

Water Line™

Summer 2010

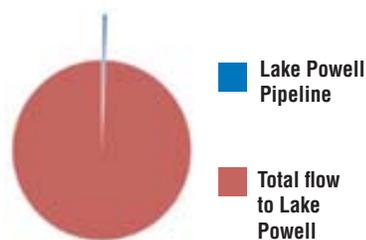
Sand Hollow Reservoir

Water for Today and Tomorrow™

Facts

- There is 60 million acre feet of water storage on the Colorado River system.
- Historical records show an average annual inflow of 12 million acre feet into Lake Powell.
- The Lake Powell Pipeline will withdraw 100,000 acre feet of water.
- Or $100,000/12,000,000 = 0.008$ or 0.8 percent.
- The Lake Powell Pipeline withdraw is equal to 0.8 percent of the annual inflow to Lake Powell. The graph below illustrates the amount of water withdrawn by the Lake Powell Pipeline.

Water Quantity (acre-feet)



THERE IS NOTHING SECONDARY ABOUT SECONDARY WATER

Secondary water systems are a very valuable part of our water resources in Washington County. These systems provide untreated, non-culinary grade water for agriculture, industry, and residential landscaping.

Washington County has three major secondary systems:

St. George and Washington Fields Canal.

The St. George and Washington Fields Canal Company has the oldest water right on the Virgin River. It diverts water to support agriculture in the Washington Fields area. Over time, much of this area has changed from fields of hay to residential developments. The District has worked with the Canal Company and others to pipe the open canal, thereby eliminating seepage losses and allowing for conservation and

more efficient use of the water. St. George owns shares in the Canal Company and uses the irrigation water on city parks, cemeteries, golf courses and other public areas. St. George and Washington require new developments in the Washington Fields area to install

Local golf courses do not deplete culinary water supplies. Secondary and/or reuse water keeps the fairways green.

both a culinary and a secondary water system to ensure that treated water is conserved for indoor use.

Hurricane and LaVerkin Irrigation Companies. These companies have historically diverted water from the Virgin River miles upstream from the Pah Tempe Hot Springs in order to avoid the negative impact of the hot springs and to get high enough to ditch the water to the Hurricane and LaVerkin benches. This secondary water is used today for agriculture, residential



Manager's Message

By Ron Thompson
General Manager

landscapes, gardens and industries in Hurricane and LaVerkin. Golf courses also use this untreated river water.

The Santa Clara River also has a secondary water system. Gunlock Reservoir is an on-stream reservoir built in 1970 to supply water from the Santa Clara River for irrigation needs in Santa Clara, St. George and Ivins. In 2004, after assisting with the

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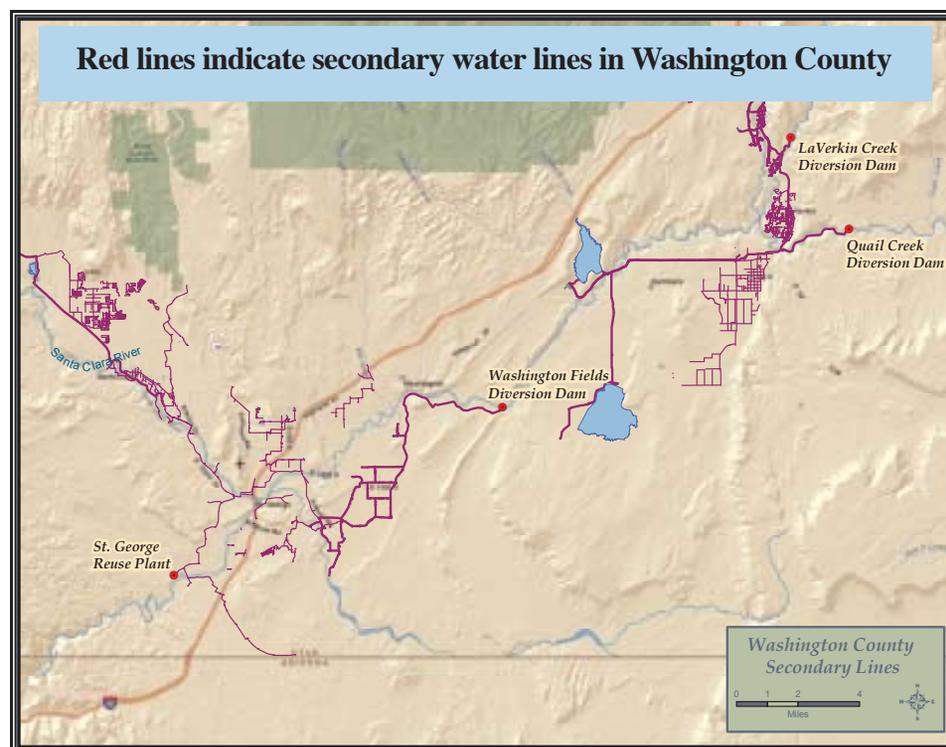
settlement of water rights issues on the Santa Clara, the District constructed a pipeline to bring water from Gunlock Reservoir to downstream water users at the Shivwits Reservation, Santa Clara, Ivins and St. George.

