

## Verizon Switch Building Expansion

Las Vegas, Nevada

Keller's established local presence and in-depth knowledge of the prevailing subsurface conditions offered the client assurance of an efficient and cost-effective solution.



### The project

As part of facility upgrades, Verizon Wireless planned to expand an existing generator pit on the south side of the switch building to accommodate additional power generating capacity for its cellular transmission tower. The proposed excavation was approximately 2,300 SF, with the required earth support system becoming a permanent part of the perimeter walls.

## The challenge

The subsurface profile consisted of predominately silty and sandy clay material with highly cemented caliche present in localized zones. The strong cementation of caliche can present difficult drilling conditions if inappropriate equipment and techniques are used.

## The solution

Keller was approached by the owner early in the planning stage to design-build the permanent earth retention system. Keller's solution involved the drilling of open holes and placement of soldier piles to design depth followed by stage-down excavation, installation of shotcrete reinforcement, and placement of a 9in. thick shotcrete layer. As excavation progressed, field-welded shear studs were incorporated into the piles to facilitate support of additional reinforcement as part of the permanent wall. A final shotcrete fascia completed the permanent excavation support system.

## Project facts

### Owner(s)

Verizon Wireless

### Keller business unit(s)

Keller

### Main contractor(s)

Holder Construction

### Engineer(s)

Keller

### Solutions

Support of excavation

### Markets

Commercial

### Techniques

Soldier piles and lagging

### Email address

[info@keller-na.com](mailto:info@keller-na.com)

### Phone number

1 (800) 456-6548