

TREC Pānui

East Coast recovery mahi | Issue 8 – 30 October 2024

Transport
Rebuild
East Coast

NZ TRANSPORT
AGENCY
MAKA KOTAHU

KiwiRail

Kia ora koutou

Welcome to the latest issue of the TREC Pānui. TREC continues to deliver recovery work across Hawke's Bay and Tairāwhiti state highway networks alongside local contractors. We are now around 53% through the recovery programme in terms of the number of projects with construction complete.

In this issue you will find progress updates, insights into what ground anchors do, features on Devil's Corner and Mangakuri Stream Bridge, TREC by the numbers, a concrete pour and BBQ shout by Baron Contractors, a profile on site engineer Candice Lian, and information on community events.

Rock revetment (protection) work at SH35 Whakaari Bluff Dropout, north of Tolaga Bay.

"Ehara taku toa i te toa takitahi,
engari he toa takitini"
Success is not the work of an individual,
but the work of many

TREC Pānui is a monthly newsletter from the Transport Rebuild East Coast (TREC) Alliance updating communities across Te Tairāwhiti (Gisborne) and Te Matau-a Māui (Hawke's Bay) about the recovery work on state highways and rail networks impacted by Cyclone Gabrielle.

Making it happen - progress updates

Thank you for your patience and for helping to keep our people and other road users safe while this essential work is done.



Tairāwhiti

Bumper summer season of work

TREC has a bumper summer season of work planned for the state highway repairs in Tairāwhiti:

State Highway 2 (SH2)

Drivers will see a lot of activity around the Otoko Hill area, north of Gisborne. Here TREC crews are working to upgrade drainage and culverts and strengthen and stabilise areas around the highway.

State Highway 35 (SH35)

Crews will be working on recovery projects designed to safeguard the road and bridges from erosion and repairing several underslips. Key areas include Awatere Gully, Rotokautuku (Waiapu) Bridge, Jeru Straight, Makarika Valley, Kopuaroa Hill, Ihungia Road, and Whakaari Bluff.

Subject to consents and design, enabling works for Hikuwai Bridge No. 1 are expected to start by early 2025. People may notice crews carrying out investigation works in the area and on the highway through the Mangahauini Gorge.

35

Under the Rotokautuku (Waiapu) Bridge

Shout out to all the 'unseen' construction crew who often work out of sight. Road users sometimes ask why traffic management is in place when no obvious work is going on. A significant amount of TREC work is beneath bridges and unseen from the road above. This includes rock revetment (protection) work to reduce future impacts of river erosion on bridges and the land it stands on.

Traffic management is a critical part of keeping crew and road users safe near work sites.

The current traffic management at Rotokautuku (Waiapu) Bridge in Ruatoria on SH35 is protecting the local CR Taylor crew busy working under the bridge to fix bearings and cross bracing impacted by Cyclone Gabrielle.

The road was briefly closed recently as the bridge needed to be jacked up by a few millimetres to aid the repair work. There are expected to be further road closures and we will advise of these.



An aerial view showing under the Rotokautuku (Waiapu) Bridge

Making it happen - progress updates

Thank you for your patience and for helping to keep our people and other road users safe while this essential work is done.



2

White Pine Bush recovery progress

Just south of White Pine Bush on SH2 above Tangoio Falls Reserve crews have started work on Tangoio Falls Reserve underslip where Cyclone Gabrielle damaged two retaining walls on the steep slope.

