A word from the Utilities Commission Chair…

Our Centennial year is almost over, leaving us to reflect on all of the past year’s achievements. Major accomplishments this year include:

**Summertime Celebrations with the Hometown Tap**
If you attended any of the major Hillsboro events in summer 2013, you probably have a Centennial cup in your cupboard. Over 20,000 of the cups were given away at events ranging from Farmer’s Markets, to Celebrate Hillsboro, to the Op’s Day Yard Tour and BBQ. The Hometown Tap continues to grow in popularity and now is featured at most of the summer public events in downtown Hillsboro.

**Dedication of Crandall Reservoir**
Hillsboro’s third reservoir, and the first to include a power-producing hydroturbine, was dedicated on October 1, 2013. Hillsboro now has 31 million gallons of water storage, which is about three days worth of emergency supply for the city.

**Emergency Transmission Line Repairs**
Hillsboro operates and maintains the water delivery mains for the Joint Water Commission. A leaking North Transmission Line on Evergreen Road required repair in July, and a 54-inch inline valve on a section of the same line in Cornelius had to be replaced in February 2014. Both repairs were completed without loss of water service to any customers – thanks to system redundancy and emergency water reservoirs in both Hillsboro and Cornelius.

**Willamette River named as Hillsboro’s Future 2nd Water Source**
The Utilities Commission designated the mid-Willamette as a future water source for Hillsboro’s next generation. Water should begin flowing from a state-of-the-art water treatment plant in Wilsonville to Hillsboro taps in 2026. The mid-Willamette offers significant benefits: excellent finished water quality, system redundancy, local ownership and control of the supply, year-round reliability, and better value than the other sources we considered as part of a multi-year study. To understand how the Utilities Commission reached their decision, please visit www.hillsborowatersupply.org.

As our Centennial draws to a close, you can be assured that our original mission to protect public health and provide water of high-quality and adequate quantity at a reasonable cost has not changed, and we will carry these efforts into the next century of Hillsboro water service.

John Godsey
City of Hillsboro Utilities Commission Chair

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**RESERVOIR PROJECT FACTS**

- The Will Crandall Reservoir is the third water reservoir in Hillsboro. It stores 10 million gallons (MG) of treated drinking water, which brings the total amount of water storage available in Hillsboro to 31 MG.
- Crandall Reservoir is the first with a hydroturbine. When running, the turbine can produce 72 kW.
- The total cost of the Reservoir project (including land acquisition) was $26.4 million dollars.
- The two-year project was completed in 1½ yrs. Building the facility took 82 weeks from start to finish.
- The tank is wrapped with 81.6 miles of cable. (Equivalent to the distance between here and Hood River)
- It took the wrapping machine 582 laps to wrap that much cable around the tank.
- The area of the reservoir roof is 1.0 acre. (A football field is 1.23 acres.)
- You can only see half of the reservoir as 19 feet of it is located underground.
- The length around the outside of the tank is 2.5 football fields long.
- Crandall Reservoir is constructed to withstand a 9.0 earthquake.
Where does my drinking water come from?

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 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 15 MGD of combined JWC and SSF plant capacities to meet customer needs, but summertime usage can push that demand up to almost 28 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.

For more information on source and treatment of HW’s water supply, please visit www.jwcwater.org.
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/IDC 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:

(i) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;
(ii) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;
(iii) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses;
(iv) 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 storm water runoff, and septic systems;
(v) 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).

Information about Lead and 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 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. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline, or at www.epa.gov/safewater/lead.

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 some of 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, Public Information Officer, at 503-615-6732.

Unregulated Contaminant Monitoring Rule (UCMR)

Hillsboro Water has complied with the third round of the Environmental Protection Agency’s (EPA) unregulated contaminant monitoring rule (UCMR 3). A full list of contaminants tested and their results are available upon request. 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. The unregulated contaminants that were detected in Hillsboro sampling are listed below, along with their level of detection. For more information, please call Jessica Dorsey at (503) 615-6579.

