the new water infrastructure. Not only will the current low interest rates have a positive impact on the ultimate price of the total system, but it will be built with today's dollars.

Many of our neighborhoods were constructed years ago, so few residents remember having water lines installed near their homes. This construction will be accomplished by a team of experienced contractors under contract to the Authority and is already underway.

Every reasonable effort will be made to minimize disruption in our neighborhoods and on local streets and thoroughfares. Even so, while there will be some inconvenience and impact to property as this massive project is underway, the Authority's objective is to construct it cost effectively with an eye to minimizing inconvenience.

Meeting the groundwater conversion mandates is *not* negotiable...and doing so successfully requires that all of us work together. Your assistance and cooperation will be a critical factor in helping us achieve this ambitious goal. We are pleased to provide information about the project online ([www.whcrwa.com](http://www.whcrwa.com)) and in a series of comprehensive consumer language publications sent directly to the homes in neighborhoods where construction is underway or planned.

# *A Brief History of the West Harris County Regional Water Authority*

The West Harris County Regional Water Authority -- or WHCRWA -- was created by HB 1842, introduced by Rep. Callegari and sponsored in the Senate by Sen. Lindsay.

Residents in west Harris County have traditionally relied on groundwater pumped from individual wells by municipal utility districts or other water suppliers to supply all our water needs. Several years ago, however, the Harris Galveston Coastal Subsidence District (HGCSO) mandated the phased reduction of our dependence on groundwater to preserve this critical natural resource. This mandate requires that by January 1, 2010, we must have reduced our groundwater pumpage by 30 percent; by January 1, 2020, by 70 percent; and by January 1, 2030 by 80 percent.

The WHCRWA was created by legislation to manage an orderly transition from ground to surface water in compliance with this HGCSO mandate. To accomplish this, the Authority was assigned the responsibility for obtaining and delivering a long-term supply of potable surface water for the water users within its boundaries.

The individual water districts will continue to supply water to their customers, and everyone throughout the Authority will help to pay for the new system and future supply of surface water.

Specifically, the WHCRWA was created to:

- *acquire and provide surface water and groundwater for residential, commercial, industrial, agricultural, and other uses;*
- *reduce groundwater withdrawals;*



*Pictured (left to right) at the Groundbreaking Ceremony for the construction of the new waterlines are WHCRWA Board members: Cam Postle, Stacey Burnett, Skip Rush, Bruce Parker, Art Garden, Dan Sallee, Karla Cannon, Larry Wepler, and Johnny Nelson.*

- *promote the conservation, preservation, protection, recharge, and prevention of waste of groundwater, and of groundwater reservoirs or their subdivisions; and,*
- *control of subsidence caused by withdrawal of water from those groundwater reservoirs or their subdivisions.”*

The area within the Authority’s boundaries is divided into nine Voting Precincts made up of individual utility districts. The Authority is governed by a Board of Directors -- one member to represent each of the Voting Precincts, who serve staggered four-year terms.

The Authority’s Board held its first meeting on June 6, 2001. Soon thereafter, the Board adopted a resolution establishing a **Groundwater Reduction Plan (GRP) Fee** of \$0.10 per 1,000 gallons pumped to pay for Authority costs in developing a GRP, negotiating a water supply contract with the City of Houston, and other costs identified in the Authority’s 2001 budget. (An \$0.18 GRP fee

supported the Authority’s 2002 Budget, and the pumpage fee was raised to \$0.50 in December 2002.)

The Authority completed its Groundwater Reduction Plan and subsequently gained Harris Galveston Coastal Subsidence District approval for this important document within the required timeframe. The WHCRWA had to specify how it would comply with the HGCSO mandate to reduce dependence on groundwater by converting to surface water supplies in a phased 30 year effort: 30% reduction by 2010; 70% by 2020; and 80% by 2030.

Next, the Authority participated in very successful negotiations with the City of Houston for a long-term water supply contract which locked in both price and reservation for the next 20 years. For the 2010 milestone, our total anticipated water demand will be 54.5 million gallons a day, of which 16.3 mgd must come from surface water.

The Authority held its first successful Revenue Bond sale July

2003 that generated \$73 million for construction and an initial payment to the City of Houston for surface water.

The Authority's first surface water delivery projects are currently underway, with more in the design stage (see article on page 1). An entirely new transmission line infrastructure will be constructed within the Authority's boundaries over the next 30 years to distribute surface water to the various utility districts and neighborhoods.

There are currently 5 contracts underway involving approximately 55,000 linear feet of waterline that will provide surface water to 11 utility districts. These projects will cost approximately \$20 million and are scheduled to be complete by summer 2005.

