



# TITAN HOMES

CASE STUDIES | TX202103

## PROBLEM

Titan Homes is a condo development located in Houston Texas that backs up to a creek. A retaining wall was constructed along the property line adjacent to the creek. The development was still under construction when the retaining wall began to settle and fail. Stiver Engineering, with assistance from Fortified Engineering, designed a helical tieback system to secure the existing wall and place a new retaining wall 8 to 16-feet below the existing wall.

**315** TIEBACK ANCHORS INSTALLED

COMMERCIAL

RAM JACK TEXAS

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Time was of the essence as the wall was continuing to settle and rotate towards the creek at approximately 1/2-inch per month. The stability of the newly constructed 3-story condo buildings adjacent to the retaining wall was in jeopardy.

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## PROPOSED SOLUTION

The retaining wall was under-designed for the existing soil conditions and surcharge loads. For quality assurance, three tension tests were performed in different sections of the retaining wall per ASTM standards to verify the quality of installation and Fortified Engineering's tieback design which all tiebacks passed.



## OUTCOME

Ram Jack installed a total of (315) 2 7/8" Threaded Connection tiebacks. The existing wall was secured with (105) tieback anchors and a customized 8-inch whaler. The new portion of the wall extending below the existing wall was secured with (210) tieback anchors with 4079 New Construction Brackets embedded into the wall. The tieback anchors average embedment was 40-feet. Ramjack also installed (10) 2 7/8" Threaded Connection helical piles with 4021 brackets, to a depth of 33', in the location where the existing retaining wall was settling. Ramjack fought many days of rain and heat but installed the project on time and within budget.



## INSTALLATION OVERVIEW

### COMMERCIAL INSTALLATION

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### PRODUCTS USED

2 7/8" Threaded Connection Tiebacks  
Customized 8-inch Whaler  
4079 New Construction Brackets  
2 7/8" Threaded Connection Helical Piles  
4021 Brackets

### PRODUCT TYPE

EXTERIOR PILES & TIEBACKS

### TYPICAL APPLICATIONS

Ram Jack's anchors and extensions are used for tieback applications (bowing basement walls, retaining walls, and guy anchors).

At Ram Jack®, we are focused on providing custom-engineered solutions that meet the unique needs of our commercial clients. You can move forward with confidence knowing we maintain code compliance, providing piles and brackets that reach the highest rating among competitors' products recognized by ESR-1854. Our company has the most products recognized by the ICC and boast an ISO 9001:2015 certified manufacturing facility.

**DON'T DO IT TWICE.  
DO IT RIGHT.**

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