

Deer Valley Friesen House

Deer Valley, Saskatchewan, Canada

Keller installs drilled shafts to mitigate slope movement at a residential home.



The project

When a residential property built on the edge of a valley experienced slight slope movement, the owner engaged a geotechnical and structural engineer to provide solutions. The geotechnical engineers recommended installing large-diameter drilled shafts at the front of the house on the downward slope, locking two soil zones, and providing long-term support to the soil holding the house and yard.

The challenge

Work was performed in a rural neighborhood and near a golf course, with limited access for the large equipment. Additionally, the owner did not want to disturb the summer golf season and requested that work be performed in the Fall.

The solution

Keller was contracted to install the large-diameter drilled shafts. The final design included 25 shafts installed around the yard's front perimeter in a crescent shape. Due to the site restrictions and to maintain safety, the reinforcing cages were installed using a crane truck. Once shaft installation had begun, Keller encountered unexpected large boulders, which required coring to continue shaft installation. For several shafts, casing was required due to rocks and gravel encountered 23 ft (7 m) below grade.

Project facts

Owner(s)

Confidential client

Keller business unit(s)

Keller

Main contractor(s)

Westridge Construction Ltd.

Engineer(s)

Zacaruk Consulting Inc

Solutions

Slope stabilization

Markets

Residential

Techniques

Drilled shafts

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