



# DURABILITY OF PRECAST FOR IMPROVED PRODUCTIVITY AND SAFETY

In a bid to improve freight productivity and safety, a new 64-kilometre link is currently under construction to redirect traffic away from Bindoon, a small town in the Chittering Valley, located 84 kilometres northeast of Perth in Western Australia.

The Bindoon region is celebrated for its close-knit community and abundant natural resources, and the Great Northern Highway serves as a vital transportation link connecting this resource-rich region to Perth. The highway fosters regional connectivity and contributes to economic growth as it facilitates the transportation of goods, people, and services.

Jointly funded by the Australian Government (\$220 million) and the Western Australian State Government (\$55 million), the \$275 million project showcases a commitment to sustainable infrastructure development and places a priority on engaging with the Aboriginal community.

To minimise disruptions to existing water flow paths, uphold water quality, and guarantee the protection of wetlands within or near the development area, the project encompasses the construction of new bridge and causeway structures over water bodies such as the Brockman River and its tributaries, including Udumung Brook and Lennard Brook.

## 240 CULVERTS AND 102 PIPES KEY TO WATER MANAGEMENT

Playing a vital role in the project in managing water flows, culvert causeways, engineered with precast concrete box culverts, span minor watercourse crossings and the wetlands along the 64 kilometres.

Acknowledging the benefits of durable reinforced precast concrete, the main

contractor, Garli, partnered with National Precast Master Precaster MJB Industries for the supply of box culverts and pipe for the project.

A total of 240 box culverts, measuring 2100 wide x 1800 high, were manufactured for the causeways. As well, 102 pipes with a diameter of 1800mm were provided, configured for installation in a layout spanning 41m in length and six pipes wide.

National Precast CEO Sarah Bachmann highlights the crucial role of the durability of these materials in mitigating the effects of Western Australia's unpredictable weather conditions.

"In the face of heavy rainfall and occasional flooding events, proper water drainage provided by these materials helps ensure road stability and functionality," she comments.





### FOCUS ON SUSTAINABILITY

The Bindoon North project highlights the importance of sustainability in modern infrastructure development. All three facets of sustainability – namely economy, society and environment – have been considered.

The project not only integrates advanced stormwater management systems to protect local waterways and preserve the natural ecosystem but also embraces environmentally conscious practices. These practices include leveraging offsite manufacturing advantages, utilising recycled materials and implementing erosion control measures.

The project has implemented specific measures to safeguard and preserve vital environmental elements, including flora, fauna, and delicate habitats. By prioritising environmental considerations, the project aims to strike a harmonious balance between development and ecological sustainability, striving to minimise its impact on the surrounding environment.

Additionally, strict adherence to environmental regulations ensures that noise and dust levels are kept to a minimum during the construction phase.

Likewise, the project has acknowledged the utmost importance of community engagement and consultation.

Throughout the Bypass construction, stakeholders, including local residents, businesses and indigenous communities, have been actively consulted to address their needs and concerns. This collaborative approach seeks to foster transparency, build trust and ensure that the final outcome aligns with the community's aspirations.



**Project:** Bindoon Bypass, SLK 103.8-110.2, Great Northern Highway  
**Location:** Western Australia  
**Master Precaster:** MJB Industries Pty Ltd  
**Client:** Main Roads Western Australia  
**Head Contractor:** Garli Pty Ltd

Consultation and engagement with the Aboriginal community have been a priority throughout, with over 53 per cent of Aboriginal employment having been achieved to date.

As Garli is an Aboriginal-owned and operated business, in collaboration with LendLease, the project has directed over 90 per cent of its expenditure toward Aboriginal businesses. This commitment underscores the project's dedication to fostering inclusivity, economic empowerment, and meaningful involvement of the indigenous community.

### EXEMPLARY COMMITMENT TO SUSTAINABLE INFRASTRUCTURE

While championing economic growth, environmental sensitivity and community engagement, the Bindoon Bypass project also stands as an exemplary commitment to enhancing safety, efficiency and connectivity.

As Western Australia enjoys continued growth, initiatives such as the Bypass contribute to establishing a resilient and effective transportation network. This network not only supports economic prosperity but also upholds environmental considerations and brings lasting benefits to the local community.

### HOW THE BYPASS IS IMPROVING PRODUCTIVITY

The construction of the Bindoon Bypass is geared towards augmenting freight productivity and efficiency by enabling the passage of triple road trains (up to 53.5m trucks) along the entire length of the Great Northern corridor.



With 62km of new highway west of Bindoon, enhancements to the existing Great Northern Highway, links to local roads, the incorporation of overtaking lanes and the establishment of new rest stops catering to both light vehicles and road trains, this infrastructure is anticipated to result in shorter travel times, cost savings via reduced daily freight trips, and a reduction in heavy vehicles traversing through the Bindoon Town Centre.

## When it's photography you need...

There's only one name you need to remember

#### Specialising in:

- ▶ Architecture
- ▶ Infrastructure
- ▶ Industrial
- ▶ Events
- ▶ Portraits
- ▶ Headshots

CASAMENTO



PHOTOGRAPHY

T: 03 9347 9156

E: info@casamento.com.au

WWW.casamento.com.au