

Globe Life Field

Arlington, United States

Record-breaking soil nail wall on sports stadium



The project

The Texas Rangers baseball organisation undertook construction of Globe Life Field stadium to replace the existing nearby Globe Life Park. Like Globe Life Park, ground conditions at the new stadium site were within the Woodbine Formation composed of sands, clays, sandstones, shales, and alluvium deposits. Maximum excavation depth was 85ft.

The challenge

The project was on an accelerated schedule to be ready for the 2020 baseball season. Fractures in the rock strata, the presence of very dense boulders requiring partial removal, the relatively corrosive nature of the soils, and the rectilinear perimeter wall design presented significant construction challenges. Also, a sanitary sewer located directly adjacent to the north wall impeded soil nail installation.

The solution

Having completed nearby projects such as AT&T Stadium, Keller was well-equipped to optimise construction methods and the wall design. To alleviate soil nail congestion and crossover at several 90-degree outside wall corners, a hybrid anchored drilled shaft system was used. Automated Motorised Total Stations and Shape Accel Array in-place inclinometers provided continuous real-time horizontal movement monitoring at critical sections during construction. For the north wall, approximately 33,000 ft² of anchored drilled shafts installed overcame the challenge posed by the sanitary sewer line. Fellow Keller company, Geo-Instruments, was on site providing real-time monitoring.

Project facts

Owner(s)

Rangers Stadium Company, LLC

Keller business unit(s)

Keller North America
GEO-Instruments

Main contractor(s)

Manhattan Construction Company

Solutions

Excavation support
Monitoring

Markets

Institutional / public

Techniques

Soil nails
Anchors - single bond length