

# BRIDGE 2050



**VALUE** \$500K

**YEAR** 2014

**DURATION** 4 months

**CLIENT** ACT Government

**REFEREE** Thusitha Gangodagamage

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## SUMMARY

Bridge 2050 is located over Sullivans Creek on the eastbound dual carriageway of Barry Drive, Turner ACT. The 3 span bridge structure consists of precast PSC planks with an in-situ concrete deck. During a routine bridge inspection, it was identified that the planks and deck had de-bonded in areas. The ACT Government committed funding to rectify the issue, and undertake additional bridge strengthening works to increase load capacity.

To remedy de-bonding between the planks and deck, 1,462 dowel rods were anchored to the deck and stressed to the planks. To complete the significant drilling works, Complex developed a custom overhead hydraulic drilling stand, increasing productivity and significantly reducing worker strain and fatigue. Strengthening works included installation of CFRP bonded to the bridge soffit and in-situ concrete supports at the abutments and piers. During concrete strengthening works, the bridge was propped using temporary supports to reduce vibration through the substructure, increasing bond strength between new and existing concrete elements during curing.

The technical bridge remediation and strengthening works were completed ahead of schedule, with no environmental, quality or safety non conformances recorded.

## PROJECT FEATURES

- Grit blasting and encapsulation
- Carbon Fibre Reinforced Polymer strengthening
- Structural grouting and anchoring
- Bespoke overhead drilling stand design and fabrication
- In-situ concrete strengthening
- Working within a flood prone waterway
- Significant environmental protection
- Coffer dam installations
- Bridge jacking
- Temporary works design and propping
- Complex traffic management with heavy vehicle detours