By the end of 2009, seventeen additional waterline construction projects will be complete to convert districts to surface water. ■



*Workmen install a section of 36-inch bar wrapped concrete pipe that's part of the Contract 1 waterline project that begins near SH 529 and Mayard, runs north along Mayard to the dead end, then east to Harmes Road in the easement. The line will go north on Harmes Rd. to Taylor Rd., then west in the easement along Taylor Rd., over to Eldridge, along Eldridge to the Harris County Flood Control District ditch (E135-00-00) then west in the easement. A 12" segment will connect to HCMUD 130's water plant.*

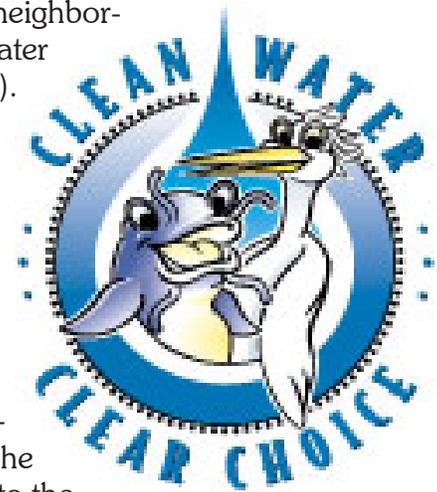
## ***How we can help stop stormwater pollution...***

Stormwater pollution is caused by contaminated runoff from our neighborhoods as it drains from streets or property through the municipal storm water drainage system and into our waterways (bayous, channels, ditches, etc.). It's not that we mean to pollute...but common residential activities -- lawn mowing and fertilizing, car washing and maintenance, and the application of pesticides and herbicides, for example -- may add contaminants to storm water.

Other common items that may be carried by runoff if not disposed of properly include cigarette butts, styrofoam containers, wastepaper, and plastic products. In our area, the sanitary sewer system and the stormwater drainage system are two separate systems. The sanitary sewer system collects household wastewater from toilets, showers and sinks. The wastewater is sent to a treatment plant prior to discharge to the receiving stream. The sole purpose of a stormwater drainage system is to transport storm water to the nearest waterway.

Dumping trash, pollutants and debris into the storm drain is *illegal and is a violation of the Clean Water Act*. Unlike the contents of the sanitary sewer, stormwater is not usually treated and may therefore carry contaminants **directly** into our waterways that supply our drinking water. This problem deserves our attention and commitment to help stop stormwater pollution whenever possible.

Visit [www.cleanwaterclearchoice.org](http://www.cleanwaterclearchoice.org) to learn more about this important issue. ■





Do you know how much water you and your family are using? Do you always read your water bill carefully, comparing usage from the previous months and years?

It may surprise you to know that the average water use by residents in the Authority is between 125 and 175 gallons per person *per day*. That's a lot of water, and almost everyone can get by with a lot less with a little extra thought before you turn on the faucet!

Here are some simple, common sense things you and family members can do around the house to "reduce your use." See how much water you can save -- and that means dollars, too -- by giving these a try.

- ◆ Never pour water down the drain when there may be another use for it, such as watering a plant or garden, or for cleaning around your home.
- ◆ Verify that your home is leak free. Many homes have hidden water leaks. Read your water meter before and after a two-hour period when no water is being used. If the meter does not read exactly the same, there is a leak.
- ◆ Repair dripping faucets by replacing washers. If your faucet is dripping at a rate of one drop per

second, you can expect to waste 2,700 gallons per year. This adds to the cost of water and sewer utilities and adds to your water bill.

- ◆ Retrofit all household faucets by installing aerators with flow restrictors to slow the flow of water.

Inside your house, **bathroom** facilities claim nearly 75% of the water used so this is a great place in which to concentrate your conservation measures.

- ◆ Check for toilet tank leaks by adding food coloring to the tank. If the toilet is leaking, color will appear in the toilet bowl within 30 minutes. (Flush as soon as test is done, since food coloring may stain tank.) Also check toilets for worn out, corroded or bent parts. Most replacement parts are inexpensive, readily available and easily installed.
- ◆ If the toilet handle frequently sticks in the flush position letting water run constantly, replace or adjust it. This running water can run up your bill, too.
- ◆ Install a toilet dam or displacement device such as a bag or bottle to cut down on the amount of water needed for each flush. Be sure installation does not interfere with the operating parts. When purchasing new or replacement toilets, buy only low-volume units which use less than half the water of older models. In Texas, low-volume units are required by state law.
- ◆ Avoid flushing the toilet unnecessarily. Don't use it as a trash can.
- ◆ Take shorter showers. Replace your showerhead with an ultra-low-flow version. Some units are available that allow you to cut off the flow without adjusting the water temperature knobs.
- ◆ Place a bucket in the shower to catch excess water and use this to water plants. The same technique can be used when washing dishes

or vegetables in the sink.

