

THE LEGACY OF WOOD PIPES

We often take for granted the water that springs forth from our tap with the simple turn of a knob. If we stop to consider the elaborate maze of water mains and the work needed to accomplish such a feat, it is wondrous. But how did the early pioneers of Portland get their water? The answer is all around us: wood. Most people don't know the story of how a living resource was transformed into a valuable tool. Wooden water pipes served as a solid foundation for Portland's water system and remained viable for almost a century.

A History

The practice of using wooden piping for water distribution is not a new one by any stretch of the imagination. Although most people know lead pipe has been used historically to carry water, timber has also been in use for thousands of years as piping for water systems. The use of timber piping is well documented in historical records from old cities such as Rome and London.

In 2004, a team of archeologists in the United Kingdom discovered underground Alderwood pipes running through the ruins of a Roman fort in Northumberland. Amazingly, the pipes were still in serviceable condition despite being estimated at 2000 years old. While that is much longer than wooden pipes usually last, water was still flowing through the pipes from a spring. The use of wooden piping is time-tested and practical in the right circumstances, which is why Portland used so much of it in the early days of the city's development.

Did You Know?

- Wood needs both air and water to rot. By burying the wood pipe underground and filling it with water, the pipes can last up to 50 years.
- Water flowing through wood pipe doesn't taste like wood. The sap in the wood is flushed out very quickly, and once it's gone the water remains pure.

Stave Wood Pipe vs. Log Wood Pipe

Stave wood pipe is made of slats of wood pieced together while log wood pipe is made of a solid log with a hole drilled through the center. Portland utilized both types of wood pipe.



Log Wood Pipe from Philadelphia



Stave Wood Pipe from Colorado

This brochure was created by Portland State University Students who were enrolled in *Portland's Water*. A University Studies Capstone class taught by Catherine Howell's in partnership with the Portland Water Bureau.

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PORTLAND'S WOODEN WATER PIPES

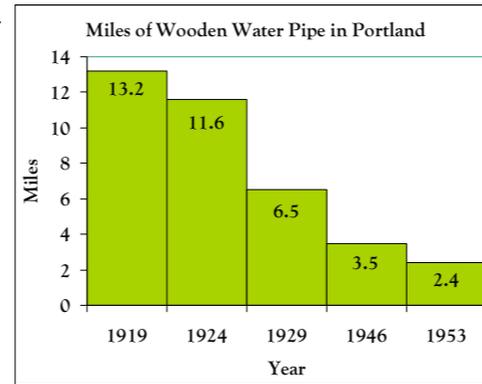
The Untold Story





The Era of Wooden Water Pipes

Wooden pipes were substantially cheaper to create and install than metal pipes, so when Portlanders had to choose a way to deliver their water, the answer was clear. In 1856, the first wooden water pipes were laid downtown from Fourth Avenue to the river.



The wood was from Douglas Fir logs, 15-18 feet long and 10 inches in diameter and joined by metal sleeves. As time went by, metal pipes were also used. The last year wooden pipes were installed in Portland was 1919. Although each year the miles of wooden pipe used dwindled, the last year Portland used wooden pipe was 1953. That means wooden water pipes served the city for almost a century!

Water Thievery

One of the major faults of wooden water pipes is that people could drill into them. Many buildings with an authorized connection to a main would secretly make additional connections, acquiring more water for the building, while only paying for one connection. If this theft was suspected, an electrical device called a “service pipe detective” would be brought in. If the device pointed towards a location other than the Water Bureau’s connection to the building, then the building was stealing water. In 1915 this problem caused the city to call for a survey of every building. After investigating the first 500 services of 57,000, 29 illegal connections were found. The Water Bureau found that it was short several thousands of dollars a month.



Southwest Portland



In 1998, Landis and Landis Construction Company found an abandoned section of wooden pipe at S.W. Cameron Road and S.W. Shattuck Road. Perhaps you’re standing above buried historical treasure right now.

Since wooden pipes had no salvage value, they were often abandoned underground when replaced by metal pipe. Miles of wooden pipe lay under Portland, serving as fossils of the skeleton of the old water system. Although the era of wood pipes gave way to metal, advancements in metal alloy technology could mean someday we’ll get our water through different material. Perhaps someday people will look back with wonder at the ways of our time.



This example of Portland’s wood pipe is kept at Bear Creek House. The hole in the center is the main line. The hole in the side is an authorized service line, but this is also how buildings could secure themselves secret connections.



Wooden water pipe found in Portland

Workers of the National Pipe and Tank Company constructing and installing wooden water pipe. The National Pipe and Tank Company was located in Portland, but the locations of these pictures are unknown.

