PROJECT UPDATE
MAY 2025

Australian Government
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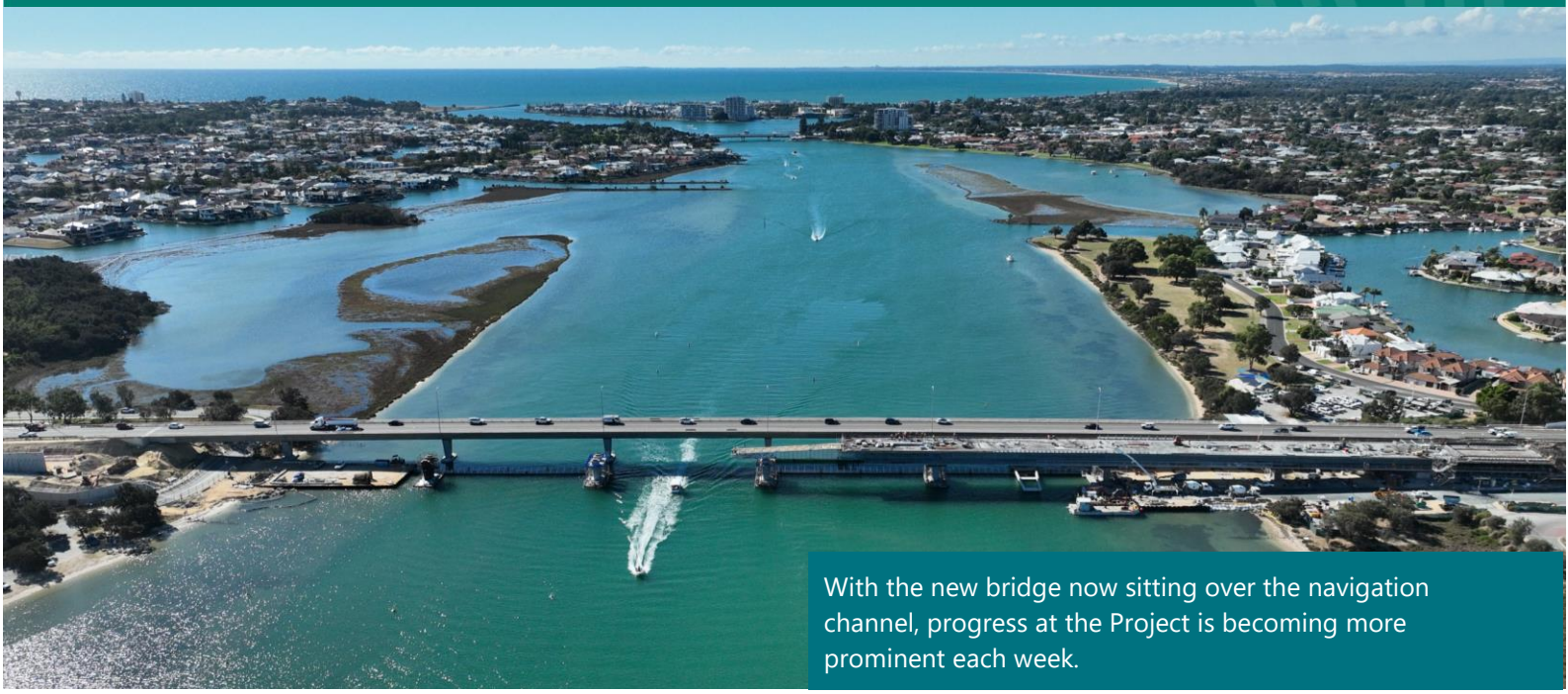
Mandurah Estuary Bridge Duplication



With the new bridge now sitting over the navigation channel, progress at the Project is becoming more prominent each week.

Halfway across the estuary

With the ninth segment now in place, the new bridge is over halfway across the estuary! Works have progressed over summer following the announcement of additional funding from the WA Government to include programmable feature lighting and amenity walls on both sides of the bridge to provide further sound protection for nearby residents.

Works are now underway for the walls with various lane realignments required to allow work to be carried out from the roadside rather than the nature strips. This workflow was put in place to ensure that 60% of the vegetation around the extended amenity walls could remain. We ask for road users to please be patient when passing through the construction zone and follow the modified road layout signage.

Urban design works have also begun with a display of shore birds in flight and depictions of the local samphire wetlands along the noise walls. A mural with the theme of 'coming together' was developed by local artist Miranda Davis and created by students at Coodanup College, Bindjareb Elders and local community representatives. Find the designs at the entrance to the Leisure Way/Mandurah Road bus stop.
View the latest timelapse.

Upcoming milestones

Mid-2025	Marine works expected to conclude
August 2025	Touchdown on the western foreshore
Early-2026	Expected construction completion
Mid-2026	Revegetation and landscaping

Q&A with Construction Lead Nick Brugman, Georgiou Group

The bridge is being constructed using an 'incremental launch' method, with individual bridge segments moving up to 26 meters every 2-3 weeks.

