



Australian Government

BUILDING OUR FUTURE



NSW
GOVERNMENT

WOOLGOOLGA TO BALLINA

The final link in the Pacific Highway upgrade

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The Woolgoolga to Ballina story

The Woolgoolga to Ballina Pacific Highway upgrade is the final link in the Pacific Highway upgrade, between Hexham and the Queensland border, to be upgraded to four lanes.

The Australian and NSW governments jointly funded the Woolgoolga to Ballina upgrade on an 80:20 basis. Both governments shared a commitment to opening this section, and the entire Pacific Highway upgrade, to dual carriageway by 2020.

Transport for NSW and contractor partners worked together to deliver the 155 kilometre upgrade, with delivery partner Pacific Complete engaged for the Glenugie to Ballina section.

The upgrade will deliver a safer link in the national road network, offering reduced travel times and improved transport efficiency.

Five towns have been bypassed, with nine new interchanges offering safer access to the new motorway and improved connectivity between neighbouring towns.

The upgrade was a key driver of economic growth in regional NSW, with more than 3,000 people employed at peak construction and many more indirect jobs created.

People make major projects like this possible through their support, patience and work. This eBook is for them – our neighbours, community members, visitors and those on the ground.

Please enjoy some of our favourite images capturing the construction journey, from early work through to opening.

*Please note all statistics in this eBook are approximate and conservative in nature.



01

DRIVEN TO SAVE LIVES

KILOMETRES

155

5 bypassed towns

9 new interchanges

4 new rest areas





A STAGED OPENING

Dual carriageway median separated motorways enhance safety by separating traffic, removing conflict points and allowing for overtaking. Bypassed towns, new rest areas and grade separated interchanges also offer improved safety outcomes. The Woolgoolga to Ballina upgrade was staged to ensure these benefits were realised as soon as possible. The staged approach kept traffic moving while construction continued on other parts of the road.

The 14 kilometre section between Woolgoolga and Halfway Creek opened in October and December 2017. It features a new interchange at Range Road and a new rest area at Arrawarra. The 12 kilometre section between Halfway Creek and Glenugie opened in August 2017. Design refinements saw an eight kilometre stretch of the northbound carriageway further upgraded in 2020.

The 36 kilometre section between Glenugie and Tyndale opened in May 2020, bypassing South Grafton and Ulmarra. It features a split interchange at Glenugie, new north and southbound rest areas at Pine Brush and the Tyndale south interchange. The 12 kilometre section between Tyndale and Maclean opened in March 2020, including the Tyndale north interchange. The Maclean interchange took its final formation in August 2020.

The 10.5 kilometre section between Maclean and Mororo opened in September 2020, with the new bridge over the Clarence River at Harwood opening in December 2019. This section features the Yamba/Watts Lane split interchange and the Iluka interchange.

The 15 kilometre section between Mororo and Devils Pulpit opened in August 2020 and includes a new southbound rest area at Mororo. The 15 kilometre section between Devils Pulpit and Woodburn opened to traffic in December 2020 and was the final section completed as part of the Woolgoolga to Ballina upgrade.

The 34 kilometre section between Woodburn and Pimlico opened in September 2020, bypassing Woodburn, Broadwater and Wardell. It features three new interchanges at Woodburn, Broadwater and Coolgardie as well as the new bridge over the Richmond River at Broadwater.

The 6.5 kilometre section between Pimlico and West Ballina opened in December 2019, linking the upgrade to the Ballina bypass. It includes two new bridges over Duck and Emigrant Creeks.





