



The Bulletin Kaikōura earthquake update

December events - please join us to celebrate!

As NCTIR begins to wrap up, there are a few events that we would love the community to join us in celebrating!

Cultural artwork blessing

Te Rūnanga o Kaikōura and NCTIR are hosting a public event on the Kaikōura Peninsula to officially open and bless the Cultural Artwork Package. The final pieces of cultural artwork are being installed along the coast, and feature prominently at the formal Safe Stopping Areas between Ōkiwi Bay and Oaro. After the official opening, bus tours will be offered to share the stories behind the designs. The buses will depart from Ngā Niho Pā on Scarborough Terrace, travelling both north and south of Kaikōura to a few select sites. **To book your place on a bus tour please contact info@nctir.com, as spaces are limited.**



Date: Saturday 5 December

Dawn blessing: 5:00am (karakia begins at sunrise, approx. 5:15am, followed by kai at Takahanga Marae at 7:30am)

Official opening: 10am

Bus tour: 11am – 1pm (approximately)

Location: Ngā Niho Pa, Scarborough Terrace, Kaikōura (Parking available on site, and along Scarborough)

We look forward to seeing you and your whanāu there!



Community farewell

We would like to say a big thank you to the local community for your support as we wrap up the project. We hope you can make it along to this fun, family friendly afternoon! There will be bouncy castles, truck tours, food stalls, free ice-cream and much more!

Date: Sunday 13 December

Time: 1pm – 4pm

Location: Kaikōura Racecourse, South Bay Parade

Unveiling and blessing ceremony

A special ceremony will be held at the South Bay corner to unveil the new Kaikōura town entry sign and to bless two tekoteko (carved pillars).

This event will also officially mark the departure of NCTIR from Kaikōura exactly three years after State Highway 1 re-opened on 15 December 2017.

Date: Tuesday 15 December

Time: 12pm

Location: South Bay Racecourse intersection

RSVP: Thursday 10 December to info@nctir.com



Naturalising the coast



NCTIR's design team has been working with

Te Rūnanga o Kaikōura's Natural Resources Manager to soften and naturalise roadside structures, including concrete barriers, rock revetments, guardrail, retaining walls and tunnel shelters.

NCTIR Design Lead Derek Watson says this 'naturalisation project' was born in response to local feedback about initial works.

'As we were initially in an emergency response situation we had to move quickly to get the road reopened. A critical amount of work happened to get the road open in one year, one month, one day - and it all happened at a great rate of knots.'

Derek explains that design decisions were often based on strict time constraints and available resources.

The colour and visibility of the new roadside features meant that they could be seen from a distance, and

prevented them from blending with the surrounding hillside/coastline. 'The structures were a bit of a shock for some people as they started coming back on the road,' Derek says.

'As we have moved out of an emergency response phase and into a controlled delivery model, we have managed to spend more time listening to and working with the community to ensure a greater outcome for everyone.'

This has involved shortening, and even removing lengths of guardrail, blending revetments made from river boulders with existing beach material, and staining or sandblasting bright barriers/structures.

The naturalisation project has seen a more balanced approach to structures such as guardrail, to incorporate the views of the safety engineer with those of the local community. 'It's a fine line to find this balance, as safety remains our focus - reducing potential deaths and serious injuries. But where we can we've been revisiting areas to see how we can blend them back into the local environment.'

The reduction of planned guardrail along the coast was made possible by reducing the hazard. An example of this can be seen just south of Rākautara, where a 300-metre section of beach has been built up by approximately 1-metre to the height of the seawall to reduce the drop-off risk. Also in short sections where concrete f-type barrier needs to be installed, an exposed aggregate has been chosen over bright white concrete, which is a first on New Zealand roads.

A number of roadside retaining walls, tunnel shelters and a bridge in town have been utilised as ideal canvases to tell local stories as part of the Cultural Artwork Package, which is a design partnership between NCTIR and Te Rūnanga o Kaikōura. Derek says murals and designs of cultural significance are being installed along the coast, and have meant that more people are learning about the history of Kaikōura.

Ōhau crown wall

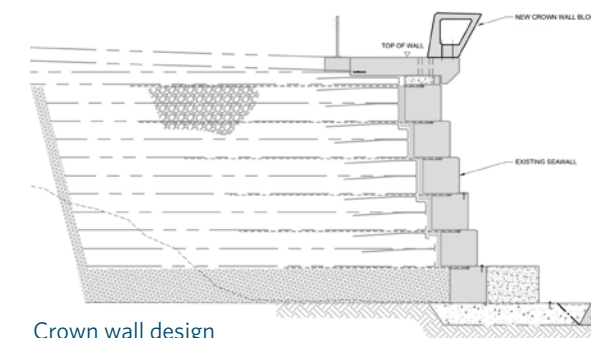
Work is underway at Ōhau Point to mitigate the effect of waves coming onto a short section of SH1 during large swell events.

The Ōhau seawall was constructed close to the maximum height possible without compromising its integrity in another earthquake event, or being built further out to sea - and it was acknowledged that waves would occasionally overtop part of the wall. For the majority of the 3.2km, the seawall has performed well under large swells, but there is a 70-metre section at Ōhau Point where a combination of deep water immediately offshore and rock outcrops, which focus wave energy, have resulted in higher levels of wave overtopping than expected.

As a permanent measure to mitigate the effects of overtopping along this short wave-prone section, a 'crown wall' is being installed to raise the height along 70-metres of the wall by 1.2 metres. The crown wall will be attached to the existing seawall capping block, and have an angled return to deflect part of the wave energy back offshore. Physical model testing undertaken at a hydraulics laboratory found that adding a crown wall would reduce overtopping to around 40% of existing, and would assist in offsetting the effects of future sea level rise.

