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Hillsboro WATER quality

HEALTH PROTECTION INFORMATION INSIDE!

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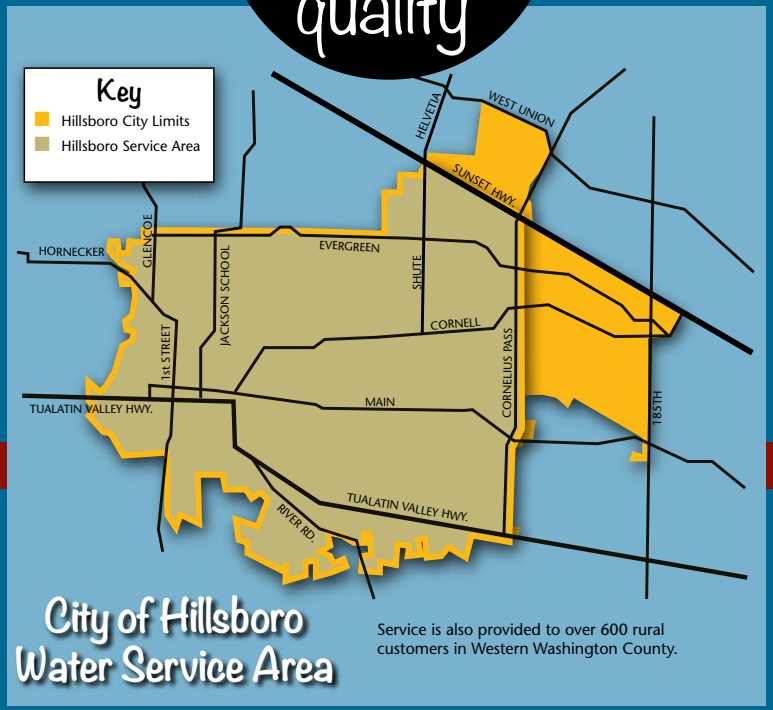
Este informe contiene información muy importante sobre su agua beber. Copias en español están disponibles en el Hillsboro Civic Center y también en los dos lugares de la biblioteca de Hillsboro.



City of Hillsboro Water Service Area

Service is also provided to over 600 rural customers in Western Washington County.

Community Participation

The City of Hillsboro Utilities Commission normally meets at 1:30 p.m., on the 2nd Tuesday of every month in the Civic Center at 150 E. Main Street, Room 207. Commission meetings are open to the public. Agendas are listed at www.ci.hillsboro.or.us, or call **503-615-6702**.

Public Hearing: The City of Hillsboro Utilities Commission (UC) will be holding a public hearing on July 17, 2012, at 1:30 p.m., in Room 113B of the Hillsboro Civic Center, 150 E. Main, Hillsboro. The UC will be considering a proposed water rate increase that, if approved, would increase an average residential bill by $2.15/month.

2012 Consumer Confidence Report

Hillsboro WATER quality

"The Water We Drink"

Based on water quality data from the calendar year 2011

Providing Tualatin & Trask Basin drinking water to Hillsboro customers since 1940.

OUR #1 PRIORITY is public health.

Hillsboro Water is committed to providing drinking water of high quality and excellent value to the community it serves.

Commitment to Quality

Since 1940, City of Hillsboro's goal has been to provide safe and high quality drinking water for all its water customers. To maintain our commitment to you, certified operators routinely collect and test water samples every step of the way - from source waters to your meter. Our treatment plants are maintained, evaluated and upgraded regularly to stay abreast of advancements in technology, health science and government regulations. Because of prudent long-term planning and operational efficiency, we are able to provide you with high-quality drinking water at the lowest rates in the region. For more information about this report, or for any questions relating to your drinking water, please call **Tacy Steele**, Water Programs Coordinator, at **503-615-6732.**

Interested in the future of Hillsboro Water? Visit www.hillsborowatersupply.org

Hillsboro Water has almost completed their Alternative Water Supply analysis. Have you checked out the www.hillsborowatersupply.org website yet to see what local sources are being considered for Hillsboro's future water supply? A preliminary decision is scheduled to be made in January 2013, so there is still time to contribute comments online.

Check the website again in September for a schedule of public meetings that will provide opportunities for open discussion of the results of the study and the criteria on which the decision will be based. For more information, please visit the website or call **(503) 615-6702.**

CHLORINE FAQS

Why is chlorine added to our drinking water?

