


Alchatek

CASE STUDY
SOIL STABILIZATION

CVS PHARMACY PARKING LOT ORLANDO, FLORIDA

# CVS Pharmacy *Soil Stabilization*

*Developers working on a new CVS Pharmacy in Orlando, Florida, encountered critical soil stability issues during the construction process.*

DEPTH OF UNSUITABLE SOIL BELOW SURFACE
5 to 10 *ft*

PRODUCT
AP Lift 475



## 01 What made this job *difficult.*

CVS PHARMACY PARKING LOT
ORLANDO, FLORIDA

Developers working on a new CVS Pharmacy in Orlando, Florida, encountered critical soil stability issues during the construction process. The project managers faced a significant challenge when geotechnical testing revealed unsuitable soil conditions between 5 and 10 feet below the surface, posing a threat to the structural integrity of the planned parking lot. This issue was discovered after site preparation had already begun, adding urgency to finding an effective solution that would allow construction to proceed on schedule.

KEY CONDITION

*A layer of muck remained at depth beneath replaced upper soil layers, posing significant risks of settlement and potential structural failure in the parking lot. Traditional methods of excavation and replacement were deemed too time-consuming and costly.*

THE CONSTRAINT

5 to 10 *ft*

DEPTH OF UNSUITABLE SOIL

A geotechnical analysis revealed that although the upper soil layers had been replaced, a layer of muck remained at depth, posing significant risks of settlement and potential structural failure in the parking lot.

AT A GLANCE

**5 ft**
**GRID SPACING**
Grid pattern established across the parking lot area.

**25 lbs**
**INJECTION AMOUNT AT 10 FT DEPTH**
Injected at each grid point.

**25 lbs**
**INJECTION AMOUNT AT 5 FT DEPTH**
Injected at each grid point.

II · THE SOLUTION

CASE STUDY · 02

# 02 What was specified, *and how it went in.*

AP LIFT 475
TWO-COMPONENT POLYURETHANE FOAM

A comprehensive soil stabilization plan utilizing AP Lift 475, a two-component polyurethane foam, was proposed. This solution was chosen for its ability to consolidate soil throughout the parking lot area, provide a stable foundation for the structure, and avoid extensive excavation and soil replacement.

THE MATERIAL

## AP Lift 475

AP LIFT 475

AP Lift 475 was selected for its high strength and excellent expansion properties, which would allow it to effectively fill voids and stabilize the muck layer without adding significant weight to the unstable soil.

THE METHOD

**01**
### Establish
a 5-foot grid pattern across the entire parking lot area.

**02**
### Inject
25 pounds of AP Lift 475 at each grid point at a depth of 10 feet.

**03**
### Inject
an additional 25 pounds at a depth of 5 feet at each point.

**04**
### Monitor
soil consolidation and adjust injection amounts as needed.

WHY INJECTION OVER EXCAVATION

TRADITIONAL METHOD

### Excavate and replace

Deemed too time-consuming and costly, with site preparation already under way.

ALCHATEK SOLUTION

### Stabilize in place

AP Lift 475 consolidated the muck layer without extensive excavation or adding significant weight to the unstable soil, and construction stayed on schedule.

# 03 What the result was, *and what confirmed it.*

THE OUTCOME

The polyurethane injection solution proved highly effective, successfully stabilizing the soil without the need for extensive excavation. This approach allowed the construction schedule to be maintained, avoiding costly delays that would have been incurred with traditional soil replacement methods. Post-injection testing confirmed that the treated area passed all required stability tests, demonstrating the effectiveness of polyurethane injection for large-scale soil stabilization projects in commercial construction.

THE OUTCOME

*Post-injection testing confirmed that the treated area passed all required stability tests.*

CONSTRUCTION STAYED ON SCHEDULE

## Stabilizing the soil in place avoided the costly delays of traditional soil replacement.

Post-injection testing confirmed the treated area passed all required stability tests.

WHERE IT APPLIES

*Large-scale soil stabilization projects in commercial construction.*

START THE CONVERSATION

## Send us the job.
## *We will send back an approach.*

Send us the soil report or the failure photos and Technical Services will return a written approach within two business days.

TECH SUPPORT

404 · 618 · 0438

WWW.ALCHATEK.COM

Alchatek

**Alchatek** manufactures polyurethane resins, chemical grouts, and injection equipment for infrastructure repair: leak sealing, soil stabilization, concrete lifting, and seawall repair. Headquarters in Tucker, Georgia, with a bonded warehouse in Reno, Nevada.

Information in this document is believed accurate at the date of publication. Product performance depends on site conditions and application; consult the current Technical Data Sheet, which is the controlling document.

ALC-CS-XX-028
DRAFT V0.1 · SEPT 2026