02

THE FINAL LINK

CUBIC METRES OF EARTHWORK

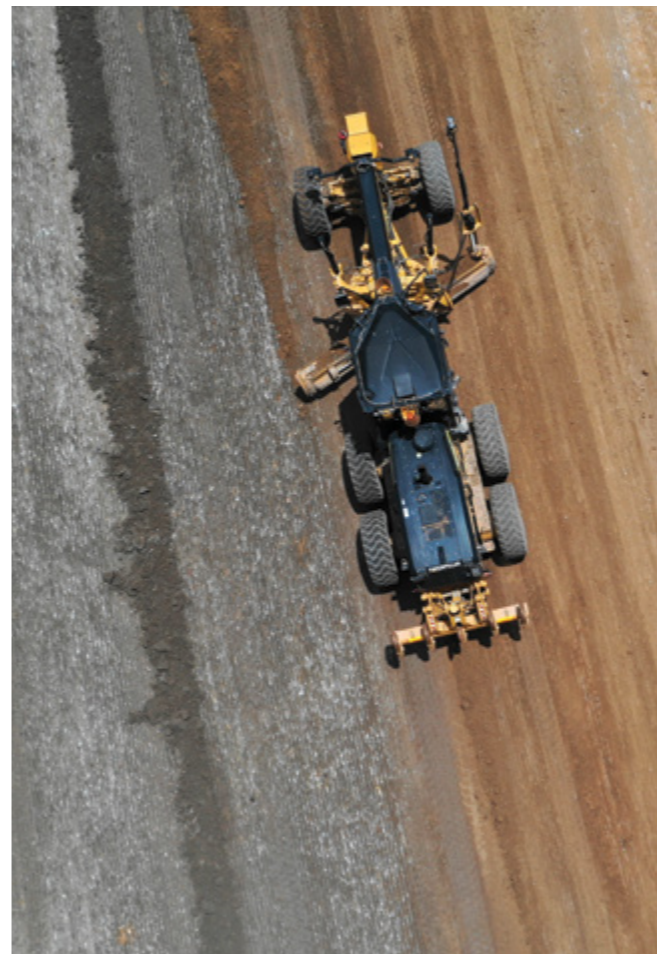
15 MILLION

1,500 heavy machinery at peak

10 local quarries engaged

