

# 1 Mangamuka Gorge slip repairs

## Uncovering what lies beneath

Northland's ground conditions have always been fragile and are unique to the rest of Aotearoa New Zealand.

Almost 70% of the geological material which forms rocks in the region are made up of Northland Allochthon. It's better known as 'Northland Problematic Rock' as it has long been challenging for the construction and maintenance of roads.

Three severe weather events in 2022 completely saturated the surrounding Maungataniwha Ranges which triggered significant movement within the mountains. This resulted in the 15 slips that now need repairs.

These slips require complex engineering solutions guided by as much geotechnical data as possible, as finding competent material to anchor the road to can be difficult.



### Slip locations

There are 15 slips throughout the gorge. While they may not look very large, the material for many of them has fallen tens or even hundreds of metres down the mountainside.

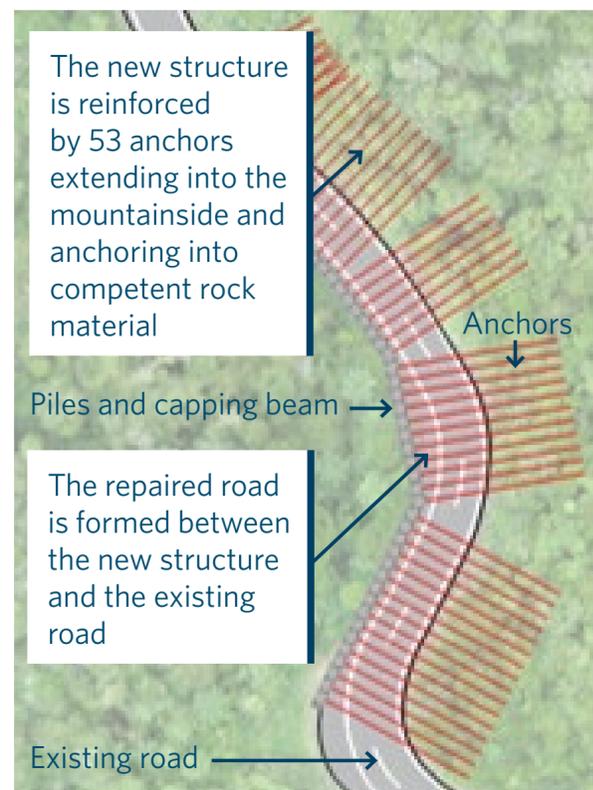
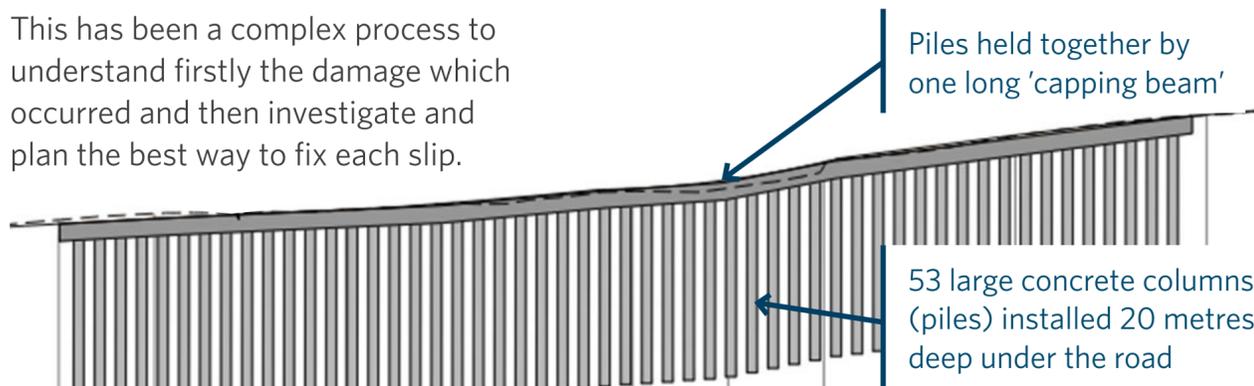
This is the second time since 2020 that the state highway has been forced closed due to slips after a severe weather event. In 2020, the road was closed for 11 months with two major slips needing complex repairs.