Chlorine serves as a disinfectant, which means it kills potentially harmful microorganisms that may be lurking in the water, even after filtration. The use of chlorine and other disinfectants has virtually eliminated instances of waterborne diseases like typhoid fever, cholera and dysentery in the U.S. and other developed countries.

It is widely acknowledged that filtration and disinfection of drinking water have played a large role in a 50 percent increase in life expectancy. Chlorination is considered, along with water filtration, as among the most significant health advances of the 20th Century.

How much chlorine is in our drinking water?

Chlorine is added at the water treatment plant located in Forest Grove. The amount added is typically about 1.0 parts per million (ppm), ranging just a few tenths above or below that number. The Environmental Protection Agency sets the maximum allowable chlorine level at 4.0 ppm, significantly higher than the amount used to disinfect water sent to Hillsboro.

Chlorine dissipates (evaporates) from drinking water fairly rapidly. By the time water from the water treatment plant reaches Hillsboro, the chlorine level has already dropped below the 1.0 ppm level. Typically, chlorine levels in water reaching homes in Hillsboro range from 0.4 ppm to 0.8 ppm, depending on neighborhood and time-of-year. Operators monitor system chlorine levels rigorously. The chlorine level must maintain a residual of at least 0.2 ppm at the furthest point in the distribution system. Anything below that amount is considered inadequate protection from potential contamination. Since the amount of chlorine added to the water is around 1.0 ppm and nowhere near the allowable maximum of 4.0 ppm, operators don't have to worry about there ever being too much in the system, just too little.

Is chlorine hazardous to our health?

Chlorine is not harmful to human health when added to drinking water in proper doses. Potential for adverse affects come from the creation of disinfection by-products (DBPs) when chlorine combines with organics (such as algae) in the water prior to filtration. The treatment plant removes the majority of organic material in the water before chlorination to avoid this problem. Hillsboro also has a sampling program in place to test the system regularly for DBPs.

Why does the water smell and taste stronger of chlorine during the summer months?

The water sent from the treatment plant has the same level of chlorine (within a few tenths) year round. However, more water is used during summer months, so it flows faster through the system, giving the chlorine less time to dissipate (evaporate). As a result, Hillsboro's summer water often has a slightly higher chlorine level than the winter water. Also, the warmer temperature of summer water makes the smell/taste of chlorine stronger. Cold water has less of a chlorine taste/smell, which is why Hillsboro recommends keeping a pitcher of water in the refrigerator for drinking.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline **(800-426-4791)**.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- ***Microbial contaminants,*** such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

- ***Inorganic contaminants,*** such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

- ***Pesticides and herbicides,*** which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

- ***Organic chemical contaminants,*** including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

- ***Radioactive contaminants,*** which can be naturally-occurring or be the result of oil and gas production and mining activities.

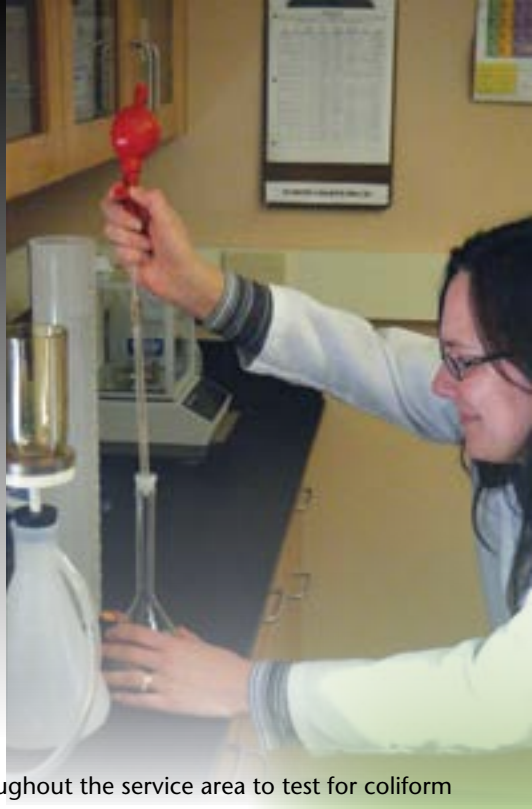
In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline **(800-426-4791).**

MINERALS

Substance	Content Range
Sulphate	7.0 - 12mg/L
Sodium	8.65 - 9.6mg/L
Calcium	6.74 - 7.9mg/L
Magnesium	2.27 - 2.88mg/L

This table displays the trace minerals content detected in the JWC and SSFP Water Systems in



Microbials

Hillsboro operators collect samples from throughout the service area to test for coliform bacteria. Most coliforms are not harmful, but they can be an indicator that other disease-causing organisms may be present. If testing indicates that a routine sample appears to contain coliforms, a set of repeat samples is collected and analyzed to determine whether any disease-causing organisms are present.

