HAWKE'S BAY
REGIONAL COUNCIL
TE KAUNIHERA Ā-ROHE O TE MATAU-A-MĀUI

Extraordinary Meeting of the Hawke's Bay Regional Council

Date: 13 February 2025

Time: 10.00am

Venue: Council Chamber
Wairoa District Council
97 Queen Street
WAIROA

Attachments excluded from the Agenda

available online only

Information for the Wairoa community

WAIROA

FLOOD MITIGATION PROJECT

November 2024

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Introduction

Since the Cyclone Gabrielle North Clyde flooding, work has been ongoing to find solutions to help protect the community of Wairoa from future flood events.

A Tripartite group of the Wairoa District Council, Tātau Tātau o te Wairoa Trust and Hawke's Bay Regional Council has been working together to explore possible flood mitigation options.

A large number of possible flood mitigation options have been considered, with the majority of these not considered viable for a number of reasons. However, in line with the shared commitment to an open and transparent process, this document outlines all of the options considered so far, including their benefits and limitations.

This includes two of the most technically viable flood mitigation options that now need further consideration and feedback from the community.

What's happened so far?

Following the devastating impacts of Cyclone Gabrielle in February 2023, $70 million of Government funding was ring-fenced to provide community scale flood mitigation for North Clyde.

Since then, the Tripartite partners have been working together with a local Stakeholder Group and a range of technical experts to progress this important community mahi.

In August 2024, Crown Manager, Lawrence Yule, was appointed to support both Hawke's Bay Regional Council and Wairoa District Council in ensuring this important mahi can progress at pace.

It is important to note that the Government requires a confirmed preferred flood mitigation option, and a business case based on that preferred option, **by 31 March 2025.** If this deadline is not met, the $70 million of Government funding could be withdrawn and there will be no flood mitigation for Wairoa.

In October, we started conversations directly with whānau and property owners who may potentially be impacted by two of the most technically viable flood mitigation options that now need further consideration, in order to give them as much time as possible to understand the options being considered and how those options may impact them.

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The process to date

Parts of the Wairoa township have a long history of flooding, and yet the community has never had any type of flood protection.

Recognising that the people of Wairoa know the whenua (land) and awa (river) best, back in June 2023, a series of hui were held asking local people what they knew of the river and its patterns, what they saw and experienced during Cyclone Gabrielle, and what they thought might work best for the future.

From these kōrero, a long list of potential flood mitigation options was developed and further considered from an engineering perspective.

In October 2023, a Wairoa Flood Mitigations Scheme Stakeholder Group was established by the Tripartite partners, and included mana whenua and marae representatives, farmers, local businesses, and people whose homes and properties were impacted by Cyclone Gabrielle.

Together, this Stakeholder Group worked with river engineers, other technical experts and mana whenua to consider each potential option in more detail.

Some of the questions asked during this process included:

- What option/s will offer the community of Wairoa the best flood mitigation?
- What impacts will each option have – on people and their homes, land, businesses and livelihoods, as well as things like marae, urupā and cultural taonga?
- How much will each option cost?
- What matters most to our community?

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Timeline

February 2023 – Wairoa experiences severe damage to property and infrastructure in North Clyde during Cyclone Gabrielle. In total, two homes were red stickered, 146 homes were yellow stickered, and 198 homes were white stickered.

From June 2023 – recognising that the people of Wairoa know the whenua (land) and awa (river) best, hui were held asking local people what they knew of the river and its patterns, what they saw and experienced during Cyclone Gabrielle, and what they thought might work best for the future. From these kōrero, a long list of potential flood mitigation options was developed and further considered from an engineering perspective.

June-August 2023 – as a result of the Hawke's Bay regional land categorisation process, 627 North Clyde properties were categorised as 2A with small pockets of 2P category land near Frasertown.

August 2023 – Hawke's Bay's councils finalise the terms of a cost-sharing agreement with the Government. As part of this, $70 million is specifically ring-fenced to deliver community scale flood mitigation for Wairoa.

October 2023 – a Wairoa Flood Mitigations Scheme Stakeholder Group is established by the Tripartite partners, Wairoa District Council, Hawke's Bay Regional Council and Tātau Tātau o te Wairoa Trust.

November 2023 – the Wairoa Flood Mitigations Scheme Stakeholder Group meets for the first time to work through flood mitigation options. The Stakeholder Group continues to meet over an 8-month period, with input from river engineers, technical experts and mana whenua, to consider each option in more detail.

June 2024 – Wairoa experiences a second major flooding event causing further damage to the township, with 400 flood-affected properties, a large portion of which were along Kopu Road, and 128 yellow stickered homes.

July 2024 – Cabinet agrees to an independent rapid review of Hawke's Bay Regional Council's management of the Wairoa River bar following the June 2024 flooding event, to be undertaken by Mike Bush of Bush International Consulting.

August 2024 – Crown Manager, Lawrence Yule, was appointed to support Hawke's Bay Regional Council and Wairoa District Council in progressing the Wairoa flood mitigation work. Following the Crown Manager's appointment, the scope of the programme is broadened to include both North Clyde and Kopu Road.

September 2024 – Bush International Consulting's independent rapid review of Hawke's Bay Regional Council's management of the Wairoa River bar is publicly released. Hawke's Bay Regional Council also publicly releases three expert reviews to supplement the Government-commissioned review.

October 2024 – the Tripartite partners agree to support the commencement of early engagement with mana whenua, including potentially impacted whānau and property owners.

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What's going to happen next, and when?

We have made the commitment to go out to the community of Wairoa to explain all of the flood mitigation options considered so far, including their benefits and limitations. This includes two of the most technically viable flood mitigation options – option 1C and 1D – that now need further consideration and feedback from the community.

This is the broader community kōrero we are starting now.

While no formal date has been set for a decision on the preferred flood mitigation option for Wairoa, we are expecting the broader community engagement process to run through to the new year and then, ideally, we would like to have a preferred flood mitigation solution confirmed, agreed and publicly communicated by **February 2025**.

