



CASE STUDY: Two units at the Cortland Whitehall Apartments were showing signs of settlement-related distress. UMA chose the UDI Deep Injections method to improve the soils below the slab and correct the settlement problem.

HIGH-DENSITY POLYURETHANE RESIN (HDPR) INJECTION

THE PROJECT

Cortland Whitehall is a high-end apartment community in Charlotte, North Carolina. Two of the apartment units were showing signs of settlement-related distress in the form of visible cracks in the walls of the units. UMA was faster with figuring out how to lift the slab and close those gaps without causing further damage. The goal was to restore the safe living conditions for Cortland Whitehall residents and stabilize the structure from future movement.

THE CHALLENGE

Our goal was to correct settlement and close the wall cracks by lifting the slab. We learned during the project that this building had a post-tensioned slab. Knowing that one post-tensioned strand had previously failed, we had to take necessary precautionary steps to avoid further damage while filling potential voids and mitigating future settlement.

The Customer

Cortland Whitehall
Apartments

Location

Charlotte,
North Carolina

Type

Apartment Complex

Date of Project Completion

Summer 2021

Interesting Fact

UMA discovered that the building had a post-tensioned slab that had been compromised, so extra caution was required during construction.



CASE STUDY

THE SOLUTION

UMA Deep Injections (UDI) were selected as the best strategy to lift the structure and close wall separations. We inserted steel tubing 3 and 6 feet below the slab and along the exterior foundation. Our subcontractor GPRS, Inc. located post-tensioned strands on 3-foot centers, so we successfully adjusted the typical injection pattern to avoid the stands located in the slab.

THE RESULTS

Our UDI Injections proved to be the right method to correct settlement issues at Cortland Whitehall. The damaged post-tensioned strand issue was also an example of UMA's ability to adjust to and correct unexpected issues that arise. We worked inside and outside of the building without causing disruption. More importantly, our ability to fill voids and close many of the surface cracks previously noticed along the structure restored safe living conditions for the residents.



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