

## Reducing Hard Impacts from Barges

### New Boat Ramp, Port of Cairns, Australia



**Application**  
Special Applications

**Type**  
SPC Cone Fenders

**Date** 2026

**Reference** 0819

### A CLOSER LOOK AT THE CASE

Construction of the new barge ramp designed to accommodate **barges up to 75 meters in length** along three mooring dolphins began in the first half of 2025. The project, executed entirely by local companies, included Brady Marine & Civil as contractor and Madsen Giering as specialist engineering consultant responsible for the monopile dolphins. ShibataFenderTeam was appointed to design and supply the fender systems for the three dolphins, which were recently installed.

Two Side Fender Systems, each consisting of one Cone Fender System (SPC1200, G1.3) equipped with a closed-box steel panel (2200x6000 mm), were installed on the dolphins closest to shore. The outer dolphin was fitted with a Dual Dolphin Fender System consisting of two Cone Fender Systems (SPC1300, G1.2) with closed-box panels (2300x6000 mm) arranged in a corner configuration.

#### Project Scope

- ▶ 2 Cone Fender System (SPC1200, G1.3) with closed-box steel panel (2200 x 6000 mm)
- ▶ 2 Cone Fender Systems (SPC1300, G1.2) with closed-box panels (2300x6000 mm)

## CHALLENGE AND SOLUTION

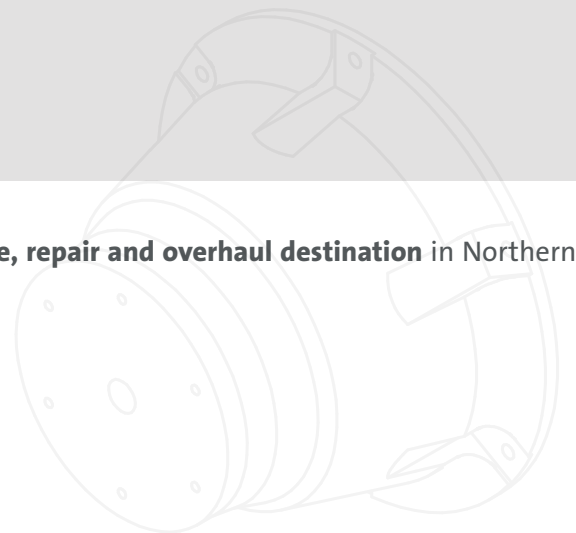
The two systems installed on the outer dolphin were designed with **602 mm side chamfers**. This geometry allows barges to contact the dolphin and rotate around it, **reducing the likelihood of hard impacts and excessive loads** during berthing in the confined layout.

Panel dimensions were selected to ensure sufficient contact area across the **varying tidal range** at the site. The design also considered the relatively low freeboard of the barges and the presence of local currents, **ensuring reliable berthing performance** across the full operational envelope.



New Boat Ramp | Port of Cairns | Australia

The Cairns Marine Precinct is an **important maritime maintenance, repair and overhaul destination** in Northern Australia.



The fender solution accounts for the varying tidal range and significant currents. Led by Ports North, the development aims to further strengthen the Port of Cairns' role as a key maritime hub in the region. Explore more SFT Case Studies or Contact Your Nearest Office.