There are lots of ways to save water in the **kitchen and laundry**:

- ◆ Operate automatic dishwashers and clothes washers only when they are fully loaded. Set the water level for the size of load you are using.



- ◆ Store drinking water in the refrigerator. Don't let the tap run while you are waiting for cool water to flow.
- ◆ Do not use running water to thaw meat or other frozen foods. Defrost food overnight in the refrigerator or use the defrost setting on your microwave.
- ◆ Consider installing an instant water heater on your kitchen sink so you don't have to let the water run while it heats up. This will reduce water heating costs for your household.
- ◆ Insulate your water pipes. You'll get hot water faster and avoid wasting water while it heats up.
- ◆ Don't let water run while shaving or washing your face. Brush your teeth first while waiting for water to get hot, then wash or shave after filling the basin.

**Conserve water because it is the right thing to do.** Try to do one thing each day that will result in saving water. Don't worry if the savings are minimal. Every drop counts.

You CAN make a difference... especially if all of us try!

# Ready for a COLD Winter?

This may be Houston, but we're long overdue for a chilly winter season. Since this doesn't happen every year, it is easy to forget that more than our plants and pets need some special care when the thermometer dips into the freezing zone.

During prolonged cold snaps, with more than 36 hours of temperatures below 32 degrees, water pipes that pass through outside walls without adequate insulation may begin to freeze. This causes one of the nastiest of household calamities -- broken pipes through which water escapes to cause amazing damage. Drips can spring up where you didn't even know there were pipes -- like over the hot water heater or along the bathroom wall.

Here are some common sense things you can do to minimize the risk of pipe damage...

**1. Insulate your house.** Reduce air leaks to keep heat in and cold out. Caulk or weatherstrip doors and windows. Pay special attention to outside walls where pipe are likely to be located -- near kitchens, bathrooms and laundry rooms -- and add insulation if possible.



2. When temperatures drop below freezing, **leave cupboard doors under kitchen and bathroom sinks open** to keep the pipes warm.

**3. Plan to be away during the winter months?** Ask a neighbor or family member to make a special house check if the temperatures take a nose dive. If you have taken care of winterizing basics, these spot checks will make sure nothing has gone wrong to cause a water leak to occur.

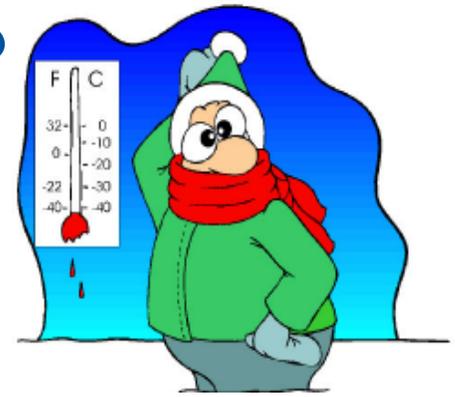


**4. Keep pipes from freezing.**

Wrap the pipes in insulation made especially for water pipes, or in layers of old newspaper, lapping the ends and tying them around the pipes. Cover the newspapers with plastic to keep out moisture. Do this for any pipes you can access that are near outside walls, mostly under sinks. Wrap the outside faucets and all exposed pipes, as well.

**5. Check the manufacturer's instructions for winterizing advice for above-ground hot tubs or spas.** Fortunately, cold spells don't usually stay around long enough to threaten in-ground pools, although it is a good idea to check your owner's manual for winterizing tips... just in case.

**6. If you have an irrigation system, turn off the water to the sprinklers at the main valve.** Set the automatic irrigation controller to the "rain" setting, and turn on each of the valves to release pressure in the pipes. It is usually not necessary to drain all



of the water out of any irrigation components because in temperate climates like Houston, the ground doesn't usually freeze that deep. The above-ground equipment does need to be protected, however. Self-sticking foam insulating tape or tubes work well. Sprinkler system suppliers may offer additional advice or supplies to help your weatherizing process. Do make sure that the main shut-off valve for the system is "freeze proof."

