DM COMPOSITES

DMWALK™

BEACH-TO-BEACH SHARED PATH (STAGE D5)

PROJECT OVERVIEW
CONNECTING THE CAMDEN HAVEN COASTLINE

The Beach-to-Beach Shared Path is one of the most significant active transport and community connectivity projects in the Camden Haven region. Designed to span 11 kilometres between the North Haven breakwall and Pilot Beach, the pathway will provide a continuous, off-road route linking the townships of North Haven, Laurieton, and Dunbogan.

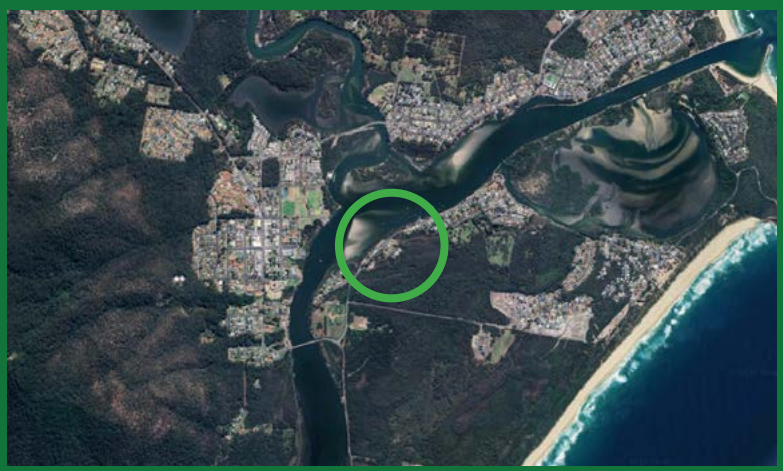
Originally conceived in the early 2000s by the Beach-to-Beach Pathway Committee and local volunteers, the project has been developed in stages, with each section adding to a safe, inclusive, and environmentally integrated active transport network. Stage D5 marks a major milestone — delivering a state-of-the-art FRP boardwalk designed for long-term durability in one of the harshest marine environments.

LOCATION:

Camden Haven,NSW, Australia

CONSTRUCTION COMPLETION:

AUGUST 2025



KEY COMMUNITY BENEFITS:

- **Improved pedestrian safety** with a formalised, off-road shared path.
- **Accessible for all abilities,** encouraging use by walkers, cyclists, and mobility aids.
- **Promotion of healthy,** active lifestyles by linking town centres, beaches, and natural reserves.
- **Integration with the local environment,** featuring a raised boardwalk that minimises ground disturbance and includes energy-efficient LED lighting.
- **Boost to tourism and local economy** by creating an iconic walking and cycling route along the waterfront.

DM COMPOSITES' ROLE – DESIGN, SUPPLY, AND ENGINEERING EXCELLENCE

DM Composites was engaged to deliver the design and supply of a full FRP (Fibre Reinforced Polymer) boardwalk system specifically engineered for the intertidal zone of the Camden Haven Inlet.

The Stage D5 section consisted of:

- **Total Area:** 755 m² of FRP boardwalk
- **Widths:** Standard clear width of 2.5 metres, with a widened 5-metre section for rest and viewing areas.
- **Pile Spacing:** Spaced at 3 metres, engineered for FRP load capacity and site conditions.
- **Loading Capacity:** Designed to 5 kPa pedestrian loading in accordance with Australian Standards.
- **Lifespan:** Minimum 50-year design life in a saline environment.

Full FRP System Supplied:

- **FRP Mini-Mesh Gratings** – Non-slip grit finish, UV-stabilised for long-term performance.
- **FRP Structural Members** – Joists, bearers, and fibre-reinforced SHS piles for complete substructure resilience.
- **FRP Balustrade System** – Top, mid, and bottom rails in FRP for corrosion resistance.
- **Polished Stainless Steel Handrails** – Grade 316, No. 8 mirror finish for aesthetics and durability.
- **All Connections in Grade 316 Stainless Steel** – Including bolts, nuts, washers, and rivets for maximum corrosion resistance.

ENGINEERING CHALLENGES AND SOLUTIONS

1. Intertidal Zone Complexity

The boardwalk alignment traverses an intertidal zone subject to daily tidal fluctuations, occasional storm surges, and seasonal flooding.

- DM Composites conducted a detailed topographic survey to map elevation changes and identify low-lying, flood-prone areas.
- Tidal data and local weather patterns were analysed to predict water levels during construction and throughout the boardwalk's lifespan.
- Structural design incorporated resilience against saltwater immersion, debris impact, and dynamic tidal forces.

2. Foundation Design & Piling

FRP piles were chosen for their corrosion resistance and light handling weight, allowing efficient installation by the piling contractor.

- DM Composites designed a custom plate connection system to join FRP SHS piles to FRP bearers.
- This plate system allowed site tolerance adjustment, post orientation flexibility, and faster installation in challenging tidal windows.

3. Durability & Compliance

The boardwalk was designed and certified by a registered structural engineer, with full compliance to:

- AS 5100 – Bridge Design (pedestrian loading requirements)
- Austroads Guide to Road Design – Part 6A (handrail terminations and safety compliance)
- AS/NZS 1170 – Structural design actions

SUSTAINABILITY AND ENVIRONMENTAL INTEGRATION

MINIMAL ENVIRONMENTAL IMPACT

Raised boardwalk design allowed tidal flows and native vegetation to remain undisturbed.

FRP SUSTAINABILITY ADVANTAGES

No toxic leaching, no painting or chemical treatment required, and fully recyclable at end-of-life.

LED LIGHTING

Integrated low-energy lighting for safety without disturbing nocturnal wildlife.

PROJECT IMPACT & LEGACY

The Stage D5 boardwalk is not just a piece of infrastructure — it is a landmark community asset. Residents and visitors are now able to walk or cycle an uninterrupted coastal route linking beaches, parks, cafes, and lookouts across Camden Haven.

DM Composites' contribution ensures that the Stage D5 section will remain structurally sound, safe, and visually appealing for decades, with virtually zero maintenance burden on Council.

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