## How we will fix the slips

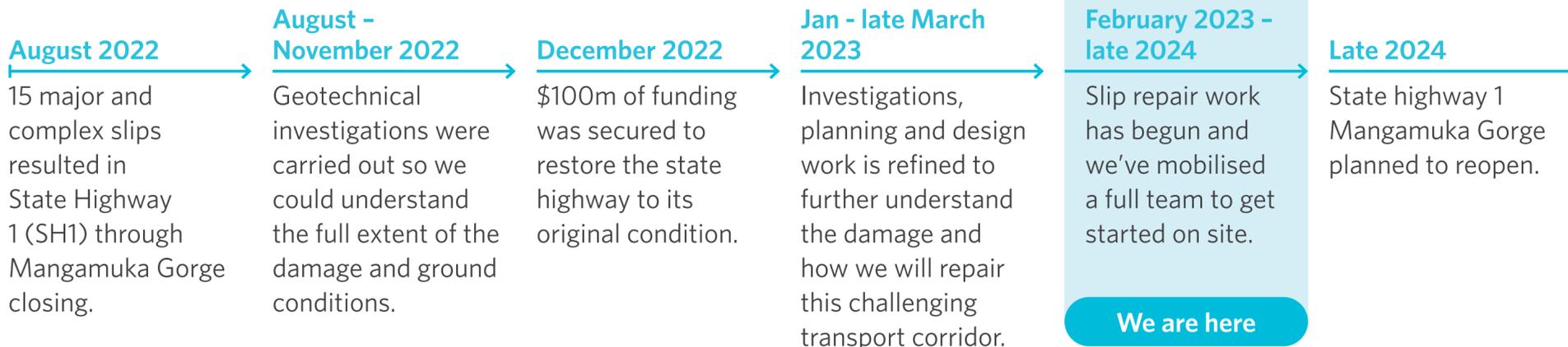
Here's an example of the repair plan for slip 9 which is one of the most significant slips on the northern end of the gorge. It's the most complex fix and will take approximately eight months to complete. There are 14 other slips which require a similar approach and will average 5-6 months construction time.

This has been a complex process to understand firstly the damage which occurred and then investigate and plan the best way to fix each slip.

We're also working in a constrained environment with large machinery and a lot of people working across multiple sites. This means the movement of equipment and materials around site can be slow and needs to be carefully planned to ensure the safety of our people and to maintain the integrity of the road.



## Project timeline



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## Caring for the environment

Protecting and enhancing the environment we're working in is critical to us and our partners as the Maungataniwha Ranges are home to a diverse range of native and endangered flora and fauna.



Effective stormwater and sediment management plays a major role in protecting the environment through construction. We're installing silt fencing, rainwater capture drains and sediment tanks to ensure any stormwater runoff is collected, diverted, and treated before it reaches the local waterways.

Kauri trees need to be protected from Kauri dieback disease – a fungus which damages the tree's root system and can kill it.

We have multiple cleaning stations within the gorge and our people are required to clean any footwear and equipment that may touch the ground before and after being on site. We've also got a plan for how we manage the safe movement of soil and vegetation into and out of our work sites.



We work closely with New Zealand Environmental Management and hapū to regularly survey any native or endangered species which may be at risk of impact by our work and relocate them away from our construction sites. Recently, we found several pupurangi (Kauri Snails) and safely moved them deeper into the forest.

## Partnering with iwi and hapū

Waka Kotahi is committed to building strong relationships with our iwi and hapū partners. The adoption of Te Ara Kotahi, our Māori strategy provides direction on how we work with Māori as the Crown's Treaty partner to ensure mana whenua are supported as kaitiaki of their whenua.

A few of the ways we are partnering with iwi and hapū includes:

- Hapū representatives are part of the project team and work alongside Waka Kotahi.
- Hapū representatives are working together on cultural design outcomes.
- Cultural monitors representing iwi and hapū from both the northern and southern end of the gorge have been monitoring work on site. They have a consistent presence, focusing on the cultural, heritage and environmental aspects of the project.



## Local suppliers, local people

We know locals are keen to be involved in supporting the reopening of the Mangamuka Gorge for their whānau and friends. Where possible, we're focusing on using local providers and local people to carry out this crucial work.

This means that the person driving the digger, drilling the piles, or undertaking environmental checks could be from your community.

Having locals involved as part of the team has cultivated a culture of hard mahi and kotahitanga on site where everyone is working together for the good of the Far North community.

## Stay in touch

Scan the QR code and enter your email address on our website to receive monthly progress updates from the team.

For more information

Email: [northlandproject@nzta.govt.nz](mailto:northlandproject@nzta.govt.nz)

Visit: [www.nzta.govt.nz/mangamuka](http://www.nzta.govt.nz/mangamuka)