Cryptosporidium and *Giardia* are microscopic organisms that, when ingested, may cause gastrointestinal symptoms. There are no EPA-mandated maximum contaminant levels (MCLs) required for either *Giardia* or *Cryptosporidium*. However, because of the potential health effects of these organisms, the City of Hillsboro regularly tests for them in its water before and after treatment. Though very small amounts of these organisms were present in the pre-treatment samples, no *Cryptosporidium* or *Giardia* cysts were detected in the treated water.

Unregulated Contaminant Monitoring Rule

The Joint Water Commission, of which Hillsboro Water is a partner, has complied with the EPA's unregulated contaminant monitoring rule (UCMR) and results are available upon request from the Resource Division. No unregulated contaminants, tested for as part of this program, have been detected through the rigorous monitoring process. Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. For more information, please call Jessica Dorsey at **(503) 615-6735**.

Information about Lead & Copper

While there is no MCL for lead or copper, the federal government identifies "action levels" that trigger certain actions by the water provider. The action level is based on the 90th percentile. This means that 90 percent of the samples must meet or be under the defined action level. The action level for copper is 1.3 ppm and the action level for lead is 15 ppb.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Hillsboro Water Department is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for thirty seconds to two minutes before using water for drinking or cooking.

Hillsboro's Hometown Tap:

This summer, Hillsboro Water will again provide free access to drinking water at community events. Due to high public demand, a second Hometown Tap has been built and made available for summer events. If you are sponsoring a community event that needs access to drinking water, and you prefer a sustainable alternative to bottled water, the Hometown Tap may suit your needs. Contact water-department@ci.hillsboro.or.us or call (503) 615-6702 to check availability.

Here are just a few of the events where you will find the Hometown Tap this summer. Be sure and bring a refillable water bottle and look for the big, blue "Hillsboro Water" banner so you know where to fill 'er up.

- Saturday Farmer's Market
- CAT Walk
- Oregon International Airshow
- Tuesday Market
- Celebrate Hillsboro
- Your Community Event

Feel good about filling up!

Source Water Assessment

The Department of Environmental Quality (DEQ) and the Oregon Department of Human Services (DHS) completed a source water assessment that identified the surface areas supplying water to the Tualatin River intakes. They also inventoried the potential contaminant sources that may affect the water supply. A total of 306 potential contaminant sources were identified and 295 of those sources are located in sensitive areas. Sensitive areas include places with high soil permeability, high soil erosion potential, high run-off potential, and areas within 1,000 feet of a river or stream. Potential sources of watershed contamination include the following: agricultural/forest management applications, commercial land uses, residential/municipal land uses, and landslide and clear-cut forest areas. These are the existing potential sources of contamination that could, if improperly managed or released, affect the water quality in the watershed. The JWC-Cherry Grove Source Water Assessment Report provides additional details on the methodology and results of this assessment. The full report is available for review at the Hillsboro Water Department, 150 East Main Street, Hillsboro, or call 503-615-6702 for more information.

Hillsboro's Water - Source to Tap

All of the water that runs through your tap is treated surface water, which means it comes out of a river or reservoir. Hillsboro's winter water source is the upper Tualatin River. In summer, the river level drops too low for municipal use, so Hillsboro relies upon water stored in the Barney Reservoir and Hagg lake to meet customer needs. Hillsboro's water is drawn out of the upper Tualatin River for filtration and treatment at either the Cherry Grove Slow Sand Filter Plant (SSF) or the Joint Water Commission (JWC) Treatment Plant. Both plants operate 24 hours per day, 365 days per year.

The SSF Plant can treat up to three million gallons per day (MGD), providing water to Cherry Grove, the City of Gaston, the L.A. Water Co-op, Scoggins Valley and Dilley. After treatment, SSF water flows through an 18-inch line to Dilley; along the way water is fed to Hillsboro's county and wholesale customers..

