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THE “END OF THE LINE” SCENARIO

What is the “end of the line?” In this case, it means the end of a water distribution pipeline. You probably are at the “end of the line” if you live on a cul-de-sac street or a street that has a dead end. Water flowing through these distribution lines is a special consideration for TCWD’s Water Department staff and it has everything to do with chlorine.

Potable water, also called drinking water, must meet rigorous Federal and State standards for drinking water systems. One of these standards is the chlorine level. Chlorine is an excellent and proven disinfectant that protects us from harmful disease-causing bacteria. Federal standards require the minimum amount of chlorine in potable drinking water be maintained at 0.2 parts per million parts of water. To put this unit of measurement in perspective, one part per million is equal to one milligram of chlorine for every liter of water.

Unfortunately, chlorine has the ability to dissipate in water, or literally vanish, through the chemical interaction with the water over an extended period of time. It actually converts to sodium chloride or what is commonly known as table salt, but in undetectable levels, and disinfection byproducts.

This brings us to the “end of the line” issue. When the distribution pipelines are designed and installed, they are sized for two purposes:

1. To supply water to the users (homes, buildings, etc.), and
2. To provide adequate fire flow to fire hydrants in the event of a fire. In almost every case, the fire flow requirement is the dominant factor for

determining the size of the water distribution pipeline, and not the demand of the users of water.

If the water isn’t used often enough, the pipelines simply store the water and the chlorine begins to vanish. How does the TCWD protect its customers and assure that the potable water is meeting Federal standards? TCWD has a Fire Hydrant Flushing Program. When Water Department staff are in the field flushing hydrants, the flushing process itself takes about 5 minutes at each fire hydrant. The flushing at each fire hydrant throughout TCWD’s service area is scheduled to be performed annually.

Fire hydrant flushing is an essential practice that accomplishes two things:

1. The removal of sediment buildup, if any, from the distribution lines, and
2. Flushing brings fresh water into the line. This fresh water will have normal chlorine residuals and will guarantee protection against harmful bacteria.

Water that is flushed onto the street or road is “dechlorinated” by the Water Department staff before it enters the storm drain system. While all distribution lines may not need to be flushed as frequently as others, a comprehensive fire hydrant flushing program of distribution lines is a precautionary protection for everyone.

With all actions there are consequences, and flushing hydrants requires water usage. In an effort to lessen the impact of the water used in the Fire Hydrant Flushing Program, TCWD has strategically located

facilities that are specifically designed with the purpose of recapturing some of this flushed water.

PRESSURE REGULATORS

Water agencies' distribution systems are rated by the California Department of Public Health based on the complexity of the system. The most complex system is considered a Distribution V; the least complex system is a Distribution I. TCWD is rated as a Distribution IV system. This is due to the fact that much of the service area within TCWD's boundaries is at high elevations, and severe changes in elevations exist within the system.

By necessity, this creates opportunities for very high and very low water pressures. Many of the water distribution and transmission pipelines that are in the ground have a very high pound per square inch (psi) rating, and pressure reducing valves are located throughout the system. TCWD's entire water district system is overseen by employees who maintain certification as Distribution IV operators.

Why is this important to you? Many residences throughout the District have pressure delivered to the meters at their residences which are quite high. Unless a residence is in an extraordinarily high elevation zone, the District can typically deliver water at a minimum of 40 psi, but in many cases the pressure at the meter can exceed 100 psi. TCWD is required by the Department of Public Health to provide a minimum of 20 psi.

Most residences, particularly if they are housing development homes, are equipped with pressure reducing valves or what are commonly called regulators. This is a device that is bell shaped and is typically located below the hose bib in front of the house where the water enters the house through a pipe. These devices operate with a spring and rubber diaphragm mechanism that can wear out after a number of years.

TCWD strongly recommends that you acquire a simple water pressure gauge from a local hardware store (the cost is approximately \$10.00) and attach it to your hose bib to measure your water pressure. If the pressure exceeds 75 psi, your water pressure regulator may need to be adjusted, repaired, or replaced. Failure to do so means the copper piping inside your home may be

TCWD'S ON TAP

sustaining pressures in excess of what was intended by the builder and can result in serious water damage.



AN EXAMPLE OF A TYPICAL RESIDENTIAL PRESSURE REGULATOR

Please be reminded that TCWD is not responsible for any water once it passes through the customer's side of the meter. District staff reminds you of the importance of your pressure regulator so that you can be aware of the importance of monitoring the pressure of the water system inside your home.

BOARD OF DIRECTORS MEETING

The Board of Directors Regular Meeting is scheduled to be held on the third Wednesday of each month at 7:00 p.m. at the District's office located at 32003 Dove Canyon Drive, Trabuco Canyon. The public is encouraged to attend.

REGULAR BOARD MEETING HIGHLIGHTS

The Regular Board Meeting for August was scheduled to be held on August 15, 2012, but it was cancelled due to a lack of quorum. For more information, please go to TCWD's website at www.tcwd.ca.gov.