**7. Let the faucets drip a little** when extremely cold temperatures linger and there is imminent danger of pipes freezing. Wasting a little water may help prevent costly freezing damage, but don't allow the water to drip any longer than absolutely necessary. Know where the valve for shutting off the water coming into your home is located. As a last resort, you may have to shut off this main valve and drain all the pipes to keep them from freezing and bursting.

If the pipes freeze despite all your efforts to prevent it, open faucets wide to allow for expansion of the frozen water. When the pipes thaw, listen carefully for the sound of water running when the faucet is turned off. This could indicate a broken water line, and this should be reported to your water district at once. If the break is outside the house it is up to the water district to fix; however, a break inside is your responsibility to repair -- and the sooner the better! 💧



## WHCRWA Sponsors WATERWISE Program in Local Schools

The need for educating our children about the importance of water conservation -- and, just as necessary, showing them specific ways that they and their families can conserve at home -- is a critical component to assuring our future water supply.

For years, the Harris-Galveston Coastal Subsidence District has partnered with Municipal Utility Districts (MUDs) to bring a specially tailored version of the National Waterwise Program's innovative classroom experience to our local schools. This program has been so enthusiastically welcomed in 5th grade classrooms throughout the west Harris County area that the WHCRWA Board of Directors decided to sponsor 5,000 of the hands-on kits each school year. To date, the Authority has sponsored 15,000 kits.

### Waterwise

Written for teachers by teachers, Waterwise is not only fun, result-driven and STREAMLINED, but it is flexible -- a program that has, over the years, evolved to incorporate exciting instructional elements requested by both students and teachers.

In the 2003-2004 school year, the Subsidence District introduced new packaging for the Waterwise kits -- a cool, smart square box design with a convenient handle to ease transporting home. And because it's also im-

portant to keep up with today's technology in the classroom...a new, CD-ROM game -- 'Adventures in Green Valley' -- was recently released, and offers another interesting way to entice students into incorporating water conservation into their daily lives.

### What's In the Box?

When it comes time to take the Waterwise kits home, the youngsters and their parents are amazed at the "gifts" they have received. Here's what's inside:



■ **High Efficiency Showerhead:** With a lifetime warranty and a chrome-plated, solid brass hex head, this water-saving showerhead is an easy, first step to conserving water in the bathroom.

■ **Multi-Swivel Kitchen Aerator:** Install this onto your current kitchen sink faucet and start saving water at an astonishing 2.0 gpm (gallons per minute). It's easy to install and is conveniently adjustable for spray or stream.

■ **Flip Lever Bathroom Aerator:** This interesting gadget is another way to conserve in the bathroom. Put it on full-flow for shaving and adjust to trickle-flow to maintain water temperature.

■ **Toilet Leak Detector Tablets:** Leaky toilets can waste up to 10,000 gallons of water per year. Check for leaks with these easy-to-use detector tablets -- just drop them in and see if the water turns blue!

■ **Water Temp Check Card:** For every 10 degrees Fahrenheit that you lower your water temperature, you can save 6% off your water heating bill. Dip the card into a cup filled with your faucet's hottest water -- and find out how little it takes for you to make a difference.

■ **Mini Tape Measure:** Calculate the volume of water your toilet uses with every flush.

■ **Flowrate Test Bag:** Determine how much you are conserving by testing the flow rate of your old showerhead versus your new high efficiency showerhead. The test bag is easy to use and takes only 5 seconds!

The Authority hopes that families will meet together and discuss the contents of the Waterwise Activity Kit, and talk about how they can all use our precious water supplies more efficiently. Water conservation is everyone's job!



*Susan Brown, the Subsidence District's "awesome" educator, visits classrooms throughout Harris and Galveston Counties to demonstrate ways the students can use water more efficiently.*

# Some Amazing Things You Might Not Know About Water...

◆ The overall amount of water on our planet has remained the same for two billion years. It's the same water the dinosaurs drank moving endlessly from sea to clouds to rain to earth and back again.

◆ Every living thing needs water to survive.

◆ A person can live without food for about a month, but only about a week without water.

◆ A healthy adult needs 2 quarts of water a day. Most people drink less than this.

◆ About 70 percent of the Earth is covered by water, but 97 percent of the Earth's total water supply is salt water found in oceans and seas.

◆ The human brain is composed of 95% water; blood is 82% water; and the lungs are nearly 90% water.

◆ 4,000 glasses of tap water can be purchased for the same price of a six-pack of soft drink.

◆ The five Great Lakes form the largest fresh surface water system in the world. If all the water in the Great Lakes was spread evenly across the continental US, the ground would be covered with almost 10 feet of water.

