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A Message from

Stuart Crole

Welcome to the Summer 2023 edition of Fortec's InFocus newsletter.

With Christmas fast approaching, Fortec is wrapping up its busiest year since we started in 2015.

We are showcasing some of the projects we have completed recently, as well as some that are still underway.

It is a credit to our ever growing team for the hard work and dedication they have shown to deliver these projects on time for our clients.

I would like to take this opportunity to wish everyone a Merry Christmas and a prosperous New Year.

A handwritten signature in blue ink, appearing to read "Stuart Crole".

Stuart Crole
Managing Director

What's New?

TfNSW and TRM PreQualification

Fortec's Bridge Prequalification has been recently upgraded with Transport for New South Wales and the Department of Transport and Main Roads (TMR) - Queensland to compliment the upgraded prequalification achieved with Main Roads Western Australia. This upgrade allows Fortec to perform more complex bridge construction and will assist in the further growth of our capabilities within these regions.

New Branding and Website

Fortec has a new look and a new website, check it out at www.fortec.com.au and follow us on LinkedIn for all the latest news.

Fitzroy River Bridge

Fitzroy Bridge Alliance

Description

Fortec was engaged by the Fitzroy Bridge Alliance to perform the launching works on the new Fitzroy River Bridge.

Scope of Works

- Design of site specific launching services including temporary works
- Technical advice on bridge launching
- Design, supply and operation of launching equipment including launch bearings, side guides, launching jacks and pulling cables and launch nose deflection jacks
- Jacking system for change out of temporary launch bearings for permanent bearings

Project Update

The bridge was completed six months ahead of schedule with up to 52m being launched in one day and 268m of bridge over a total of eight launch segments, completed in one month.



Cloudbreak Mine ROM Wall Remediation

FMG

Description

Fortec was contracted by FMG to complete the D & C repair of an existing Reinforced Earth segmental wall that had weakened/failed over time in the Pilbara region.

Scope of Works

The existing Concrete Segmental Wall showed signs of failure and movement which could lead to a major wall failure.

Fortec developed, designed, modelled, tested, and installed a practical solution to repair and stabilise the existing wall.

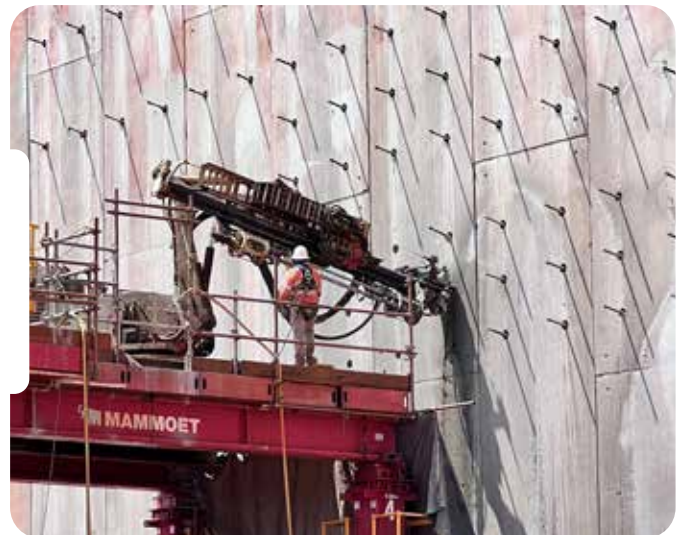
The contracted works included:

- Structural and Geotechnical analysis and design for the remediation
- All remediation works completed at height (10m - 17m from ground level)
- Supply installation, and compliance testing of 260 No passive soil nails through the existing concrete Reinforced Earth panels
- Pre and post production load testing on various soil nails
- Contrast survey monitoring for wall movement and mapping for safety

Key Points of Interest

The project was delivered on time and without incident, all whilst maintaining typical mine operation and production.

Fortec specialist equipment was a key element to securing and safely delivering the project.



Springdale Road Bridge

Main Roads Western Australia

Description

Fortec has been contracted by Main Roads Western Australia to complete the Bridge replacement and necessary Earthworks on Springdale Road in Hopetoun.

Scope of Works

- Close Springdale Road, remove temporary steel pipe crossing and remains of the former structure
- Excavate to rock foundation and construct abutments
- Design Alternate Post Tensioned Precast Beams
- Cast and install 18m long beams
- Form, reinforce and pour the insitu concrete deck
- Backfill and construct new approaches to the bridge
- Install the 1/4 tonne rock armour
- Seal new road and install barriers and guardrail

Project Update

Fortec has successfully completed the bridge construction and on schedule to complete and reopen the road before Christmas.

This has been a great effort by the Fortec team and subcontractors, with work being completed two months ahead of schedule.



Halls Creek to Kununurra Bridges

Main Roads Western Australia

Description

Fortec was engaged by Main Roads Western Australia to undertake the upgrade work to Great Northern Highway to replace three existing single lane bridges with dual lane bridges.

