

CITY OF WALLA WALLA

WATER SYSTEM

FEBRUARY
2016



www.wallawallawa.gov

Water Distribution Division 509.527.4380



OUR DRINKING WATER

Mill Creek Watershed

Quality. Safe. Reliable.

The City of Walla Walla is committed to providing high quality, safe and reliable drinking water. The city's primary source of drinking water comes from the 36-square-mile Mill Creek Watershed. The secondary source comes from a network of seven 800-1,400-foot deep wells. At certain times of the year, water comes from both sources to provide the best and most cost-effective drinking water.

MILL CREEK WATERSHED

The Mill Creek Watershed area was established in 1918 by the Department of Agriculture and is a protected area closed to the public. Protection of the Watershed is achieved through patrols by City staff and United States Forest Service personnel.

Water from the Mill Creek Watershed is diverted and piped 14.5 miles to the City's Water Treatment Plant, where it settles before being treated with ozone disinfection. Chlorine is then added according to State and Federal Drinking Water Quality Standards to ensure the treated water remains safe as it travels from the treatment plant through the distribution system to customers. Over the next two years and at a cost of approximately \$24 million, the City will

make major changes to the water treatment plant to meet new federal drinking water standards and will replace the existing ozone disinfection system with an Ultraviolet (UV) Light disinfection system.

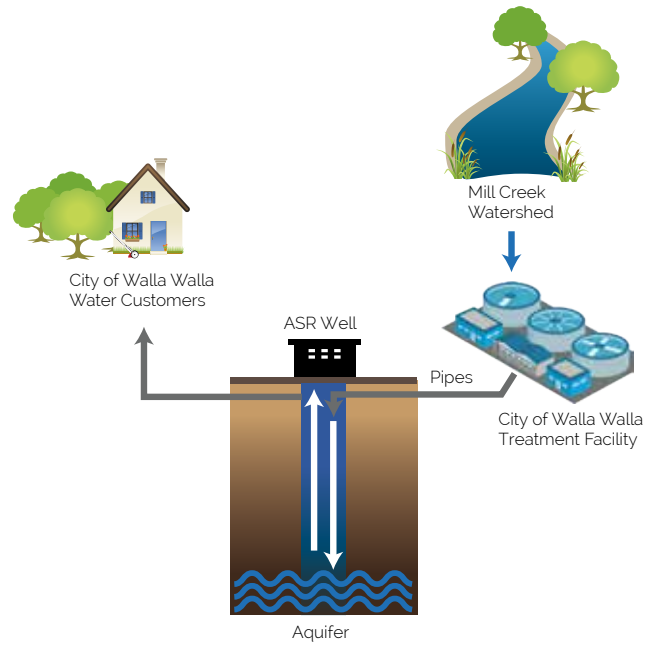
The Mill Creek Watershed supplies most (80-90%) of the city's water needs. Water from the well system is used during storm events when water from the watershed is too cloudy, during particularly high water demands, or when minimum stream levels need to be maintained for fish habitat. In an emergency, such as a fire in the watershed, the city's wells are capable of meeting the water needs for a period of up to ten years with the continuation of the aquifer storage and recovery (ASR) program.



Water Treatment Plant

EMERGENCY WATER SUPPLY

The Aquifer Storage and Recovery (ASR) program was established in 1999 and consists of injecting treated drinking water from the watershed into the wells for recovery at a later date when needed.



QUANTITY AND QUALITY

Each day, our Water Treatment Plant is capable of producing 24 million gallons of treated drinking water.

The City does not add fluoride or any other additives to the treated water. This water meets or exceeds drinking water standards. Quality assurance is provided through stringent lab and system monitoring and testing. An annual water quality report is sent out each year to customers to show the results of this testing.

Find the most recent Consumer Confidence Report here:
www.wallawalla.gov/depts/publicworks/water/reports



City of Walla Walla Water Treatment Plant

HYDROPOWER GENERATION

Producing 13,500 megawatts of electricity... enough to power approximately 1,500 homes

In the 1980s, the City installed a hydropower generator at the Water Treatment Plant to generate electricity from the water coming down from the Mill Creek Watershed. All water that passes through the Treatment Plant goes through the hydropower generator, which annually produces about 13,500 megawatts of electricity - sufficient to power approximately 1,500 homes. Revenue from the generated power is used to reduce costs for water utility rate payers.



Hydropower Generator

3.4

BILLION GALLONS OF WATER PRODUCED EACH YEAR

191

MILES OF CITY WATER PIPE

91

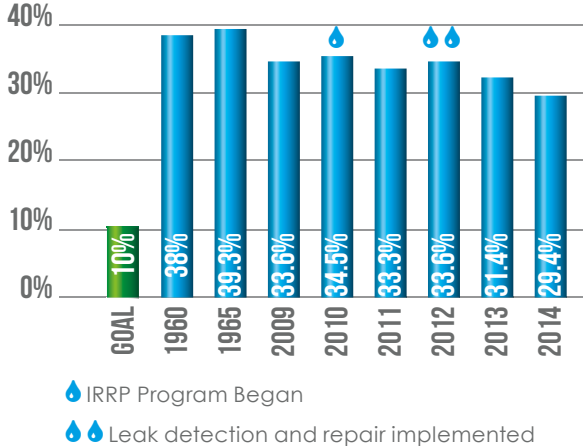
MILES OF PIPE FACING FAILURE

1 BILLION

ESTIMATED GALLONS LOST EACH YEAR

WATER LOSS FROM LEAKING PIPES

Water Use Efficiency Rule requires the City achieve a standard of no more than 10% water loss



GOING FROM THE TREATMENT PLANT TO YOUR TAP

After treatment, water is pumped into the two 7 million-gallon finished water storage tanks at the plant, which feed a 191 mile network of pipes that deliver clean drinking water to homes, schools, hospitals, and businesses. The City's Infrastructure Repair and Replacement Program (IRRP) has focused on this network of pipes because they are in varying states of decay. Of the 191 miles of water mains in the City's system, approximately 91 miles are facing failure and are believed to be a major contributor of the city's annual loss of nearly 1 billion gallons (approximately 1/3 of the treated water).

