King County
Department of
Natural Resources and Parks
Wastewater Treatment Division

Lake Hills and NW Lake Sammamish Sewer Upgrade Project

FACTSHEET

Summer 2018

Crossing the Sammamish River

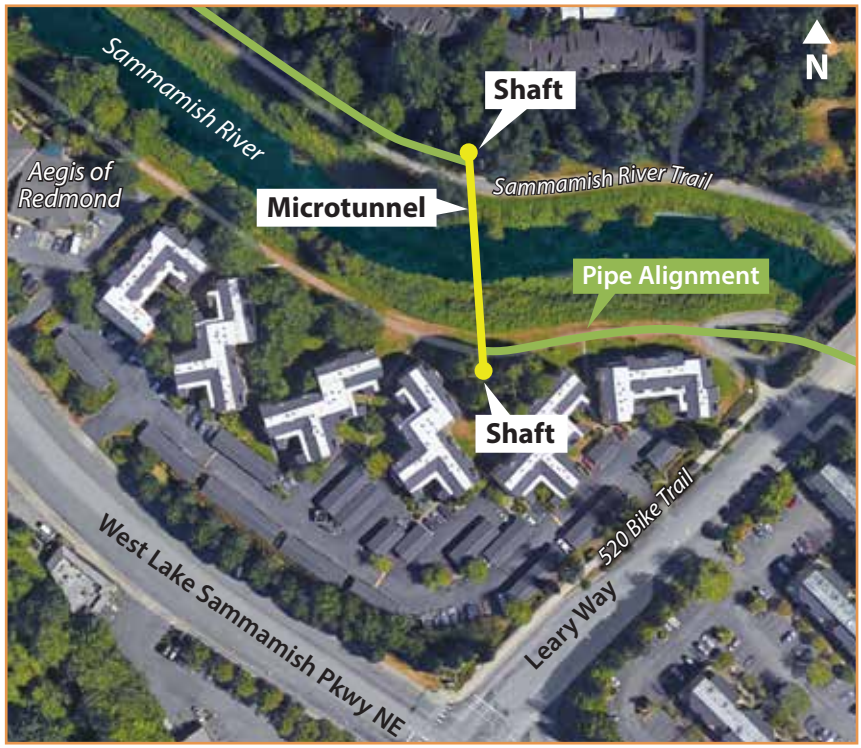
The Lake Hills and NW Lake Sammamish Sewer Upgrade Project pipe route crosses the Sammamish River just northwest of Leary Way. The Sammamish River and its banks provide important habitat for fish and wildlife, including migrating salmon. Most of the new sewer pipe will be installed using open trench construction, a method in which a hole is dug from the surface to lay the new pipe.

King County will use an underground construction method called microtunneling that won't require us to dig a trench across the river. This will help us reduce our impact to fish and wildlife.

What is microtunneling?

To construct the tunnel that will carry pipes for the sewer upgrade and recycled water line, crews will dig pits, known as shafts, at both ends of the tunnel, lower the microtunneling machine in the shaft on one side of the river, tunnel below the river, then remove the machine through the shaft on the other side of the river.

Microtunneling machines use a rotating cutter head that moves through soil and rock, breaking up solid material somewhat like a cheese grater and pulling that material into the machine. That material, called spoils, is mixed with soil conditioners and pumped back to the surface.



Approximate shaft and microtunnel locations.

Large hydraulic jacks move the machine forward as the cutter head rotates, placing steel casings behind the machine as it progresses. Those casings form the walls of the tunnel. Crews steer the machine using a series of lasers and computers operated outside of the machine.

Sammamish River crossing by the numbers

Up to 78 inches
the diameter of the microtunnel machine and cutter head

50 feet
depth of the pits on either side of the river, called shafts

240 feet
length of the tunnel under the river

20 feet/day
anticipated speed at which the microtunnel will move under the river

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What to expect during construction

There are two distinct parts of construction to support microtunneling: building the shafts, and the tunneling itself. Work is expected to take place during daytime hours only, 7 a.m. to 7 p.m. on weekdays and between 9 a.m. and 6 p.m. on Saturdays. We expect some Sammamish River Trail closures during this work.

Building the shafts

The exact method of shaft construction will be determined by the contractor. Generally, shaft construction includes building an outer wall, often by using interlocking concrete cylinders, and then excavating the soil from the center of the shaft to a depth of 45 to 50 feet. Expect to see a drill rig and excavator, concrete trucks, dump trucks and other support equipment during shaft construction. This work will be noisy and you may feel vibration, particularly when the outer wall is being built.

Shaft construction using interlocking concrete cylinders.

Microtunneling under the river

A crane will be used to lower the microtunneling machine into the shaft on one side of the river. It is unlikely that you will hear or feel movement from the microtunneling machine while it is operating. The spoils from the machine are pumped to the surface to a soil separator machine. The machine will separate out rocks from soil for proper disposal. That soil separator machine, as well as generators and other support equipment, will generate noise and possibly vibration while in use.

When the microtunneling machine reaches the shaft on the southeast side of the river, crews will use a crane to remove it and then truck it off site.

The microtunneling machine will be placed into the shaft using a large crane.

What will happen when microtunneling is complete?

After microtunneling is complete, the shafts will house flow management structures and provide space for maintenance of the sewer and recycled water pipes. Aside from access hatches on the ground surface, these structures will not be visible above ground.

About the project

King County is upgrading nearly 4.5 miles of sewer pipe in Redmond to meet the needs of your growing community. Construction is expected to begin in 2020. When complete, the new pipe will provide sewer service for another 50 years or more.

For more information

Contact Kelly Foley at **206-477-8621** or **kelly.foley@kingcounty.gov**

Visit the project web page at **http://www.kingcounty.gov/KCRedmondSewer**

Sign up for text alerts: Text **KING REDMONDSEWER** to **468-311**

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