

The Milestone Project

Kronau, Saskatchewan, Canada

Keller provides a deep foundation design-build solution, saving the owner time and money for a new potash mine facility near Regina.



The project

As part of Western Potash Corporation's efforts to develop a potash mine that is sustainable and economical, they proposed the development of the Milestone Project, southeast of Regina. The project consists of a new potash mine that will leave no salt tailings on the surface, reducing impact and water consumption. New infrastructure and facilities were to be constructed, including a new processing plant and tailings ponds. Operating on almost 87,500 acres, the Milestone facility's projected capacity is 146,000 tons per year of potash. The site required a deep foundations solution to support the new construction.

The challenge

The owner set out an aggressive schedule to meet the next construction phase. Additionally, site access was limited to one single haul road.

The solution

Keller was engaged early at the request of the owner and their team for design input. Although belled piles and micropiles were first proposed as part of the deep foundations solution, Keller's expertise in multiple technologies and knowledge of the local ground conditions in the area led to the proposal of a cast-in-place drilled shaft design in place of the micropiles. The project team accepted the proposal, resulting in significant cost and schedule savings.

Keller installed 233 piles to depths of 40 ft (12.2m), ranging in diameter from 12 in. to 36 in. (300mm to 915 mm). One hundred and three piles were belled with a diameter of 72 in. (1830mm). Keller designed and conducted static pile load tests verifying soil parameters and confirming project expectations were met.

Project facts

Owner(s)

Western Potash Corporation

Keller business unit(s)

Keller

Main contractor(s)

Keller, Stuart Olsen

Engineer(s)

SNC Lavalin, Keller

Solutions

Deep foundations

Markets

Mining

Techniques

Drilled shafts

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