◆ Americans use more than 400 billion gallons per day of both surface and ground water -- much of it consumed in and around the home.

~ The average American uses about 160 gallons of water a day.

~ Two-thirds of the water used in an average home is used in the bathroom; much of it consumed by the toilet -- which uses 4-6 gallons per flush.\*

~ A 10-minute shower uses about 55 gallons of water.

~ If every household in America had a faucet that dripped once each second, 928 million gallons of water a day would leak away!

◆ Eighty percent of the fresh water we use in the US is for irrigating crops.

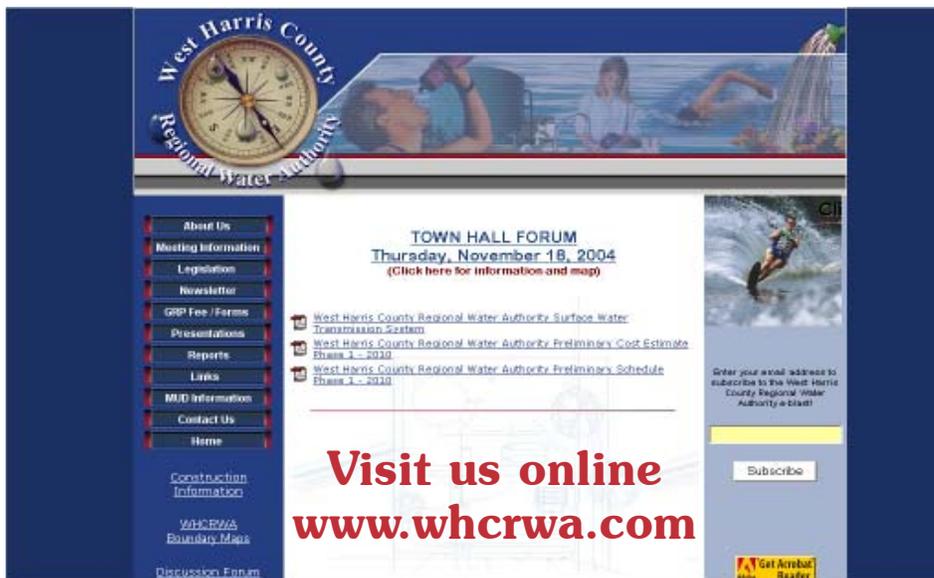
◆ About 6,800 gallons of water is required to grow a day's food for a family of four.

◆ It takes almost 49 gallons of water to produce just one eight-ounce glass of milk. That includes water consumed by the cow and to grow the food she eats, plus water used to process the milk.

◆ About 39,000 gallons of water is needed to make an automobile.

**Now that you know...doesn't it make sense to use our precious water resources wisely?**





**Visit us online  
www.whcrwa.com**

The Authority has a website where information is routinely posted about Board Meetings and Town Hall meetings that are open to the public. *About Us* contains a listing of the Board Members and the districts they represent. *Legislation* links to the Texas Legislature Online, where the bill that created the Authority (HB 1842) during the 77th Regular Session in 2001 can be found under the Legislation tab.

Following the two annual WHCRWA public Town Hall meetings, the Powerpoint slide shows are posted online (*Presentations*), along with other key information about pumpage fees and Capital Improvement Plans. There is also a special section devoted to the waterline construction currently underway in the area. Brochures that outline construction details are also available for downloading in the *Construction Information* section, and current photos are posted in the *Gallery* as available.

The *Contact Us* section enables visitors to the site to send e-mails to the nine Directors by a pull-down menu. If you're looking for information about water...the *Links* section has a selection of great websites that offer excellent resources for students and teachers...and some helpful water conservation tips. Visit soon and often...

## WHCRWA BOARD OF DIRECTORS

**Dan Sallee, President**

Term ends: 5/08

Voting District 8

**George L. Rush, Jr., V.P.**

Term ends: 5/08

Voting District 7

**Stacey L. Burnett, Ass't V.P.**

Term ends: 5/06

Voting District 4

**"Cam" Postle, Secretary**

Term ends: 5/08

Voting District 6

**Art Garden, Assistant Sect'y**

Term ends: 5/08

Voting District 3

**Karla Cannon, Director**

Term ends: 5/06

Voting District 5

**Johnny Nelson, Director**

Term ends: 5/06

Voting District 9

**Bruce Parker, Director**

Term ends: 5/06

Voting District 2

**Larry Wepler, Director**

Term ends: 5/06

Voting District 1

**Legal: James A. Boone,**  
Allen Boone Humphries LLP  
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