OCTOBER 2010 MEETING

Wednesday, October 13, 2010

TECHNICAL PROGRAM

The Uretek System

Speaker: Travis Bennett, Tel: 713-256-3426, General Manager with Urerek ICR Gulf Coast

Mr. Bennett recently rejoined Uretek ICR Gulf Coast to manage its day-to-day operations, administration, and sales team as General Manager. Prior, he worked 7 years for Uretek as its Operations Manager. In 2006 Mr. Bennett earned a Bachelor of Science in Industrial Technology from Sam Houston State University in Huntsville, majoring in Construction Management. Mr. Bennet was accompanied by Uretek ICR Gulf Coast's Residential Foundation Specialist, Dale Rutledge.

PRESENTATION SUMMARY

To an audience of about 65 at the HESS Club, Travis Bennett presented information on Uretek, a zero excavation and infiltration restoration system. Uretek ICR Gulf Coast specializes in concrete lifting, soil stabilization, infrastructure sealing and void filling. Uretek sells franchises for installation of its product. Uretek ICR Gulf Coast is one of two Uretek franchises located in the Houston area and has been in business more than 10 years. "ICR" is an acronym for Industrial, Commercial, and Residential, which distinguishes the type of projects Mr. Bennet's company pursues.

According to Mr. Bennett, the product consists of patented synthetic resins that Uretek has developed over the last twenty years. The resin is a high-density urethane polymer compound that is hydrophobic and expansive to 20 times its volume, making it an excellent product for sealing active leaks in storm and sanitary sewers. Additionally, the sealing and expansion qualities make the product a good choice for lifting, stabilizing and sealing voids around manholes. He said the adhesive properties are excellent which allows it to be used at the underside of slabs where the moisture retarder was omitted or has deteriorated.

The compound is injected through small 5/8-inch diameter holes so little, or no excavation is needed meaning minimaldisruption of the structure. Like concrete, the resin never stops curing, though it reaches 90% of its rated strength within 15 minutes, meaning results are achieved rapidly. The product can achieve compressive strengths between 20-120 psi and tensile strengths between 40-140 psi. An example of a repair project performed by Uretek was shown
that illustrated the lifting of a milk storage tank weighing in excess of 250 tons. The tank was lifted and leveled using a deep injection process including soil densification. The tank remained in full operation during the repair. After the presentation, Mr. Bennett advised they similarly lift foundations founded on deep piers by injecting the resin beneath the footing bells.

Other examples were presented illustrating the injection of the Uretek product around leaking pipes with flowing water leaks. The product was used to displace water and plug the flowing leak within minutes. A common application presented was the repair of corrugated steel culvert pipes that rust out at the bottom. The fix in this case includes the addition of a thick sheet of polyurethane bent to fit the high points of the interior corrugations. They then inject the product between the steel and polyurethane.

Although not ideally suited for typical slab on grade type leveling projects, Uretek is used for the lifting, leveling and stabilizing of plate slabs such as driveways and sidewalks, and may be used in combination with conventional slab repair methods. Since the Uretek method is minimally invasive, it was suggested that conventional underpinning methods be used at the exterior locations of slabs on grade and that any interior lifting be provided by Uretek. This avoids the expense of either tunneling below the foundation or making breakouts and excavations on the interior

which is disruptive to the occupants. The Uretek method does not work well at the foundation perimeter because there is no confining slab condition on the outside of the perimeter grade beam to balance the lifting pressure.

Uretek ICR Gulf Coast's lifting and alignment process is accurate to +/- 0.1 inch but only because their crews are extensively trained and experienced. Since the lifting is achieved in small increments over time, the process is results-driven and not pre-calculated. A water level is used continuously during the injection process so there is no over lifting. The product is stated to be inert and environmentally friendly. All pressure is below surface and is low compared to conventional mud jacking pressures. Excess material which may seep into pipes and other areas is easily removed by hand tools or machine within minutes of completion. For smaller, inaccessibly piping such as in residential work, they strongly recommend that the homeowner first has his under-slab plumbing leak tested.

More information may be found at the Uretek ICR Gulf Coast **website**.

PAST PRESENTATIONS (click here)