25,000 tonnes delivered in one day







BRIDGES

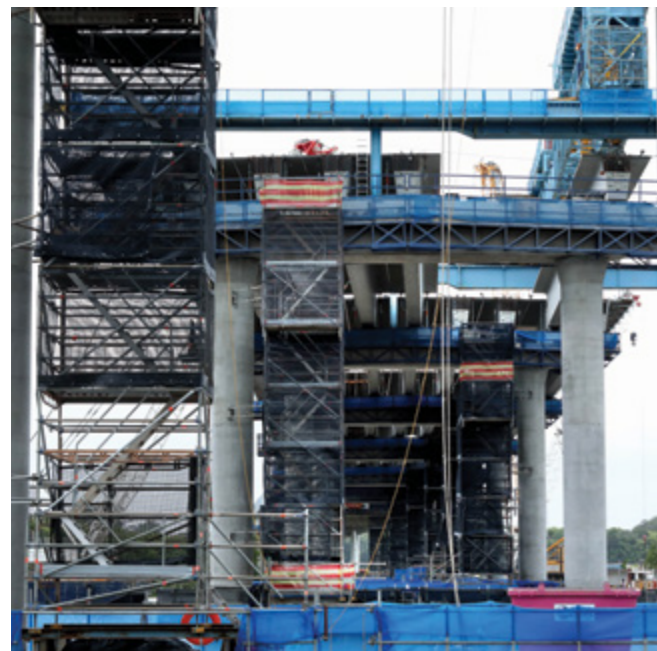
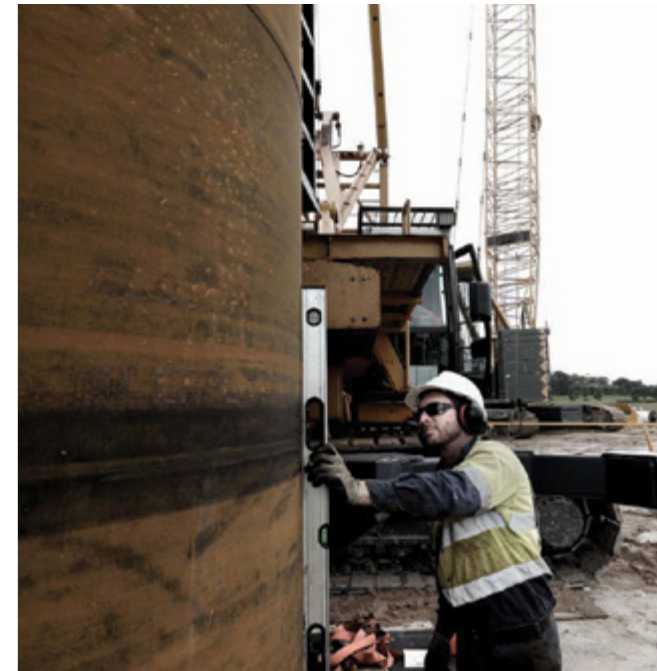
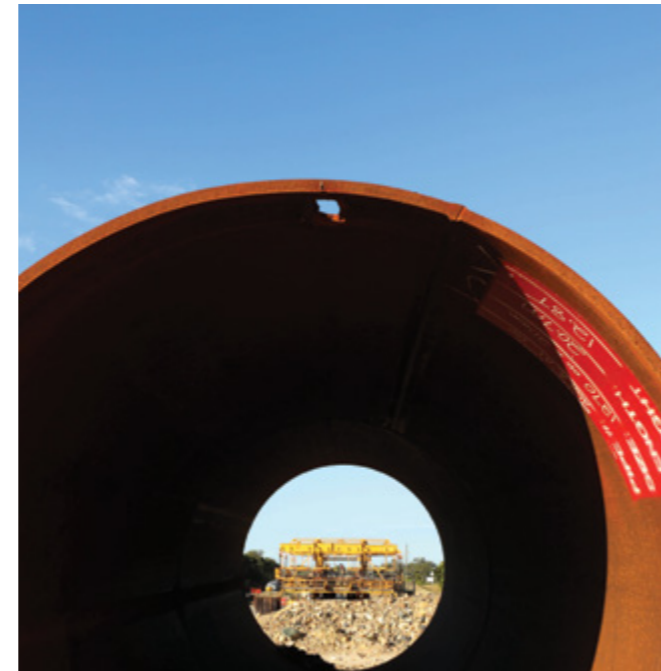
170

