

# Team Effort Overcomes Conditions

## Project Replaces Wetlands Disturbed by Oregon Road Construction

By Amber Reed and  
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**C**onstructing a wetland near a river is tough, muddy work – especially during the winter. That’s why harsh conditions were a top consideration for Scott Smith, senior lead and street supervisor for the city of Prineville, OR, when he rented equipment for the Crooked River Wetland Project.

was straightened and channelized, and much of the riverbank vegetation was lost. Dams built on both the Crooked River and the Ochoco Creek also altered the river’s path. Since then, the river’s increased velocity has resulted in erosion – as well as more vegetation loss and downstream flooding.

In November 2005, the city of Prineville and ODOT began reconstructing 10

Construction for phase two began in November 2007. This phase included a 6.5-acre wetland near O’Neil Highway, just upstream from the phase one site. Phase two was slated to last more than three months because city crews were plowing snow and sanding the roadways in addition to performing their construction duties.

“Also, ground conditions during this construction phase were very muddy and wet, which we anticipated would slow down our progress,” Smith said.

### Half-Mile Haul

When Smith asked for phase two bids, he required equipment dealers to supply the city with late-model, low-hour machines that were comfortable for his crews to operate for long periods of time. He also needed to rent the equipment by the hour rather than by the week or the month to accommodate his crews’ work schedules.

Triad Machinery in Prineville had the winning solution with an excavator and three Terex articulated trucks. The Terex articulated haulers – a TA35 and two TA30 models – were chosen for their increased fuel efficiency and their Tier-III engines’ lower emissions. These haulers have an independent front suspension system, which ensured that Smith’s operators would enjoy a smoother, more comfortable ride and improved handling. The haulers are also equipped with all-round, fully enclosed wet-disc brakes on all wheels, giving Smith’s crews the advantage of fade-free braking.

“The ground conditions aren’t very good when you’re constructing a wetland near a river, especially during the winter months,” Smith said. “So the equipment, particularly the haul trucks,



A Terex TA 30 haul truck dumps excavated material at the Crooked River Wetland Project.

This \$350,000 wetland restoration project funded by the Oregon Department of Transportation was designed to do several things: to rehabilitate land for the city’s wastewater treatment plant expansion, to replace wetlands disturbed by state road construction, and to minimize the environmental impact of residential and commercial development.

It also addressed other infrastructure challenges that had taken their toll on the river’s ecosystem. After the area flooded in 1964, the river

acres of wetland along a 2-mile stretch of the Crooked River, near the Deschutes Basin – a degraded, low-lying area ideal for establishing a wetland hydrology. It took crews 33 days to complete 3.5 acres of excavation work using a rented excavator and two articulated trucks.

“During this phase, the site was excavated down an average of five feet to existing groundwater elevations,” Smith recalled. “The crews moved approximately 33,000 cubic yards of material, which we are using to construct a 60-acre wastewater holding pond.”

had to work through every condition without getting stuck or beating up the drivers." According to Smith, for more than 40 days during phase two construction, the trucks were pushing mud with their front bumpers the entire length of the half-mile haul road.

Excavation depths for the second wetland area averaged 8 feet throughout the site, producing about 98,000 cubic yards of material. Together, the excavator and articulated trucks moved an average of 1,500 bucketfuls – or 30 truckloads – of excavated wet, dense clay every day, which was hauled about 2,500 feet to a stockpile area. Smith says this material is also being used for the construction of the city's new wastewater holding pond.

Scheduled for September 2008, the final phase connecting the wetland to the Crooked River was expected to take three days



About 30 truckloads of wet, dense clay were hauled about 2,500 feet to a stockpile area every day.

to complete. The newly constructed wetlands will be home to several sensitive and federal ESA-listed species including redband trout, Pacific lamprey, western toad, Oregon spotted frog, bald eagle, pallid bat, and long-eared myotis bat.

Smith reported that the project has received rave reviews, winning more than 30 awards. In fact, the project has been so successful, the city has already agreed to a similar project downstream. With today's focus on the environmental impact of development, it's a real reminder of how construction can be used to not only transform but also restore the natural landscape. ■

*Amber Reed and Camille Wolfe are writers for Performance Marketing, West Des Moines, IA. Story provided by Terex Construction Americas.*

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## City of Prineville completes wetland with Link-Belt, Terex machinery from Triad

**A**fter three months and nearly 80,000 cubic yards of dirt moved, the city of Prineville completed Phase II of the Crooked River Wetland Mitigation Project in early February. The \$350,000 project, funded by the Oregon Department of Transportation, replaced wetlands disturbed by state road construction.

Work on the six-acre site, near the O'Neil Highway, was done by city of Prineville employees using a Link-Belt 290X2 excavator and three Terex articulated haul trucks rented from Triad Machinery's Prineville branch with the help of Branch Manager Cliff Humbar. The 65,700-pound excavator was equipped with a 60-inch bucket, helping workers move nearly 2,300 cubic yards a day. A 37-plus-ton TA35 and two 30-plus-ton TA30 trucks hauled the dirt about 2,500 feet to a stockpile area where it will eventually be used to construct a new wastewater treatment holding pond for the city.

Digging depth across the site averaged seven feet as it was lowered to the depth of the nearby Crooked River. A project later this summer will connect the wetland and river. City of Prineville Public Works Street Supervisor Scott Smith oversaw the 45-working-days project and said the combination of the Link-Belt 290X2 and the Terex trucks worked exceptionally well.

"Using the two in conjunction with each other proved to be very productive," he said. "On average, the excavator dug out and loaded 1,500 bucketfuls of dirt every day and never once lost its speed or power, even though conditions were often wet and muddy. It was a very economical

machine and had no problems keeping up with three large trucks. From an operator's standpoint, it was comfortable, quiet and smooth. The best benefit of all was probably fuel-efficiency.

"We found some of the same benefits in the Terex trucks," he added. "Obviously, the ground conditions aren't very good when you're constructing a wetland near a river. Those trucks worked through every condition without getting stuck. The drivers were impressed with the comfortable ride. They didn't feel beat up when the day was over."

### Looking for future uses

Smith said he was very impressed with Humbar and Triad as well. "Triad didn't have its Prineville location when we did Phase I (that three-acre site was completed in 2005 and has

received rave reviews, including winning more than 30 awards), but when I was looking for bids for rental equipment on this project, I talked with Cliff to see if Triad was interested. I had specific requests, such as late-model equipment that was comfortable and productive. Triad came back with new and low-hour machines at a very reasonable price. We've been very pleased with how Triad has responded to any need we have."

Smith is already considering using the equipment for future needs at the city's rail yards. "We have a project that calls for about 1,500 feet of 12-inch water line that the Link-Belt 290X2 will be great for digging and setting. In conjunction, we'll likely need a new access road that will require moving around 12,000 yards of dirt. The combination of the excavator and Terex trucks would be perfect for that."



Using a Link-Belt 290X2 excavator and three Terex trucks rented from Triad Machinery, the City of Prineville moved nearly 80,000 yards of material to construct Phase II of its wetland project. Public Works Street Supervisor Scott Smith said the combination worked exceptionally well.