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Water problem keeps boring machine stuck

Big Pipe - Creating a concrete collar would allow the equipment to start tunneling again

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SPENCER HEINZ

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Portland's eastside Big Pipe tunnel-boring machine probably will remain shutdown for another month as workers prepare for a second attempt to break out of the project's starting-point shaft, the city reported Tuesday.

On June 13, nine days into a planned four-year run to build a giant sewage pipe beneath the east bank of the Willamette River, the nearly 500-ton machine shut down because of groundwater flooding inside the 11-story-deep, open-air shaft.

A breached seal in the shaft's concrete wall led to the flooding, which workers stemmed within about four hours. Pumping continues to keep it at manageable levels.

Exactly what caused the seal to fail remains undetermined, said Paul Gribbon, the city's tunnel manager. Part of the sealing solution, at least for now, is to pour a concrete collar against the shaft's interior wall that the front of the machine has partly penetrated.

About 25 feet of the approximately 45-foot-long machine is protruding through the outside of the shaft, he said, and into the underground soils and water.

Creating a concrete collar is the same solution that finally helped one of the westside Big Pipe tunneling machines out of its starting-point shaft in 2004. In that case, a failed gateway gasket also resulted in a temporarily flooded shaft, and tunneling resumed within three weeks.

Portland's \$1.4 billion Big Pipe project, on both sides of the Willamette, partly involves building giant pipes to try to keep most of the city's sewage and storm water from overflowing into the river. The city has promised to have the whole system operating, on both sides of the river, by 2011.

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