RAMJACK®

2015 CASE STUDY

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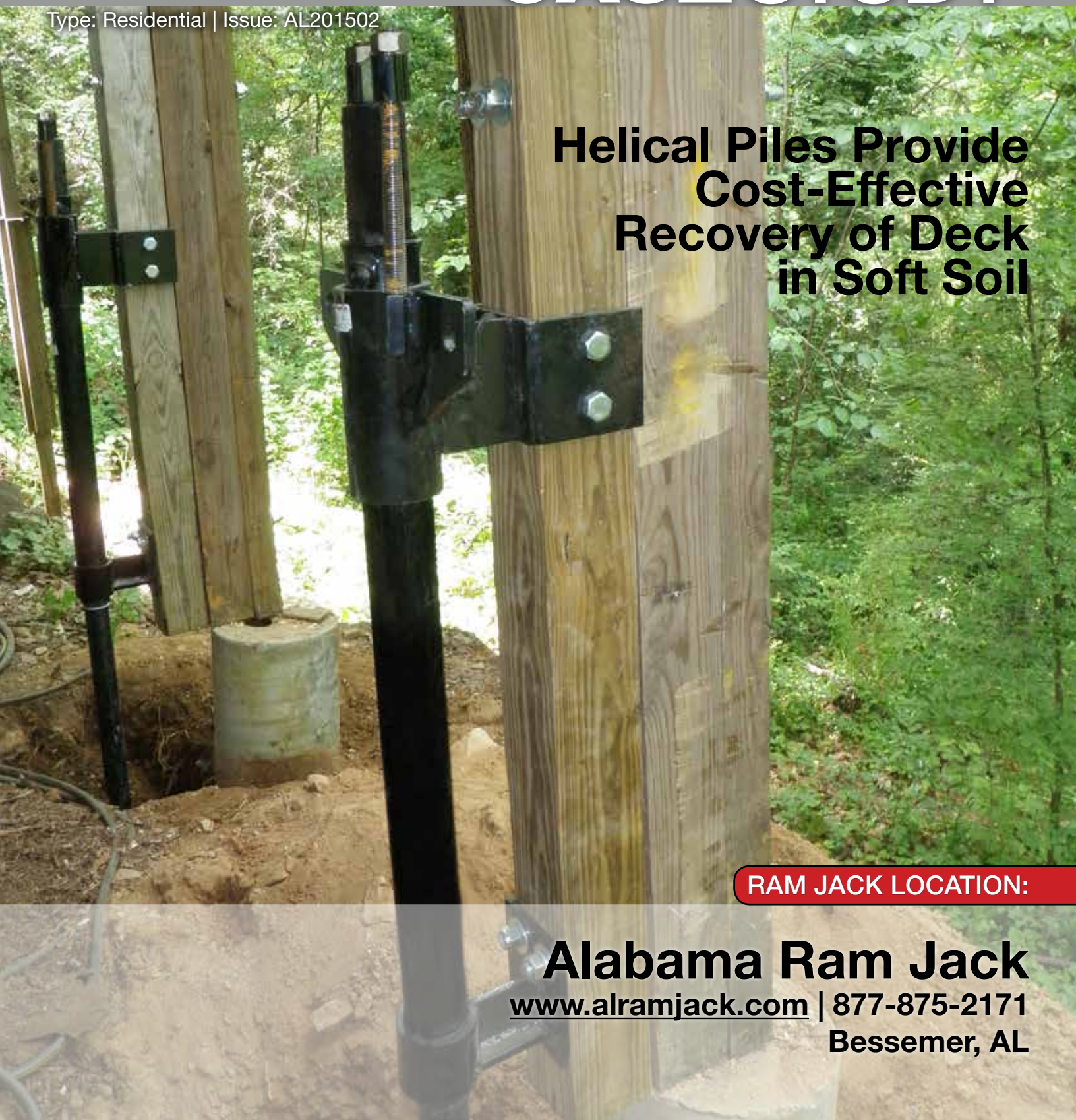

Helical Piles Provide Cost-Effective Recovery of Deck in Soft Soil

RAM JACK LOCATION:

Alabama Ram Jack

www.alramjack.com | 877-875-2171

Bessemer, AL

CASE STUDY
2015

BEFORE: Retaining wall failing

DECK RECOVERY IN SOFT SOIL

ALABAMA RAM JACK
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It's hard to imagine a more perfect place for a home than nestled among the trees in a quiet, quaint neighborhood in Vestavia Hills, Alabama. This home boasts a beautiful appearance as well as a lush, green setting. The oversized rear deck further adds to the home's allure and value, providing the perfect spot for a morning cup of coffee or a summer barbecue with friends and family.

Situation

The slope on which the residence was built appeared stable when it was built; however, the retaining wall that housed the deck support columns eventually began to settle. As the ground moved, so did the concrete piles on which the 16 in. deck supports rested. The result: the deck settled, leaned, and grew uneven and unstable. Complicating the repair was the steep slope behind the deck which inhibited heavy or large equipment access.

AFTER: Steel piles replaced concrete footings

BEFORE: Concrete footings setteled as retaining wall failed

Proposed Solution

Prior to Alabama Ram Jack's intervention, the homeowner hired a structural and geotechnical engineer to take a look at the soil and help in developing a repair plan. The proposed solution involved extensive excavation, installing larger concrete footings, and replacing the deck supports with steel columns. While this plan may have worked, it would have been both time consuming and expensive. Alabama Ram Jack proposed a more efficient and cost-effective solution that involved using the existing deck supports and connecting them to steel helical piles via bolt-on timber column brackets. This proved to be the right plan, as it was later discovered that the soil on which the concrete footings rested was very soft, and installing new, larger footings, as proposed by the structural and geotechnical engineers, would have eventually led to the same problem that they were contracted to fix.

Outcome

Alabama Ram Jack successfully installed the steel frames and six helical piles to an average depth of 10 ft. One interior helical pile and bracket was installed to replace an interior concrete footing. The structure was lifted 2.5 in. for complete recovery. The deck structure now has a permanent support system that will remain stable even if the retaining wall continues to settle, and the members of the household have the perfect place to enjoy the beautiful environment in which the home resides.

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