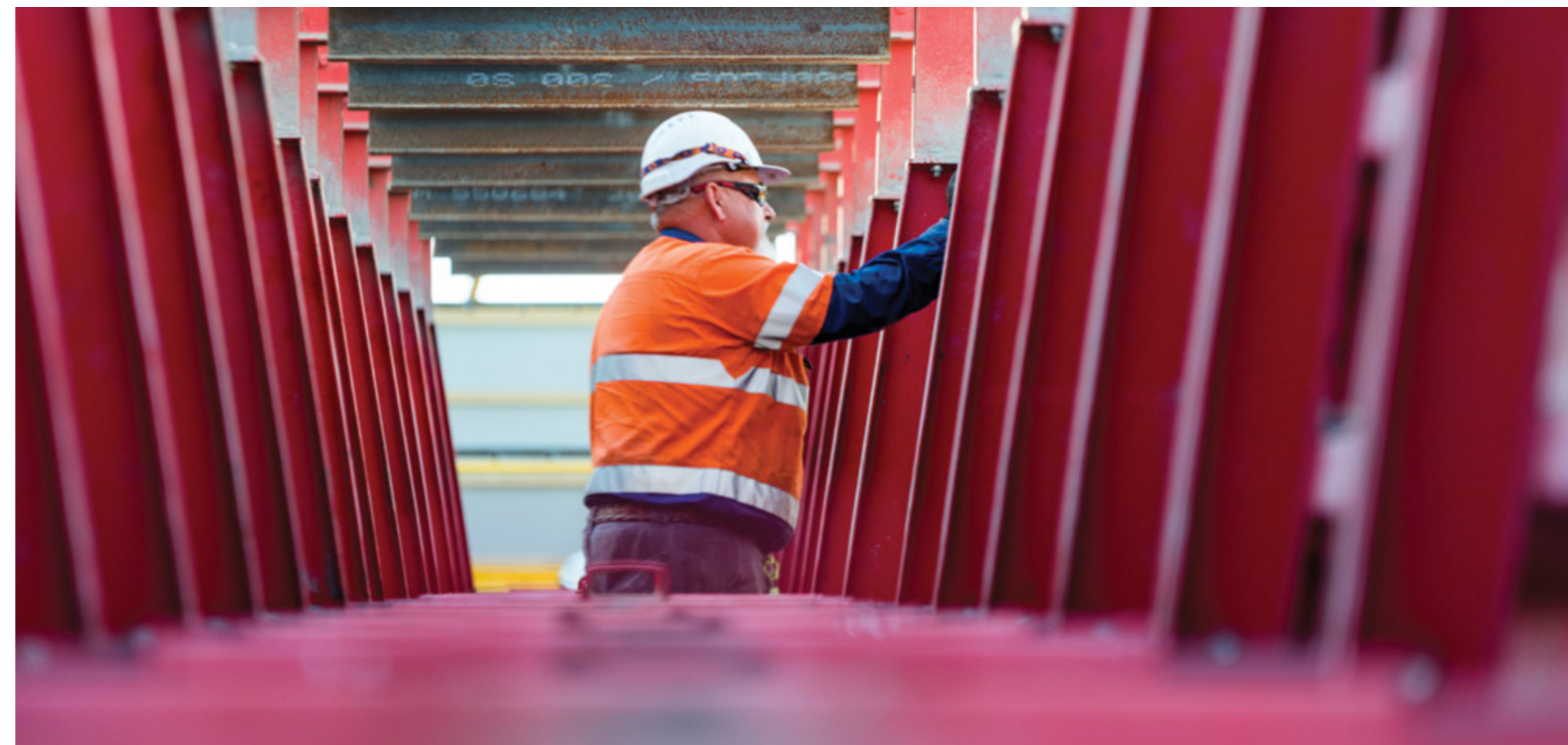
8,900 precast elements

1,720 piles

12,015 metres of total bridge length













LARGEST CONCRETE PAVEMENT JOB

The Woolgoolga to Ballina upgrade is the largest concrete pavement job in Australia's history. Concrete is the preferred pavement type because it is strong and long lasting. About 80 percent of the upgrade was paved with concrete, totalling about 785,000 cubic metres.

Paving is the last major construction activity before the road can open to traffic. It is one of the more visible elements of road construction and directly impacts a motorist's experience, creating faster and smoother journeys.

A total of eleven temporary batch plants were in operation to complete the concrete pavement. A typical paving operation includes the delivery, tipping, spreading, compacting and finishing of concrete sub base and concrete base layers. The process to finish the concrete includes texturing the surface and spraying it with a curing compound. Joints are created in the base using a saw cutter. Once cut, the joints are cleared of debris and sealed.

In 2019 the project team completed two successful pavement trials with recycled glass incorporated into the concrete mix for the first time on the mainline carriageway of the Pacific Highway upgrade.





03

IT TAKES PEOPLE TO
BUILD A ROAD

PEOPLE AT PEAK

3000

18,679 safety inducted

10% locals employed at peak

16,000 peak month trainee hours









EXCEEDED ABORIGINAL PARTICIPATION TARGETS

1 million+ hours worked

300 employed during peak month

20 nations represented at peak





THE MULTIPLIER EFFECT

Major projects like Woolgoolga to Ballina have the capacity to stimulate and improve economic productivity and bring about social benefits, in both the short and long term.

As part of the upgrade, the team launched a campaign to encourage and support local people entering the workforce. This included four jobs roadshows, two of which were specifically focused on increasing Aboriginal participation.