The JWC plant is the largest conventional water treatment plant in Oregon and is capable of treating up to 75 MGD. It provides water to the JWC partner agencies of Hillsboro, Forest Grove, Beaverton and Tualatin Valley Water District, and also wholesales water to North Plains. The City of Hillsboro typically uses 14 MGD of combined JWC and SSF plant capacities to meet customer needs, but summertime usage can push that demand up to almost 25 MGD, primarily due to outdoor watering habits.

The water is delivered to Hillsboro and beyond via two large transmission lines. There are approximately 250 miles of distribution lines in the city of Hillsboro that are fed by the transmission lines. These lines provide water to over 24,000 business and residential customers who live to the west of Cornelius Pass Road. The Tualatin Valley Water District serves Hillsboro residents living to the east of Cornelius Pass Road.

Although all detections listed here are well under the Maximum Contaminant Level (MCL), it is important to us that you know exactly what was detected and how much of the substance was present in the water.

2011 Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants.

This table shows only those contaminants that were detected and how much of the substance was present in the water.

REGULATED SUBSTANCES

Substance (Unit of Measure)	Year Sampled	MCL (MRDL)	MCLG (MRDLG)	JWC Plant System Amount Detected	JWC Plant System Range Low-High	Slow Sand Filter Plant (SSFP) Amount Detected	Slow Sand Filter Plant (SSFP) Range Low-High	Violation?	Typical Source
Chlorine (CL^2) (ppm)	2011	(4)	(4)	1.19	0.83-1.19	1.44	0.94-1.44	No	Water additive used to control microbes
Nitrate (as Nitrogen) (ppm)	2011	10	10	0.7	0.13-0.7	ND	ND	No	Fertilizer runoff
Barium (ppm)	2011	2	2	0.003	ND-0.003	ND	ND	No	Natural deposit erosion
Total Coliform Bacteria (% positive samples)	2011	5% monthly samples positive	0	1%	ND-1%	N/A	N/A	No	Naturally present in environment
Total Coliform Bacteria (# positive samples)	2011	>1 positive sample/month	0	N/A	N/A	1	ND-1	No	Naturally present in environment
Turbidity (NTU)	2011	TT	N/A	0.07	.02-.07	0.16	.05-.16	No	Soil Run-off
Turbidity (Lowest mo %)*	2011	TT	N/A	100	NA	100	NA	No	Soil Run-off

DISINFECTION BY-PRODUCTS (DBP)

Substance (Unit of Measure)	Year Sampled	MCL (MRDL)	MCLG (MRDLG)	JWC Plant System Amount Detected	JWC Plant System Range Low-High	Slow Sand Filter Plant (SSFP) Amount Detected	Slow Sand Filter Plant (SSFP) Range Low-High	Violation?	Typical Source
Haloacetic Acids [HAA] (ppb)	2011	60	NA	30	17-30	20	11.4-20	No	By-product of chlorination
TTHMs (ppb) [Total Trihalomethanes]	2011	80	NA	33	21-33	17.1	12.4-17.1	No	By-product of chlorination

HAAs and TTHMs are measured quarterly at four Hillsboro sites for JWC & one site for the SSFP. Results are reported as a running annual average.

LEAD AND COPPER TESTING

Substance (Unit of Measure)	Year Sampled	Action Level	MCLG	Amount Detected 90th %tile	Sites Above AL	Amount Detected 90th %tile	Sites Above Action Level	Violation?	Typical Source
Copper (ppm)	2009	1.3	1.3	0.06	0	0.34	0	No	Corrosion household plumbing; Natural deposit erosion
Lead (ppb)	2009	15	0	0	0	14	0	No	

Tap water samples were collected from sample sites throughout the community.

- **AL=Action Level**: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
- **MCL=Maximum Contaminant Level:** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- **MCLG=Maximum Contaminant Level Goal:** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- **MRDL=Maximum Residual Disinfectant Level:** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- **MRDLG=Maximum Residual Disinfectant Level Goal:** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- **ND=Not Detected**
- **NTU=Nephelometric Turbidity Units** - Measurement of the clarity, or turbidity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- **ppb=Parts Per Billion** - One part substance per billion parts water (or micrograms per liter).
- **ppm=Parts Per Million** - One part substance per million parts water (or milligrams per liter).
- **TT=Treatment Technique** - A required process intended to reduce the level of a contaminant in drinking water.
- **Turbidity** - Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the plant filtration system.