The water is used extensively by private home owners in Santa Clara, for municipal uses in Ivins, Santa Clara and St. George and for continued agricultural operations.

An integral part of the Gunlock-to-Santa Clara pipeline is the integration of treated water from St. George's regional wastewater reclamation facility. The facility treats the wastewater to a standard that it can be used for secondary water purposes. This reuse water is

used at the Bloomington Country Club, Entrada, Sun River, and Southgate golf courses.

- provides redundancy in our water system



- stretches culinary supplies and current treatment facilities further into the future
- allows for a means to address agricultural, industrial and landscaping demands without using costly treated water
- provides opportunities to use poorer quality water, and in doing so, frees up higher quality water to help meet culinary demand.

The District works closely with local irrigation companies to help make the most of our water system. The District believes that good management of secondary water systems and integration with culinary water systems is critical to meet water needs in Washington County.

HISTORIC WET SANDY DITCH NOW PIPED

By Ann Jensen

Piping the water in Wet Sandy is one segment of the overall Ash Creek/Anderson Junction project. The project will pipe water from Ash Creek Reservoir, Leap Creek, Ash Creek, South Ash Creek and Wet Sandy.

Piping Wet Sandy began in February 2010. Over four and one-half miles of 14-inch HDPE pipe was laid. In addition to laying the pipe, a diversion was built to divert the water out of Wet Sandy into the pipeline. A storage pond was also built to store any extra water not used by the irrigators.

In mid-August, eight service connections were installed. Irrigators had access to the water by mid to late August. Any water not used by the irrigators will either be stored in the pond or left to flow down the creek bed.

Approximately 6,500 acre feet of water from Ash Creek Reservoir and all four of these ditches will eventually be stored in the new reservoir at Anderson Junction. It is anticipated that the project will be completed by 2015.

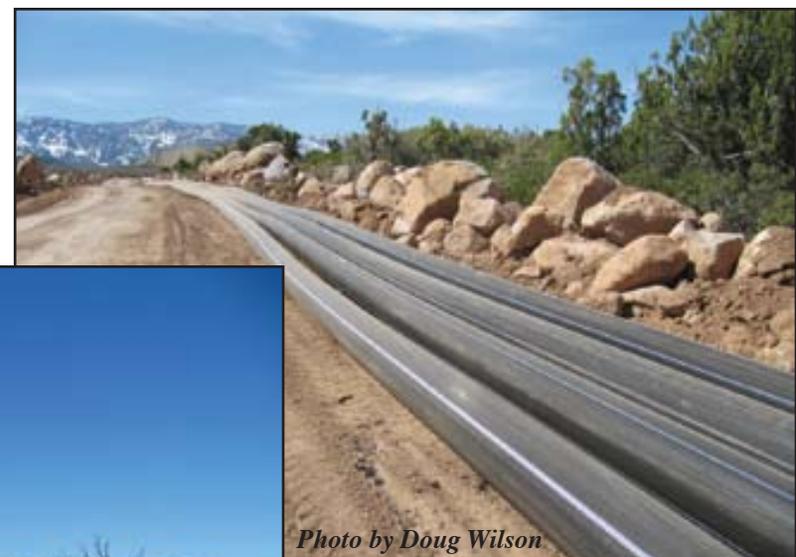


Photo by Doug Wilson

The process of negotiating agreements with landowners began in 2000.

Procurement of easements through U.S. Forest Service and BLM land began in 2005.

Photo by Doug Wilson

PUBLIC MAY BE ASKED TO VOTE ON FLUORIDE INITIATIVE

By Michelle Deras, Treatment Plant Operator and Biologist

Early in 2010, a dental technician instructor at Dixie State College assigned a project to the class. The students were to petition the County to add fluoride to the water supply in Washington County. As a result of this petition, the County was required to prepare a study on the cost of adding fluoride to the local water system. The cost analysis was completed in April 2010 and presented to the petitioners in June 2010.

All large and small drinking water systems that meet a minimum criteria of "15 or more service connections or that regularly serves an average of at least 25 of the same individuals daily, six months or more per year" would be required to add fluoride to their system if the public votes yes to fluoridation. This would require each system to purchase

the equipment necessary to fluoridate its water, maintain the fluoridation system, purchase chemicals, train personnel in the handling of fluoride and re-certify personnel bi-annually. The study calculated that a small system would have a minimum out-of-pocket expense of \$125,000 for the equipment and loan costs.

