

Category 3: Excellence in Sustainability and Innovation

Hog Bay Road, Kangaroo Island – Pavement Rehabilitation

Joseph Rugari
Downer EDI Works Pty Ltd



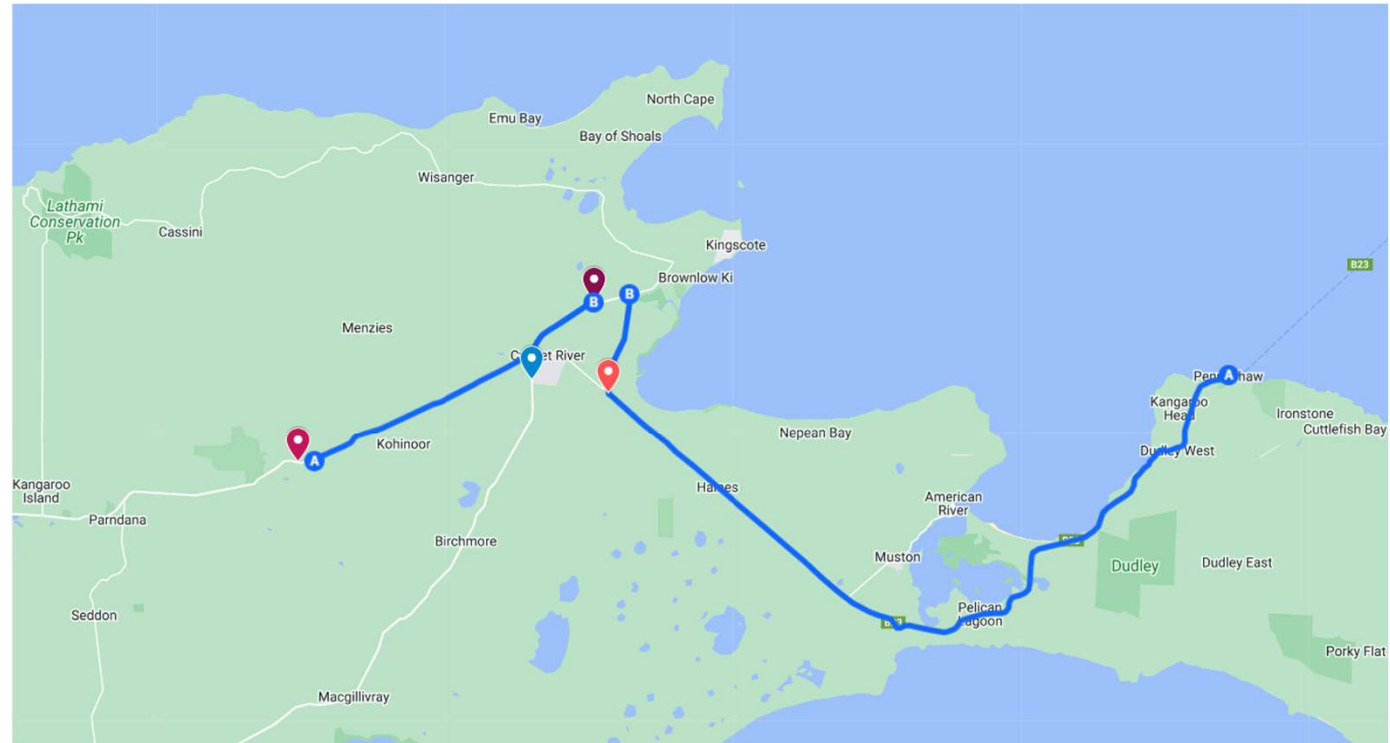
2024 AustStab Awards of Excellence

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Project Scope

- Downer was awarded the Shoulder sealing and Rehabilitation on Hog Bay Road and Playford Hwy construct only contract through Department for Transport and Infrastructure (DIT)
- 115,000m² of shoulder widening and sealing
- 138,000m² of pavement rehabilitation
- 35,000m² of reseal
- Drainage and other ancillary works

