

Sustainable Outcomes | Towradgi Station Upgrade

Degnan had the aim of reducing the carbon footprint of this project from the outset, through focusing on material reductions and seeking out construction materials with reduced embodied carbon. Given the constraints of the highly regulated and standardised transport sector; this was a challenge.



The Towradgi Station Upgrade, delivered as part of the Transport Access Program, aimed to provide a modern, safe, and accessible station for the local community. The station's upgrade also sought to improve safety, enhance the station's design, and ensure the integration of cultural narratives, particularly those of the local Aboriginal communities. The project scope included a new footbridge and lifts, upgrades the accessibility pathways and upgrades to station lighting, power, communications and security systems.

Partnering for Success

Seeking out inspiration and ideas, Degnan partnered with the University of Wollongong's Sustainable Building Research Centre (SBRC), a leader in transforming the built environment into sustainable, resilient places. This collaboration aimed to seek innovative solutions and establish connections between local educational institutions, government, and the construction industry.

Material Innovation

The SBRC developed foamed concrete cladding panels with crushed glass and carbon fibre reinforcement, offering a lower-carbon alternative and supporting circular economy principles. Degnan worked with the SBRC to create

a product suitable for commercial use, which was installed as cladding on the new Station Services Equipment Room

Sustainability Results

The SBRC foamed concrete was certified by the Infrastructure Sustainability Council (ISC) as an Australian-first innovation. Combined with other sustainable features, including solar lighting and energy-efficient fittings, it helped Degnan achieve a 25% lifecycle greenhouse gas emissions reduction and an ISC "Leading" rating; the highest available.



TYPE OF PROJECT

Rail

LOCATION

Towradgi NSW | Dharawal

CLIENT

Transport for NSW

PROJECT COMPLETION

May 2023

PROJECT VALUE

\$27.5M

DELIVERY MODEL

Design & Construct

SUSTAINABILITY

ISC V1.2 As Built
Leading 82.6 pts Rating
Finalist 2024 Banksia
Foundation
Placemaking