The Government requires a confirmed preferred flood mitigation solution, and a business case based on that preferred solution, by **31 March 2025**. If this deadline is not met, the $70 million of Government funding could be withdrawn and there will be no flood mitigation for Wairoa.

Provided the above deadlines can be met, Government funding is confirmed, and consents and land access are secured, flood mitigation construction works are expected to commence in the summer 2025-2026 construction period. Works are expected to take two summer construction seasons and are expected to be completed by the end of the 2026-2027 construction season.

Flood mitigation options

Following the community kōrero that commenced in June 2023, a long list of potential flood mitigation options was developed.

These potential options considered a range of flood mitigation solutions, including:

- Flood plain storage
- Planting trees to slow run-off rate (upper catchment management)
- Dredging the river channel
- Increasing wetland storage capacity
- River diversions
- Floodways
- Stopbanks
- Coastal structures
- Stormwater and drainage improvements
- Street-level flood protection, including floodwalls or barriers
- Upstream dams

These options were then considered further through a multi-criteria analysis, which scores each option against a number of evaluation criteria, including:

- Likely success in providing flood mitigation
- Likely scale of negative cultural affects or impacts
- Public safety risk, and the potential human harm caused from the option during a flood event,
- Risk of failure during a flood event,
- Potential ecological impacts,
- Construction costs,
- Ongoing costs,
- Morphological impacts, or the impacts a flood mitigation option may have on a river channel and its banks, and the transport of sediment within the river,
- Number of properties impacted,
- Speed of delivery, or how long an option may take for construction and implementation,
- Landscape impacts.

Following this multi-criteria analysis, a number of options were short-listed for further consideration. These short-listed options were then further considered by the Stakeholder Group, with the support of river engineers, other technical experts and mana whenua.

Some of the short-listed options were also further refined, in order to reduce negative impacts to marae, urupā, sites of cultural significance, houses, Māori whenua and general title land.

Independent river engineer, Gary Williams, also provided a peer review of the short-listed options, and proposed some further refined options for consideration.

Right now, two of the most technically viable flood mitigation options – option 1C and 1D – need further consideration and feedback from the community.

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Most technically viable options

Option 1C

Option 1C is one of the two most technically viable flood mitigation options which require further consideration. This option provides effective mitigation for much of North Clyde as it creates a concentrated flow path for excess water flow. This option also performs better than Option 1D as it protects more area and has very few negative flood impacts.

This option involves a 170m wide and 2m deep floodway, which temporarily allows excess water to flow through it when river levels reach a certain height, for example during very high flood events. This floodway is enclosed by small stopbanks averaging 1.2m high on both sides.

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Most technically viable options

Option 1D

Like Option 1C, Option 1D is the second of the two most technically viable flood mitigation options which require further consideration. This option also provides effective mitigation for much of North Clyde as it creates a concentrated flow path for excess water flow, however it doesn't protect as much land as Option 1C.

This option involves a 250m wide floodway which will average 0.9m deep, and which will temporarily allow excess water to flow through it when river levels reach a certain height, for example during very high flood events. This floodway is also enclosed by small stopbanks averaging between 1.5m and 2m high on both sides.

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Option 1C and 1D compared

Some of the most important differences between Option 1C and Option 1D are outlined below:

Option comparison	Option 1C	Option 1D
Number of potentially impacted houses	16	6
Area of Māori whenua potentially impacted	6 ha	18.4 ha
Area of general title land potentially impacted	18 ha	26.6 ha
Total footprint / total area of land impacted	24 ha	45 ha
Area of Māori whenua protected	46 ha	30 ha
Area of general title land protected	298 ha	248 ha
Total area of land protected	344 ha	278 ha

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Other options considered

Option 1

Option 1 is a flood spillway, which would only be used when river levels are high enough. This option may need stopbanks along each side to prevent overtopping and drains for stormwater run-off when not in use. This option would provide effective flood mitigation to much of North Clyde as it would create a concentrated flow path for excess water flow.

Limitations:

- A small number of private properties would potentially be impacted, depending on location and width of the spillway.
- Alignment would require careful consideration, in order to avoid negative cultural impacts, with marae, urupā and historical cultural sites of significance nearby.

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Option 2

Option 2 involves redirecting, or changing the course of the river, shortening the time it takes for the water to reach the sea.

Limitations:

- The shortened river is likely to have a steeper gradient, which may increase water velocity and change the nature of the river downstream.
- May not have the desired effect of mitigating flooding as it does not increase capacity to allow for higher volume flood levels.
- Would need to be a lot wider and deeper than the spillway in Option 1 and would therefore impact more properties than Option 1.
- Would require bridges for Ruataniwha and Waihirere Roads and would be very expensive to design and build.

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Option 3

Option 3 involves using old flood plains and historic river oxbow lakes as flood storage detention. This option would provide no notable flood reduction for North Clyde.

Limitations:

- Substantial earthworks would be required over a large area to lower the ground level in order to provide any additional capacity over that which currently exists (and which flooded during Cyclone Gabrielle).
- Flood plains would likely fill with sediment and require ongoing maintenance after flood events.
- Would likely create negative cultural impacts, with urupā and potential historical cultural sites of significance nearby.

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Option 4

Option 4 involves constructing a new spillway to redirect flood waters around the township of Wairoa and toward the Awatere Stream. This option would provide some reduction of flood depths within some areas of North Clyde, but is a less hydrologically efficient floodway than Option 1.

Limitations:

- Affects the railway and a number of main roads out of Wairoa, including State Highway 2 (SH2).
- Would require road crossings for Railway Road, Airport Road, Frasertown Road and SH2, as well as two railway crossings.
- Would impact more properties than Option 1.