Scope of Works

Design and construction of three dual lane concrete single span bridges over Tickalara, Frog Hollow and Arthur Creek on GNH. The works included the following:

- Waterways design for the three bridge sites including rock protection and guide banks
- Structural design and detailing of the concrete bridges
- Construction of concrete bored piles and insitu concrete abutment and wingwalls
- Fabrication and installation of post-tensioned Super T precast beams
- FRP insitu concrete deck and approach slabs
- Installation of guardrail
- Completion of approach earthworks to each bridge

Project Update

Fortec achieved a milestone in late November, pouring both the Ticklara Creek and Frog Hollow Creek bridge decks.



Dungog Timber Bridge Replacement

Dungog Shire Council

Description

Following our recent successful completion of the Design and Construction of five Bridge Replacements for Dungog Shire Council, using the InQuik bridging system, Fortec secured contracts for two additional bridge replacements.

Scope of Works

- Design and Construct two bridge replacements – Reeves and Packhams
- Implement the Precast post-tensioned bridge approach for two bridges



Key Points of Interest

Fortec's recent attainment of the B3 rating with TfNSW, allowed the implementation of a post tensioning solution for these bridges.

All works self-performed by Fortec including casting precast girders.

Project Update

The design phase is nearing completion, and site works are scheduled to commence shortly.



Post Tensioning Projects



Arrow Transport – Brisbane

Works Complete at Arrow Transport Brisbane

Fortec has completed works at the Port of Brisbane Arrow Transport site.

McNab Construction were tasked with creating a transport container facility and contracted Fortec for the design, documentation, and installation of Post tensioning works.

The project consisted of 26,200m² of hardstand and commenced in January 2023 with the main hardstand works being completed in May 2023, with other associated works complete end June.

This project was another successful project completed with McNab and continues our strong relationship with their industrial division.



Shrimpton Creek Bridge

Fortec Complete our Second Multistrand Bridge in NSW

Fortec has completed bridge works at the Shrimpton Creek Bridge, as part of a larger development at Ivanhoe Estate in Macquarie Park NSW.

Fortec were contracted by Christie Civil to perform the installation of multistrand Post tensioning to the 3 Span bridge.

The Post tensioning anchors were installed on the bridge diaphragms and bridge decks.

The project commenced Jan 2023 with works being completed in Aug 2023.



Chifley Dam Load Monitoring

Bathurst Regional Council

Description

Fortec was engaged to complete the load monitoring for 22 anchors within the Spillway chute of Ben Chifley Dam, The Lagoon.

This concrete gravity dam stands at a height of 34 meters and spans 455 meters in length. In 1999, the installation involved 25 re-stressable ground anchor cables, with 22 positioned in the spillway chute and 3 in the ogee spillway.

Scope of Works

- Fortec utilised a 20T all-terrain crane for the installation of the working platform and load cell
- Anchor monitoring was essential to verify the residual force within the anchors, conducted as part of the required periodic checks for Dam safety, scheduled every ten years
- The assessment covered 22 permanent anchors, comprising 12x38 strands and 10x48 strands

Key Point of Interest

The project faced challenges, particularly in removing the anchor cover plate due to over-tightened screws from prior work.

The installation and removal of access platforms demanded a team with extensive expertise in working at heights and rigging.

All tasks were executed internally by Fortec.



Steggalls Creek Bridge Remediation

TMR Qld

Description

Fortec was contracted to complete remediation works to the existing Steggalls Creek Bridge located near Yandina on the Bruce Highway.

The bridge consists of two 3 span structures – One North and South bound bridge separated by concrete retaining walls, which failed and were in need of repair.

Scope of Works

- Traffic Management
- Construction of access to site and bridge
- Demolition of the existing concrete retaining walls
- Detailed excavation of soil to form new batters
- Drainage rectification works
- Shotcrete works
- Handrail and Fence installation
- Night works road cleaning

Key Point of Interest

The work was initially planned to be conducted under lane restrictions but modifications to the methods of demolition and shotcrete works allowed unrestricted traffic for the full duration of works.

Major work was conducted during normal working hours, ensuring traffic on the Bruce Highway was not affected, while also providing significant cost benefits to the asset owner.



Windan Bridge

Main Roads Western Australia

Description

Fortec was engaged by Main Roads Western Australia to complete the maintenance on Windan Bridge in East Perth.

Scope of Works

- Replace Protective coating on LHS and RHS Guard railing
- Replace Protective coating to Bridge Bearings on Abutments and Piers
- Expansion Joint works to Bridge 1324 and 1499
- Rock Protection Repair to Abutment 2
- Installation of Anti Dust Skirts to Pier Bearings
- Cleaning of PSP lighting
- Concrete Patch Repair

Project Update

Fortec successfully completed the scope of works underneath the bridge on time and on budget.

In conjunction with our subcontractors, the guardrail restoration has now commenced on top of the bridge. Fortec has successfully implemented a laser treatment to prepare the existing surface, rather than a sandblasting technique.

This treatment uses a laser which is significantly quieter than the sandblasting method, and is also more environmentally friendly, as the existing material is vaporised eliminating the need for it to be captured and disposed of offsite.





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