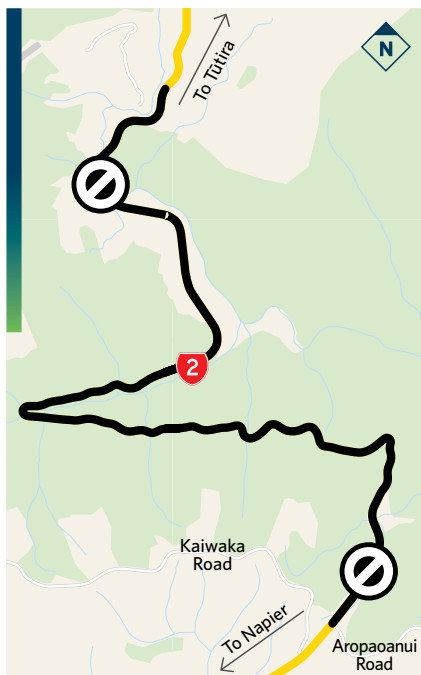
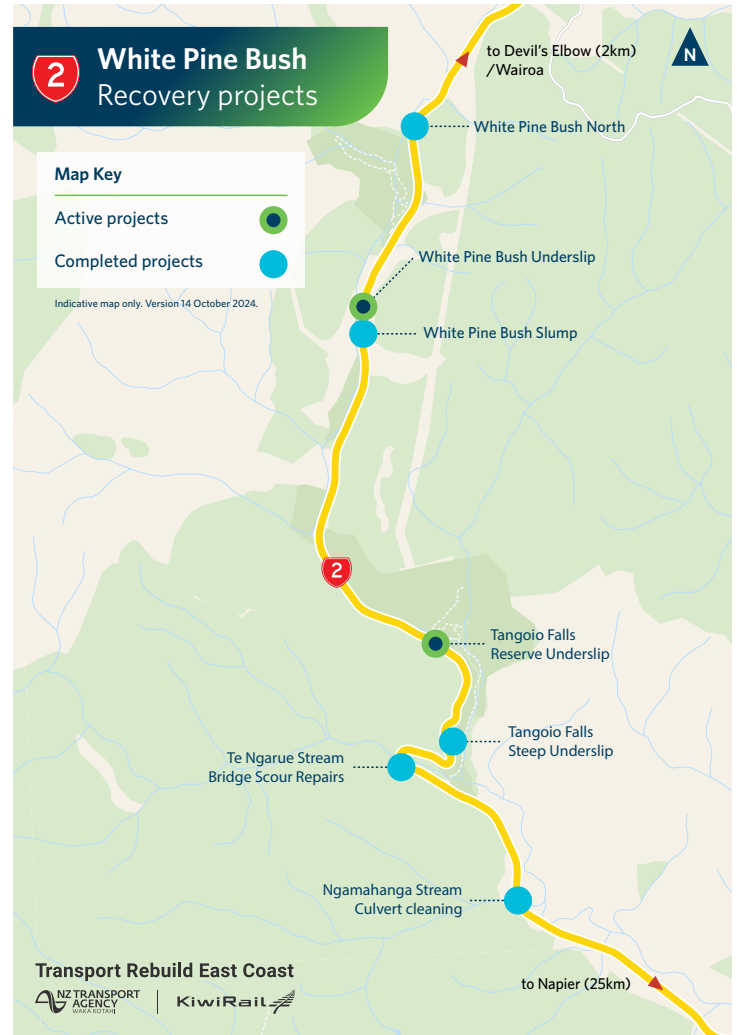
In coming weeks, crews will stabilise sections of the retaining walls. The road will be down to a single lane under a short stop/go until the work is finished, with the aim to have it back to two lanes for this Christmas.

White Pine Bush underslip

Crews have been working at this large retaining wall job since March this year. This new wall includes more than 220 ground anchors and will be sprayed with concrete (shotcrete). This is expected to be finished before Christmas this year. Watch this video for more information about this site: bit.ly/3XGoLE6

Job done at White Pine Bush North

Two-lane access was recently restored just north of the White Pine Bush carpark entrance. Night works allowed crews to work efficiently to put in a retaining wall and rock rip rap to stabilise the ground under the road.



