

Coronet Peak Chairlift Development

Case Study



Client	Cook Brothers Construction, Trojan Holdings Ltd
Location	Wakatipu Basin, Queenstown
Completion Date	2019
Product Used	1,500m ³ of 30MPa 6% Air Entrained Concrete

Looking to enhance their operations with improved capacity and speed, NZ Ski set about planning the replacement of their existing Coronet Express chairlift with a new high-speed Telemix chairlift at their Queenstown based ski field, Coronet Peak.

Able to transport 3000 people per hour, the Telemix combines a 6-seat chairlift with gondola cabins, improving the experience for sightseers in the summer months while offering improved capacity and reduced queuing times for their winter customers.

"Allied Concrete attended regular site meetings and involved themselves with the Cook Brothers team creating a strong team environment"

"Cook Brothers Construction recently worked with Allied Concrete for the new chairlift project up Coronet Peak. The nature of the project required extreme measures to be undertaken. Allied Concrete attended regular site meetings and involved themselves with the Cook Brothers team creating a strong team environment. Once they were engaged, they worked well with us and were easy to deal with, making the project run smoothly and be complete in time for the ski season. It was a pleasure to work with Allied Concrete on this project"

Simon Glass, Business Development Director, Cook Brothers Construction

The Challenge

A limited window during the 2018/2019 offseason to carry out construction and testing of the new lift in time for the 2019 Ski season presented construction and supply teams with significant challenges when combined with the geographic location of the site and weather conditions. Furthermore, access to pylon sites was limited via steep access roads and mountainous terrain.



The Solution

Working alongside Cook Brothers Construction teams and Engineers, Allied Concrete utilised their technical expertise in developing a mix design which included a 30MPa 6% air entrained mix to manage freeze-thaw conditions for upper and lower lift buildings and pylon foundations.

Retardation was also a factor in mix design to ensure workability following vehicle travel times of up to an hour to the main ski field base building at 1200m above sea level, then another 20min climb up a steep access road.

Limited access to various pylon sites on the mountain required concrete to be delivered via helicopter on several occasions. Concrete was discharged into buckets, which were then connected to a helicopter and transported to each site. Allied staff worked with NZ Ski and Cook Brothers Construction to conduct each pour in an efficient and safe manner.

200m³+ was required at the top of the mountain, with initial ideas of line pumping 450 linear metres with a 160m vertical elevation gain. Allied Concrete Queenstown Branch Manager, Shane Tell, collaborated with construction teams to develop an alternative delivery methodology which included the use of 40tonne dump trucks to transport concrete in heavily secured skips to pour sites.

The Success

Local knowledge and experience from Allied Concrete staff and strong working relationships with the client resulted in the successful supply of 1500m³ during construction of the upper and lower lift buildings and 14 pylon foundations.

Incorporating out of the box thinking to solve logistical challenges for supply to the upper sections of the mountain provided significant savings for the client with reduced helicopter time.

The project was completed on time ready for the upcoming ski season.



"the resulting outcome was successful supply and significant savings for the client with reduced helicopter time."

Shane Tell, Allied Concrete Queenstown Plant Manager