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Option 5

Option 5 aims to keep flood waters within the channel and involves the construction of continuous stopbanks along the Wairoa River. This option would provide effective mitigation for much of North Clyde, however additional flooding occurs on the Huramua side of the bank, State Highway 2 (SH2) and along Ruataniwha Road. This option also creates water level increases within the main river channel back to Frasertown.

Limitations:

- Stopbanks can occasionally fail and cause a sudden rush of water, affecting properties on either side (as seen in the Hastings District during Cyclone Gabrielle).
- Would be reliant on obtaining land access for the entire length, as it needs to be continuous.
- Would impact more properties than Option 1.

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Option 6

Similar to Option 4, Option 6 involves the construction of a spillway to redirect flood waters around the airport and North Clyde area, via existing drains and the Awatere Stream. This option does not mitigate enough flooding and is a less hydrologically efficient floodway than Option 1.

Limitations:

- Longer – and therefore more expensive – than Option 4.
- Would negatively impact more infrastructure and property than Option 4.
- Would require road crossings for Frasertown Road and SH2, and one new railway crossing.

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Option 7

Option 7 involves constructing a new river channel or spillway to move flood waters away from the North Clyde area where the banks breached in Cyclone Gabrielle. With this option, significant flooding still remains in North Clyde.

Limitations:

- A spillway in this location is short and may not have the desired effect of mitigating flooding as it does not significantly increase the flood carrying capacity of the river.
- Would create a 30-hectare island.

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Option 8

Similar to Option 7, Option 8 involves constructing a new river channel or spillway to move flood waters away from the North Clyde area where the banks breached in Cyclone Gabrielle. With this option, significant flooding still remains in North Clyde.

Limitations:

- Much longer – and therefore much more expensive – than Option 7.
- Would create a 65-hectare island.

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Option 9

Option 9 involves building a series of small dams in the upstream catchments, or large in-river dams, to store water and try to slow the peak rate of water flowing into the Wairoa River. *Above is an example of the Patea Dam in Taranaki.*

Limitations:

- A significant volume of flood storage would be needed to make a significant reduction in the flood flows and many large dams would be required for flood reduction benefit for North Clyde.
- Large dams would require substantial works to construct and would create lakes behind them.
- Holding large volumes of water above townships can create risks associated with dam failure.
- Likely to have significant impacts on the mauri of the river.

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Option 10

Option 10 involves planting native vegetation on currently grazed land to slow the rate of run-off from the land to the river and reduce the amount of sediment reaching the river. This option provides no notable flood reduction for North Clyde.

Limitations:

- Large areas of land would need to be retired.
- The types of trees and plants chosen would require careful consideration, particularly as native vegetation is slower to grow and establish.
- Only a small reduction in flooding is likely.

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Option 11

Option 11 involves dredging the Wairoa River channel to increase the river's flood carrying capacity. This option would require an extremely high quantity of material to be removed from the river for any notable flood reduction benefit for North Clyde.

Limitations:

- There is a very high likelihood that sediment would redeposit in the river after dredging has occurred, and therefore ongoing dredging would be required.
- Disturbance of the riverbed is likely to have negative ecological impacts by disturbing aquatic habitat.
- Extremely expensive, both immediately and in the long term.

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Option 12

Option 12 involves creating a permanently open river mouth by creating engineered structures. This option does not prevent flooding in North Clyde.
Above is an example of the Opotiki River Bar.

Limitations:

- An engineered structure to keep the river mouth open is unlikely to be physically feasible.
- The works required to open the Wairoa River Bar on demand can only be undertaken in the right conditions, taking into account rainfall, river levels, swell, and conditions of the existing river mouth.
- The flood modelling indicates that the Bar does not influence flooding levels upstream of the State Highway 2 (SH2) bridge. This is because the river upstream of the bridge is slightly higher than the sea and Bar levels.
- High ongoing costs associated with keeping the river mouth wide.

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Option 13

Option 13 involves extending Ngamotu Lagoon near the river mouth to provide additional flood storage detention. This option provides no notable flood reduction for North Clyde.

Limitations:

- Will not provide any substantial flood mitigation benefits as the storage volume created will not be sufficient to make a measurable reduction in flooding.
- Substantial earthworks would be required to lower the ground level in order to provide any additional capacity over and above what currently exists.
- The lagoon provides feeding, nesting, and roosting areas for birds; feeding and nursery habitats for fish; and is a collection area for pipi and cockles. Any disturbance of the nearby land could have negative impacts on these habitats.

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Option 14

Option 14 involves creating street-level flood protection through the installation of structures to protect houses and buildings. *Example shown above.*

Limitations:

- Unlikely to be effective in larger flood events in Wairoa.
- Reliant on buy-in from the whole community.
- In areas without a secondary evacuation route, street-level flood protection systems can create additional risks.
- Very expensive at the scale needed along streets in North Clyde.

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Option 15

Option 15 involves clearing out and maintaining the existing drainage network throughout North Clyde, creating more drains or enlarging existing drains to accommodate more water volume, and/or clearing out the Awatere Stream and increasing its width to increase flood carrying capacity. This option would not prevent the flooding of North Clyde from the Wairoa River.

Limitations:

- Drainage clearance and maintenance will not be sufficient by itself in avoiding flooding of affected properties as the majority of flooding in North Clyde was caused by the Wairoa River overtopping its banks, rather than localised flooding.
- Physical works to widen the Awatere Stream unlikely to be ecologically acceptable.
- Expensive relative to the other options and still will not resolve flooding during events the size of Cyclone Gabrielle or larger.