We worked closely with training and employment providers on the NSW north coast to identify and prepare individuals and businesses for job opportunities across the upgrade. This included regular industry briefings, participating in career open days and hosting site visits for construction industry students. The team also provided community members with the opportunity to attend project inductions and safety training prior to gaining employment to remove barriers and ensure individuals could mobilise quickly to the job if required.

It was not possible for every position to be filled by a local person. At peak construction, relocated workers represented about 62 percent of the workforce*. Having individuals and their families relocate to the area provided a significant boost to local economies and resulted in more investment and employment in indirect industries like healthcare and hospitality.

*Pacific Highway upgrade workforce profile report no. 2 (2018)



04

BUILDING A LEGACY

FAUNA CONNECTIONS

350

16 threatened species

3,600 hectares of biodiversity offsets

300 kilometres of fauna fencing









IMPROVED FLOOD IMMUNITY

The Woolgoolga to Ballina upgrade runs through two floodplains in the Clarence and Richmond Valleys as well as a number of local catchment floodplains.

The upgrade has been designed to improve the flood resilience of the Pacific Motorway and minimise its impact on future floods. When the next flood comes, the motorway will remain open longer, providing communities with improved connectivity through alternate routes and better access to refuge and resources.

This means a quicker and safer recovery operation with the SES predicting faster response times and a greater capacity for self-evacuation to avoid extended isolation.

As part of the design refinements process, we changed the size and location of flood openings and replaced a number of culverts with bridges to achieve better flooding outcomes.

To understand the impacts of the upgrade on flood behaviour we spoke with local residents and property owners and considered data from real flood events. The team also refined and validated flood impact models – running more than 150 scenarios.

Upon completion of the upgrade, local councils and the SES will be provided the final flood models, which will better inform emergency response plans for the community.

PLANTS

1.4 MILLION

1,250 hectares hydromulched

130 hectares of koala food trees

1,300 rootballs and timber logs





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Koala Food Tree Plantation

This site is a part of 130 hectares of
Koala Food Trees planted for the
Woolgoolga to Ballina Pacific Highway upgrade

 **Please keep out of this area**
For more information
visit www.rms.gov.au/w2b





THANK YOU

Credit to our photographers

Simon Hughes

Grant Turner

CAPTIONS

Front cover

- September 2017: New bridge over the Clarence at Harwood

Pages 2 and 3

- July 2017: Workers on the Woolgoolga to Ballina upgrade
- April 2018: Machinery on the Woolgoolga to Ballina upgrade

Pages 4 and 5

- February 2018: New bridge over the Clarence at Harwood

Pages 6 and 7

- September 2020: New bridge over the Richmond River at Broadwater opens to traffic
- February 2019: Iluka interchange overpass bridge

Pages 8 and 9

- September 2020: New motorway bypasses Broadwater

Page 10

- May 2020: New motorway at Tyndale
- July 2020: Coolgardie interchange looking east
- June 2020: New motorway at Mororo

Page 12

- September 2020: New southbound rest area at Mororo
- July 2017: Wire ropes between Woolgoolga and Glenugie
- September 2020: New motorway at Chatsworth Island
- May 2020: Concrete barriers near the new bridge over the Clarence at Harwood
- June 2020: Western roundabout at Iluka interchange
- September 2020: Traffic under the Woodburn interchange

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- September 2020: New bridge over the Clarence at Harwood
- July 2020: Traffic under the Woodburn interchange overpass
- October 2020: Sugar cane conveyor belt east of Broadwater
- September 2020: New rest area at Pine Brush

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- June 2020: Northbound on ramp at the Iluka interchange
- January 2020: Iluka interchange looking north

Pages 14 and 15

- March 2018: Piles stored for the Woolgoolga to Ballina upgrade
- May 2019: Drainage pipes at the new bridge over the Richmond River at Broadwater

Pages 16 and 17

- June 2017: Earthwork between Woodburn and Broadwater

Page 18 and 19

- May 2018: Earthwork at the Woodburn cut
- September 2017: Earthwork at Mororo
- December 14: Earthwork near McIntyres Lane
- May 2017: Earthwork near Tyndale

