



RAM JACK[®]

2014 CASE STUDY

Type: Commercial | Issue: AL201401



INNOVATIVE FOUNDATION SOLUTIONS

Custom Support Brackets
Allow Maximum Support,
Minimal Material Costs, and
Efficient Installation

RAM JACK LOCATION:

Alabama Ram Jack

www.alramjack.com | 877-875-2171

Bessemer, AL

VILLAGE SQUARE APARTMENTS | REPAIR

Russellville, Alabama

CASE STUDY 2014

Imagine you are the owner of a multi-unit apartment building on which you depend for regular income. Not only does a significant building repair displace and irritate your tenants, but it might mean lost rent, big expenses, and time spent worrying about and dealing with a headache that you'd rather never have to face. Not only that, you still have a mortgage to pay, which means that every day your tenants are forced out of their units is money out of your pocket. That's exactly what happened with the Village Square Apartment building in Russellville, Alabama.



PROBLEM

A vintage, three-story, wood-framed structure with brick veneer built in 1981, the Village Square Apartments had extensive foundation settlement and corresponding damage in the center of one of its multiple wings. Soil analysis revealed that it had been built on two separate layers of imported soil. The upper layer measured 8 ft. deep and had been placed over existing fill. Underlying the top layer was another layer of soil that measured approximately 30 ft. deep. Unfortunately, this deep layer of soil was not suited to support the massive apartment building, and, over time, the structure began to settle. As the soil settled, the building settled with it, causing multiple cracks in the brick veneer, uneven floors, and windows and doors that wouldn't open and shut properly.

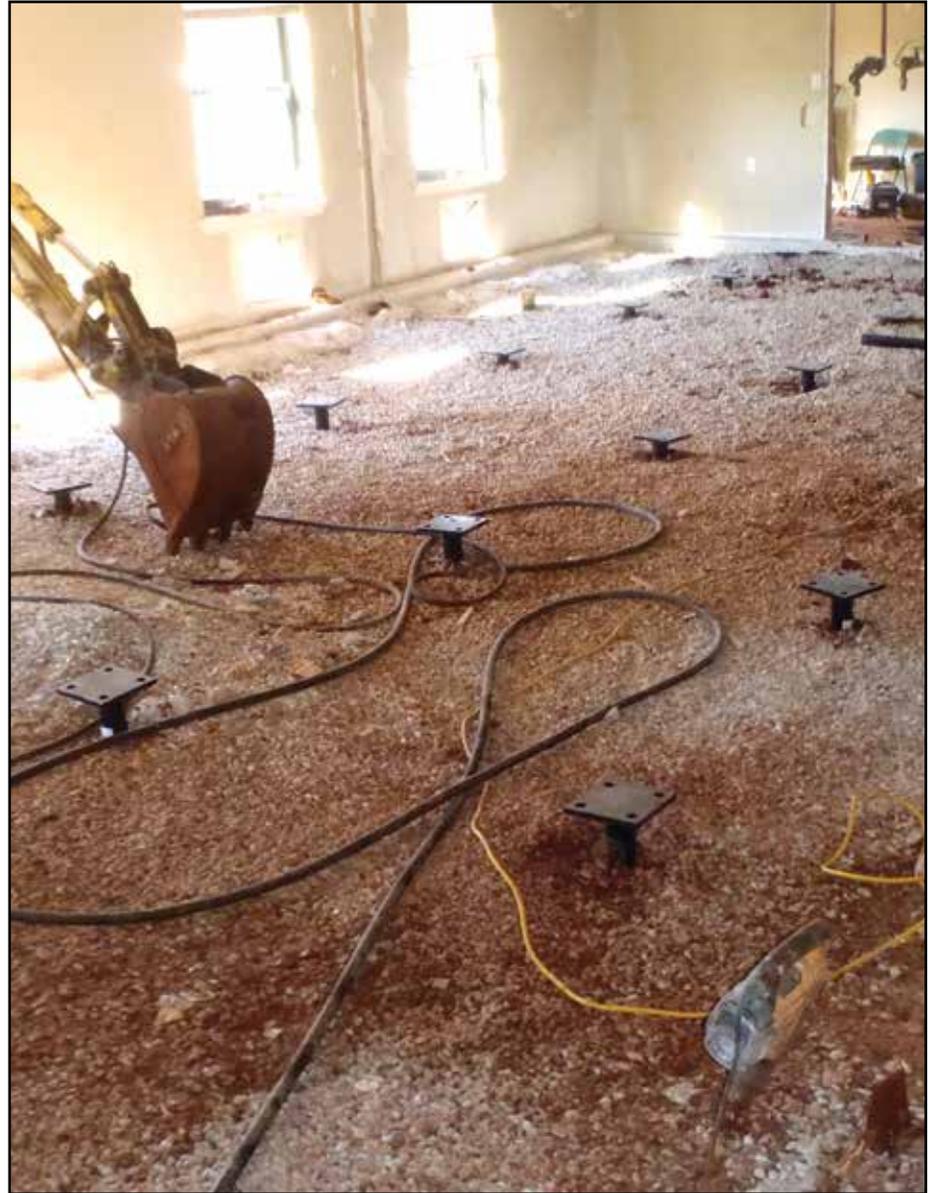


Custom 4 ft. Seat Bracket

PROPOSED SOLUTION

After an initial investigation, a Ram Jack professional recommended a remedial repair that would involve underpinning the structure with helical and/or driven piles. However, the project engineer determined that the existing building footings would be unable to support a span of any more than 4 ft., which meant a large number of piles at closely spaced intervals would be necessary.

Alabama Ram Jack engineered and proposed an alternate solution in which each pile would be placed a maximum of 7 ft. apart. To account for the building's weak footings, Ram Jack engineers designed custom 4 ft. wide support brackets to cradle the footings, minimizing unsupported areas and allowing maximum support with minimal material costs, labor fees, and time spent for installation. This provided a cost-effective solution for the owner while also decreasing the time frame for the repair.



OUTCOME

The owner accepted the proposal and Alabama Ram Jack went to work. The custom brackets worked perfectly, and the plan was implemented without any unforeseen delays or obstacles. In the end, sixty (60) piles [28 driven piles and 32 2 3/8 in. helical piles] were installed on the interior to an average depth of 25 ft., and fifteen (15) piles [14 driven piles and one 2 7/8 in. helical pile] were installed exteriorly to an average depth of 38 ft., achieving a maximum practical lift of 2.5 in. This not only alleviated the binding windows and doors, but it closed unsightly cracks and evened the grade of the floor so the tenants could move back in and the owner could start collecting his rent again.



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HELICAL PILE DESIGN SOFTWARE: FOUNDATION SOLUTIONS™

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- Simulate soil profiles, including peat
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- Vertical/battered/tie-back pile design
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