



HOMEOWNER ALERT



Subject: Tree Roots vs. Sewer Lateral

Don't let tree roots ruin your weekend - maintain your sewer lateral lines and keep things flowing.

Do you know that tree roots growing inside a sewer lateral is generally the most expensive sewer maintenance item experienced by homeowners?

Roots from trees can clog or damage sewer laterals when these pipes are not maintained regularly. Property owners should know the location of their sewer lateral and have a cleanout installed if one does not already exist. The replacement cost for house laterals damaged by tree roots can vary but routine cleaning and maintenance of the sewer lateral can prevent these costly repairs.

Do you know what a sewer lateral is?

In accordance with the Stege Sanitary District Ordinance Code Chapter 1, Section 1.2.34, the "Lateral" is defined as a sewer that conveys the Wastewater of a Discharger from a Building Sewer to a Main Sewer, including the connection the Main Sewer, also known as a "Side Sewer". In some cases, the main line sewer may be situated in an easement or alley behind your home.

In the City of El Cerrito, most sewer laterals are made of vitrified clay pipe with bell and spigot compression joints where the straight end of one pipe section (spigot) is pushed into the flared out bell (socket) of another pipe section. Prior to the advent of synthetic rubberized sealant materials in the 1960s, bell and spigot sewer pipe joints were often sealed with oakum (asphalt saturated hemp fiber) and cement mortar. According to engineering studies, these joints were assumed to have a lifetime of 25 to 30 years, after which time deterioration of the joint sealant materials would result in leaks. Considering most El Cerrito's homes were originally built from the 1940s through 1960s, it is not surprising that many sewer laterals have leaking joints. The clay pipe itself can also sustain damage due to soil settlement.

Do you know that tree roots do not break sewer lines?

It is a common misconception that tree roots break sewer lines. There is no question that sewer problems can be traumatic and expensive for homeowners. And there is no doubt that when a plumber's snake does its work, handfuls of roots are often retrieved from the sewer lateral before the pipe is cleared and starts flowing properly. But where did those roots come from? Why were they in the sewer? Did the tree really *cause* the sewer problem?

Tree roots require oxygen, water, and nutrients to grow. Tree roots grow best when favorable conditions of soil moisture, texture, and oxygen are present. Under these conditions, most roots are found in the top 3 feet of soil, well above sewer lateral lines. A few tree roots may grow deeply enough to be near a properly buried sewer line. Even so, roots cannot enter an intact sewer pipe. Tree root growth is opportunistic; i.e., roots proliferate in areas suitable for growth. Roots thrive in the warm, moist, nutrient-rich conditions that exist within the sewer line. Tree

roots grow toward an increasing water gradient and are attracted to moisture condensing around pipes that are cooler than the surrounding soil. Thus, tree roots tend to follow buried piping when encountered. The leading tip of the tree roots can detect minute differences in moisture and nutrient levels and tend to grow in the direction where these can be found. If the pipe is structurally sound and does not leak, roots will not pose a problem. However, if the pipe is defective or there are cracks or leaks, roots will exploit the compromised joint or crack and grow into the pipe. On reaching a leaking crack or joint in the clay pipe, tree roots will penetrate the smallest of openings to reach the nutrients and moisture inside the pipe. Once roots enter the defective pipe, they begin to thrive and grow rapidly. The roots will continue to grow undetected, and if not cut out, they may completely fill the pipe with multiple hair-like root masses at each point of entry. The root mass inside the pipe becomes matted with grease, tissue paper and other debris discharged from the residence, potentially blocking the flow of sewage from the lateral to the mainline in the street.

A leaking sewer pipe creates an attractive point of entry for tree roots. Once a root enters a sewer pipe, it will encounter conditions of aeration, moisture, and nutrients that are so favorable that the root inevitably grows until it clogs the sewer. Tree roots increase in diameter by producing woody growth rings each year. Radial pressures exerted by the growing roots can eventually break the pipe walls and cause it to collapse. Sewer laterals that become blocked by tree roots are usually old clay pipes and in bad condition. Structurally damaged pipes may require repair or replacement. Modern plastic sewer pipes are unlikely to suffer such root intrusion.

Do you know the first signs of tree root intrusion into the sewer lateral?

The homeowner will notice the first signs of a slow flowing sewer lateral line by hearing gurgling noises from the toilet bowl or observing a back up in the shower when the laundry is in the spin cycle and draining into the sewer inlet. A complete blockage may occur if no remedial action is taken to remove the roots.

Do you know that routine maintenance of your sewer lateral can greatly reduce the possibility of a blockage or structural damage to the sewer pipe?

Periodic maintenance of your sewer lateral can minimize root intrusion and clogs. Ignoring your sewer lateral can lead to blockages and collapsed pipes, which may necessitate costly repairs and/or replacement of your house lateral. Like the old adage... "An ounce of prevention is worth a pound of cure."

Do you know you are responsible to maintain your sewer lateral?

In accordance with the Stege Sanitary District Ordinance Code Chapter 4, Section 4.4.7, it shall be the responsibility of the property owner to perform all maintenance, repairs and replacement necessary to maintain the Lateral... Therefore, neither the City of El Cerrito, nor the Stege Sanitary District is responsible for clogs or damages to your sewer lateral or the cost of repairs, even if the roots in your sewer lateral originate from a City street tree.

Do you know how to adequately maintain your sewer lateral?

Homeowners should periodically inspect their sewer lateral before there are symptoms of trouble, to avoid costly major repairs. A thorough video inspection of your sewer lateral will reveal debris blockage, root intrusion, low spots, cracked or deteriorating piping, and cracked, separated or leaking pipe joints. The depth and exact location of problem areas can be identified

to keep your repair costs down. Access to the sewer lateral can be gained through a properly installed clean-out at the outlet of your home.

When root intrusion becomes a problem, the most common method of removing roots from sewer pipes involves the use of powered snakes (augers) with cutting blades. To ensure the best removal of the tree roots, the cutting blade needs to be the same diameter as the pipe. When plumbers run a snake through a roof vent only a small fraction of the roots are removed. Cleaning the sewer line through a roof vent or toilet waste line is an insufficient method when tree roots are the cause of the blockage.

Do you know there are trenchless methods to repair your damaged sewer lateral?

A qualified plumbing contractor can offer various options for repairing your damaged sewer lateral piping. If your sewer lateral has collapsed, it will be necessary to excavate a trench to replace the damaged section of piping. For most other repairs, it may be feasible to repair the compromised piping by the trenchless method.

Sewer Pipe Bursting – open trench excavation pipe repair can be very expensive. Thanks to new trenchless sewer technology, this nightmare is a thing of the past. Trenchless sewer repair methods avoid the need to dig up your landscaped yard, walkways, or driveway over the path of your failing sewer lateral. Since there is less digging required, trenchless sewer repair saves time, money, and aggravation.

This method of trenchless sewer line replacement consists of breaking up your old pipe by a powerful cone shaped tool called a bursting head while simultaneously pulling in a new pipe behind it. The contractor will only need to dig two small access holes on each end of your sewer line. One hole will be used to feed the new pipe in and another hole at the other end to pull the bursting head through, pulling the brand new sewer pipe behind it.

However, open trench excavation pipe repair is still allowed by the Stege Sanitary District if the property owner wishes to do so.

Contact the Stege Sanitary District or visit the District website at <http://www.stegesd.org/faq/general-guidelines> for guidelines relating to any sewer lateral repair or replacement. Please note that a District permit and payment of fees is required for any sewer lateral related construction work.

A separate Encroachment Permit is required by the City of El Cerrito for any work within the public right-of-way.