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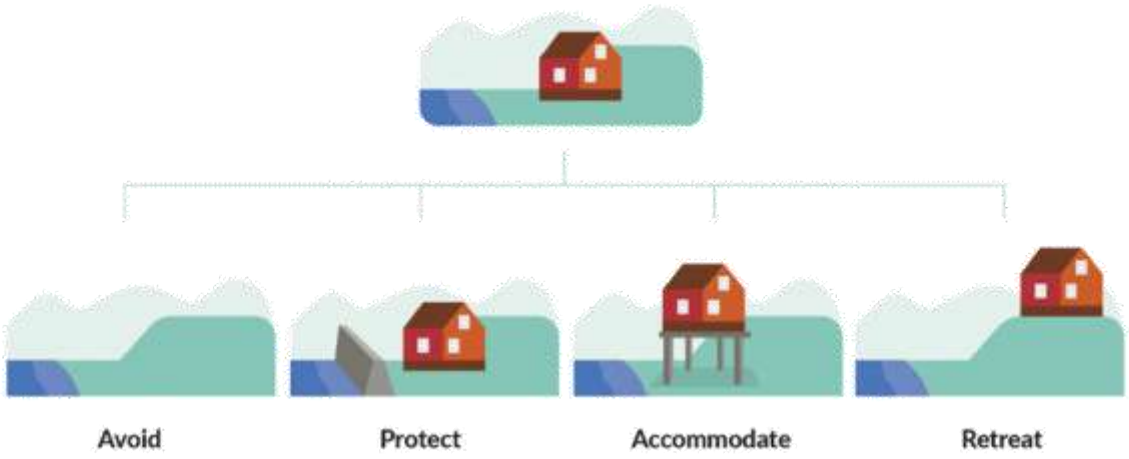
Option 16



Option 16 involves raising the finished floor level of houses to prevent damage during flooding. In some instances, armouring of the foundations may be required.

Limitations:

- Not all properties can be raised, and there will still be damage to ground level assets and belongings.
- No flood mitigation for marae and urupā, which would be unable to be raised.
- No flood mitigation for local businesses, which would be unable to be raised.
- Very high costs associated with raising all of the affected buildings that can be raised.
- Government's $70 million has been ring-fenced specifically for community scale flood mitigation and cannot be used to cover the costs of raising individual properties.

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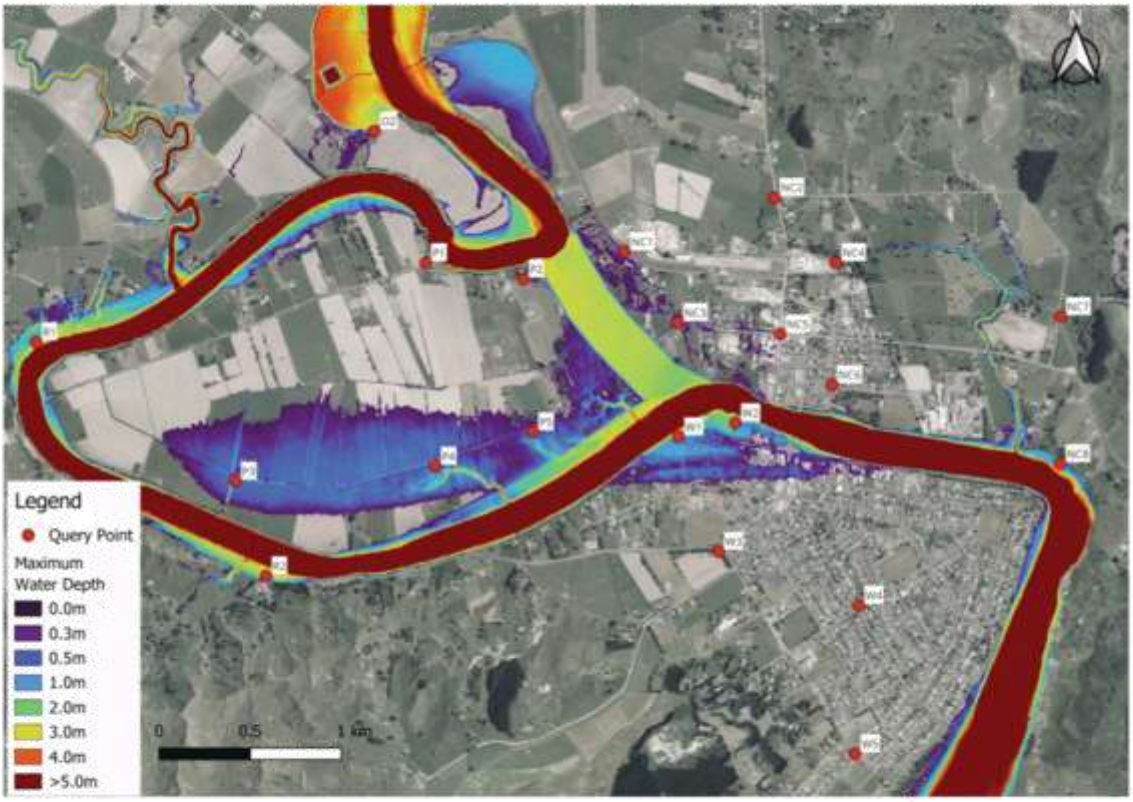
Option 1A



Option 1A is a variation of Option 1 and involves a 1km floodway measuring 250m wide and 2m deep, with no stopbanks. This option would provide effective flood mitigation to much of North Clyde as it would create a concentrated flow path for excess water flow.

Limitations:

- Negatively impacts the township side of the river, which will require additional works to protect.
- Most expensive of the floodways.
- Significant cultural impact and not supported by mana whenua as requires relocation of Takitimu Marae.
- Previously rejected by Tripartite partners.

Due to the significant negative impact on Takitimu Marae, Option 1A was not considered for further progression.