Devil's Elbow overnight closures

We'll be closing a section of SH2 at Devil's Elbow for five nights at the start of November so we can undertake preparation work for a major recovery project starting later this year at Devil's Elbow corner. The closure days/times are:

- **Sunday 3 to Thursday 7 November, 9pm to 5am.**
- **We'll reopen the road Friday 8 November at 5am.**

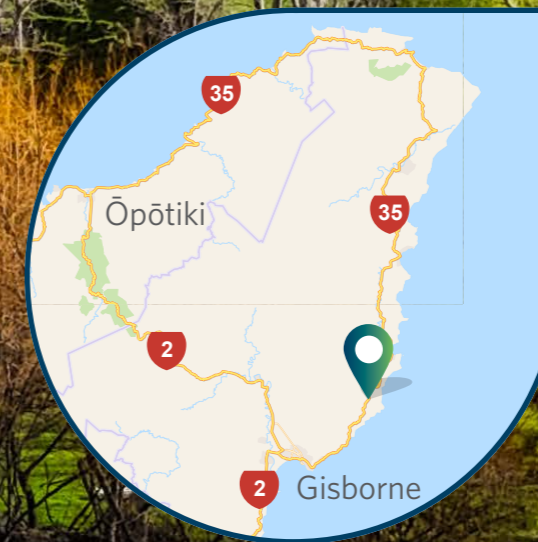
There is no viable detour route - please plan ahead. If bad weather delays the work, the backup dates are Sunday 10 to Thursday 14 November, 9pm to 5am each night.

Thank you for your patience. We know a full closure on SH2 is disruptive, especially without a detour, which is why we'll be working at night when there are fewer people travelling. The TREC team will make the most of the closures by doing other recovery work in this section.

Read more about this project on pages 6 and 7.

35 Mangakuri Stream Bridge

Tairāwhiti



Mangakuri Stream Bridge recovery

The TREC team along with Gisborne locals Parata Contractors have recently completed recovery works at SH35 Mangakuri Stream Bridge, just north of Whangara. The image shows the project mid-construction and in full swing.

Heavy rainfall and erosion from the Mangakuri stream had scoured the toe of the slope beneath the bridge and exposed one of the bridge abutments, putting the bridge and therefore the state highway at risk.

The solution included buttressing (supporting) and extensive rock revetment (protection) work to strengthen and protect the bridge structure from the impacts of the stream as well as future weather events. Re-contouring of the southern bridge approach (out of shot) was also undertaken.

Keeping it local

Approximately 1600 tonnes of rock was used beneath the bridge. TREC sources rock from multiple local quarries across the region. For this project the team used rock from the Mangatuna quarry just north of Tologa Bay.

Environmental measures

The bridge's proximity to the stream meant various environmental measures were put in place to protect any fish species near the work area.

Our TREC ecologists conducted a de-fishing exercise by putting in place two fish fences at either end of the stream and then relocating fish upstream or downstream away from the works. The fish fences were in place for the entire duration of the project to avoid any fish entering the worksite.

Rock laydown area
Rock was stored here before being put in place beneath the bridge, on the excavated slope.

Excavated slope and toe restoration
First geo textile was laid down followed by rip rap (rock) as well as buttressing (supporting structure). A new rock lined drain at the top of the slope will also drain water to the rip rap slope.

Excavated soil
Stockpiled on-site and covered with appropriate environmental control geotextile fabric. On project completion this soil was re-used to fill-in the temporary stream diversion.

Earth bund covered with geotextile fabric
To prevent sediment running into the temporary stream.

Temporary stream diversion
This was completed before construction started to allow access to a dry work area.

Dirty water
Pumped into holding pen for treatment and once clean, it was pumped back into the stream.

2 Devil's Corner

Hawke's Bay



Closed lane
400m of the road will remain under a single lane while works are underway.

Future retaining wall
The (up to 12m high) MSE wall will sit on top of reinforced concrete piles and a capping beam.



Road drop
There is a 10m drop from the road to the bottom of the slip.

Indicative permanent alignment
Where the new road will be once project is complete.

