State studies relocating 20 miles of West Texas road as sinkholes spread

By John Austin/CNHI LLC State Reporter 21 hrs ago

AUSTIN — Some folks in Winkler County have gotten used to living with the sinkholes that appeared when ground opened up around drilling sites in West Texas, starting in 1980.

"Most people who've grown up here don't think anything about it," said Tonya Todd, city secretary in Wink, about 50 miles west of Odessa, where the first sinkhole appeared. “To my knowledge, it’s not alarming our citizens.”

But based on new satellite radar remote-sensing data, scientists say that the unstable, sinking ground associated with the dissolution of salts under abandoned oil wells or water wells has spread to six sites in four counties.

“I'm very concerned about the safety of the roads," in the area, said geophysicist Zhong Lu, a professor at Southern Methodist University’s Roy M. Huffington Department of Earth Sciences. “I'm even more concerned about the safety of the underground pipelines.”

A spokeswoman for the Texas Railroad Commission, which governs the state’s oil and gas industry, said the agency has not seen the report.

But Gene Powell, Odessa-district spokesman for the Texas Department of Transportation, is familiar with the report and said the spread of sagging and uplifting ground in the area is “something that’s on our radar.”
There’s already been a realignment of about a mile of road because subsidence “crept into our right of way,” Powell said.

Now, TxDOT is awaiting a consultant’s report on whether to launch a more-extensive response — rerouting the road.

“If we re-route the road completely we’re looking at building a new corridor,” Powell said. “It’d be about 20 miles.”

The area that’s been re-routed isn’t in Winkler County, but in Pecos County, about 75 miles as the crow flies from the Wink site, Powell said.

Powell said the affected area of Pecos County has sunk steadily and isn’t “catastrophic.”

Still, Powell said that TxDOT is “very proactive,” and “that’s why we’re looking at options.”

Meanwhile, Powell said there’s a TxDOT trailer in Kermit, the Winkler County seat, set up with road-closure and detour signs “in case there’s a catastrophic failure.”

The second of the two Wink sinks appeared in 2002.

According to the University of Texas at Austin’s Bureau of Economic Geology, the first Wink sink was about 380 feet wide as far back as 2004, and the second was about 820 feet wide in 2013.

But the new research shows that the new ground movement reaches far past the original footprints.

Jin-Woo Kim, a research scientist at SMU, underscored the fact that the new analysis, which was partly funded by NASA’s Earth Surface and Interior Program, only covered a 4,000-square-mile area.
“We’re fairly certain that when we look further, and we are, that we’ll find there’s ground movement even beyond that,” Kim said in a report that appeared on SMU’s research news blog. “This region of Texas has been punctured like a pin cushion with oil wells and injection wells since the 1940s and our findings associate that activity with ground movement.”

The report also noted that radar showed over an inch of sinking near several wells drilled since 2015 that used hydraulic fracturing, or fracking technology.

“We have seen a surge of seismic activity around Pecos in the last five to six years. Before 2012, earthquakes had not been recorded there. At the same time, our results clearly indicate that ground deformation near Pecos is occurring,” Kim said in the SMU blog report. “Although earthquakes and surface subsidence could be coincidence, we cannot exclude the possibility that these earthquakes were induced by hydrocarbon production activities.”

Without continuous monitoring, the scientists said the region could expect infrastructure damage, groundwater pollution and risks to oil and gas pipelines in an area with one of the nation’s densest pipeline concentrations.

Induced seismicity — earthquakes caused by human activity — is also a possibility.

“I don’t want to discourage drilling,” Lu said.

But as for monitoring the spread of subsidence, in the future, it’s something that needs to happen “daily, or every other day,” he said.

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