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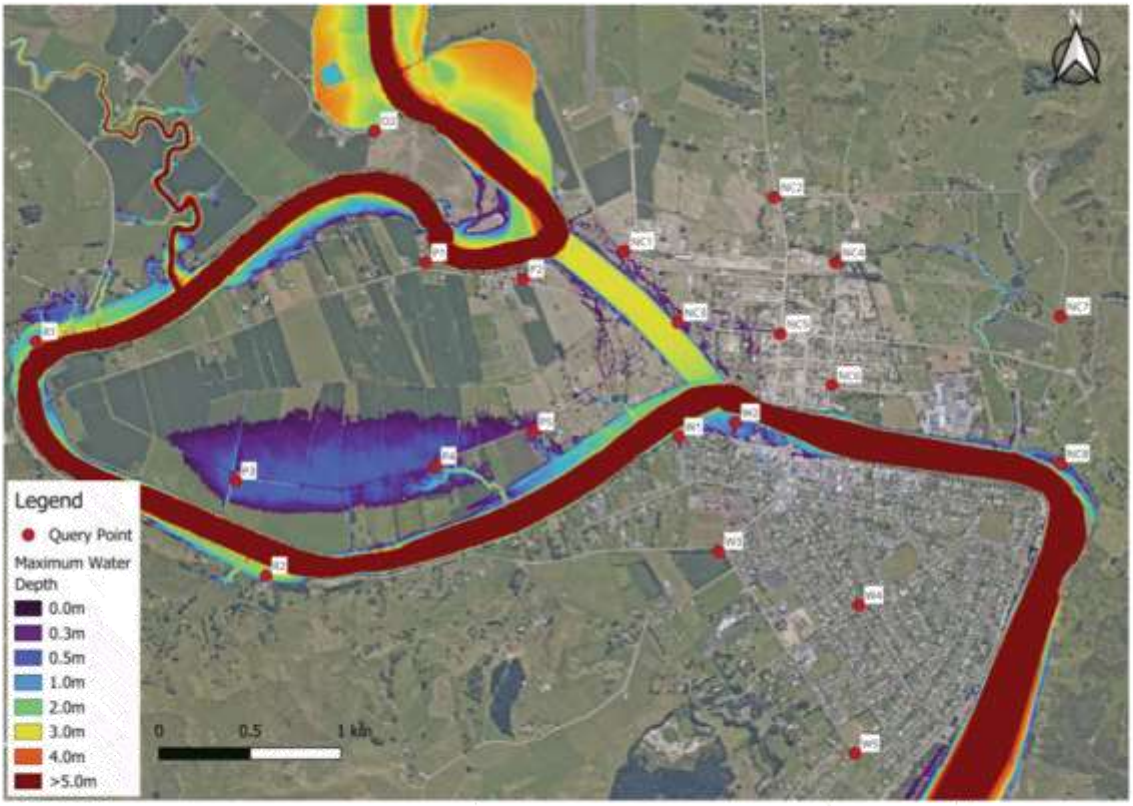
Option 1B



Option 1B is also a variation of Option 1 and involves a 1km floodway measuring 170m wide and 2m deep, with 1m high stopbanks on either side. This option would also provide effective flood mitigation to much of North Clyde as it would create a concentrated flow path for excess water flow.

Limitations:

- Minor negative impact on the township side of the river.
- Impacts 17 houses, 35 parcels and 6.6 hectares of Māori whenua.
- Significant cultural impact and not supported by mana whenua as requires relocation of Tawhiti-a-Maru Marae.
- Previously rejected by Tripartite partners.

Due to the significant negative impact on Tawhiti-a-Maru Marae, Option 1B was not considered for further progression.

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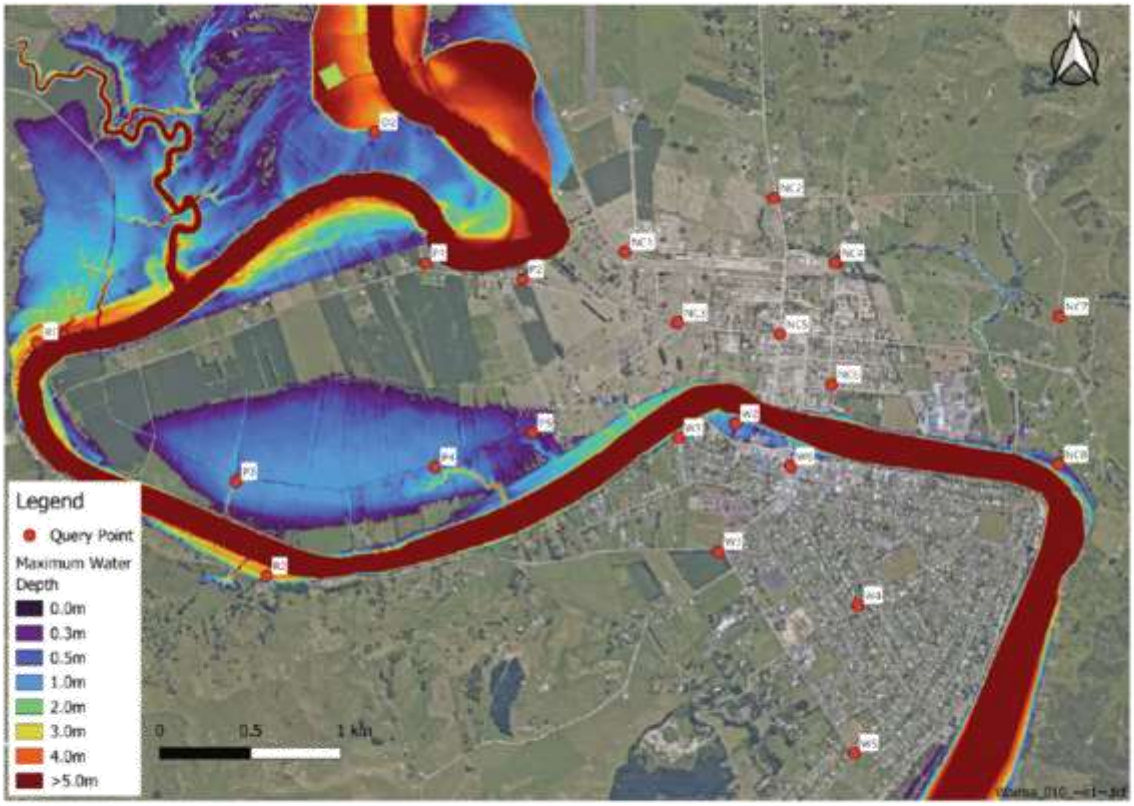
Option 5C



Option 5C is a variation of Option 5 and involves 5.3km of stopbank around 2m in height but up to 4m in height in some places, aligned to existing road corridors where possible. This option would provide effective mitigation for much of North Clyde, however additional flooding occurs on the Huramua side of the bank, State Highway 2 (SH2) and along Ruataniwha Road. This option also creates water level increases within the main river channel back to Frasertown.