* Lowest monthly % of samples meeting limit.

Hillsboro programs engage students in local water education.

A New Water Conservation Calendar for this Year!

Calendar Contest: Hillsboro Water (HW) hosted its 9th Annual Water Calendar Contest at Hillsboro Elementary Schools. The theme for this year's contest was "Do Your Part, Be Water Smart" and students were encouraged to illustrate that concept. Fifteen schools participated, which was a new record and included almost every school in Hillsboro served by HW. Winners included students from grades K-6, who creatively and artistically illustrated ways to make every water drop count in Hillsboro. The calendar is printed in the fall and usually distributed to schools early December. Calendars are also available to the general public at the Civic Center during the month of December and until supplies run out.

2013 Calendar Cover by Samantha Greenhalgh, Patterson Elementary Grade 5

Hillsboro Water and Hillsboro Schools Helping Kids Succeed

There is a whole lot of digging going on at the Crandall Reservoir site in north Hillsboro and that's got Ashwin Datta, a seventh grader at Evergreen Middle School, excited. He was particularly intrigued to see a trailer full of control panels and monitors during a site tour. "You mean you run this whole construction site with computers?" Datta asked. As an aspiring computer scientist or possible future engineer, Datta was thrilled to discover that computer and engineering sciences are so closely related he may be able to combine both passions into a dream job someday.

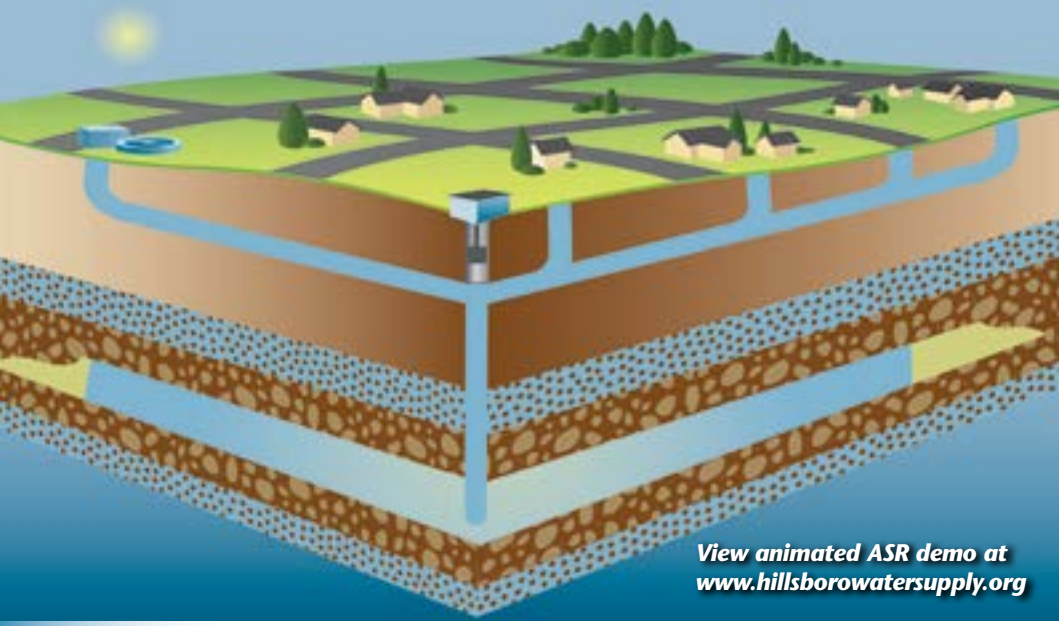
Providing opportunities of discovery is precisely the reason that Hillsboro Water, CH2M Hill and Ward Henshaw Construction are partnering together over the next two years with Evergreen Middle School to provide students an opportunity for hands-on STEM (Science, Technology, Engineering and Math) learning. Hillsboro Water is constructing a 10-million gallon reservoir across the street from the school and is offering a special one-time course to Evergreen middle schoolers that will include tours, puzzle-solving, and earthquake simulations, all with an emphasis on engineering and technology. Datta is the first student to sign on for the class, "I am excited because it is about engineering, and it's going to be at the reservoir site so that sounds interesting."

Partnering together to help kids learn.