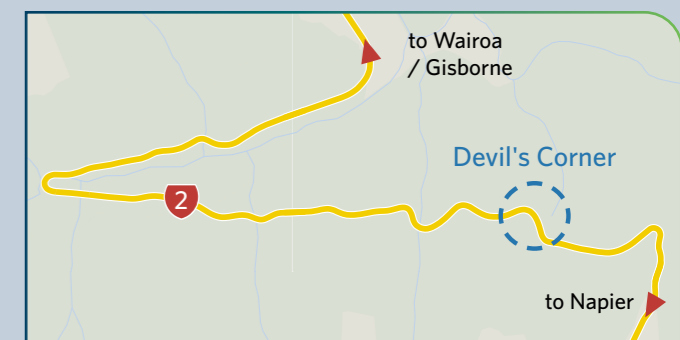
Devil's Corner - the largest recovery project at Devil's Elbow

Cyclone Gabrielle caused a huge amount of earth and road to fall away at Devil's Corner, in the upper section of the 5km long Devil's Elbow recovery zone. The 40m long and 10m high slip closed the southbound lane. The TREC team and local contractors are getting work underway at Devil's Corner, to fix the road and restore it to two lanes. This will be the largest, and last, recovery project in the Devil's Elbow section.

- The project is expected to take about 12 to 18 months and will happen in stages:
- Preparing the site for construction work.
 - Building a Mechanically Stabilised Earth (MSE) retaining wall (up to 12m high) with ground anchors and piles.
 - Moving the road onto the new wall and setting up a permanent stormwater drainage system.
 - Opening the road back up to two lanes.

This complex repair will require ongoing closures and nightworks starting in summer and throughout 2025 to restore the road back to two lanes.

We're in the detailed design phase of the project, with main construction expected to start later this year. In November, there will be night road closures to prepare the site. This includes widening the single lane, drainage, new barriers, and clearing the slopes above the road.



The hidden world of ground anchors

Designing repairs for damaged state highways in Hawke's Bay and Tairāwhiti is a balance of finding the best-fit solution across several factors. This includes topography, geology, safety, minimising environmental impacts, impact to road users, and cost. We use a range of solutions based on these factors and the damage needing to be repaired. At several sites, the best solution has been ground anchors.

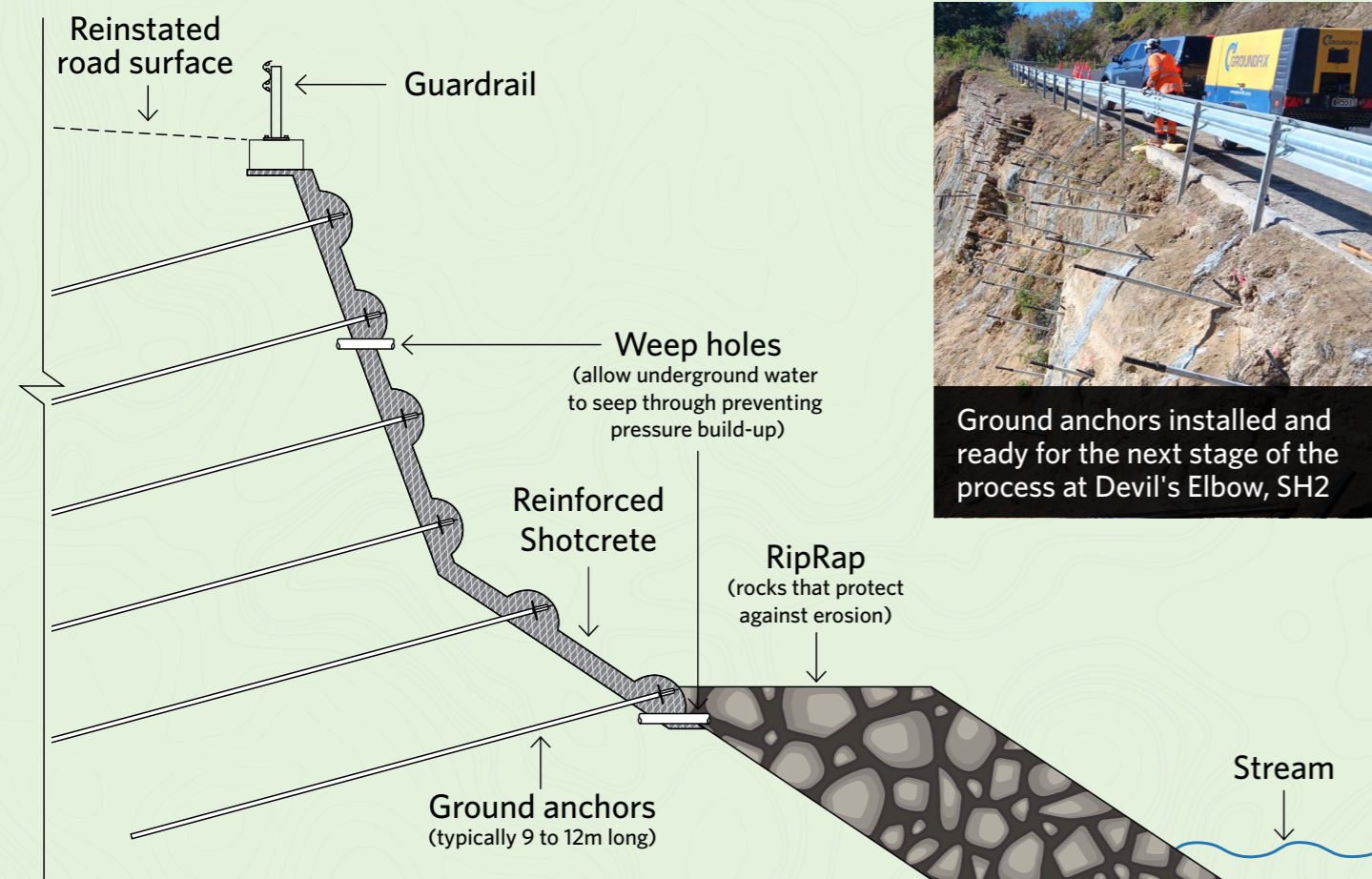
What are ground anchors?

