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... For immediate release ...

**HAYWARD BAKER COMPLETES
EMERGENCY SINKHOLE REPAIRS ON U.S. HIGHWAY 24
AT TENNESSEE PASS IN WESTERN COLORADO**

***Repairs completed in less than one month,
minimizing traffic disruption.***

Denver, Colo., *September XX, 2012* – Hayward Baker Inc., North America’s leader in geotechnical construction, has completed repairs on a large sinkhole that had opened up on U.S. Highway 24 at Tennessee Pass, 100 miles west of Denver, Colo.

The sinkhole and highway repairs were completed in less than one month’s time, thereby minimizing traffic disruption on a key north-south trunk highway in Western Colorado connecting the communities of Leadville and Vail near the 10,300-ft-high summit of Tennessee Pass.

The sinkhole developed in early July, when timbers collapsed in an old railroad tunnel approximately 100 feet beneath the road. The tunnel had been built for the Denver & Rio Grande Railroad to haul silver ore and had not been used in decades.

Once it appeared at the ground surface, the sinkhole expanded rapidly to 35 feet in diameter, eroding the soil from beneath the highway.

Due to the emergency nature of the situation, the Colorado Department of Transportation (CDOT) established repair specifications in a matter of 48 hours and solicited bids from several contractors. Hayward Baker was selected to perform the repairs due to its reputation, competitive bid price, plus its ability to complete the repairs quickly.

The overall cost of the sinkhole stabilization and highway repairs, including traffic control, design and other ancillary aspects, totaled approximately \$1.5 million.

Compaction Grouting Used for Repair

The technique used by Hayward Baker to repair the sinkhole was compaction grouting (also known as low mobility grouting or LMG). This grouting technique displaces and densifies loose granular soils, reinforces fine-grained soils, and stabilizes subsurface voids or sinkholes by the staged injection of low-slump, low-mobility aggregate grout. When performed in granular soil, compaction grouting increases density, friction angle and stiffness in the surrounding soils.

Hayward Baker crews initially isolated the segment of the tunnel beneath the highway by injecting LMG to create plugs in the tunnel beneath the outside edges of the road, while the sinkhole was backfilled with flowable fill from the surface. The LMG containment barriers provided a “cutoff wall” and allowed the flowable fill to begin backfilling the sinkhole from the surface. A pressurized grout (LMG) was then injected to fill any remaining voids and to densify loosened soils.

Once the void was stabilized, the existing road surface was smoothed and paved with asphalt to create a seamless transition for motorists over the former sinkhole area.

“As we mobilized, the sinkhole continued to expand and propagate to the center-line of the highway,” Tom Szynakiewicz, P.E., a Hayward Baker engineer assigned to the project, explained. “The work required a rapid response and extreme caution since the area was unstable. With careful planning and a well-thought out approach, we were able to quickly stabilize the sinkhole and salvage the highway,” he noted.

In total, Hayward Baker used approximately 1,700 cubic yards of material to fill and stabilize the void beneath the highway – which included nearly 200 truckloads of ready-mixed grout.

The timely completion of the work allowed Tennessee Pass to be used, as previously planned, for two major cycling events held during the month of August: the *USA Pro Challenge* race and the *Colorado Cyclist Copper Triangle* ride.

Commenting on the fast and successful completion of the Route 24 Tennessee Pass sinkhole repairs, CDOT Project Engineer Matt Figgs said in an interview with the *Post Independent* newspaper of Glenwood Springs, “We are grateful to Hayward Baker, the contractor, for their hard work to make these repairs so quickly and efficiently.”

The Route 24 Tennessee Pass sinkhole repair is the latest of numerous repairs performed by Hayward Baker throughout the United States. Several other examples in the Rocky Mountain region include stabilization and repairs at Dowd Junction in 2008 due to landslide damage, as well as a sinkhole stabilization project on Colorado State Highway 67 near Cripple Creek in August 2012, similar to the U.S. Highway 24 at Tennessee Pass project. Currently, Hayward Baker is also working on the filling of old mine workings in Rock Springs, WY and Colorado Springs, CO.

About CDOT (Colorado Department of Transportation)

The Colorado Department of Transportation [<http://www.coloradodot.info/about>] is responsible for transportation and transportation infrastructure in the State of Colorado. This includes the maintenance of nearly 9,150 miles of highways within the state, more than 3,400 bridges, plus regulatory oversight of airport facilities, freight and commuter railroad routes, and intercity bus transit. The CDOT's mission is "to provide the best multi-model transportation system for Colorado that most effectively moves people, goods and information."

CDOT's roots date back more than 100 years. Known as the Colorado Department of Highways after 1968, the agency official became the CDOT in 1991 in order to align its functions and budgets more closely with the Federal Highway Administration and the U.S. Department of Transportation.

About Hayward Baker Inc.

Hayward Baker Inc. [www.haywardbaker.com] is North America's leader in geotechnical construction. Ranked by *ENR* magazine as the #1 Excavation/Foundation Contractor, Hayward Baker is the industry leader in applying ground modification technologies to site improvement and remedial work, with a 60-year record of experience. A wide range of technologies is employed in providing foundation support and rehabilitation services as well as settlement control, structural support, site improvement, soil and slope stabilization, underpinning, excavation shoring, earth retention, seismic/liquefaction mitigation, and ground water control. Hayward Baker is capable of offering full Design-Build services for virtually any geotechnical construction application.

Hayward Baker's services are provided through a network of more than 20 company-owned offices and equipment yards across the continent.

Hayward Baker Inc. is part of the Keller Group of companies, a multinational organization providing geotechnical construction services throughout the world. Web site address: www.keller.co.uk.

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Photo Caption:

A 35-foot diameter sinkhole opened up along U.S. Highway 24 at Tennessee Pass in Western Colorado, caused by the collapse of an old railroad tunnel deep under the road platform. The Colorado Department of Transportation (CDOT) was charged with repairing the sinkhole as quickly as possible while minimizing traffic disruption on a major north-south traffic artery.

Photo Caption:

Hayward Baker, the contractor selected by CDOT for the Tennessee Pass sinkhole repair project, used cost-effective compaction grouting (LMG) techniques to fill the sinkhole void and stabilize the ground. Repairs were completed less than one month after the work began.