Unfortunately, the leaky pipes in the system have been a known issue since the 1960s. Old, failing infrastructure is common for older cities across the country. Walla Walla, which was established in 1862, is one of the oldest cities in the state of Washington. However, City staff and your elected officials are working together to confront this challenge. Two programs are now in place to help pay for the replacement of failing water lines.

CITY'S INFRASTRUCTURE REPAIR AND REPLACEMENT PROGRAM (IRRP)

13

OF PROJECTS COMPLETED THROUGH 2015

25,950

FEET REPLACED (4.9 MILES)

\$12,600,000

SPENT THROUGH 2015

THE INFRASTRUCTURE REPAIR AND REPLACEMENT PROGRAM (IRRP)

Initiated in 2010, the Infrastructure Repair and Replacement Program was created to systematically replace water lines, sewer lines, and streets where all three are failing in the same stretch of road. Since 2010, 13 projects have been completed replacing 5 miles of water main, sewer main, and roadway. This program will help replace 43 of the 91 miles of failing waterline noted above.

THE OTHER 48 MILES OF FAILING PIPE

The second Capital Replacement program initiated to tackle failing water lines was adopted by City Council Members on December 2, 2015 and will go into effect in January 2016. This action was another monumental move toward addressing the 48 miles of failing water lines that are not IRRP eligible. When this program reaches its full funding level in 2019, it will provide \$1 million per year toward pipeline replacement. The financial plan adopted by Council includes annual adjustments for inflation, allowing for a projected replacement rate of approximately 0.6 miles of waterline per year. At this rate, it will take 145 years to replace the other (non-IRRP eligible) 48 miles of pipe. Though this is not as robust of a replacement program as Walla Walla may need, it will move the city toward a more reliable water system.

CITY OF WALLA WALLA WATER PIPES

◀ 191 TOTAL MILES OF PIPE ▶

91 MILES OF FAILED PIPE

◀ 48 MILES NON-IRRP ELIGIBLE* ▶ ▶ 43 MILES IRRP-ELIGIBLE ▶

*Needs to be funded by the water fund for replacement

65

ESTIMATED AVERAGE AGE (IN YEARS)
OF STEEL WATERLINES IN THE CITY OF WALLA WALLA

\$1 MILLION = 0.6 MILES

REPLACEMENT FUNDING
(ADJUSTED FOR INFLATION)

PIPE REPLACED
PER YEAR

145 YEARS

TO REPLACE 48 MILES
OF FAILED PIPE

MEASURING WATER USE AND LOSS

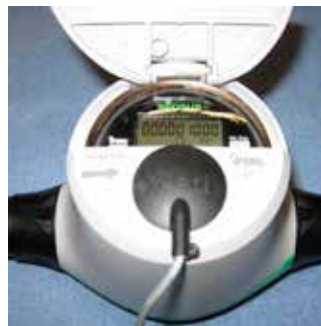
So how does the City know how much water is lost? Water that is put into the distribution system is measured at the plant with large water meters. Water used by customers is measured by smaller meters at their residences or places of business. The difference between the amount of water put into the system and that used by customers is referred to as lost, unaccounted for, or non-revenue water. Currently, the City's water loss is approximately 30% (the lost 1 billion gallons noted previously). The State of Washington set the allowable water loss level at 10%. So what is the City doing about it? Well, replacing old, leaky waterlines is one part, but the city is also pursuing a large scale replacement of water meters to ensure measured accuracy. Testing indicates meter inaccuracies as high as 15%, so a major effort is underway to replace the old meters with newer, more accurate meters that can also be read more efficiently.

New pipes and meters are not the only solutions, though. The City's water maintenance division also aggressively searches for and repairs leaks. The leak rate for the city is approximately 150% higher than other water utilities of Walla Walla's size. These leaks cost the City \$300,000 to \$500,000 per year.

OUT WITH THE OLD



IN WITH THE NEW



THE FUTURE OF OUR WATER SUPPLY

1. **City Water Pipes Need Replacement**

Fortunately, we have a long-term strategy to tackle those needs with the IRRP and the water fund's capital replacement program. Yes it will cost a lot, but the longer we wait, the more it will cost.

2. **New Metering System = Improved Accuracy, Help in Determining Where the Water is Being Lost, and Improved Leak Notification**

A new metering system will improve meter accuracy, tell us more precisely where water is being lost, and help us notify customers when they have a suspected water leak. Additionally, the resources spent reading each meter by hand will instead be put towards taking care of the system.

3. **Safe & Reliable Water is Critical to our Well Being & Future**

When we faced drought conditions and the threat of fire in the watershed in 2015, we took great comfort in the fact that the City's forefathers developed dual sources of water to ensure we continue to have safe and reliable water. Other cities are not so lucky. They will face water shortages as groundwater levels drop while we strive to put more water into the ground to preserve for our future.

4. **You Can Help Preserve Our Water Supply**

- Refrain from watering on windy days
- Water during the cooler parts of the day
- Fix leaky faucets

More conservation information and tips:

www.wallawallawa.gov/depts/publicworks/water/conservation



www.wallawallawa.gov

Public Works Administration

55 E. Moore Street | Walla Walla, WA 99362

Hours: Monday - Friday, 8 a.m. to 5 p.m.

Water Distribution Division **509.527.4380** | pwinfo@wallawallawa.gov