Pages 20 and 21

- May 2017: Earthwork near Tyndale
- July 2017: Cutting at Dirty Creek Range

Pages 22 and 23

- January 2020: New bridge over Clarence River at Mororo

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- July 2018: Girder placement at Shark Creek
- May 2018: Emigrant Creek bridge site
- October 2018: Construction at the new bridge over the Richmond River at Broadwater
- December 2018: Ready for the final stitch pour at the new bridge over Emigrant Creek
- May 2018: Girders at the new bridge over the Richmond River at Broadwater

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- October 2017: Construction at the new bridge over the Clarence at Harwood
- December 2018: Girders for the Woodburn interchange overpass
- May 2018: Piling work at the new bridge over the Richmond River
- October 2018: Girder delivery at the new bridge over Shark Creek
- September 2020: New bridge over the Richmond River

Pages 26 and 27

- July 2019: Girder leaving precast yard in Coffs Harbour
- September 2017: Girder production at the Harwood precast yard

Pages 28 and 29

- September 2020: Sunset at the new bridge over the Clarence

Pages 30 and 31

- May 2019: Under the new bridge over the Richmond River

Page 32

- October 2019: Concrete shoulder paving near Nortons Road
- December 2018: Concrete curing at New Italy
- December 2018: Concrete paving near Wardell

Pages 34 and 35

- December 2018: Concrete curing at Tabbimoble
- July 2017: Concrete paving between Woolgoolga and Halfway Creek

Pages 36 and 37

- October 2017: Piling work near Broadwater
- July 2017: Worker on the Woolgoolga to Halfway Creek section

Pages 38 and 39

- May 2017: Workers carrying geofabric

Pages 40 and 41

- May 22: Traffic controller near Jubilee Street at Townsend
- April 2018: Workers to the west of the new bridge over the Clarence at Harwood

Pages 42 and 43

- October 2018: Worker on the Woolgoolga to Ballina upgrade
- July 2017: Worker on the Woolgoolga to Ballina upgrade
- September 2017: Worker on the Woolgoolga to Ballina upgrade
- May 2020: Worker on the Woolgoolga to Ballina upgrade
- October 2017: Worker on the Woolgoolga to Ballina upgrade
- May 2017: Worker on the Woolgoolga to Ballina upgrade

Pages 44 and 45

- September 2020: COVID-19 signage at the Tyndale compound
- December 2019: After the bushfires near New Italy

Pages 46 and 47

- October 2017: Aboriginal workers on site at Pillar Valley

Page 48

- July 2019: Workers at the CPB precast yard in Coffs Harbour
- July 2018: Site tour at the new bridge over the Clarence at Harwood
- March 2018: Worker at the new bridge over the Clarence River at Mororo

Pages 50 and 51

- December 2017: Precast element ready for installation
- March 2018: Fog over the new bridge over the Clarence at Harwood

Pages 52 and 53

- August 2020: Worker inside a box culvert near Wardell

Pages 54 and 55

- July 2019: Fauna furniture under a bridge near Wardell
- June 2017: Construction signage for the threatened Oxleyan Pygmy Perch
- July 2019: Fauna furniture under a bridge near Wardell
- May 2018: Population and habitat monitoring for the Oxleyan Pygmy Perch

Pages 56 and 57

- May 2019: Koala spotted near Coolgardie
- May 2018: Emus spotted at Shark Creek

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- July 2018: Construction at the new bridge over Shark Creek
- July 2017: New bridge over Corindi Floodplain
- November 2020: New bridges over Tuckombil Canal

Pages 60 and 61

- July 2017: Landscaping near the cutting at Dirty Creek Range

Pages 62 and 63

- August 2020: Project signage for koala food tree plantation
- August 2020: Worker inspecting koala food tree growth

Pages 64 and 65

- Workers on the new bridge over the Richmond River at Broadwater