Ground anchors are an engineering solution used to help stabilise slopes. These typically involve 9-12m long steel bars drilled into the damaged slope.

Grout is pumped into the drill hole with the steel bar to fill voids and surround the anchor to add further strength. The number of anchors used at a site depends on the strength of the soil and the size of the damaged area.

Steel reinforcing mesh is laid over the surface of the slope and through the tops of the anchors. Then a layer of shotcrete - a spray on concrete - is applied over the anchors to protect the slope from erosion.

Large locking nuts are then tightened onto the anchors, so the weight of the soil and road traffic is transferred to the anchors. The road is then asphalted on top of the newly stabilised earth below it and guardrails are installed for safety.



Example of how ground anchors help to stabilise slopes



Ground anchors installed and ready for the next stage of the process at Devil's Elbow, SH2

Geology of the East Coast

Offshore faults at the Hikurangi Trench are constantly pushing up and raising the East Coast out of the Pacific Ocean.

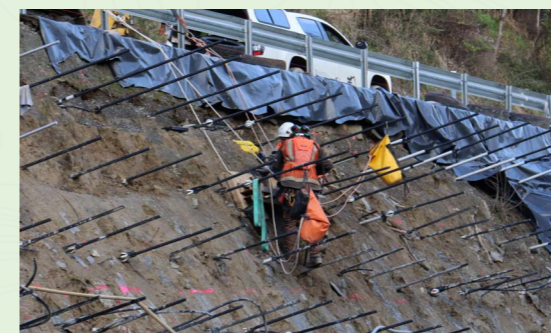
This means that the geology of Hawke's Bay and Tairāwhiti is young relative to the rest of Aotearoa, and the rocks are weaker. When our roads were built last century, bulldozers and blasting were used to cut roads into this weak rock with the spoil from this work pushed down the slope to build a second lane. During the cyclone, this weak spoil failed on the steep slopes.

Ground anchors are a good solution to reinstate a lost lane and/or shoulder of dropout sites. They allow us to keep a lane open during construction, have high seismic resilience, and allow us to keep within the narrow confines of the legal road parcels without having to acquire neighbouring land (which takes time, money and resources).

Technical skill required

While over 80 percent of TREC contractors delivering the work are local, if specialist skills and equipment are not available locally, we engage external contractors to help get the job done as quickly as possible. This is the case for many sites where skilled abseilers and specialised plant is needed to install hundreds of ground anchors into slopes.