Q: How are the bridge increments pushed across the estuary and what machinery is used in the process?

A: There are a total of 15 bridge segments that are to be constructed in a two-stage casting bed. During a "cycle", the team will form, reinforce, pour and stress the segment prior to launching it towards the estuary. Due to the complexity and size of the concrete pours, these begin early in the morning. Once a segment is ready for launching, the bridge is lifted and pushed at the eastern abutment using launching jacks which can move the bridge up to 250mm (0.25m) per 'lift and push' cycle taking just over 100 cycles per launch event. At each of the piers, the bridge slides on low friction launching pads which are fed between the underside of the bridge section and the top of the temporary bearings. It's expected that the final launch stage once all temporary bearings are engaged will need around 50 people to assist.

Q: How do you ensure the bridge segments are accurately steered to align with the landing points on each pier?

A: The bridge is continually monitored by project surveyors for alignment. At each of the supports, there are side guides that can be extended and retracted under the guidance of the surveyor as the launch progresses to help "steer" the bridge.

Image: The launching pad used to push the bridge segment 2.5cm per lift

Q: What happens once the bridge is fully launched?

A: Following the construction of the final bridge segment, the bridge girder will be pushed out of the casting bed area into its final position. At this point, the Project's crab mascots located at the leading edge of the bridge will land at the western abutment.

Following completion of the launching, the steel nose located at the leading end will be removed and stored for use on another bridge somewhere around Australia.

At each of the support locations, the bridge will be temporarily lifted using hydraulic cylinders with a combined capacity of nearly 2,400 tonnes per pier, allowing the temporary bearings to be changed over for permanent ones. This will take around two months, with the temporary walkways at the piers being removed simultaneously.

At the approaches, retaining walls will be completed right up to the bridge structure to provide access onto the bridge, and final tie in works will occur before allowing traffic onto the new bridge.

Q: What is your favourite part of the process?

A: I enjoy evolving the bridge from concept phase into reality and developing solutions to make it happen. While there are new challenges every day, it's very rewarding to see the bridge progress across towards the finish line, knowing we are giving something to the community that will stand for years to come. Also seeing the dolphins come through is a bonus!

Project facts

- 8 span bridge duplication (380m length)
- 7 x marine piers
- Universally accessible fishing platform
- 1.2 km of new road on the westbound side and upgrade on the eastbound side
- 3.15 km of noise and amenity walls

Sustainability Through Recycled Water

A key factor in contributing to our sustainability targets has been sourcing recycled water, which is traditionally a resource-intensive part of both construction and the long-term operations of a piece of infrastructure.

Recycled water is used for several critical construction tasks including;

- Earthworks - creating stable foundations by compacting wet material for structural integrity
- Road pavements - wetting and compacting layers
- Dust suppression - managing air quality during construction projects
- Structural surface preparation - ensuring clean conditions for painting and coatings

The Project has collaborated with State and Local Government agencies to utilise a recycled water supply from City of Mandurah. The Project has facilitated additional infrastructure that will remain for future tasks and other future projects.

Image: Water recycling system

To date, 66% of construction water has come from recycled sources, with forecasts indicating this will increase to 90%. This initiative reflects the Project's commitment to sustainable outcomes now and into the future.

Read the Annual Project Sustainability Report 2023-2024.

Image: 'Wetland shore birds in flight' on the noise walls

Urban design

The Mandurah Estuary Bridge Duplication Project has been working with the City of Mandurah, as representatives of the local community, to ensure urban design elements reflect the local area and align with the City's long-term vision for Mandurah. View the Urban Design Factsheet here.

The noise walls feature two designs - the 'shore birds' inspiration taken from the Creery Wetlands Nature Reserve in Mariners Cove, and on the reverse side facing Waterlily Drive, a design inspired by the local samphire wetlands designed to blend in with the surrounds and future revegetation.

In designing the artwork for the roadside, artist Mark Datodi gave special consideration to Visual Induced Motion Sickness (VIMS). This assisted in determining colours and contrasts that enables people to take in the artwork without straining their eyes.

The piers (supporting bollards) of the bridge will also feature designs similar to the Leisure Way Bus Stop entrance mural, due to be painted later in the year.

Image: The mural at the Leisure Way / Mandurah Road bus stop entrance

On the waters

Spanning over land and water, the Mandurah Estuary Bridge Duplication Project's environment provides its unique challenges.

Image: The barge team saved a tinny and its crew sinking in the construction zone

In early March, three lucky locals had their boat saved by the Project's barge team with the swift-acting barge operator spotting just the tip of the tinny sinking quickly off Osprey Waters Beach.

