

Frederickton to Eungai Pacific Highway Upgrade - NSW



Bridge deck installation

The F2E project comprises construction of a new section of dual carriage highway (approx. 26 km long) on the Pacific Highway to the north of Frederickton.

The new highway crosses extensive flood plain areas which include deep deposits of soft alluvial soils. The project includes the construction of 13 main line bridges and overbridges as well as many culvert structures and other associated infrastructure. Approximately 5km of the fills on the project are underlain by soft compressible foundations.

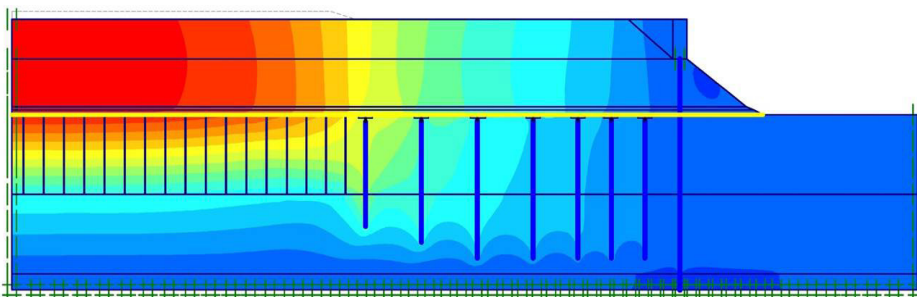
Douglas Partners was engaged to provide geotechnical design advice during the tender design and then following award of the project Douglas Partners undertook the detailed geotechnical design and then provided geotechnical construction supervision and ongoing advice on geotechnical matters.

During the detailed design stage Douglas Partners carried out additional geotechnical investigations including

drilling of boreholes, excavation of test pits and cone penetration tests. As part of the detailed design Douglas Partners developed geotechnical models along the route and provided advice on cut and fill batters, material reuse, foundation treatments, and foundations for bridge structures.

Douglas Partners also undertook detailed analysis and design of treatments to control the long term settlements of the fills (including wick drains and surcharge) and pile supported embankments at bridge abutments to transition the settlements between the bridges and adjacent fills.

Douglas Partners designed the instrumentation required to monitor the settlements of fills over soft soils and supervised its installation and subsequent monitoring.



“The F2E alignment extended over deep deposits of soft alluvial soils which presented significant design and construction challenges. Douglas Partners was able to overcome these challenges and provide a complete geotechnical service to CPB contractors including design, site investigations, construction phase services and monitoring for the F2E project.”

*Jeremy Bear
Geotechnical Design Representative*

CLIENT CPB Contractors

YEAR 2012 - 2016

SCOPE OF WORK

- Geotechnical design advice
- Geotechnical investigation
- Embankment design over soft soils
- Reinforced soil wall design
- Bridge Pile foundation design
- Cutting design
- Foundation Treatment design
- Instrumentation and monitoring design