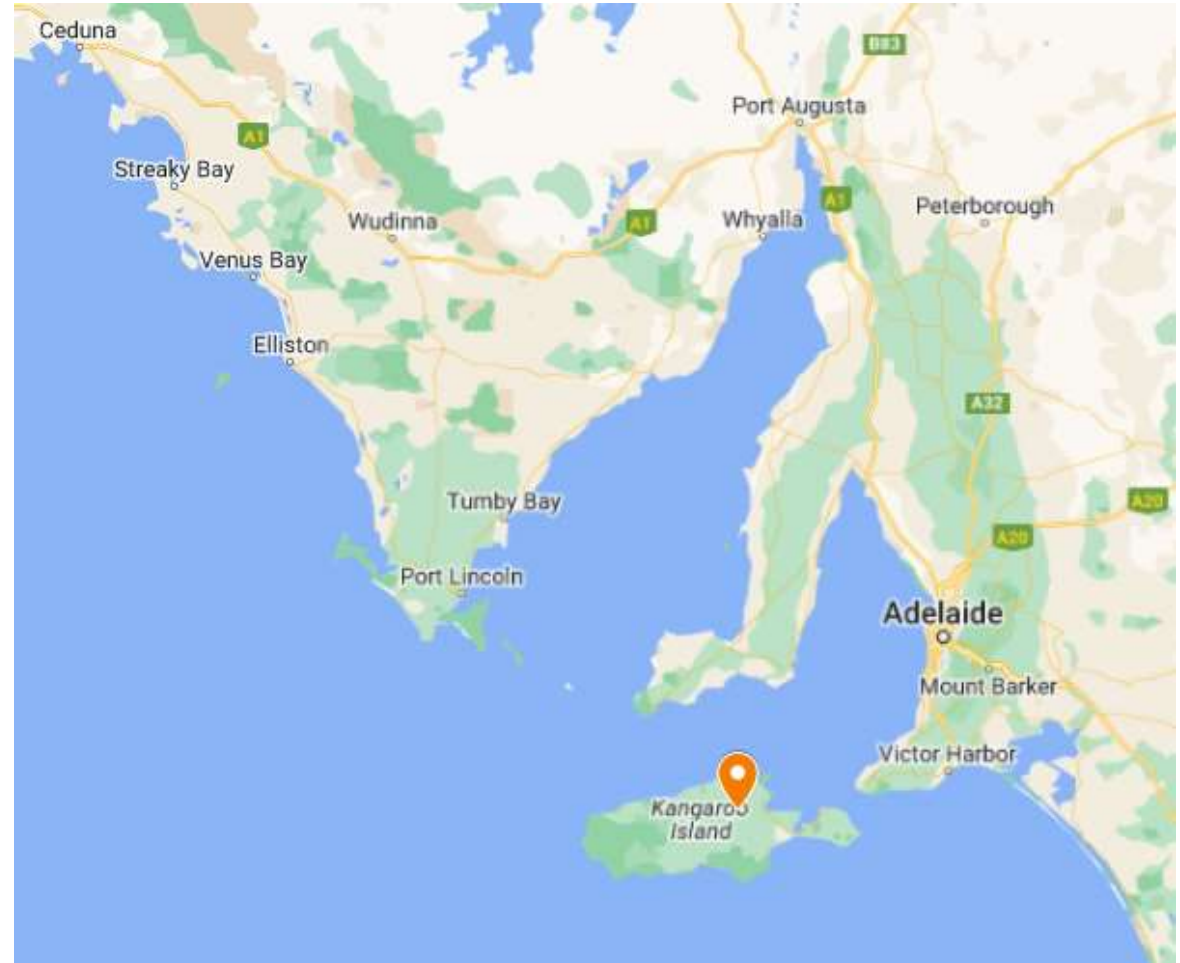


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Operating Environment

- 180km from Adelaide
- 1.5 Hour drive to Cape Jervis and 45 minute ferry ride into Penneshaw; or 35 minute flight
- Sea link Ferry Services running multiple times a day, however during the project places were limited due to planned maintenance and tourist season
- Other contractors working within work zone for external party



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Pavement Treatments

Pavement Type	Treatment
Type 1	<u>Reseal Only</u> <ul style="list-style-type: none"> • 14/7mm C170 Two Coat Seal
Type 2	<u>Shoulder Widening</u> <ul style="list-style-type: none"> • Top up with PM2/20 • Mix and Moisture condition to 150mm • Eco Prime • 14/7mm C170 Two Coat Seal
Type 3	<u>Rehab – Stabilised Base Course</u> <ul style="list-style-type: none"> • 20mm top up with PM1/20 • 2% 50:50 Cement & Lime Stabilisation @ 150mm • 7mm Emulsion Primer Seal • 14/7mm C170 Two Coat Seal
Type 4	<u>Rehab – Stabilised Base Course + Overlay</u> <ul style="list-style-type: none"> • 2% 50:50 Cement & Lime Stabilisation @ 150mm • 150mm PM1/20 Overlay • 7mm Emulsion Primer Seal • 14/7mm C170 Two Coat Seal

Sustainability Note: This project has re-used approximately 83,000T of existing granular material via the shoulder widening and stabilised rehabilitation stabilisation treatment methodology.

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Stabilisation Implementation

- With limited pre-qualified quarry options on Kangaroo Island, DIT were forced into alternative pavement options and accepting non-conforming material in some instances.
- To provide DIT with the best possible quality material, Downer utilised its KMA to moisture condition the PM1/20 material prior to laying on the road. The KMA has capabilities for ex-situ stabilisation opportunities.
- Stabilisation implementation on this project has decreased the risk of utilising non-conforming materials in this remote location.
- This project confirms DIT's stance on utilising stabilised pavements on the South Australian road network and gives confidence to the greater industry on implementing similar treatments.



