

Philistine Rondo Elementary School

Eastvale, California

Keller completed the ground improvement program 2.5 weeks ahead of the main contractor's anticipated 13-week schedule.



The project

Philistine Rondo Elementary is a single-story, wood-framed structure that will accommodate nearly 1,150 students from kindergarten through sixth grade. The geotechnical investigation revealed fill over young alluvial fan deposits comprised of a mixture of silt, clay, and sand. Generally, groundwater was encountered between 25 to 45 ft below ground surface at discrete locations.

The challenge

Given the subsurface profile, the geotechnical report noted differential settlement could reach up to 10 in. between adjacent footings if the site remained untreated.

The solution

Vibro replacement stone columns were recommended for both the school building footprint and a new retaining wall along an adjacent river to allow the site to be brought up to grade. Keller performed a test section and modulus test to ensure the installed ground improvement system would meet the required maximum static differential settlement of the foundation elements of 1 in. over 40 ft and static total settlement of 2 in. Keller installed more than 2,300 dry bottom feed 3-ft-diameter stone columns to depths of 40 to 45 ft below working grade across the building footprint, extending 20 ft outside the exterior building foundation lines. For support of the retaining wall, a single row of stone columns was installed beneath the wall facing.

Project facts

Owner(s)

Corona-Norco Unified School District

Keller business unit(s)

Keller

Main contractor(s)

Neff Construction, Inc.

Engineer(s)

Earth Systems Southwest, Inc.

Solutions

Ground improvement

Markets

Institutional
Education

Techniques

Vibro stone columns (vibro replacement)

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