Learn more about ground anchors and soil nails from a underslip at White Pine Bush on SH2: bit.ly/3XGoLE6



Ground anchors being installed at White Pine Bush, SH2, earlier this year

TREC by the numbers

SH2 Devil's Elbow special



8 projects completed comprising

7,500m³

of debris removed



19 sites (faults)

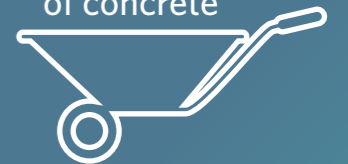
200



Soil nails/anchors installed

1,000m³

of concrete



2,000m² of retaining structures



like concrete block, rock revetment, shotcrete, MSE walls



10,000m³

of rock & aggregate used



Over 100,000

people hours worked



BBQ shout after concrete finish

It was all sizzle and cheer for the crews who successfully poured concrete at Glencoe Gorge on SH50 recently.

Local civil contractors, Baron Contractors, who have been working on a range of TREC recovery projects, shouted the team lunch in celebration of the successful milestone of pouring concrete at the culvert at Glencoe Gorge, a job well done.

Deeply rooted in Central Hawke's Bay

Central Hawke's Bay is a tight knit community and Baron Contractors were quick to help friends and families after Cyclone Gabrielle.

Based in Waipawa, they were part of the initial team repairing stop banks, clearing culverts, and making the roads safer.

Martin Buys, the Operations Manager, found out about TREC through word of mouth and successfully tendered for one job, which led to the next and so on.

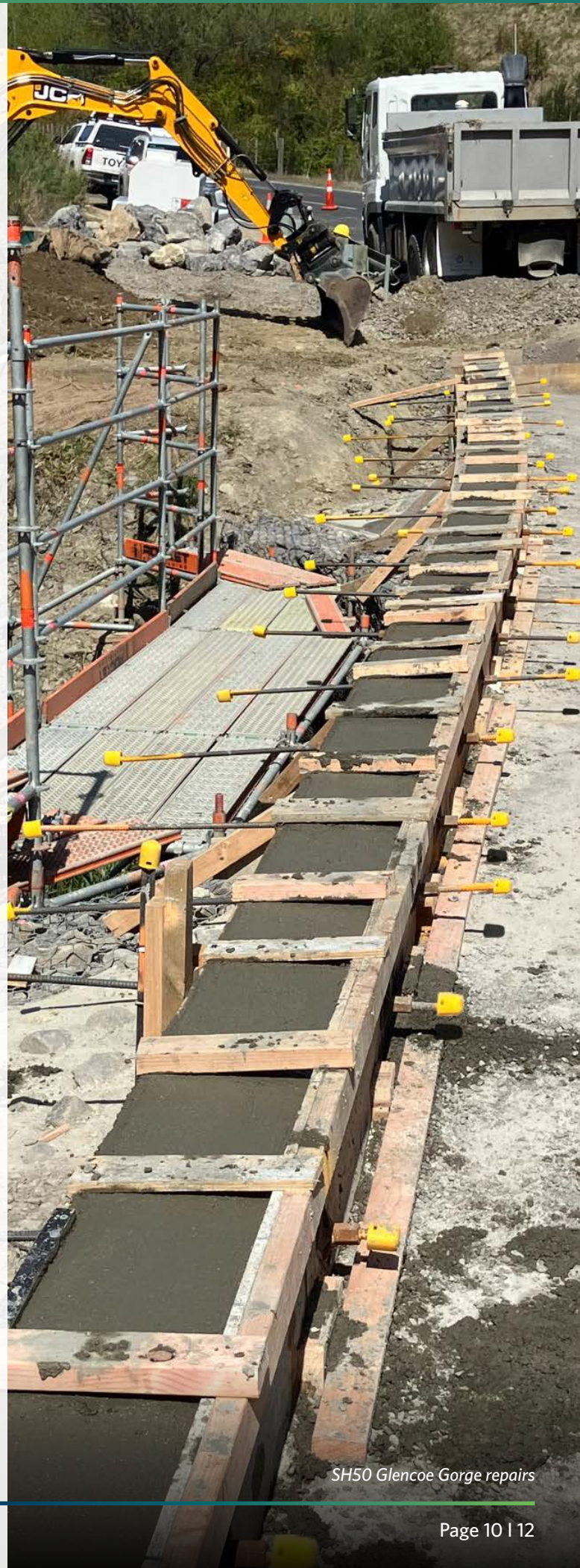
Martin adds, "We're always learning. It's great having the Project Manager and Engineers on-site giving their advice and feedback. Having a different perspective helps us to refine our skillsets to run more smoothly and precisely. We've taken on board their advice and continue to use it on other projects."