We ask skippers to follow the signage and traverse through the marked navigation channel between pier 4 and 5 and stay out of the construction zone waters, keeping to a 5-knots speed limit.

We recommend skippers to exercise a 'no wake, no wash' principle to maintain safety in the estuary construction zone for all users.

The map below shows the estuary construction zone 150m either side of the existing bridge, with the 5 knots navigation channel marked.

Swimming and fishing in the construction zone is not recommended.

Shared paths

With additional noise walls added to the scope, access points to Mandurah Road have moved closer to the Leslie Street intersection.

Path access from Waterside Drive to Mandurah Road for cyclists heading eastbound will connect via Leslie Street. A new access path will take cyclists travelling west from Mandurah Road after the Leslie Street intersection towards Waterlily Drive.

This path will connect with the existing shared footpath on Waterlily Drive that will lead to the new underpass path across the new bridge.

Please refer to the map below that shows the shared paths for the Project.

The construction of the Waterlily path connection is planned to commence in April 2025.

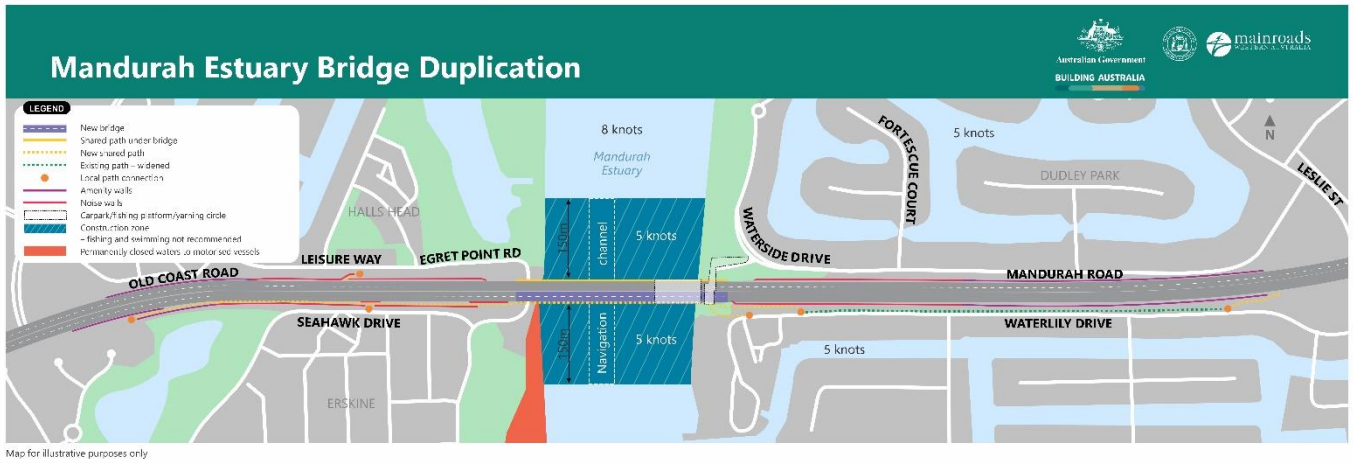


Image: MEBD Project Map

Welcome to the team

Nathan Rowe, Graduate Engineer, Office of Major Transport Infrastructure Delivery joined Mandurah Estuary Bridge Duplication Project team earlier this year. We asked him to provide an insight to working at the Project in his second year of the Main Roads Graduate Program.

Since January, I have been a part of the MEBD team as a Graduate Engineer. My days typically involve supporting the Project team with quality assurance, conducting daily site surveillance walks to note what works are being undertaken and coordinating design reviews. Being on the Project is my fourth and final rotation in the metro area before I head off to the Pilbara Region in July for my final year of the three-year program.

I have been able to apply my experiences from my previous rotations in this role, and overall, I feel incredibly lucky to be involved with such a significant project.

The most interesting thing that I have learnt at MEBD is how much work goes into bridge launches. I was unfamiliar with incremental launch bridges before this, and the amount of effort that goes into launching it little by little is amazing! I have also learnt a lot about project management which I think will be a huge benefit as I continue my career.

Image: Graduate Engineer Nathan Rowe

Further information

Jointly funded by the Australian and Western Australian Governments, the $148.8 million Mandurah Estuary Bridge Duplication project is delivering a second, two-lane bridge on the south side of the existing structure to provide additional traffic lanes.

A new four-metre-wide shared footpath will also be built to help the local community better access recreational activities. An accessible fishing platform will also be provided on the eastern foreshore.

For the quickest access to Project news, sign up to the Mandurah Estuary Bridge Duplication Project updates at www.mainroads.wa.gov.au/mebd or follow the QR code:

Or stay up to date by joining our Facebook Community Group by searching 'Mandurah Estuary Bridge Duplication Community Group' on Facebook or follow the QR code: