

# New Fitzroy River Bridge

## Fact sheet – Fitzroy River Bridge construction

Due to the floods caused by Ex Tropical Cyclone Ellie in January 2023, the old Fitzroy River Bridge was significantly damaged beyond repair, and a new stronger, longer and wider bridge is currently being constructed across the Fitzroy River.

The new bridge will be constructed in-situ on a concrete casting bed and incrementally launched across the Fitzroy River from the west side of the river. The bridge is scheduled to be operational by mid-2024.

### Building the New Fitzroy River Bridge

Construction of the new bridge comprises several key stages, which have been carefully planned and scheduled to enable the structure to become operational as soon as possible and to avoid the impacts of the next wet season.

#### Temporary causeway

As an initial step, a temporary causeway made from locally sourced gravel overlaying stone basecourse was built from the west side of the river. The causeway was required to gain access to the old bridge during demolition and will allow access for machinery during construction while keeping excess water away from the area.

In early June, the causeway was extended to the eastern side and pipes were installed under the last section of causeway to allow the river to continue to flow until the causeway is eventually removed.

#### Demolition

In May, a 50-tonne excavator was used to demolish the old bridge. Using shears, the top of the bridge was cut into sections. Material from the old bridge was collected from site and broken down to be recycled and reused where possible.

Environmental measures such as booms were used to ensure debris was not washed down the river during the demolition process.

**Right:** Demolition underway of the old bridge



#### Piling works

Construction of the new bridge started in early June, while final demolition works were still being completed. The first stage of construction involves installing steel piles, which are then filled with reinforced concrete to hold up the

bridge. There will be 34 piles driven into the riverbed to support the new bridge. There will be four piles supporting each pier.

The piles on the old bridge were too shallow to withstand the volume of water experienced during the floods. To strengthen the bridge, the new piles will extend an extra 20 metres underground.

Pile caps (thick concrete blocks) will then be placed on top of each grouping of four concrete piles. Pile caps are used to create a stable foundation by distributing the entire load of the bridge over the piles.



**Above:** The bridge team driving piles into the riverbed to provide support for the bridge.

### Pier construction

The piles and pile caps provide a base to build the piers. The concrete piers comprise four precast shell segments per pier, which are bolted together and placed on top of the piles and pile caps.

The precast shell segments, which are made by pouring concrete into a steel mould, are prefabricated in Perth before they are transported to Fitzroy Crossing by truck. Once in place, the precast shell segments are filled with steel reinforcement and concrete.

### Bridge segments and incremental launch



**Above:** Incremental launch bridge with launch nose

The team will construct each of the eight bridge deck segments on the concrete casting bed and incrementally launch them across the river from west to east. The bridge launch nose will be launched first to help guide the deck segments across. The launch nose is a steel structure which remains connected to the bridge for the duration of the launch process.

The bridge will launch up to 36 metres in one day, every 2-3 weeks.

This is the first time that Main Roads has used weathering grade steel for a major bridge. The benefit of this steel grade is the reduced ongoing maintenance required.



## Road asphaltting and bridge completion

Once the bridge is launched over the piers, finishing works will include earthworks, fill and asphaltting the bridge deck to connect it into the sections of Great Northern Highway on either side. The new bridge will feature two lanes to allow travel in both directions. It will be capable of supporting large loads including road trains and heavy goods vehicles.

There will also be a walkway to allow pedestrians to easily travel across the bridge.

**Below:** Artist's impression of new Fitzroy River Bridge



## What to expect:

- Construction activity, vehicles, and machinery movements will be noticeable in the area.
- Low level crossings will be used during the dry season to cross the river, with barges to operate during the wet season.
- There may be increased noise and vibration levels; measures will be put in place to reduce these levels throughout the project.
- There will be an increased number of workers in the area.

## How can I get more information?

If you have any questions or concerns, or wish to subscribe to updates, please contact the team through one of the following channels.

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