<table>
<thead>
<tr>
<th>Substance (Unit of Measure)</th>
<th>Year Sampled</th>
<th>Action Level</th>
<th>MCLG</th>
<th>Amount Detected 90th %tile</th>
<th>Sites Above Action Level</th>
<th>Amount Detected 90th %tile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hexavalent Chromium (ppb)</td>
<td>2013</td>
<td>N/A</td>
<td>N/A</td>
<td>0.143</td>
<td>.115 – .143</td>
<td>A chemical form of chromium, naturally-occurring in water and soil</td>
</tr>
<tr>
<td>Vanadium (ppb)</td>
<td>2013</td>
<td>N/A</td>
<td>N/A</td>
<td>0.82</td>
<td>.35 – .82</td>
<td>A metal element occuring in nature</td>
</tr>
<tr>
<td>Strontium (ppb)</td>
<td>2013</td>
<td>N/A</td>
<td>N/A</td>
<td>87.7</td>
<td>31.2 – 87.7</td>
<td>A metal element occuring in nature</td>
</tr>
<tr>
<td>Chromium (ppb)</td>
<td>2013</td>
<td>N/A</td>
<td>N/A</td>
<td>0.26</td>
<td>ND – 26</td>
<td>A common naturally-occurring element</td>
</tr>
</tbody>
</table>

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.hillsboro-oregon.gov, or call 503-615-6702.

Source Water Assessment

The Department of Environmental Quality (DEQ) and the Oregon Health Authority (OHA) 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.

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 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.
2013 Sampling Results:
During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, organic, or synthetic organic contaminants. The table shows only contaminants that were detected and are considered a risk to health if over the Maximum Contaminant Level (MCL). 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.

**UNIT DESCRIPTIONS:** ppm (Parts per million), ppb (Parts per Billion), mg/L (milligrams per liter)

<table>
<thead>
<tr>
<th>Substance (Unit of Measure)</th>
<th>Year</th>
<th>MCL [MRDL]</th>
<th>MCLG [MRDLG]</th>
<th>Amount Detected</th>
<th>Range Low-High</th>
<th>Amount Detected</th>
<th>Range Low-High</th>
<th>Violation?</th>
<th>Typical Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorine (ppm)</td>
<td>2013</td>
<td>4</td>
<td>4</td>
<td>1.17</td>
<td>.88-.1.17</td>
<td>1.51</td>
<td>.90-.1.51</td>
<td>No</td>
<td>Water additive used to control microbes</td>
</tr>
<tr>
<td>Nitrate (as Nitrogen) (ppm)</td>
<td>2013</td>
<td>10</td>
<td>10</td>
<td>0.27</td>
<td>.06-.27</td>
<td>0.05</td>
<td>.02-.05</td>
<td>No</td>
<td>Run-off from fertilizer; Erosion of natural deposits</td>
</tr>
<tr>
<td>Barium (ppm)</td>
<td>2013</td>
<td>2</td>
<td>2</td>
<td>0.003</td>
<td>0.003</td>
<td>ND</td>
<td>ND</td>
<td>No</td>
<td>Erosion of natural deposits</td>
</tr>
<tr>
<td>Total Coliform Bacteria (% positive samples)</td>
<td>2013</td>
<td>5% of monthly samples are positive</td>
<td>0</td>
<td>1.3%</td>
<td>ND - 1.3%</td>
<td>ND</td>
<td>ND</td>
<td>No</td>
<td>Naturally present in environment</td>
</tr>
<tr>
<td>Turbidity (NTU)</td>
<td>2013</td>
<td>TT</td>
<td>NA</td>
<td>0.042</td>
<td>.021-.042</td>
<td>1.23</td>
<td>.064-.1.23</td>
<td>No</td>
<td>Soil Run-off</td>
</tr>
<tr>
<td>Turbidity (Lowest monthly percent of samples meeting limit)</td>
<td>2013</td>
<td>TT</td>
<td>NA</td>
<td>100</td>
<td>NA</td>
<td>100</td>
<td>NA</td>
<td>No</td>
<td>Soil Run-off</td>
</tr>
<tr>
<td>DISINFECTION BY-PRODUCTS (DBP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TTHMs (Total Trihalomethanes) (ppb)</td>
<td>2013</td>
<td>80</td>
<td>NA</td>
<td>54.3</td>
<td>15.5-54.3</td>
<td>23.8</td>
<td>10.9-23.8</td>
<td>No</td>
<td>By-product of chlorination</td>
</tr>
<tr>
<td>Haloacetic Acids (HAA) (ppb)</td>
<td>2013</td>
<td>60</td>
<td>NA</td>
<td>40.9</td>
<td>15.9-40.9</td>
<td>20.6</td>
<td>11.1-20.6</td>
<td>No</td>
<td>By-product of chlorination</td>
</tr>
<tr>
<td>LEAD AND COPPER TESTING</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>Substance (Unit of Measure)</td>
<td>Year</td>
<td>Action Level</td>
<td>MCLG</td>
<td>Amount Detected 90th %tile</td>
<td>Sites Above Action Level</td>
<td>Amount Detected 90th %tile</td>
<td>Sites Above Action Level</td>
<td>Violation?</td>
<td>Typical Source</td>
</tr>
<tr>
<td>Lead (ppb)</td>
<td>2012</td>
<td>15</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>No</td>
<td>Corrosion of household plumbing; Erosion of natural deposits</td>
</tr>
<tr>
<td>Copper (ppm)</td>
<td>2012</td>
<td>1.3</td>
<td>1.3</td>
<td>0.095</td>
<td>0</td>
<td>0.143</td>
<td>0</td>
<td>No</td>
<td>Corrosion of household plumbing; Erosion of natural deposits</td>
</tr>
<tr>
<td>MINERALS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Substance</td>
<td>Year</td>
<td>Range (mg/L)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminum</td>
<td>2013</td>
<td>0.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calcium</td>
<td>2013</td>
<td>7.2-7.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chloride</td>
<td>2013</td>
<td>4.5-4.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magnesium</td>
<td>2013</td>
<td>2.3-2.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium</td>
<td>2013</td>
<td>8.3-8.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulphate</td>
<td>2013</td>
<td>8.7-10</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Other Items of Interest:**
- **Fluoride:** The City of Hillsboro does not fluoridate its water supply.
- **Hardness:** 2-3 grains per gallon
- **pH (normal range):** 7.6 - 7.7

