Maroochydore to Mons interchanges

Queensland, Australia

Construction of multiple products, across multiple sites including solutions that took into account site-specific issues around space, safety and the environment

The project

As part of the $12.6 billion, 15-year upgrade of the Bruce Highway in Queensland, Keller was engaged for works on the Maroochydore Road and Mons Road interchanges at Forest Glen, near the Sunshine Coast. This included widening Mons Road under the highway, relocating on- and off-ramp access points and creating new service roads to connect the interchanges and separate local traffic, easing congestion.

The challenge

This project proved a highly complex and diverse one, requiring the careful coordination of multiple piling and ground improvement techniques in several locations. To add to the problem, a platform lower than existing ground level was required, a process that normally requires an expensive process involving excavation, the insertion of a shoring mechanism and dewatering to prevent collapse.

The solution

Keller has a reputation for innovative solutions, and this project proved no exception. Keller used mass mixing– injecting and mixing the soils with a cement grout – to stiffen the ground, create a retaining system for the excavation and prevent water ingress. If not executed perfectly, every time, or if delivered by a company with less experience, soft spots could have emerged down the track, with implications for safety, budget and schedule. The solution also had to be adaptive, with each location having unique space, safety or environmental issues. Keller completed its works in November 2020 to the client's satisfaction, with no major incidents, ensuring the overall critical path remained intact.

Project facts

Owner(s)
Department of Transport and Main Roads

Keller business unit(s)
Keller Australia

Main contractor(s)
John Holland Seymour Whyte JV

Solutions
Bearing capacity / settlement control

Markets
Infrastructure

Techniques
Driven precast piles
Bored piles / drilled shafts
Mass mixing
Rigid inclusions
Wick / PVDs / band drains