Limitations:

- 930 hectares of land negatively affected and worse off as a result of flood mitigation option.
- Impacts 2 houses, 31 parcels and 3.3 hectares of Māori whenua.

Due to the significant negative impact on 930 hectares of land, Option 5C was not considered for further progression.

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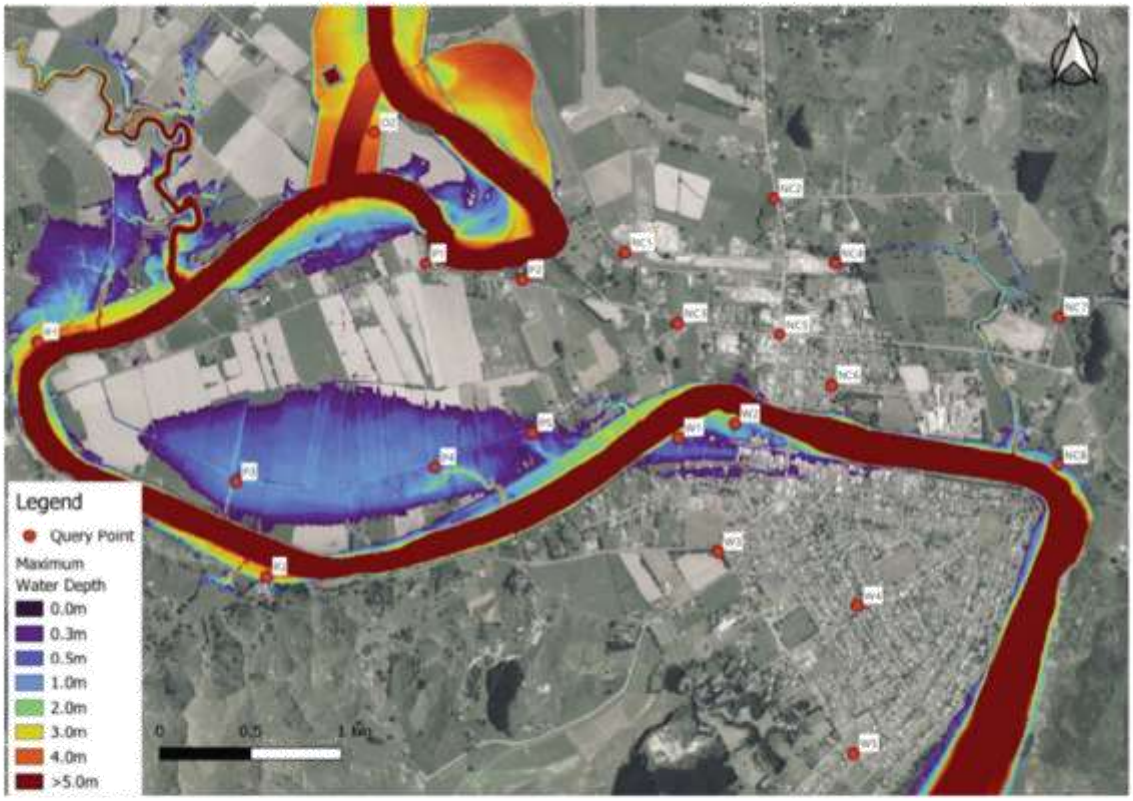
Option 17 (Option 5 + Option 7)



Option 17 was a combination of the stopbank of Option 5, with the addition of Option 7 which involves a 600m long and 2-3m deep floodway to reduce flood impact to Huramua. This combined option negates some of the negative effects of option 5 by providing marginal storage, however negative impacts for the Huramua side remain.

Limitations:

- Additional cost associated with the floodway.
- Still additional flooding in Huramua.

Due to the additional flooding in Huramua, Option 17 was not considered for further progression.

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Frequently Asked Questions (FAQs)

Floods and Cyclone Gabrielle

Q. What is a 1 in 100-year flood?

A. A 1 in 100-year flood event is sometimes referred to as an event with a 1% Annual Exceedance Probability (AEP). This means that a flood of this magnitude will statistically occur once every 100 years, or that there is a 1% chance of an event of this magnitude occurring in any one year.

Q. What size was Cyclone Gabrielle?

A. Water scientists estimate that during Cyclone Gabrielle, the Wairoa River flows were slightly less than that predicted for a 1 in 100-year flood event for the Wairoa River.

Q. What caused the flooding in North Clyde during Cyclone Gabrielle?

A. The Wairoa River catchment (the area of land that flows to the river) is large.

Engineers and scientists believe that the flooding was primarily caused by the significant rainfall that fell across the catchment combined with the wet weather that occurred during the 2022-2023 period.

The sudden onset of the flooding through North Clyde was due to the area acting as a secondary flow path of the river. With or without woody debris, North Clyde would still have flooded.

Q. When a flood mitigation solution is chosen, will it protect Wairoa from a Cyclone Gabrielle-level event?

A. The preferred flood mitigation solution will be designed to help protect Wairoa from a 1-in-100-year flooding event. For Wairoa, Cyclone Gabrielle did not reach this level of flooding. It should be noted that with any flood scheme there is always a risk of a large event exceeding the level of mitigation, and no solution will provide absolute, foolproof flood protection.