*Top Water Samples were collected from sample sites throughout the community.*
**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.

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**Our community watershed**
The Tualatin River watershed is a basin where every drop of water that falls onto it flows downhill into creeks, then streams, and eventually into the Tualatin River. The land area that funnels water into the river and supplies water to the JWC water treatment plant is 212 square miles in size. What happens on that land impacts the quality of the water that flows into the Tualatin River, into the water treatment plant, into the distribution system, and out your tap.

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**Collection of Unwanted Pesticides**
Hillsboro and the Joint Water Commission want to prevent pollutants from getting into your drinking water source - the Tualatin River. Over 100 different kinds of chemicals are applied to the land to improve crops and forests, and to control weeds. Most of these chemicals are appropriately applied to serve a specific function. Sometimes though, extra chemicals are stashed away for future use, and never used again. If improperly stored and/or abandoned, these stockpiles can leach into the ground and eventually end up in the water supply. Many land owners that live near the Tualatin River inherit old pesticides when purchasing homes and businesses. Many of these pesticides should no longer be used, but proper disposal is not easy. To ensure that these chemicals are not left to leak into the river, Hillsboro and the Joint Water Commission supported a Pesticide Collection event. Together with many other partners, 15,822 pounds of unwanted chemical waste were removed and no longer pose a threat to our community’s water supply.

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**Public Hearing**
The City of Hillsboro Utilities Commission (UC) will be holding a public hearing on July 8, 2014, at 7:00 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, will increase an average residential customer bill by $1.59 a month. An approved rate change would be implemented on October 1, 2014.
Hillsboro Water (HW) Out and About

HW knows that not everyone can take time out of their day to visit our office for information, so we try to reach out to the community whenever possible. With all the summer events going on around town, you can catch us almost once a week somewhere in Hillsboro providing information, handing out water-saving gadgets, and educating children through interactive activities. Also, Hillsboro Water continues to provide free access to drinking water at many community events during summer months.

Here are just a few of the events where you will find us and/or the Hillsboro Tap throughout the summer:

- Pix on the Plaza
- Saturday Farmers’ Markets
- Tuesday Markets
- CAT Walk
- Tualatin Watershed Tours Day [September 27]
- Celebrate Hillsboro
- Washington County Fair
- Sustainability Fair

Our Future Water Supply

City of Hillsboro and Tualatin Valley Water District (TVWD) are partnering to develop the mid-Willamette River at Wilsonville as an additional water supply source. There is enough water in our current source (Tualatin Watershed) for today, but steps need to be taken now to secure an additional supply for Hillsboro’s next generation of growth. A second supply will also provide greater reliability by decreasing dependency on a sole source, and developing an additional water supply through a partnership supports the region’s plans for responsible growth within urban growth boundaries.

Although effective water conservation programs, smaller lot sizes and newer low water use appliances mean Hillsboro homes and businesses are using more than 20% less water than a decade ago, conservation alone is not enough to meet all future demand.

For more information on the Willamette Water Supply Program, please visit www.hillsborowater.org.