



2015 CASE STUDY

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Drilled Concrete Piers Fail, Steel Piles Provide Sure Footing



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THREE-STORY PORCH RECOVERY

ALABAMA RAM JACK

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Sitting atop a high bluff in a beautiful Birmingham, Alabama neighborhood, stands a picturesque property. The newly built, multi-level home looks flawless on the surface and has an enviable view, but beneath the charming exterior laid an unseen foundation problem. The owner of the home called Alabama Ram Jack to evaluate the situation.

Situation

The home was built on imported soil and rested on drilled, concrete piers as structural support for its bearing foundation. While the home itself remained on solid ground, the three-story rear porch was beginning to settle and separate from the main dwelling. Over time, cracks formed in the exterior bricks, and the floor of the upper two stories grew uneven. Engineers and inspectors assumed that the rear porch was built on standard, near-

surface footings rather than drilled concrete pilings as with the rest of the home. This less strong and less stable solution quickly settled, causing visible damage to the rear exterior porch.



Proposed Solution

The original contractor proposed the installation of three brick support columns, each underpinned with a helical pile. However, after initial excavation of the area, it was found that drilled concrete pilings had already been installed, making the original proposed solution obsolete.

Outcome

The professionals at Alabama Ram Jack designed a new solution while not incurring a substantial increase in cost. Ram Jack engineers designed a steel frame to fit around each of the drilled concrete piers. The three steel frames would be supported by two helical piles each, providing the three-story porch with the structural stability it needs to remain stable and safe while preventing further damage.

After the successful installation of the steel frames and helical piles, the drilled concrete piers were cut so the structure would be entirely supported by the new steel frames and piles. The structure was lifted 1 in. to achieve maximum practical recovery.



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