



**Structural Contractor**



# Concrete Lifting

**Slab Jacking  
Pressure Grouting  
Magnum Piering**

## CASE HISTORY

### Project:

Renovation of Ivy Farms Apartments, Newport News, Virginia

- Architect- Burkhardt Thomas, P.C.
- Geotechnical Engineer- Herbert and Associates, Ltd.
- Structural Engineer- Donald Coghlan P.C.
- General Contractor- Beacon Construction Company
- Financing- Virginia Housing Development Authority

### Job Description:

The apartment complex was built over a landfill around 1960. The project consists of one hundred and forty-four, two story, wood framed apartment units that have brick veneer exteriors. The exterior walls are on pilings with concrete grade beams. The interior slabs are floating on grade construction. There is severe to moderate interior settlement and voids between the slabs and sub-soils.

### Solution:

Herbert and associates recommended slab jacking and pressure grouting for the problem areas. Advanced Builders, Inc. designed an injection schedule and a layout grid to complete the following . . .

#### Slab Jacking and Void Grouting-

- Apartments- 54 total
- Foyer/ Entrance Halls- 1 total

#### Pressure Grouting to 11' Below Grade-

- Apartments- 7 total
- Foyer/ Entrance Halls- 1 total

A total of 396 cubic yards of stabilizing cementitious grout was utilized for the jacking and grouting process, which filled the voids and achieved corrections of the slabs with lifts as great as 8".

*Exterior Problems-* Several of the units showed signs of exterior settlement, which consisted of cracking of the foundation and masonry veneers. The solution was to install Magnum 3" steel piers, with heavy-duty Magnum angle brackets. The piers were installed 6' on center, as directed by the Architect, to stop further settlement and stabilize the affected areas.

- Magnum Piers Installed- 38 total
- Average Depth- 39' deep
- Average Ultimate Bearing Capacity- 30 kips
- Average Working Bearing Capacity- 15 kips