Floodways, spillways and stopbanks

Q. What is a floodway?

A. A floodway, also called a spillway, is a channel constructed to take a portion of the river flow off the river to take pressure off the main river channel. The floodway then links back up with the river, which then takes the water out to sea.

Floodways are typically dry and are commonly used for grazing during normal river flow conditions, and only operate during flood events when the river is high enough to flow into them. Floodways also typically have stopbanks on one or both sides and sometimes include manually controlled flood gates and/or weir walls (spillways) to let the water enter into the floodway.

Floodways need to have roads crossing them, similar to a ford in a river.

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Q. What is a stopbank?
A. A stopbank is a specially designed and maintained mound of earth that helps to limit or prevent the spread of floodwater onto surrounding land. Also known as a levee, dyke, or flood bank, a stopbank is a constructed earthen barrier that runs parallel to a river or floodway to confine flows within the channel. Stopbanks typically need to be designed by specialist engineers and are constructed with appropriate soil.

Q. What can be done with the land in a floodway?
A. The land in the floodway can still be grazed if adaptive stock fencing or cattle stops are used along the roads. Alternatively, the grass could be harvested and bailed. The floodways could potentially be used for community recreation or ecological habitat purposes. Buildings, structures, and large trees can't be in a floodway.

Q. How often will the floodway have water in it?
A. A floodway will be designed to only have water in it for large flood events, which will be very infrequent. With the floodway sill heights in the most technically preferred options of 1C and 1D, the floodway is predicted to have water in it statistically once every 10 to 15 years.

Q. How will people cross the floodway in a flood?
A. It is envisaged that an early warning system will be in place and barrier arms will lower along the roads before the floodway entrance. Flashing lights would likely be installed along the sides of the floodway.

People will not be able to cross the floodway once the barrier arms are down, and lights are flashing. It it expected that the maximum duration the floodway would be unsafe to cross would be less than 24 - 28 hours.

Q. How will people evacuate if the floodway has water in it?
A. People will not be able to cross a floodway when it has water in it, or when the barrier arms are down, and lights are flashing. It is envisaged that an emergency management plan would be developed for the community with measures put in place to ensure people have access to safe shelter and supplies until the flood waters reside. This could include the use of community resilience hubs or emergency and resilience pods, like EPODs.

Q. How will I access the western end of Ruataniwha Road and Waihirere Road if there is a floodway?
A. As mentioned, people will not be able to cross a floodway when it has water in it. When there is no water, people will be able to use the road to cross the floodway similar to a ford in a river.

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Flood mitigation options

Q. What other flood mitigation options have been considered?
A. As many as 18 flood mitigation options have been considered, some with further variations. These include stopbanks, floodways, dredging, bar structures and management, drain clearing, dams, reforestation, temporary flood barriers and house raising.

Q. Why is dredging not being considered?
A. Dredging was previously considered as an option but has some significant limitations and is therefore no longer considered to be an option for reducing North Clyde flooding. The main limitations associated with dredging include the high likelihood that sediment would redeposit in the river after dredging has occurred therefore requiring ongoing dredging, the negative effects associated with disturbance of the river bed, including ecological impacts, and the extremely expensive costs associated with dredging, estimated to be $990 million in the immediate term, with a further $130 million per year in maintenance.

Q. Why is house raising not being considered?
A. House raising was previously considered as an option too, but also has some significant limitations including the fact that not all properties can be raised, and there would still be damage to ground level assets and belongings, there would be no flood protection for marae, urupā, and local businesses, and there are very high costs associated with raising all of the affected buildings that can be raised. Additionally, the Government's $70 million has been ring-fenced specifically for community scale flood mitigation and cannot be used to cover the costs of raising individual properties.

Q. Why isn't Wairoa River Bar management being considered?
A. The flood modelling indicates that the Bar does not influence flooding levels upstream of the State Highway 2 (SH2) bridge. This is because the river upstream of the bridge is is slightly higher than the sea and Bar levels. The Bar does, however, influence flood levels of the Wairoa township downstream of the SH2 bridge. It is worth noting that the Hawke's Bay Regional Council is also expecting to have a new operational management plan for the Wairoa River Bar in place by November 2024.

Q. Why is Kopu Road not being protected?
A. Following the June 2024 flooding event and Lawrence Yule's appointment as Crown Manager in August, the scope of the Project has broadened to include potential flood mitigation options for Kopu Road.

Further work to determine the most technically viable solutions for Kopu Road is ongoing. There is also an expert caucusing meeting involving technical experts, those with local lived experience and those with a cultural and/or historical perspective scheduled for early November, which will be looking at options to enhance the performance of the Wairoa Bar to minimise future risk of flooding to properties on the lower reaches of the Wairoa River.

Q. Has a Wairoa River survey been done?
A. Hawke's Bay Regional Council completed a river survey of the lower end of the Wairoa River after Cyclone Gabrielle in 2023, and a survey of the river up to Frasertown in August 2024.

WAIROA FLOOD MITIGATION PROJECT

Decision making and timelines

Q. Is there a set date for when the flood mitigation option will be chosen?
A. While no formal date has been set for a decision on the preferred flood mitigation option for Wairoa, we are expecting the broader community engagement process to run through to the new year and then, ideally, we would like to have a preferred flood mitigation solution confirmed by February 2025.

This is important for ensuring we can meet the Government's 31 March 2025 deadline for a preferred flood mitigation solution, and a business case based on that preferred solution.

Q. Who is paying for the flood protection?
A. Central Government has committed to providing $70 million of funding which has already been ring-fenced for community scale flood protection for Wairoa.

It is important to note that the Government requires a confirmed preferred flood mitigation option, and a business case based on that preferred option, by 31 March 2025. If this deadline is not met, the $70 million of Government funding could be withdrawn and there will be no flood mitigation for Wairoa.

Q. How will people who are confirmed as being impacted, be compensated?
A. There will be compensation entitlements for properties that are confirmed as being impacted by any final flood mitigation solution. These entitlements may vary depending on the actual impacts to each property and the levels of land access required, and will be discussed with whānau and property owners in more detail once the final option is confirmed and the compensation framework is finalised.