The initial cost to build the fluoridation system would be \$14 million. This cost would be applied to just community water systems (such as Quail Creek Water Treatment Plant) as opposed to all public water systems.

This \$14 million also does not include the cost of the loan.

An additional annual cost of \$2.7 million for loan costs, labor, training and chemicals would be incurred to be paid for by a yearly fee of \$19.69 per person per household.

Health care expenses attributed to the

hazards related to employee exposure to dangerous fluoride chemicals were not considered in the cost impact study. A chemical company is bound by law to provide data on the effects of a chemical they supply. The data sheet on Fluoride

Acid states that skin contact may cause severe irritation, dermatitis and burns. Contact with eyes can result in severe irritation and burns. If inhaled, it may result in severe irritation, corrosion, and congestion of the respiratory system. If ingested, vomiting, diarrhea, thirst, cyanosis and symptoms of inhalation exposure can occur.

If the petitioners decide to pursue this initiative, they will have to collect 4,000 signatures in favor of fluoridation by April 15, 2011.

If 4,000 signatures are collected, the initiative will then go to the public for a vote in November 2011. If the initiative is voted in, it would become law. Depending on how the law is stated, all public drinking water supplies in Washington County could be required to fluoridate.

The Budget Officer for Washington County estimates that the law proposed by this initiative would result in a total fiscal expense of \$2,708,950, which includes a tax or fee increase of approximately \$58 per connection per year and a total of \$21,531,022 increase in public debt.

PROJECT WILL INCREASE STORAGE AND BETTER MEET DEMAND

By Hank Childers, Water Treatment Plant Superintendent



Photo provided by Carollo Engineering

In January 2010, construction began on an underground 10-million gallon water reservoir storage tank at the Quail Creek Water Treatment Plant (Plant).

During the summer's average peak demand, the Plant produces 28-million

gallons of water per day. At this rate, current storage is filled and emptied four times per day. This new tank will allow the District to store half of the daily production of the Plant and will cut down considerably on operational challenges to meet demand.

To date, 60,000 cubic yards of dirt have been removed, 2,720 cubic yards of cement have been poured and 440 tons of steel (rebar) have been installed. The tank will be buried under three feet of cover when finished.

The project will cost approximately

\$10 million. In addition to providing work for 12 local finishers and carpenters for one year, a local excavation company and a local cement company were also employed on the project.

This project is scheduled to be completed in January 2011.

Conservation Corner

By Julie Breckenridge — Water Conservation Coordinator

WATER-WISE PLANT FEATURE - Ocotillo (*Fouquieria splendens*)

By Casey Jones, Horticulturist

The Ocotillo is a majestic desert shrub that is native from Colorado south to Mexico. Mature plants have as many as 75 slender branches or canes that can grow 8-25 feet high and 5-10 feet wide. It is a popular shrub that provides both color and height to a garden while conserving water.

Plant Ocotillo in full sunlight and make sure it has good drainage. Sprinkle the canes daily with water for the

first two months. Sprinkle it twice daily if it is planted during the heat of summer.

Ocotillo will drop leaves during the hottest part of the season but will quickly resprout after rains. It can survive on just rainfall, but will perform better if deep soaked once a month. They are easily propagated by softwood cuttings during the warm season. In local nurseries they are advertised as “coachwhip” plants.



Photo by Julie Breckenridge

CHANGE YOUR WATERING SCHEDULE

We are now getting some reprieve from the heat. You should be able to get by with watering your lawn once every **five to seven days** during September.

FALL FESTIVAL and FREE Landscaping Workshop October – November 2010

These workshops are held at the
Tonaquint Nature Center – 1851 Dixie Drive.

Space is limited so please call 673-3617
to reserve your seat.

Fall Festival

Monday, October 25 – 5:00 to 7:00 p.m.

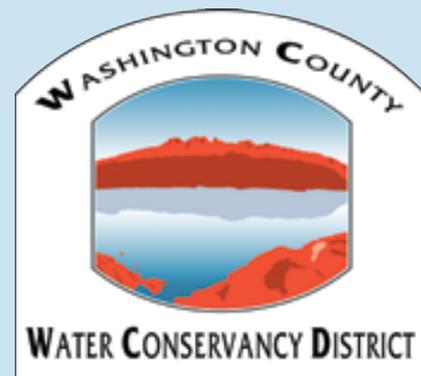
Care of Native Plants

Saturday, November 20 – 10:00 to 11:00 a.m.

DID YOU KNOW?

...that a garbage disposal will increase water usage by 25-30%?

...that the material coming out of a garbage disposal that has to be treated increases the cost of treatment at the sewer treatment plant?



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Board Meetings—7:00 p.m.
Tuesday, October 19
Tuesday, November 16
Tuesday, December 7 (6:00 p.m.)