The partnership between Hillsboro Water and Evergreen is beneficial to both, as schools are struggling to fund STEM programs and Hillsboro Water has a stake in developing a future generation of engineers that can design and build infrastructure projects. Evergreen Principal, Rian Petrick agrees. "In these difficult economic times, where our schools are challenged by shrinking resources, we are thrilled to have this opportunity for our students to authentically participate in a real life Science and Engineering project."

Frequently Asked Questions

- ***Does Hillsboro put fluoride in the water?*** The City of Hillsboro does not fluoridate its water supply. Check with your dentist to see if supplemental fluoride is recommended for your family.
- ***Is Hillsboro's water hard or soft?*** Hillsboro does not use any well water in its supply, so the water is very soft, about 2-3 grains per gallon.
- ***What is the pH of our drinking water?*** Hillsboro's water is buffered to reduce pipe corrosion and protect against lead and copper exposure. The normal pH range for your drinking water is 7.7 to 7.9.



Aquifer Storage and Recovery (ASR):

After successfully completing testing at two potential well sites, Hillsboro Water (HW) will move forward with its Joint Water Commission (JWC) partners and begin constructing its very first JWC aquifer storage and recovery (ASR) well. Once completed, the well will have the capacity to provide two to three million gallons of water per day (MGD). ASR development forms the cornerstone of a strategy to secure additional water for the JWC during summer months. The well, slated for completion in early 2014, will serve as a model for developing additional well sites, with a long-term goal of eventually providing up to 15 MGD of summer drinking water to the JWC partners for their customers.

For the majority of the year, JWC partners, including Hillsboro, depend on the Tualatin River for their primary water supply. HW typically uses about 14 million gallons a day (MGD), but during the summer months that demand almost doubles (due to outdoor irrigation), and use can approach 25 MGD. Unfortunately, the river supply runs opposite of demand. During the months of lowest demand, especially late winter/early spring, supplies are plentiful and rainfall and runoff can be so heavy that the river overflows its banks. Very little of the river water can be stored so it just flows away. Then summer comes around and the river drops. Hillsboro and its water supply partners must release water that has been stored in Hagg Lake and Barney Reservoir to meet demand.

The development of ASR wells will allow Hillsboro and its Joint Water Commission (JWC) partners to treat excess winter flow, inject it into the ground and then pump it out in the summer when the river is low. This will become a critical supply once Hagg Lake and Barney Reservoir no longer store enough water to meet summer demands of all JWC customers.

However, ASR alone cannot meet future storage needs in the region. It is a helpful tool for providing stored water during high summer demands; but eventually another source will need to be found that will provide water to the JWC year-round.

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Will Crandall Reservoir Construction Under Way

Construction on the Crandall Reservoir began March 5, 2012. The project is expected to take two years to complete, with a dedication planned sometime in spring 2014.

The first phase of the project will include deep soil cement mixing to create supportive piles beneath the reservoir and pump station. The concrete tank will be mostly underground and will hold 10 million gallons (MG) of drinking water. It will be built to withstand a sizable seismic event. The project includes a pump station, a backup power generator, and a small hydro power generator that will feed energy to the grid and help defer some electrical costs for reservoir operations.

When the project is completed, the reservoir will be one of three water reservoirs in Hillsboro that hold a combined 31 million gallons (MG) of drinking water. Hillsboro has an agreement with its partners to store enough water in-town to last three average days. To fully achieve that goal as the city grows, two additional reservoirs will eventually be built in south Hillsboro, as recommended in the 2010 Reservoir Siting Study.

Reservoir Drained for Valve Repair

Repairing distribution system valves is a pretty standard operation for the Hillsboro Water Department – except when the valve that needs repaired is located 60 feet underwater at the bottom of a lake.

Barney Reservoir, one of two reservoirs that provide summertime water to Hillsboro and western Washington County, was purposely drained to its lowest level in over 12 years to allow for repairs both above and below the water. It was a slow-going process, not unlike draining a bathtub, that began in April and took over five months to accomplish.

Water Department staff worked with contractors and divers to perform the repairs and maintenance work. Replacement of three hydraulic cylinders took place out of water, but divers were able to make other repairs and perform inspection beneath the surface, once the water was lowered to a more accessible level for longer dive times.

The project has been completed and Barney Reservoir is once again filled to capacity and ready to provide water as soon as summer arrives.