Q. Can I still own my land, even if it's part of a floodway?
A. Where land access is required for a preferred flood mitigation solution, whānau will be able to retain ownership of their land if this is their preference.

Q. I've got some more questions – how do I ask them?
A. You can email the Wairoa Flood Project team at **info@wairoafloodproject.co.nz** or phone us on **027 236 7494**.

Q. Where can I find more information?
A. You can find information on the Project website **wairoafloodproject.co.nz**

WAIROA FLOOD MITIGATION PROJECT

Construction

Q. How will people get access to their homes and land during construction?
A. If a floodway like option 1C or 1D is confirmed as the preferred option, access to peoples' houses and land on the other side of a floodway will be maintained throughout the construction of that option.

Q. If a floodway is excavated, how will groundwater be managed?
A. An excavated floodway will have drains in it to lower the ground water and direct this ground water to the river. These drains would be similar to the drains currently in the North Clyde paddocks.

Q. When is construction expected to start?
A. Provided the above deadlines can be met, Government funding is confirmed, and consents and land access are secured, flood mitigation construction works are expected to commence in the summer 2025-2026 construction period.

Q. When is construction expected to be completed?
A. Works are expected to take two summer construction seasons to be completed. Provided construction commences as expected in the summer 2025-2026 construction period, this would mean works are expected to be completed by the end of the 2026-2027 construction season.

WAIROA

FLOOD MITIGATION

PROJECT

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WAIROA FLOOD MITIGATION PROJECT

10 February 2025

Hinewai Ormsby, Chair Hawke's Bay Regional Council

C/- Steve Fabish, Senior Project Manager

Steve.Fabish@hbrc.govt.nz

Recommendation: Wairoa Flood Mitigation – Preferred Option 1C

Since my appointment as Crown Manager in August 2024, I have worked alongside Wairoa Tripartite Governance and the project team and have engaged with the community to determine the most appropriate flood mitigation option for Wairoa.

This process has considered technical feasibility, cultural and social impacts, and the need to ensure maximum protection against a 1-in-100-year flood event.

Eighteen options were assessed, with two technically preferred solutions—Options 1C and 1D—emerging as the most viable. While all potential options were investigated throughout the process, none demonstrated greater technical feasibility than these two.

Homeowners affected by either option were engaged early in the process to ensure open communication and address concerns proactively. Because Options 1C and 1D are both affected by land access challenges, this is not a determining factor in the final recommendation and rather something that will need to be worked through as the project progresses.

I recommend that Hawke's Bay Regional Council (HBRC) proceed with Option 1C as the preferred solution for Wairoa's flood mitigation based on the following reasons:

- **Hydraulic Efficiency:** Option 1C follows the most direct overland path, aligning with historical flood patterns and providing the best hydraulic solution of the two.
- **Reduced Upstream Impact:** This option results in fewer negative upstream effects compared to 1D and has a significantly smaller footprint.
- **Social Considerations:** While Option 1C affects 10 more homes than Option 1D, the latter would require up to 10 homes to be lifted to avoid secondary effects. This impact has been carefully weighed in our decision-making process.
- **Cultural Impact:** Option 1C impacts fewer parcels of whenua Māori (12 compared to 29 in Option 1D). Importantly, it avoids sites of cultural significance, such as the Makeakea urupā, as identified in the Cultural Impact Assessment (CIA).

While initially issues were raised about the water table and cut-to-waste issues with Option 1C, a solution for both has since been identified. Additionally, the excavated fill may have beneficial uses elsewhere, such as at Kopu Road, making this option financially feasible within the available $70 million of Crown funding.

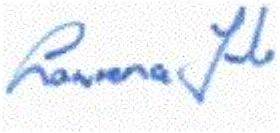
It is important to acknowledge that further land accessibility investigations and ongoing engagement over the coming months may necessitate adjustments to the spillway footprint.

I recommend that the Council proceed with Option 1C and:

- Develop a Project Delivery Plan.
- Submit the plan to the Crown for approval.
- Secure the $70 million funding allocated for the Wairoa Flood Protection Scheme.

Naku noa,

Na,



Lawrence Yule

Crown Manager – Wairoa Flood Mitigation Project

2/2

10 February 2025

Hawke's Bay Regional Council
Chair Hinewai Ormsby

Re: Flood mitigation project

Dear Hinewai,

On behalf of the Wairoa District Council, I write to confirm our position in relation to the Wairoa Flood Mitigation Project.

At last week's Tripartite meeting, the Wairoa District Council supported the Crown Manager's recommendation to further progress the 1C flood mitigation option.

This support is based on the fact that our community is looking for leadership from our Council and wants certainty and direction so that those directly impacted people can make their decisions.

We acknowledge there is still work to do around option 1C, but based on the information to date, this decision gives our community more information to move forward.

Our Council has confidence in the process the Crown Manager has carried out. We support the continuation of his position in leading this project and the holistic approach to Wairoa's response and resilience to future flooding including the Wairoa River mouth.

We also fully support that the Crown is conducting its own independent peer review of the Wairoa flood mitigation process.

Our Council has been clear that while we act on behalf of our community, the final decision regarding land access rests with mana whenua/land owners. We acknowledge this has been, and will continue to be, a difficult journey, particularly for those impacted whānau, and our hearts go out to you all.

This project is about doing the best we can now to try to protect Wairoa in the future. Wairoa is our home, and we need to do everything we can so we never have to go through flooding disasters again.

Thursday's (13.02.24) decision by HBRC is critical as we know how vulnerable Wairoa is to flooding. Historically, Wairoa has never had any flood protection, and it is vital that HBRC makes the right decision now to help protect our community for future generations. Our people cannot live through more flooding.

Yours sincerely

Craig Little
MAYOR, WAIROA DISTRICT COUNCIL

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