



1 Aerial view showing piling, dredging, rock armour placement and deck construction works in progress (credit: LPC). 2 Cashin Quay 2 in operation (credit: Alistair Boyce). 3 A deck pour in progress (credit: Opus)

## CASHIN QUAY 2 CONTAINER WHARF RECONSTRUCTION

Opus International Consultants for Lyttelton Port of Christchurch

Project Location: Christchurch



The Canterbury earthquake sequence in 2010-2011 caused significant damage to the Cashin Quay 2 wharf at the Port of Lyttelton. Opus International Consultants was engaged by the Lyttelton Port Company to design a new seismically resilient container wharf to accommodate next generation 14.5m draft vessels. Design work for the new wharf began in 2012 and until the end of 2013 was subject to constraints resulting from LPC's insurance claim with their insurers.

The wharf was designed to be a seismically resilient structure which could withstand more than one design level earthquake. It is understood that this approach is a world first for wharf design.

The wharf was also designed to reduce future maintenance costs through the use of a specially designed highly durable concrete mix, the detailing of the structural form, and the use of an impressed current cathodic protection system.

Construction of the wharf commenced in early 2014 and was completed by the end of 2015. The wharf is now regularly used by container vessels and is an example of world class, innovative engineering at its best. Whilst the completed wharf is simple in appearance and structural form, it employs a high level of innovation supported by complex and state of the art design techniques.

### Judging & Copyright Statement

This project is an entrant in the 2016 INNOVATE NZ Awards of Excellence competition. The winners will be celebrated at our Awards Gala Dinner on Saturday, 12th August 2017 in Taupo.

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