



## EXCAVATORS DIG UP, BREAK THROUGH TERRAIN TO LAY FIBER OPTICS OVER 210-MILE PROJECT

Robinson Brothers Construction (RBC) – an independent utility contractor based in Washington – secured a contract with a major telecommunications company to increase connectivity from Umatilla to Portland, OR. The company specializes in underground construction applications to support the expanding fiber-optic industry, working throughout the Western United States.

“With the amount of cell phones, drones, cloud storage and changing technology, the fiber-optic industry is strong right now,” said Merle Sorenson, RBC chief executive officer. “It has really sparked our business.”

The 210-mile project will include installation of fiber-optic cables to connect large data centers along the Columbia River in the Pacific Northwest to Portland. The city is a major hub in the telecommunication industry.

The two-year project began in April with RBC setting up several job sites to conduct work simultaneously. “We’re spread out over 100 miles,” says Sorenson.

The stretch from Umatilla to Portland runs along the Columbia River and the project route mirrors the winding path. The installation of a four-duct conduit system will require RBC to go under rivers, through farmland and over the

north face of Mt. Hood. One conduit will house fiber-optic cable for high-speed connectivity, while the other three will remain vacant for future growth in the area.

The project route follows the county right-of-way and includes Bureau of Land Management and U.S. Forest Service land. The topography of the region is varied. “We’re going through wheat country and many little towns. Naturally, Mt. Hood is very rocky with dense forests and narrow county roads,” said Sorenson.

## EQUIPMENT FLEET

RBC is running a large fleet of equipment that includes crawler excavators, rock saws, wheel loaders, compactors, directional drills, cable plows and air compressors. The Doosan crawler excavators in the company’s fleet – purchased from Feenaughty Machinery in Portland – are absolutely necessary to keeping the project on schedule. “There’s a lot of trenching and rock breaking,” Sorenson said.

Three Doosan DX140LC-3 excavators have been dispatched out with several crews for trenching and breaking rocky ground to lay the conduit. RBC typically trenches to a depth of about 48 inches, 6 inches beyond the standard 42 inches. The extra depth ensures compliance and allows smaller rocks to remain in the trench. “We plow in the broken rock slot to place conduit,” he said.

A vault is installed every 2,500 feet and serves as an access and termination point for the fiber-optic cable that will be blown into the conduit. In some instances, the crew can’t plow in the conduit at the vault and has to splice conduit together. The excavators and a DX225LC-3 crawler excavator are used for digging the hand holes.

Ripping through various ground conditions, breaking rock and hauling away excess material can make quite a mess, especially

near roadways. Excavators are also used for backfilling and reshaping ditches and general cleanup. “We use wide buckets, so we can reshape ditches and restore the right of way,” he said. “You don’t want anybody to know you’ve been there.”

RBC added two larger DX300LC-5 crawler excavators to its fleet specifically for the project. Sorenson, who was raised in a logging community, had noticed logging crews using the Doosan brand of equipment. “Loggers put everything to task – the terrain they work on and the weight they pull,” he said. “If the loggers like it and it will hold up for them, it’s certainly going to hold up in our industry.”

Each excavator is equipped with an 8,500-foot pound hydraulic rock breaker for large boulders and busting up solid rock. The excavator and breaker combination is the only option for breaking solid rock because of the slope of the terrain. “You have to have level ground to use a rock saw, so we’re using more breakers on the Mt. Hood portion of the job,” said Sorenson.

With more than 100 miles of the project underway or completed, Sorenson says snowfall on Mt. Hood will likely shutdown work on the mountain portion of the job until spring 2018. In the meantime, RBC will begin construction from the western side of the mountain, eventually completing the full 210-mile stretch and bringing high-speed connectivity to a growing industry – with room for future expansion.

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