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Logistics Management

- Due to the complexities of working on Kangaroo Island, strict logistical management was necessary to successfully deliver this project.
 - Personnel worked an 11 day on and 3 day off roster and travelled via a combination of flight and ferry.
 - Plant Mobilisation – A lengthy mobilisation was necessary to book in float shifts via ferry due to Sealink maintenance and availability of bookings.
 - Binder Deliveries – As per plant mobilisation, binder deliveries for the stabilisation process had to be meticulously organised to ensure availability on the ferry



Person Travelling	Company	Date	From	To	Via	Departure	Arrival	Reference
Adrian D'Amico	Downer EDI PavRehab SA	Thursday, 18 April 2024	Adelaide	Kingscote	Sealink Ferry - Waikoon	7:30AM	8:15AM	
Adrian D'Amico	Downer EDI PavRehab SA	Thursday, 18 April 2024	Kingscote	Adelaide	Sealink Ferry - Waikoon	8:30AM	9:15AM	
Adrian D'Amico	Downer EDI PavRehab SA	Friday, 19 April 2024	Adelaide	Kingscote	Qantas Flight			
Adrian D'Amico	Downer EDI PavRehab SA	Friday, 19 April 2024	Kingscote	Adelaide	Qantas Flight			
Josh Newman	Downer EDI PavRehab SA	Monday, 15 April 2024	Adelaide	Kingscote	Qantas Flight			
Josh Newman	Downer EDI PavRehab SA	Wednesday, 17 April 2024	Kingscote	Adelaide	Qantas Flight			
Daryl Kunouth	Downer EDI PavRehab SA	Saturday, 20 April 2024	Kingscote	Adelaide	Sealink Ferry - Waikoon	2:30PM	3:15PM	2VNHJ6
Daryl Kunouth	Downer EDI PavRehab SA	Monday, 22 April 2024	Adelaide	Kingscote	Sealink Ferry - Waikoon	7:00AM	7:45PM	2VNHJ6
Wayne Applebee	Applebee Bulk Haulage	Friday, 19 April 2024	Kingscote	Adelaide	Sealink Ferry - Vehicle	11:30AM	12:15PM	2VNGH4
SAP Semi Watercart	SA Shoulder Pavers	Friday, 19 April 2024	Kingscote	Adelaide	Sealink Ferry - Vehicle	11:30AM	12:15PM	2VNGJW
Drew Truck + Compressor Trailer	Downer EDI PavRehab SA	Friday, 19 April 2024	Kingscote	Adelaide	Sealink Ferry - Vehicle	8:30AM	9:15AM	2VNGKH
Truck & Trailer + Skiddy	Downer EDI PavRehab SA	Tuesday, 23 April 2024	Kingscote	Adelaide	Sealink Ferry - Vehicle	7:30AM	8:15AM	2VNGKP
Josh Newman	Downer EDI PavRehab SA	Friday, 3 May 2024	Adelaide	Kingscote	Qantas Flight	9:05AM	9:45AM	67/EK9
Josh Newman	Downer EDI PavRehab SA	Friday, 3 May 2024	Kingscote	Adelaide	Qantas Flight	5:00PM	5:40PM	67/EK9
Josh Newman	Downer EDI PavRehab SA	Friday, 17 May 2024	Adelaide	Kingscote	Qantas Flight	9:05AM	9:45AM	67/EK9
Josh Newman	Downer EDI PavRehab SA	Friday, 17 May 2024	Kingscote	Adelaide	Qantas Flight	5:00PM	5:40PM	67/EK9
Luke Luciani	Traffic Group Australia	Friday, 17 May 2024	Adelaide	Kingscote	Sealink Ferry - Waikoon	4:30PM	5:15PM	2VJGQ7
Josh Newman	Downer EDI PavRehab SA	Friday, 31 May 2024	Adelaide	Kingscote	Qantas Flight	9:05AM	9:45AM	53YEE
Josh Newman	Downer EDI PavRehab SA	Friday, 31 May 2024	Kingscote	Adelaide	Qantas Flight	5:00PM	5:40PM	53YEE
Josh Newman	Downer EDI PavRehab SA	Friday, 21 June 2024	Adelaide	Kingscote	Qantas Flight	9:05AM	9:45AM	66SHRG
Josh Newman	Downer EDI PavRehab SA	Friday, 21 June 2024	Kingscote	Adelaide	Qantas Flight	5:00PM	5:40PM	66SHRG

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Safety Initiatives

- Two safety initiatives were introduced on the project on the back of internal reviews on plant and pedestrian interface in the greater Downer business. This is an ongoing initiative within the Downer business.
 - Level 7 Strada, implemented on a roller via Sherrin Rentals. This system has avoidance guidance system and alerts the operator when somebody is within the exclusion zone.
 - IICAS – Intelligent Integrated Collision Avoidance System implemented on a roller via Conplant. This system has the capability to stop the machine if someone comes within the exclusion zone.



The machine control will be active in the direction of travel only and will extend beyond 1m beyond the width of the roller on either side

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Completed Project



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