Local pride, local devotion

"We always complete a high standard of work, but being out on the highway makes us want to work even harder," Martin says. "We often do work that is hidden from the public eye and having the opportunity to work on TREC sites forces us to take even more pride in our work."

Working on the Glencoe site has allowed the crew to step up and further serve their community by working on projects on critical local state highways.

Renowned for their diversity and capability, the Baron crew of around 20 specialise in aggregate supply, traffic management, road construction, drain laying, concreting and more. Rebranded three years ago as Baron Contractors, they have built a solid reputation.



SH50 Glencoe Gorge repairs

Profile: Candice Lian - passionate about local partnerships

Candice Lian, TREC site engineer, is passionate about civil construction and working together with local contractors to finish jobs on time and professionally.

Candice joined the effort to repair the state highways in May 2024 heralding originally from China to Auckland, then Hamilton, now Napier and soon to be Gisborne.



Enjoying local connections

A favourite part of her job is working alongside local contractors to deliver the state highway repair work.

“The local contractors are so amazing. I have worked with so many different contractors and they are very professional, know what they are doing, and work hard to finish jobs on time. I have learnt a lot from them and from my manager and the broader team within TREC,” she says.

She appreciates the professionalism of those she works with, the continuous learning from one another, the down to earth honest approach of Kiwis and the friendliness in the workplace.

Looking forward to the next phase

Candice has enjoyed Napier and is looking forward to moving to Gisborne for the next adventure.

“In Napier I have enjoyed the quieter pace of life, the sunny weather, and the friendly people,” she says. “And I am looking forward to having the opportunity to explore Gisborne and get to know the communities and contractors up there.”

Candice first came to Aotearoa New Zealand to do a second civil engineering Master’s degree at Auckland University in 2020. She finished there and moved to Hamilton to work on Waikeria Prison, before coming on board with TREC.

She has worked on Sandy Creek site 1, Mohaka sites, and Kotemaori. She hopes to continue working in New Zealand gaining experience and exploring the country over the next few years.

Watch Candice speak about the work at Sandy Creek site 1 in Hawke’s Bay: bit.ly/3NL3k0c.



Think community

Upcoming TREC community event

- Pūtōrino | Wednesday 20 November, 6 - 7pm | Waikare & Districts Sports Centre

Doors will open at 5:45pm with presentations starting at 6pm.

Please join us to meet the TREC and NZTA team. We'll be talking about the work programme underway this season, sharing progress, and answering your questions about work on the state highway network.

We look forward to seeing you.

Community connections

Thank you to everyone from Wharekahika (Hicks Bay) and Ruatoria who came out to the Rural Support Roadshow, which TREC joined along with other agencies, including Gisborne District Council.

It was a great chance to connect, share information about local TREC projects, answer questions and listen to feedback.

At both sessions it was helpful to hear from the community and understand what communications they need so they can stay informed and up to date with what is happening on SH35. Feedback helps us improve our work and deliver better results for everyone.

Thank you to the Gisborne District Council for organising the roadshow. We are looking forward to being part of future roadshows and connecting with communities further. Dates and details here: bit.ly/3YvVI70.



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regional
fortnightly update
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We value your feedback. Please get in touch if you have any questions, requests, or suggestions for what you and your community need, or if you know of community members who need printed copies of our communications.

This newsletter provides the latest information about the recovery work on state highways and rail networks damaged by Cyclone Gabrielle in 2023. TREC Pānui is produced by the Transport Rebuild East Coast (TREC) Alliance.