

## City Creek Center – Block 76 Salt Lake City, UT



- **Owner:**  
Property Reserve, Inc., Salt Lake City, UT
- **General Contractor:**  
Okland Construction, Salt Lake City, UT
- **Technique(s) Utilized:**  
Diaphragm Walls, Soil Nail Wall,  
Jet Grouting, Micropiles, Augercast Piles

**F**or the construction of mixed-use retail, office and residential properties called City Creek Center in the heart of downtown Salt Lake City UT, Nicholson Construction Company provided the turnkey design-build earth retention system which includes 45,000 square feet of diaphragm wall and 120,000 square feet of soil nail wall. In addition, Nicholson underpinned three buildings with 104 micropiles and installed over 700 linear feet of jet grout wall for water control.

As part of a joint venture, Nicholson also installed 1,040 24-inch diameter augercast piles as deep foundations for the new structure that is rising out of this 65 foot-deep excavation in the heart of Salt Lake City. Overall, this is a \$1 billion project across three blocks totaling 20 acres. The block containing Nicholson’s work is 10 acres. The overall project involves demolition, excavation and new construction of underground parking, pedestrian shopping mall and office/residential buildings up to 30 stories.

What made this project challenging was the strict, one-inch movement criteria for the earth retention systems at existing buildings, some 23 stories high. This required the use of anchored diaphragm walls for wall movement control. Where one-inch movement criteria is required, but adjacent to buildings less than 5 stories, Nicholson employed micropile underpinning to transfer loads below the shoring systems. The earth retention system adjacent to streets could tolerate more wall movement so traditional soil nail walls were employed. Nicholson addressed groundwater issues by performing jet grouting. Adjacent structures and the entire earth retention system were being continuously monitored in real-time by Sol Data’s Cyclops instrumentation system.

### Approximate Key Quantities:

Diaphragm Wall	45,000 square feet
Soil Nail Wall	120,000 square feet
Jet Grout Wall	700 linear feet
Micropiles	104