As an added measure to mitigate wave effects, a monitoring buoy and camera were installed last year to develop a response plan with warning thresholds - this information gets fed back to Waka Kotahi NZ Transport Agency allowing them to make the call to manage traffic or close the road for a short period of time, until the event passes.

Crew have begun installing the crown wall blocks, with work expected to wrap up in December.



Crown wall design

Revetment before



Revetment after



Rākautara revetment before



Rākautara revetment after



Rākautara embankment - reduced drop-off

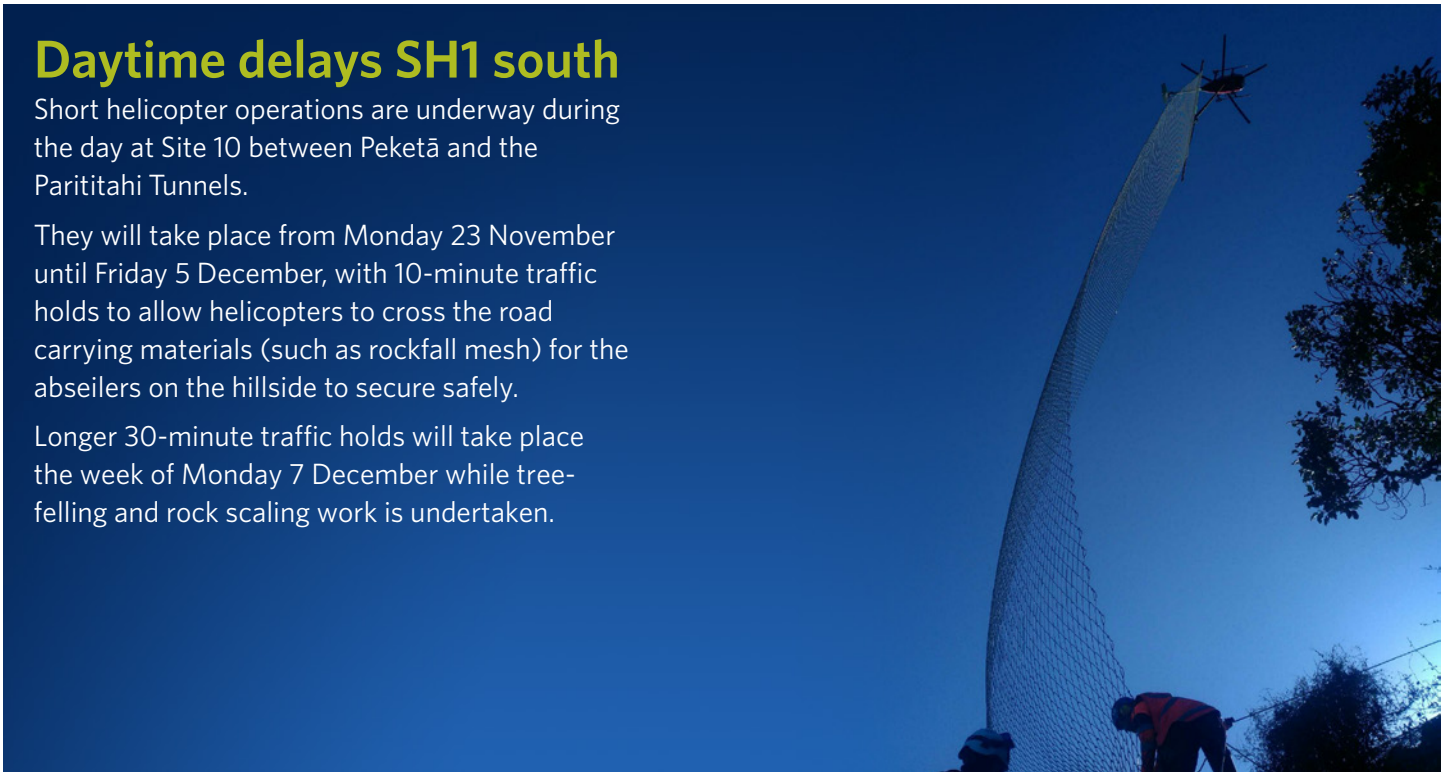


Daytime delays SH1 south

Short helicopter operations are underway during the day at Site 10 between Peketā and the Parititahi Tunnels.

They will take place from Monday 23 November until Friday 5 December, with 10-minute traffic holds to allow helicopters to cross the road carrying materials (such as rockfall mesh) for the abseilers on the hillside to secure safely.

Longer 30-minute traffic holds will take place the week of Monday 7 December while tree-felling and rock scaling work is undertaken.



Collaboration celebrated at awards

The combined efforts of Waka Kotahi NZ Transport Agency, KiwiRail, NCTIR and Te Rūnanga o Kaikōura have been recognised at this year's Public Services Commission Spirit of Service Awards.

The team won two awards for the recovery and improvement of Kaikōura's transport network, including the Outstanding Public Sector Leadership in Governance Award, and the overall Prime Minister's Award, which was selected by the judging panel from the winners of each of the four award categories.

Prime Minister Jacinda Ardern said the NCTIR project has been the first to introduce a single governance structure for a road and rail rebuild, and shows the value of team work, and a people-first approach.

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Call our freephone: **0800 NCTIR EQ** (0800 628 4737) or email us: info@nctir.com

This Bulletin provides the latest information about the rebuild of road and rail networks damaged by the Kaikōura earthquake in November 2016. The Bulletin is produced by the North Canterbury Transport Infrastructure Recovery (NCTIR) – an alliance representing the NZ Transport Agency and KiwiRail, on behalf of Government.